



Shell plc

Annual Report and Accounts

For the year ended December 31, 2023

#PoweringProgress

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Terms and abbreviations

Currencies

\$	US dollar
€	euro
£	sterling

Units of measurement

acre	approximately 0.004 square kilometres
b(/d)	barrels (per day)
bbl	barrel
boe(/d)	barrels of oil equivalent (per day); natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel
GJ	gigajoule
GW	gigawatt
kboe(/d)	thousand barrels of oil equivalent (per day); natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel
kWh	kilowatt-hours
mb/d	million barrels per day
megajoule	a unit of energy equal to one million joules
MMBtu	million British thermal units
mtpa	million tonnes per annum
MW	megawatt
MWh	megawatt hours
Nm3	normal cubic metre
per day	volumes are converted into a daily basis using a calendar year
scf(/d)	standard cubic feet (per day)
TWh	terawatt hours

Products

GTL	gas-to-liquids
LNG	liquefied natural gas
LPG	liquefied petroleum gas
NGL	natural gas liquids

Miscellaneous

Act	UK Companies Act 2006
ADS	American Depositary Share
AGM	Annual General Meeting
API	American Petroleum Institute
APM	Alternative performance measure
ARC	Audit and Risk Committee
CCS	carbon capture and storage
CCS earnings	earnings on a current cost of supplies basis
CFFO	cash flow from operating activities
CISO	Chief Information Security Officer
CMD	Capital Markets Day
CMF	carbon management framework
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COP28	28 th meeting of the Conference of the Parties to the United Nations Climate Change Conferences
CRC	Carbon Reporting Committee
CRT	Commercial Road Transport
CSRD	Corporate Sustainability Reporting Directive
DE&I	Diversity, equity, and inclusion

EC	Executive Committee
EMTN	Euro medium-term note
EPS	earnings per share
EPSA	exploration and production sharing agreement
EPTB	Environmental Products Trading Business
ETS24	Energy Transition Strategy 2024
EV	Electric vehicle
FCF	free cash flow
FID	final investment decision
GAAP	generally accepted accounting principles
GHG	greenhouse gas
HSSE	health, safety, security and environment
IAS	International Accounting Standards
IEA	International Energy Agency
IFRS	International Financial Reporting Standard(s)
IOGP	International Association of Oil & Gas Producers
IPCC	Intergovernmental Panel on Climate Change
IPIECA	International Petroleum Industry Environmental Conservation Association
IRM	Information Risk Management
ISO	International Organisation for Standardisation
KPI	Key performance indicator
LGBT+	Lesbian, gay, bisexual and transgender
LTIP	Long-term Incentive Plan
NBS	Nature-Based Solutions
NCF	Net Carbon Footprint
NCI	net carbon intensity
NGO	Non-governmental organisation
NOMCO	Nomination and Succession Committee
NZE	Net zero emissions
OECD	Organisation for Economic Co-operation and Development
OFCF	organic free cash flow
OGCI	Oil and gas climate initiative
OML	oil mining lease
OPEC	Organization of the Petroleum Exporting Countries
OPEC+	12 members of the OPEC and 11 other non-OPEC members
OPL	oil prospecting licence
PSC	production-sharing contract
PSP	Performance Share Plan
QRA	Quarterly Results Announcement
R&D	Research and development
REMCO	Remuneration Committee
RNG	Renewable natural gas
RT	real terms
SEAM	Safety, Environment and Asset Management
SEC	US Securities and Exchange Commission
SGBP	Shell General Business Principles
SIAI	Shell Internal Audit and Investigations
SP	social performance
SUSCO	Sustainability Committee
TCFD	Task Force on Climate-related Financial Disclosures
TRCF	total recordable case frequency
TSR	total shareholder return
WACC	weighted average cost of capital
WTI	West Texas Intermediate

Strategic Report

We measure our performance for the year by considering progress against our longer-term strategy and against our annual operating plan.

At Capital Markets Day 2023, we announced eight business targets for reporting progress against our Powering Progress strategy, which can be found in the section **"Progress against our longer-term business targets"**.

Performance against our operating plan for 2023 is assessed using a range of financial and non-financial indicators and can be found in the section **"Performance indicators"**.

In the **"How we create value"** section, we show the value that we have created in 2023 through our business activities for our different stakeholders and wider society.

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Chair's message

"For Shell, 2023 was a pivotal year in our drive to achieve more value with less emissions."



Sir Andrew Mackenzie
Chair

My geologist's mind has always been intrigued by what lies beneath our feet, including the natural energy resources that have propelled the world's economic progress for so long. But with the urgent need to tackle climate change, I am just as fascinated by the technologies that will help the world deliver cleaner power and fuel the future, as well as significantly cut carbon emissions.

Along with great challenges, the energy transition offers tremendous opportunities to those eager to play their part. For well over a century, Shell has pioneered ways of providing energy to people. We are a leader in deep-water oil production, liquefied natural gas (LNG) and biofuels, and we aim to become one of the largest providers of charging for electric vehicles.

We aim to lead in the energy transition where we have competitive strengths and see strong customer demand and clear support from governments. Our strategy is to create value for our shareholders, customers and wider society as we reduce our emissions and fulfil our purpose to provide more and cleaner energy solutions.

For Shell, 2023 was a pivotal year in our drive to achieve more value with less emissions. It was the first year under our new Chief Executive Officer, Wael Sawan, who stressed the importance of enhancing our returns to shareholders, while staying firm on our target to become a net-zero emissions energy business by 2050. We did exactly that by maintaining a very healthy balance sheet, increasing our dividends and continuing to buy back shares, all while investing capital to reduce our Scope 1 and 2 emissions, and Scope 3 emissions related to the use of the oil products we sell.

People everywhere need a secure, sustainable and affordable energy supply. Shell can help to enable a balanced energy transition by keeping the world moving with oil and gas, while delivering the low-carbon alternatives our customers need to decarbonise. To this end, we have made it clear that we plan to expand our LNG business and develop new low-carbon products and technologies, such as carbon capture and storage (CCS).

I saw this when I visited Qatar's North Field expansion project in January 2024. This project will support the delivery of much-needed supplies of natural gas around the world and I appreciated the opportunity to learn more about how we are developing a CCS project there. I also visited Oman and saw how we are moving forward with a hydrogen project, enabled by CCS.

More value, less emissions

Shell's 2023 earnings were strong and we reduced our total combined Scope 1 and 2 absolute greenhouse gas emissions from our operations by 31% [A] compared with 2016 levels. This positions us well as we continue to implement our strategy, guided by the free cash flow*, investment and cost reduction targets set in 2023. We will continue to create value for shareholders and lower emissions.

[A] Reduced from 83 million tonnes carbon dioxide equivalent (CO₂e) in 2016 to 57 million tonnes CO₂e in 2023

* Non-GAAP measure (see page 365).

Our energy transition update, published on March 14, 2024, aims to keep us on track to meet our climate targets and ambitions. As we continue to supply oil and gas, we must continually work to lower carbon emissions from our own operations and offer our customers more low- and zero-carbon fuels to meet their needs in a world on its way to net zero.

In November, I saw first-hand how committed our teams are to transforming the refinery in Rheinland, Germany, into an energy and chemicals park. We are building a renewable hydrogen electrolyser to help decarbonise our own operations and we will convert a hydrocracker into a base oils production unit. The teams have also almost finished building a plant to produce bioLNG for heavy-duty road transport. The use of bioLNG in this slower-to-decarbonise sector could be a game changer for accelerating the energy transition.

The energy transition must be just and fair, and we are committed to respecting nature and powering lives in our activities. The Board visited LNG Canada in June, where we are building a major project designed to deliver a secure supply of energy. Our people there have worked closely with indigenous communities to help protect the environment.

Innovating for net zero

Tackling climate change will need new technologies. It will also demand collective action from governments, businesses and consumers, even in the face of heightened instability caused by the Russia-Ukraine war and renewed major conflict in the Middle East.

Innovation is vital to the energy transition and is close to my heart. In September, I met with students in China who had taken part in the Shell Eco-marathon by embracing the challenge to design and make energy-efficient vehicles. Their passion and perseverance should inspire us all to keep pushing the boundaries of what is technically possible.

Shell is determined to help tackle climate change. We must do this with continued innovation and we will lead where we have the expertise and experience. For instance, our Raízen biofuels joint venture in Brazil and our renewable natural gas acquisition Nature Energy in Denmark, completed in February 2023, help us to be well placed to play an increasing role in supplying lower-carbon transport fuels.

Under Wael's leadership in 2023, we began streamlining our business, set clear targets, tightened up on spending and reduced emissions. The energy transition is an evolution that we are proud to be part of. We are carefully choosing where we can make the biggest, most positive impact as we move forward to becoming a net-zero emissions energy business by 2050, purposefully and profitably.

Shell has the drive, the ingenuity and the competitive edge to make things happen: to create value for investors, customers and society, and contribute to a low-carbon world.

Sir Andrew Mackenzie

Chair

Powering Progress



1. We produced first gas from Oman's Mabrouk North-East field in Block 10 (Shell interest 53.45%) in 2023. Block 10 is our first operated venture in Oman.
2. In 2023, in China, we opened our largest electric vehicle charging station. The charging station is operated by Shell and BYD Electric Vehicle Investment Company Limited.
3. The Whale platform (Shell interest 60%) was built in Singapore and is expected to start production in the Gulf of Mexico in 2024.

Chief Executive Officer's review

"We will deliver more value for our shareholders, our customers and wider society, with less emissions."



Wael Sawan
Chief Executive Officer

In 2023, the Russia-Ukraine war continued and renewed conflict in the Middle East raised the spectre of another regional war. Too many lives have been destroyed and I hope for an end to these human tragedies soon. Geopolitical volatility and the fragmentation of our world are growing at a time when we should be working together to fight the global challenge of climate change.

A balanced energy transition, which Shell supports, is one that maintains secure and affordable energy supplies, while the world builds the clean energy system of the future. Billions of people depend on energy and hundreds of millions still hope to have access to it. Energy is vital for lives everywhere.

The energy system has shown promising signs of progress, despite geopolitical, supply chain and regulatory challenges. Renewable power has seen record growth in recent years and one-fifth of all new car sales in the world are now electric. In March, I saw the results of this growth first-hand on a Shell electric vehicle charging site in Beijing serving around 1,000 customers a day.

At Shell, we sharpened our Powering Progress strategy in 2023 with a relentless focus on performance, discipline and simplification as we move towards becoming a net-zero emissions energy business by 2050. We will deliver more value for our shareholders, our customers and wider society, with less emissions. At Capital Markets Day in June, we showed how we plan to profitably transform Shell through the strength of our portfolio, our technological and trading capabilities, and our deep customer relationships. We will be guided by the financial and climate targets and ambitions we have set.

Performance and discipline

It was another strong year for Shell. One highlight for me was QGC in Australia, which had its highest ever liquefied natural gas (LNG) production in the fourth quarter and delivered its 1,000th LNG cargo. Another was the strong operational performance in our deep-water portfolio. Completing the acquisition of Nature Energy, which expanded the range of low-carbon energy we can offer, also stood out.

Cash flow from operations for 2023 of around \$54 billion was the second-highest in our history, income was around \$20 billion and Adjusted Earnings* around \$28 billion. Our performance enabled us to return \$23 billion to shareholders* through \$15 billion in share buybacks and \$8 billion in dividends. This is 42%* of cash flow from operations (CFFO) and around the upper end of our 30-40% of CFFO through the cycle target range.

We continue to be disciplined in our investments, focusing on where we can have the maximum impact in generating value or lowering emissions. In 2023, cash capital expenditure* of \$24 billion was at the lower end of our \$23-27 billion range.

* Non-GAAP measure (see page 365).



Between 2023 and 2025, we plan to invest around \$40 billion in oil and gas. An example of more value with less emissions is the Vito platform (Shell interest 63.1%) in the Gulf of Mexico, which started production in 2023. Vito cost less to build because its topsides and hull are a third of the size of its original design and is expected to produce around 80% less emissions over its operating life. We are using the same concept for two more platforms: Whale (Shell interest 60%) and Sparta (Shell interest 51%).

Simplification

From July 1, 2023, our smaller Executive Committee took effect with two clear business directorates, and a single finance, strategy, mergers and acquisitions and sustainability directorate. This simplification has already enabled more streamlined planning and improved decision-making. We are also in the process of moving to our new Safety, Environment & Asset Management Standards (SEAM), which will reduce the number of key requirements to around 500 from the current 1,800 and enable our people to focus on implementing our strategy more efficiently.

By the end of 2023, we had achieved around \$1 billion of structural cost reductions*, positioning us well to save the \$2-3 billion we said we would by the end of 2025.

Less emissions

I am proud that by the end of 2023, we had achieved more than 60% of our target to halve emissions in our own operations by 2030, compared with 2016 levels on a net basis. We will work to continue reducing emissions from our own operations, including by powering oil and gas platforms with renewable energy. In August, our unmanned solar- and wind-powered platform in the Timi gas field (Shell interest 75%) delivered first gas and we will continue to explore this concept.

In support of a balanced energy transition, between 2023 and 2025, we will invest around \$35 billion in Downstream and Renewables and Energy Solutions. In 2023, we invested \$5.6 billion in low-carbon energy, including the acquisition of Nature Energy and in the CrossWind joint venture off the Dutch coast, which will supply renewable power to the Holland Hydrogen 1 electrolyser. In China, we opened our largest electric vehicle charging station, while globally we continued to transform our refineries into energy and chemicals parks.

Our strategy confirms our commitment to Integrated Gas, particularly LNG where we are growing our portfolio even more and will increase capacity by around 11 million tonnes per year in the second half of the decade – that is an annual increase of more than a quarter of our current capacity. LNG plays a major role as a lower-carbon alternative to coal and as a partner to wind and solar for electricity generation. As we increase our LNG activities, we will continue work on reducing our methane emissions to near-zero by 2030.

We want to remain a leader in biofuels and as demand for low-carbon fuels grows, we expect to sell less oil products. We aim to lead in the energy transition where we have competitive strengths, see strong customer demand, and identify clear regulatory support from governments. To help drive the decarbonisation of transport, we have set a new

ambition to reduce customer emissions from the use of our oil products by 15-20% by 2030, compared with 2021 (Scope 3, Category 11) [A].

As we pursue more value with less emissions, we must remain disciplined. For example, last summer we pulled out of a tender for a wind farm off the coast of Germany when it did not meet our test for capital discipline.

The importance of learning

The safety of everyone working for Shell is our top priority. I am deeply saddened by the death of five contractor colleagues in incidents that took place at Shell operations in 2023. One contractor in Malaysia and another in the Philippines died while at work. In Nigeria, two contractors were shot, along with four government security agents, in an appalling attack on a convoy. Also in Nigeria, a contractor injured in a tugboat fire late in 2023 died in early 2024. My heart goes out to all the families and friends of those who have died. Our personal safety results fell short of what we achieved in 2022 and we are committed to doing better through learning from these and other incidents. Applying what we have learned in the past has helped us achieve our lowest number of process safety events on record in 2023.

I visited Oman in June for our Safety Day. This was significant for me because it is where I started at Shell 26 years ago. Talking to our people there brought back many memories – my passion for the business, my hope for the future, but also how much I had to learn. We must always be open to new ideas.

Being the best we can be

Our strategy is also about respecting nature and powering lives. We give more detail on how we are progressing in these areas in this Annual Report (on pages 116 and 124) and in our Sustainability Report.

In 2023, I visited a number of our teams, including in Abu Dhabi, Brazil, China, Kazakhstan, the Netherlands, Oman, Qatar and the United States. I never cease to be impressed by the calibre of people I meet on these trips. Shell's best asset is its people. Streamlining our organisation can harness their creativity by cutting bureaucracy and making processes more efficient. I want our people to focus their energies on making Shell the best it can be.

At Shell, we are guided by the clarity of our purpose to provide more and cleaner energy solutions. We focus on what we can control. And, as we embed performance, discipline and simplification into Shell's culture, I believe we are the investment case through the energy transition.

Wael Sawan

Chief Executive Officer

* Non-GAAP measure (see page 365).

[A] Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes carbon dioxide equivalent (CO₂e) in 2023, 569 million tonnes CO₂e in 2021 and 819 million tonnes CO₂e in 2016.

Who we are

Shell is a global group of energy and petrochemical companies, employing around 103,000 people [A] and with operations in more than 70 countries.

We seek to provide the world with the energy it needs today, while helping it build a sustainable energy future.

Our competitive advantages are built upon our large and diverse portfolio, people who have outstanding talent, strong technological capability and deep customer reach, which we are leveraging to help enable a balanced energy transition.

Shell's stakeholders include our customers, investors, employees and contractors, pensioners, our strategic partners and suppliers, the communities where we work, civil society, academia and think tanks, governments and regulators.

We expect our employees and contractors to maintain our focus on safety and abide by our core values of honesty, integrity and respect for people.

[A] At December 31, 2023.

Our operating businesses



Integrated Gas and Upstream

Integrated Gas and Upstream (IGU) explores for and extracts crude oil, natural gas and natural gas liquids. It delivers hydrocarbon products from conventional oil and gas operations, deep-water exploration and production, liquefied natural gas (LNG) activities, and converts natural gas into gas-to-liquids (GTL) fuels and other products. The marketing, trading and optimisation of LNG are included in IGU. IGU provides the secure energy customers need and we aim to do this with lower emissions.

Reporting segments

Integrated Gas | Upstream



Downstream, Renewables and Energy Solutions

Downstream, Renewables and Energy Solutions (R&ES) provides products and services to more than 1 million business customers. It includes Chemicals and Products, and Marketing, which includes Mobility – a business that serves around 33 million retail customers a day at more than 47,000 service stations. Marketing also includes Lubricants, and Sectors and Decarbonisation activities. Downstream and R&ES, underpinned by Trading and Supply, aims to meet the evolving energy needs of our customers.

Reporting segments

Marketing | Chemicals and Products | Renewables and Energy Solutions

Innovation

Technological innovation is integral to our pursuit of more and cleaner energy solutions as we work towards becoming a net-zero emissions energy business by 2050. Projects & Technology (P&T) manages major projects, driving innovation, while delivering technical services to our businesses. P&T provides essential functional leadership across Shell, addressing safety and environment, contracting and procurement, and greenhouse gas emissions management. Our research and development activities also encompass safety, performance products, and automation and artificial intelligence.

Our strategy

Our Powering Progress strategy is to generate more value for our shareholders, customers and wider society as we work to become a net-zero emissions energy business by 2050. Our purpose – to provide more and cleaner energy solutions – drives our strategy.

Our strategy is built upon: generating shareholder value, achieving net-zero emissions, powering lives and respecting nature. At our Capital Markets Day in June 2023, we announced how we will put our strategy into action with a relentless focus on performance, discipline and simplification as we aim to deliver more value with less emissions.

We are building on our strengths in Integrated Gas, Upstream and Marketing. We will invest around \$40 billion in leading Integrated Gas and advantaged Upstream assets over 2023-2025. This will help drive significant and resilient cash delivery, while helping to provide energy security. Over the same period, investment in Downstream and Renewables and Energy Solutions will be around \$35 billion, of which \$10-15 billion will be in low-carbon energy solutions, as we help to enable the energy transition.

Achieving net zero

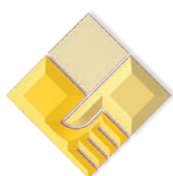
The Paris Agreement aims to strengthen the global response to the threat of climate change by "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels". Shell supports the Paris Agreement goal to limit the rise in global average temperature this century to 1.5°C above pre-industrial levels. To achieve this, urgent action is needed to reduce emissions across all sectors.

We are working to become a net-zero emissions energy business. This means net-zero carbon emissions from our operations. It also means net-zero carbon emissions from the energy products we sell (including those produced by others), which currently account for over 90% of the total emissions we report. We support a balanced energy transition where the world maintains a secure and affordable supply of energy, while building the clean energy system of the future. We want to play our part in the energy transition, purposefully and profitably.

We aim to partner with our customers, suppliers and governments to help decarbonise the energy system. Our integrated assets and supply chains are designed to provide a secure supply of energy for our customers, while also delivering low- and zero-carbon alternatives.



Our strategy continued



Generating shareholder value

We aim to generate more value for shareholders through disciplined capital allocation and a focus on performance.

We aim to generate more value for shareholders through disciplined capital allocation and a focus on delivering strong performance. We seek to provide enhanced distributions through our progressive dividend policy and share buyback programmes, which together target shareholder distributions* of 30-40% of cash flow from operations through the cycle.

In 2023, total shareholder distributions* amounted to \$23 billion, comprising \$8 billion in cash dividends and \$15 billion in share buybacks, and we generated \$54 billion in cash flow from operating activities. This resulted in total shareholder distributions* of 42% of cash flow from operating activities*, around the upper end of our target range. Our capital expenditure was \$23 billion and our cash capital expenditure* was \$24 billion. We reduced our total debt to \$82 billion and our net debt* to \$44 billion as of December 31, 2023.

We aim to grow our price-normalised free cash flow* by more than 6% per year through 2030 and grow price-normalised free cash flow per share* by 10% per year through 2025. In 2023, we increased our dividend to \$0.344 per share in the fourth quarter of 2023.

We are focusing on operational, financial and carbon performance, while maintaining our balance sheet strength. We take a disciplined approach to our portfolio and capital spending, aiming to invest where we have an enduring competitive advantage.

In 2023, we announced capital expenditure targets of \$22-25 billion per year in 2024 and 2025 and targeted structural cost reductions* of \$2-3 billion by end-2025. By the end of 2023, we had made \$1 billion in structural cost reductions*.

* Non-GAAP measure (see page 365).



Achieving net-zero emissions

We aim to become a net-zero emissions energy business by 2050 and will work with customers to help them decarbonise.

We have a target to become a net-zero emissions energy business by 2050, purposefully and profitably. Our net-zero target covers emissions from our operations (Scope 1), emissions from the energy we buy to run our operations (Scope 2) and emissions from our customers' use of the energy products we sell (Scope 3). We have a target to halve Scope 1 and 2 absolute emissions from assets and activities under our operational control by 2030, compared with 2016 levels on a net basis. By the end of 2023 we had reduced our absolute emissions by 31% [A].

Our energy transition update includes an ambition to reduce customer emissions from the use of our oil products by 15-20% by 2030, compared with 2021 (Scope 3, Category 11) [B]. Our net carbon intensity reduction targets are: 9-12% by 2024, 9-13% by 2025, 15-20% by 2030, 100% by 2050 compared with a 2016 baseline.

We place a high priority on combatting methane emissions. Our target is to maintain methane emissions intensity below 0.2% for operated oil and gas assets (including liquefied natural gas) and to reach near-zero methane emissions by 2030. In 2023, we achieved this with methane emissions intensity at 0.05%. We have a target to end routine flaring from upstream operations by 2025, subject to the completion of the sale of The Shell Petroleum Development Company of Nigeria Limited (SPDC) [C].

We are transforming our business and selling more low-carbon products and services, and will work with our customers across sectors to accelerate the energy transition. We engage with governments and other stakeholders, including international organisations and industry associations, and participate in global events, such as COP28. Through this engagement we seek to support robust policies, legislation and regulations designed to generate the demand for investment in the low-carbon energy system.

[A] Reduced from 83 million tonnes of CO₂e in 2016 to 57 million tonnes of CO₂e in 2023.

[B] Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes CO₂e in 2023 and 569 million tonnes CO₂e in 2021.

[C] In January 2024, Shell announced an agreement to sell SPDC. Completion of the transaction is subject to approvals by the Nigerian government and other conditions.

Our strategy continued



Powering lives

We work to power lives through our products and activities, and by supporting an inclusive society.

We seek to make a positive impact on the lives of people around the world. We help to power lives and livelihoods by providing vital energy for homes, businesses, and transport.

We support livelihoods by providing employment and training in the communities where we operate, and buying goods and services from local suppliers, contributing to a more inclusive economy. In 2023, we spent around \$49 billion on goods and services from suppliers* around the world. Our activities generate revenues for governments through the taxes and royalties we pay, and the taxes we collect on their behalf. In 2023, taxes paid and collected* were \$67 billion. This helps governments fund health care, education and other essential services.

Around 760 million people [A] in the world have no electricity and over half the world population has insufficient energy to lead a good life [B]. We deliver energy commercially, by investing in businesses that supply energy access in emerging markets; and socially, by investing funds, expertise and resources in access to energy programmes.

Shell aims to become one of the most diverse and inclusive organisations in the world. Our focus is on gender; race and ethnicity; lesbian, gay, bisexual and transgender (LGBT+); and disability. In 2023, representation of women in senior leadership [C] grew to 32%. Our 2023 Shell People Survey showed a result of 83 points out of 100 for all questions relating to diversity, equity and inclusion (DE&I). This suggests that overall our people feel ours is a workplace in which they belong, feel safe and respected, and have equal opportunities to progress and grow. We seek to respect human rights in all parts of our business. Since 2022, we have implemented practices to improve and maintain worker welfare for employees and contractors.

[A] International Energy Agency, SDG7: Data and Projections, 2023.

[B] UN Human Development Index, Approximately 75 GJ final energy per capita is the threshold where populations reach 0.8 on the UN Human Development Index which can be considered a good life.

[C] Senior Leadership is a Shell measure based on compensation grade levels. This measure is distinct from "senior manager" as per statutory disclosure requirements. See "Our people" on page 128.



Respecting nature

We aim for a positive impact on biodiversity, zero waste and using water, other resources and materials efficiently.

In 2023, we reviewed our progress and performance on respecting nature. We consolidated our respecting nature ambitions announced as part of our Powering Progress strategy in 2021 into the following themes: having a positive impact on biodiversity, aiming for zero waste and using water, other resources and materials efficiently.

We have already achieved some of the respecting nature commitments we set when we launched Powering Progress. Our commitment to reduce fresh-water consumption in highly water-stressed areas by 15% was achieved ahead of the target date of 2025. We have also conducted detailed assessments to inform our approach to fresh water and waste, which will be tailored to local conditions. We have concluded that our ambition to use 1 million tonnes of plastic waste a year in our global chemical plants by 2025 is unfeasible due to lack of available plastic waste feedstock, slow technology development and regulatory uncertainty.

The remaining commitments announced in 2021 have either been incorporated into our new Safety, Environment and Asset Management (SEAM) Standards, which take effect from mid-2024, or are included in the relevant business objectives and processes.

When planning new major projects, we conduct detailed environmental, social and health impact assessments. At the end of 2023, 89% of major installations operated by Shell were certified against the ISO 14001:2015 Environmental Management System, or were in compliance with equivalent environmental frameworks required by local regulations. We are pursuing certification for the remainder.

Air quality continues to be embedded in our environmental standards. We are developing a range of lower-emission choices for customers, from electric vehicle charge points to biofuels, to help people and companies use lower-emission modes of transport. We continue to explore how we can source responsibly in our supply chain.

* Non-GAAP measure (see page 365).

How we create value

Our inputs [A]

Financial capital

Equity attributable to Shell plc shareholders (\$ billion) [B]:

187 2022: 190

Total debt (\$ billion) [B]:

82 2022: 84

Net debt* (\$ billion) [B]:

44 2022: 45

Average capital employed (\$ billion) [B]:

273 2022: 270

Cash capital expenditure* (\$ billion):

24 2022: 25

Operations

Refining and chemicals availability:

91% 2022: 96%

Oil & gas production available for sale (kboe/d):

2,791 2022: 2,864

LNG liquefaction volumes (million tonnes):

28 2022: 30

Human capital

Number of employees (thousands) [B]:

103 2022: 93

Number of training days (thousands):

295 2022: 266

Relationships

Ranking in the Global 500 list most valuable oil & gas company [C]:

1 2022: 1

Customers, joint arrangements, government relations, suppliers. Operating countries [B]:

>70 2022: >70

Intellectual capital

Research and development expenses (\$ million):

1,287 2022: 1,075

Number of patents [B][D]:

8,829 2022: 8,647

Natural resources

Proved oil and gas reserves (million boe) [B]:

9,787 2022: 9,578

Energy consumed (million MWh) [E]:

205 2022: 209

* Non-GAAP measure (see page 365).

[A] In 2023 unless stated otherwise.

[B] At December 31.

[C] Source: Brand Finance Global 500.

[D] Includes patents granted and pending patent applications. Number of patents

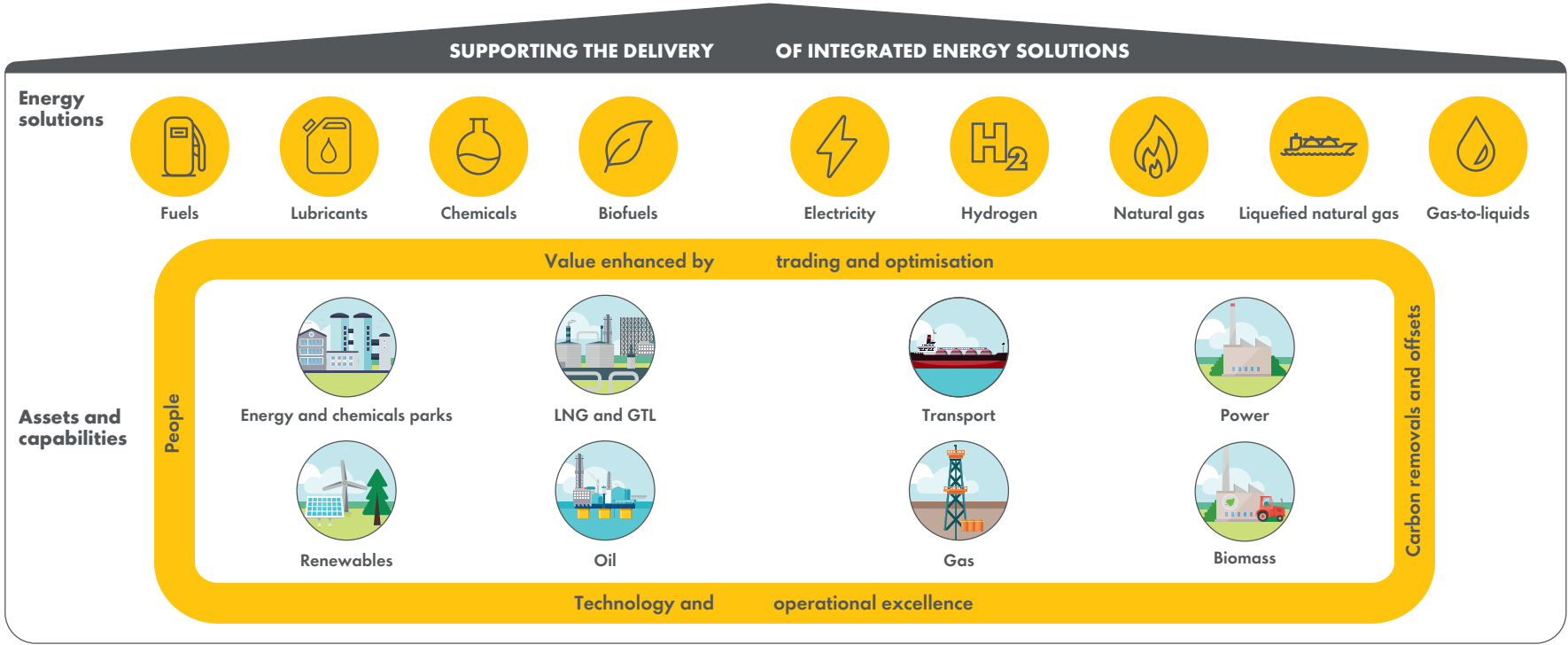
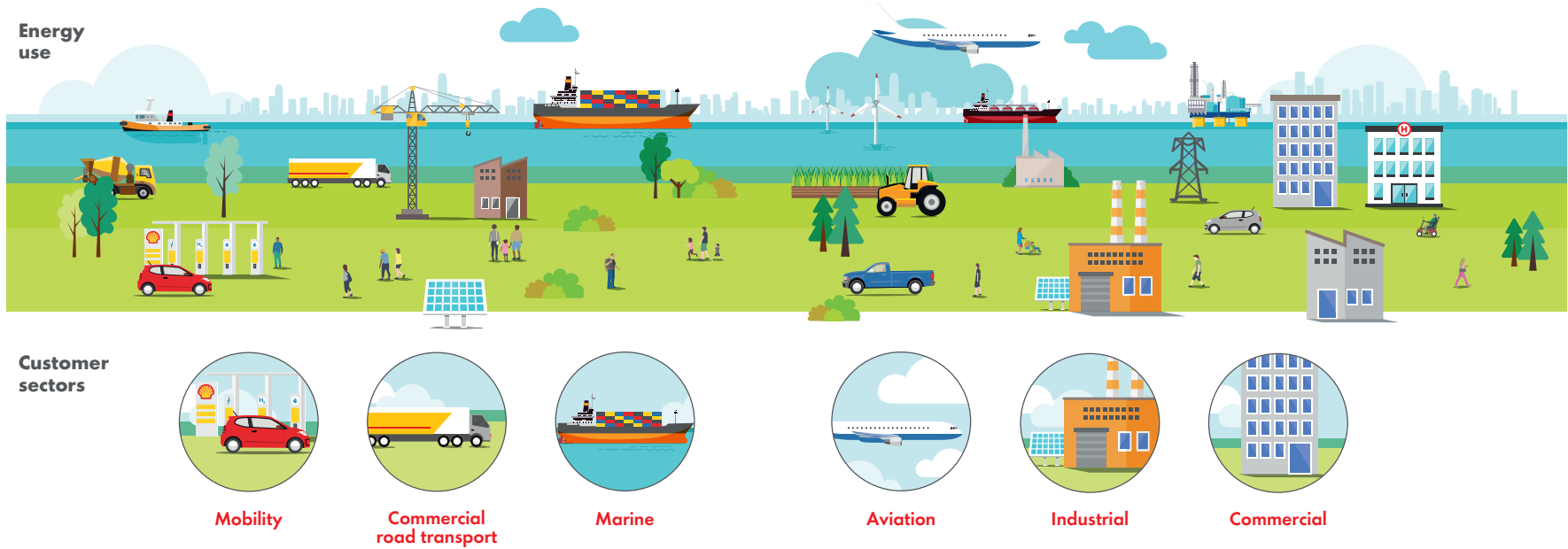
in 2022 has been revised.

[E] 2022 figure restated, following the review of data.

How we create value continued

We aim to meet the world's growing need for more and sustainable energy solutions in ways that are economically, environmentally and socially responsible. Through our business activities we create value for our shareholders, customers and wider society.

Business activities



Our outcomes and impacts for our stakeholders [A]



Generating Shareholder Value

Cash flow from operating activities (\$ billion):

54 2022: 68

Free cash flow* (\$ billion):

36 2022: 46

Shareholder distributions* (\$ billion):

23 2022: 26

Adjusted Earnings* (\$ billion):

28 2022: 40



Achieving Net-Zero Emissions

Absolute emissions (Scope 1 and 2 – million tonnes of CO₂ equivalent):

57 2022: 58 | 2016: 83

Net carbon intensity (grams of CO₂ equivalent per megajoule):

74 2022: 76 | 2016: 79

Methane emissions intensity

0.05% 2022: 0.05%



Powering Lives

Women employees in senior leadership positions [B]:

32% 2022: 30%

Taxes paid and collected* (\$ billion):

67 2022: 68

Total spend on goods and services* [C] (\$ billion):

49 2022: 48



Respecting Nature

Fresh water consumed by four major facilities in high water-stressed areas (million m³):

17 2022: 18 | 2018: 25

Total waste disposed (million tonnes):

2 2022: 2

Operational spills of more than 100 kilograms (thousand tonnes):

0.37 2022: 0.06

* Non-GAAP measure (see page 365).

[A] In 2023 unless stated otherwise.

[B] At December 31.

[C] 2022 comparative has been revised following a new reporting methodology.

Progress against our longer-term business targets

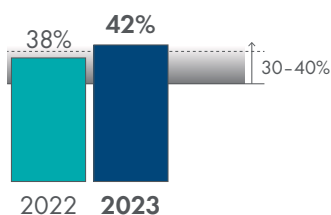


In 2023, we made good progress on the longer-term business targets that we announced at Capital Markets Day in June 2023. All other business targets have been retired in our drive for simplification and focus on performance.

More value

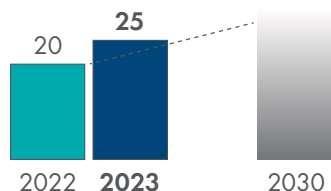
Shareholder distribution 30-40% of CFFO* through the cycle [A]

%



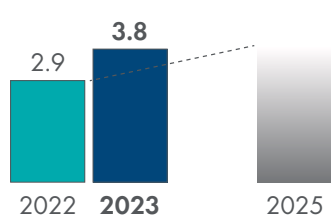
Price-normalised FCF growth* > 6% per year through 2030 [B]

\$ billion



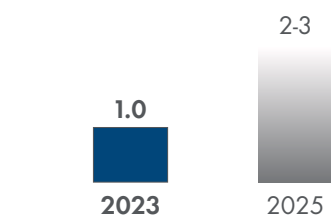
Price-normalised FCF growth/share* > 10% per year through 2025 [B]

\$/share



Structural cost reduction* vs. 2022 (\$2-3 billion) by end of 2025 [C]

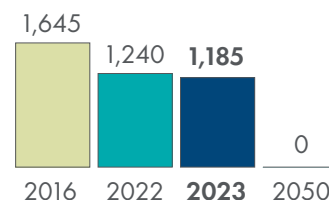
\$ billion



Less emissions

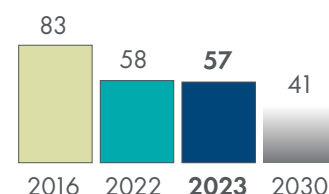
Net-zero emissions by 2050 (Scope 1, 2 and 3) [D]

million tonnes of CO₂e



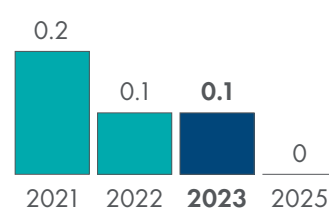
Halving Scope 1 & 2 emissions by 2030 under operational control (2016 baseline) [D], [H]

million tonnes of CO₂e



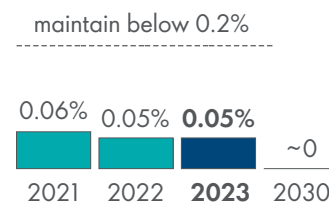
Eliminate routine flaring from upstream operations by 2025 [D], [E]

million tonnes



Methane emissions intensity maintained below 0.2% until 2025 [D], [F] and achieve near-zero methane emissions by 2030 [D], [G]

%



* Non-GAAP measure (see page 365).

[A] CFFO: cash flow from operating activities.

[B] FCF: free cash flow.

[C] 2025 target reflects annualised savings achieved by end-2025.

[D] See "Our journey to net zero" section.

[E] Subject to completion of the sale of SPDC.

[F] In view of the methane emissions intensity target of below 0.2% having been met the reference to the target year of 2025 has been removed as part of the energy transition strategy update.

[G] Methane emissions were 41 thousand tonnes in 2023 (2022: 40, 2021: 55)

[H] 2030 target is on a net basis.

Outlook for 2024 and beyond

Delivering our strategy will require clear and deliberate capital allocation choices. We intend to focus on investing in businesses where we believe we have an enduring competitive advantage. The outlook for cash capital spending in 2024 and 2025 is in the \$22-25 billion per year range. Additionally, we aim to reduce structural costs by \$2-3 billion by the end of 2025, compared with 2022.

Our target for shareholder distributions is 30-40% of cash flow from operations through the cycle. We may return cash to shareholders through a combination of dividends and share buybacks. We increased our dividend per share in 2023 and it is now 25% higher than the dividends for 2022. Subject to Board approval, we aim to grow the dividend per share by around 4% every year. When setting the level of shareholder distributions, the Board looks at a range of factors, including the macro environment, our underlying business earnings and cash flow, the current balance sheet, future investment, acquisition, and divestment plans and existing commitments.

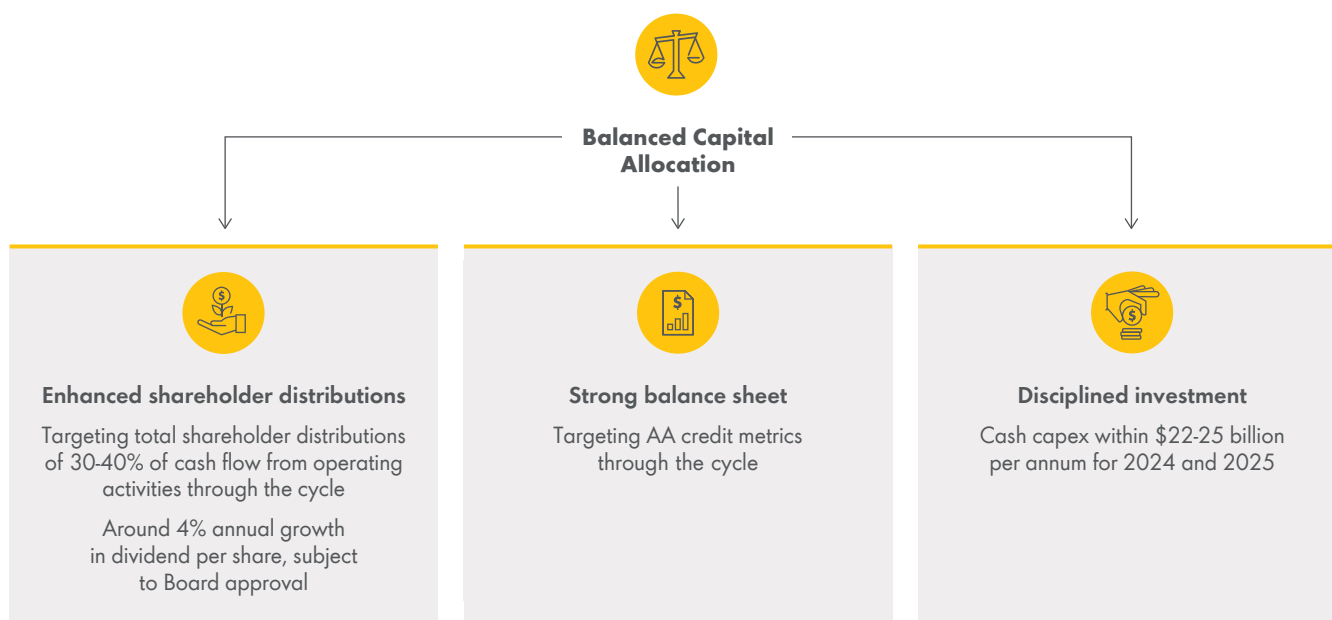
In 2023, we renewed our focus on performance, discipline and simplification. We intend to demonstrate delivery of our targets, while strengthening the foundation of our lower-carbon businesses.

Recent times have been a stark reminder that energy security cannot be taken for granted. We support a balanced energy transition, where the world does not dismantle the current energy system faster than the clean energy system of the future can be built.

We are committed to our liquefied natural gas (LNG) business and growing it with some of the lowest emissions in our industry. We will increase capacity for our LNG portfolio by around 11 million tonnes per year in the second half of the decade – that is an annual increase of more than a quarter of our current capacity. LNG plays an important role as a lower-carbon alternative to coal and as a partner to wind and solar power for electricity generation. Our Upstream business aims to keep liquids production levels flat, while producing oil with lower emissions. We will be transforming our Downstream, Renewables and Energy Solutions business to offer more low-carbon solutions, while reducing sales of oil products.

The statements in this "Outlook" section are forward-looking statements based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

Financial framework



Risk factors

The risks discussed below could have a material adverse effect separately, or in combination, on our earnings, cash flows and financial condition. Accordingly, investors should carefully consider these risks.

Further background on each risk is set out in the relevant sections of this Report, indicated by way of cross references.

The Board's responsibility for identifying, evaluating and managing our significant and emerging risks is discussed in "Other regulatory and statutory information" on pages 219-227.

Strategic risks

We are exposed to macroeconomic risks, including fluctuating prices of crude oil, natural gas, oil products and chemicals.

See "Market overview" on page 38.

Risk description

The prices of crude oil, natural gas, oil products and chemicals can be volatile and are affected by supply and demand, both globally and regionally. Under high oil and gas prices, our entitlement to proved reserves under some production-sharing contracts has been, and could continue to be, reduced. Higher prices could also reduce demand for our products which could result in lower profitability in certain businesses in the Group, particularly in our Chemicals and Products, and Marketing businesses. Some of the reduction in demand could be permanent. Higher prices can also lead to more capacity being built, potentially resulting in an oversupplied market which would negatively affect our businesses. In the past, a high oil and gas price environment has generally led to sharp increases in costs and this could continue.

In addition, macroeconomic, geopolitical and technological uncertainties have affected, and could continue to affect, production costs and demand for our products. Government actions may affect the prices of crude oil, natural gas, oil products and chemicals. These include price caps on gas, the promotion of electric vehicle sales or the phasing-out of future sales of new diesel or gasoline vehicles (as announced in the UK and due to come into force in 2035). Oil and gas prices can also move independently of each other (as seen with European gas prices in 2022). Factors that influence supply and demand include operational issues, natural disasters, weather, pandemics such as COVID-19, political instability, conflicts, such as Russia's full-scale invasion of Ukraine and the conflict in Gaza, economic conditions, including inflation, and actions by major oil- and gas-producing countries.

In a low oil and gas price environment, we have generated, and could continue to generate, less revenue from our Upstream and Integrated Gas businesses, and parts of those businesses could become less profitable or incur losses. Low oil and gas prices have also resulted and could continue to result in the debooking of proved oil or gas reserves, if they become uneconomic in this type of price environment. Prolonged periods of low oil and gas prices, or rising costs, have resulted and could continue to result in projects being delayed or cancelled. Assets have been impaired in the past, and there could be impairments in the future. Low oil and gas prices have affected, and could continue to affect, our ability to maintain our long-term capital investment and shareholder distribution programmes. Prolonged periods of low oil and gas prices could adversely affect the financial, fiscal, legal, political and social stability of countries that rely significantly on oil and gas revenue.

Accordingly, price fluctuations could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We maintain a diversified portfolio to manage the impact of price volatility. We test the resilience of our projects and other opportunities against a range of prices and costs for crude oil, natural gas, oil products and chemicals. We prepare annual strategic and financial plans that test different scenarios and their impact on prices on our businesses and organisation as a whole. Through this process, we identify potential interventions that would preserve cash levels. We also aim to maintain a strong balance sheet through the cycle to provide resilience against weak market prices.

Our ability to deliver competitive returns and pursue commercial opportunities depends in part on the accuracy of our price assumptions.

See "Market overview" on page 39.

Risk description

We use a range of commodity price and margin assumptions, which we review on a periodic basis. These ranges help us to evaluate the robustness of our capital allocation for our evaluation of projects and commercial opportunities. If our assumptions prove to be incorrect, this could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

The range of commodity prices and margins used in our project and portfolio evaluations is subject to a rigorous assessment of short-, medium- and long-term market drivers. These drivers include the extent and pace of the energy transition.

Our ability to achieve our strategic objectives depends on how we react to competitive forces.

See "Outlook for 2024 and beyond" on page 13.

Risk description

We face competition in all our businesses. We seek to differentiate our services and products, though many of our products are competing in commodity-type markets. Accordingly, failure to manage our costs and our operational performance could result in a material adverse effect on our earnings, cash flows and financial condition. We also compete with state-owned hydrocarbon entities and state-backed utility entities with access to financial resources and local markets. Such entities could be motivated by political or other factors in making their business decisions. Accordingly, when bidding on new leases or projects, we could find ourselves at a competitive disadvantage because these state-owned entities may not require a competitive return. If we are unable to obtain competitive returns when bidding on new leases or projects, this could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We continually assess the external environment - the markets and the underlying economic, political, social and environmental drivers that shape them - to evaluate changes in competitive forces. We define multiple future potential scenarios and business environments by identifying drivers, uncertainties, enablers and constraints to our competitiveness. These scenarios help us to find issues which affect our operating environment and have implications for our strategy.

Strategic risks continued

Rising concerns about climate change and effects of the energy transition could lead to a fall in demand and potentially lower prices for fossil fuels. Climate change could also have a physical impact on our assets and supply chains. This risk has resulted in adverse litigation and regulatory developments which may recur in the future, resulting in project delays or cancellations, potential additional litigation, operational restrictions and additional compliance obligations.

Risk description

Societal demand for urgent action on climate change has increased, especially since the Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C effectively made the more ambitious goal of the Paris Agreement to limit the rise in global average temperature this century to 1.5°C the default target. This increasing focus on climate change and drive for an energy transition have created a risk environment that is changing rapidly, resulting in a wide range of stakeholder actions at global, local and company levels. The potential impact and likelihood of the associated exposure for Shell could vary across different time horizons, depending on the specific components of the risk.

We expect that a growing share of our greenhouse gas (GHG) emissions will be subject to regulation, resulting in increased compliance costs and operational restrictions. Regulators may seek to limit certain oil and gas projects or make it more difficult to obtain required permits. Additionally, climate activists are challenging the grant of new and existing regulatory permits, and protesting at some of our facilities and projects. We expect that these challenges and protests are likely to continue and could delay or prohibit operations in certain cases. Our journey to achieving our target of becoming a net-zero emissions energy business has resulted in and could continue to require additional costs. We also expect that actions by customers to reduce their emissions will lower demand and potentially affect prices for fossil fuels, as will increasing levels of GHG emissions regulation through taxes, fees and/or other incentives. This could be a factor contributing to additional provisions for our assets and result in lower earnings, cancelled projects and potential impairment of certain assets.

The pace and extent of the energy transition could pose a risk to Shell if we decarbonise our operations and the energy we sell at a different speed relative to society. If we are slower than society, customers may prefer a different supplier, which would reduce demand for our products and adversely affect our reputation besides materially affecting our financial results. If we move much faster than society, we risk investing in technologies, low-carbon products or markets for which or where demand fails to materialise. The operating margins for our low-carbon products and services have been, and could continue to be lower than the margins we have experienced historically in our oil and gas operations. Changes in climate-related regulations may also impact our returns. The physical effects of climate change such as, but not limited to, increases in temperature and sea levels and fluctuations in water levels could also adversely affect our operations and supply chains.

Certain investors have decided to divest their investments in fossil fuel companies. If this were to continue, it could have a material adverse effect on the price of our securities and our ability to access capital markets. Stakeholder groups are also putting pressure on commercial and investment banks to stop financing fossil fuel companies. Some financial institutions have started to limit their exposure to fossil fuel projects. Accordingly, our ability to use financing for these types of future projects may be adversely affected. This could also adversely affect our partners' ability to finance their portion of costs, either through equity or debt.

In some countries governments, regulators, non-governmental organisations and individuals have filed lawsuits seeking to hold fossil fuel companies liable for costs associated with climate change. Losing climate change lawsuits that have been filed against us could have a material adverse effect on our earnings, cash flows and financial condition. For example, in May 2021, the District Court in The Hague, the Netherlands, ruled that by end 2030, Shell must reduce its aggregate net Scope 1, 2 and 3 emissions by 45%, compared with 2019 levels. The Scope 1 component is a results-based obligation and the Scope 2 and 3 components are a significant best-efforts obligation.

As new technologies are developed to more accurately measure emissions, we may be required to revise our emissions estimates and reduction targets. Even if we meet our targets, our efforts may be characterised as insufficient.

In summary, rising climate change concerns, the pace at which we decarbonise our operations relative to society and effects of the energy transition pose multiple challenges to our business. These could, individually or collectively, result in, for example, financial penalties, additional provisions or payments of financial damages, and have a material adverse effect on our earnings, cash flows and financial condition.

See "Our journey to net zero" on pages 82-115, "Climate change and energy transition" on pages 259-269, "Renewables and energy solutions" on pages 75-78 and "Legal proceedings and other contingencies" on pages 312-314.

How this risk is managed

Our response to the evolving risk outlook requires transparency and clarity around our plans and actions to achieve our climate target. Our climate change risk management approach is supported by standards and manuals as part of our Health, Safety, Security and Environment and Social Performance (HSSE & SP) Control Framework. Climate change and risks resulting from GHG emissions are reviewed and managed in accordance with other significant risks through the Board and the Executive Committee. We have established several dedicated internal forums related to climate change and the energy transition. These are at different levels of the organisation and seek to address, monitor and review climate change issues.

Our strategy to assess and manage risks and opportunities resulting from climate change includes considering different time horizons and their relevance to risk identification and business planning. We actively monitor societal developments, such as regulation-driven carbon-pricing mechanisms and customer-driven preferences for products. We incorporate these into potential scenarios which provide insights into how the energy transition may unfold in the medium and long term. These insights and those from various other external scenarios (such as those prepared for the IPCC Sixth Assessment Report) guide how we set our strategic direction, capital allocation and carbon emission reduction targets.

Overall, we mitigate climate-related risks through our Powering Progress strategy to deliver more value with less emissions. With our focus on performance, discipline and simplification, we believe that we are in a better position to achieve both our financial and climate-related targets and ambitions. This approach includes:

- reducing the GHG emissions from our operations (Scope 1 and 2) by improving our energy efficiency, deploying renewable electricity, managing flaring, and reducing methane emissions in our assets and projects;
- growing our world-leading liquefied natural gas (LNG) business while decarbonising our LNG portfolio in two main ways: by growing our portfolio with a lower carbon intensity, and by focusing on reducing emissions of methane;
- managing our Upstream portfolio to support a balanced energy transition by cutting emissions from oil and gas production, while keeping oil production stable. Oil production is increasingly from our deep-water business which, through innovation, produces higher-margin and lower-carbon barrels; and
- transforming our businesses in Downstream and Renewables and Energy Solutions to offer more low-carbon solutions, while reducing sales of oil products.

Our investments in low-carbon solutions are subject to financial modelling and stress-testing, due diligence and risk assessments to ensure that our capital is allocated to the most attractive low-carbon projects and opportunities. In addition, we are working to effectively adapt our assets and activities to enhance our resilience to the physical risks related to climate change where needed.

We are also working with governments on their climate policy to help establish regulatory frameworks that will enable society to reach the goals of the Paris Agreement. We signed up to the Oil and Gas Decarbonization Charter announced at COP28, within which organisations have pledged to achieve near-zero methane emissions by 2030 and zero routine flaring by no later than 2030. We also intend to contribute to the World Bank's Global Flaring and Methane Reduction Fund, which was launched at COP28. In relation to the ruling delivered by the District Court in The Hague in May 2021, we have appealed the ruling but continue to implement our Powering Progress strategy to become a net-zero emissions energy business by 2050, regardless of whether we win or lose the appeal.

Strategic risks continued

We operate in more than 70 countries that have differing degrees of political, legal and fiscal stability. This exposes us to a wide range of political developments that could result in changes to contractual terms, laws and regulations. We and our joint arrangements and associates also face the risk of litigation and disputes worldwide.

See "Other regulatory and statutory information" on page 225.

Risk description

Developments in politics, laws and regulations can and do affect our supply chains and operations. Potential impacts, which we have experienced in the past, include: forced divestment of assets; expropriation of property; cancellation or forced renegotiation of contract rights; delay of new projects; additional taxes, including windfall taxes (especially during periods of prolonged high oil and gas prices experienced in recent years, such as 2022), restrictions on deductions and retroactive tax claims; antitrust claims; changes to trade compliance regulations; price controls; local content requirements; foreign exchange controls; changes to environmental regulations; changes to regulatory interpretations and enforcement; and changes to disclosure requirements. Many parts of the world are facing economic and fiscal challenges and growing pressure on cost-of-living standards. These issues impact our business as governments, in response to political and social pressures, pursue policies that could have a material adverse effect on our earnings, cash flows and financial condition.

The world is also facing continued geopolitical instability, including Russia's full-scale invasion of Ukraine, which impacts market conditions and our operations. The broader consequences of the conflict in Gaza remain uncertain and a wider regional escalation could have greater impacts on our operations in the Middle East and beyond.

From time to time, social and political factors play a role in unprecedented and unanticipated judicial outcomes that could adversely affect Shell. Non-compliance with policies and regulations could result in regulatory investigations, litigation and, ultimately, sanctions. Certain governments and regulatory bodies have, in Shell's opinion, exceeded their constitutional authority by: attempting unilaterally to amend or cancel existing agreements or arrangements; failing to honour existing contractual commitments; and seeking to adjudicate disputes between private litigants. Certain governments have also adopted laws and regulations that could potentially conflict with other countries' laws and regulations, potentially subjecting us to criminal and civil sanctions. Such developments and outcomes could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We continually monitor geopolitical developments and societal issues relevant to our interests.

Our Legal and Tax functions are organised globally and support our business lines in seeking to ensure compliance with local laws and fiscal regulations, and filing proactive claims where warranted to protest unfair practices. Our Corporate Relations department liaises with governments in countries where we operate to understand and engage on local policies and to advocate Shell's position on topics relevant to our industry.

We are prepared to exit a country if we believe we can no longer operate there in accordance with our standards and applicable law, and we have done so in the past.

With regard to the conflict in Gaza, we have made adjustments to our operations in the Middle East to reduce our exposure and are closely monitoring the risk of a wider regional escalation.

An erosion of our business reputation could have a material adverse effect on our brand, our ability to secure new hydrocarbon or low-carbon opportunities or access capital markets, and on our licence to operate.

See "Living by our values" on page 137.

Risk description

Our reputation is an important asset. The Shell General Business Principles (SGBP) govern how Shell and its individual companies conduct their affairs, and the Shell Code of Conduct tells employees and contract staff how to behave in line with the SGBP. Our challenge is to ensure that all employees and contract staff comply with the Principles and the Code of Conduct. Real or perceived failures of governance or regulatory compliance or a perceived lack of understanding of how our operations affect surrounding communities could harm our reputation.

Societal expectations of companies are increasing, with a focus on business ethics, quality of products, contribution to society, safety and minimising damage to the environment. There is increasing focus on the role of oil and gas in the context of climate change and the energy transition. Non-governmental organisations (NGOs) continue to challenge Shell's social and legal licence to operate through activities to block or delay projects and by bringing legal actions, diverting our resources. In key markets, we are seeing an increasing number of protests at external events such as the Annual General Meeting, claims brought by NGOs and our brand communications have been subject to bans from advertising regulators in the UK and the Netherlands, following complaints received from members of the public. During prolonged periods of high oil and gas prices, the oil and gas industry could be accused of profiteering from higher fuel and electricity prices and therefore impacting living costs. This could negatively affect our brand, reputation and licence to operate, which could limit our ability to deliver our strategy, reduce consumer demand for our branded and non-branded products, harm our ability to secure new resources and contracts, and restrict our ability to access capital markets or attract staff. Many other factors, including the materialisation of other risks discussed in this section, could negatively affect our reputation and could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

The SGBP set out our responsibilities to shareholders, customers, employees, business partners and society. They set the standards for how we conduct business with integrity, care and respect for people. All Shell employees and contractors, and those at joint ventures we operate, are expected to behave in line with these business principles. We undertake a range of activities to help embed the SGBP throughout the organisation. This involves training, encouraging people to discuss the dilemmas they face in their work.

We continually assess and monitor the external environment for potential risks to our reputation. We engage in dialogue with our key stakeholders, such as investors, industry and trade groups, academics, governments and non-governmental organisations to gain greater insights into societal expectations of the Shell Group of companies. We also take proactive steps when warranted, through legal means to protect our reputation from unwarranted accusations.

We have mitigation plans for identified individual risks at the Group, country and line of business level. Our country chairs are responsible for implementing country plans which are updated annually. We continually develop and defend our brand in line with Shell's purpose and promises and target our efforts to drive brand differentiation, relevance and preference.

Operational risks

Some of the consequences of Russia's full-scale invasion of Ukraine remain unpredictable. The evolving geopolitical situation, including sanctions and export controls, has caused challenges to our operations, the security of our people, and has created new reputational exposure, both of which are likely to continue in the medium to longer term.

See "Other regulatory and statutory information" on page 225.

Risk description

The Russia-Ukraine war continues to pose challenges to our operations and commercial decisions. The subsequent sanctions and export controls imposed by countries around the world are continuing to have a material impact on a number of our activities, including supply, trading and treasury activities. More sanctions and export controls could be expected.

This continuing war could give rise to additional events that could materially impact our operations, which may be temporary or more permanent in nature. These risks and future events could impact the security of our people, our supply chain, commodity prices, credit, commodity trading, treasury and legal activities. In addition, there are potential reputational risks associated with how Shell's decisions in response to evolving challenges are perceived. The tensions also create heightened cyber security threats to our information technology (IT) infrastructure.

Any of these factors, individually or in aggregate, could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

In response to the invasion, a Group Crisis Team was set up to assess the situation, consider potential scenarios of how events may further develop and coordinate responses accordingly. The team continues to play an oversight and cross-coordination role across Shell's different lines of businesses.

Care for our people remains Shell's top priority.

We continue to closely monitor and respond to the sanctions that have been imposed and follow international guidelines where relevant to our business activities.

Shell no longer participates in any joint ventures with Gazprom and related entities with ongoing operations inside Russia. Shell has also exited all its downstream business (including service stations, fuels supply and lubricants) in Russia.

The estimation of proved oil and gas reserves involves subjective judgements based on available information and the application of complex rules. This means subsequent downward adjustments are possible.

See "Supplementary information - oil and gas (unaudited)" on pages 317-335.

Risk description

The estimation of proved oil and gas reserves involves subjective judgements and determinations based on available geological, technical, contractual and economic information. Estimates can change over time because of new information from production or drilling activities, changes in economic factors, such as oil and gas prices, alterations in the regulatory policies of host governments, or other events. Estimates also change to reflect acquisitions, divestments, new discoveries, extensions of existing fields and mines, and improved recovery techniques. Published proved oil and gas reserves estimates could also be subject to correction because of errors in the application of rules and changes in guidance. Downward adjustments could indicate lower future production volumes and could also lead to impairment of assets. This could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

A central group of reserves experts undertakes the primary assurance of the proved reserves bookings. A multidisciplinary committee reviews and endorses all major proved reserves bookings. Shell's Audit and Risk Committee reviews all proved reserves bookings and Shell's CEO is responsible for final approval. The Internal Audit function also provides further assurance through audits of the control framework, from which information disclosed in "Supplementary information - oil and gas (unaudited)" is obtained.

Operational risks continued

Our future hydrocarbon production depends on the delivery of large and integrated projects and our ability to replace proved oil and gas reserves.

See "Oil and gas information" on pages 55-62.

Risk description

We face numerous challenges in developing capital projects, especially those which are large and integrated. Challenges include: uncertain geology; frontier conditions; the existence and availability of necessary technology and engineering resources; the availability of skilled labour; the existence of transport infrastructure; project delays; the expiration of licences; delays in obtaining required permits; potential cost overruns; and technical, fiscal, regulatory, political and other conditions. These challenges are particularly relevant in certain developing and emerging market countries, in frontier areas and in deep-water fields, such as off the coast of Namibia. We may fail to assess or manage these and other risks properly. Such potential obstacles could impair our delivery of these projects, our ability to fulfil the full potential value of the project as assessed when the investment was approved, and our ability to fulfil related contractual commitments. This could lead to impairments and could have a material adverse effect on our earnings, cash flows and financial condition.

Future oil and gas production will depend on our access to new proved reserves through exploration, negotiations with governments and other owners of proved reserves and acquisitions, and through developing and applying new technologies and recovery processes to existing fields. Failure to replace proved reserves could result in an accelerated decrease of future production, potentially having a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We continue to explore for and mature hydrocarbons across our Upstream and Integrated Gas businesses. We use our subsurface, project and technical expertise, and actively manage non-technical risks across a diversified portfolio of opportunities and projects. This involves adopting an integrated approach for all stages, from basin choice to development. We use competitive techniques and benchmark our approach internally and externally.

Oil and gas production available for sale

	Million boe [A]		
	2023	2022	2021
Shell subsidiaries	937	938	1,047
Shell share of joint ventures and associates	82	108	134
Total	1,019	1,046	1,181

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Proved developed and undeveloped oil and gas reserves [A][B]

	Million boe [C]		
	Dec 31, 2023	Dec 31, 2022	Dec 31, 2021
Shell subsidiaries	8,283	8,317	8,456
Shell share of joint ventures and associates	1,504	1,261	909
Total	9,787	9,578	9,365
Attributable to non-controlling interest of Shell subsidiaries	378	365	267

[A] We manage our total proved reserves base without distinguishing between proved reserves from subsidiaries and those from joint ventures and associates.

[B] Includes proved reserves associated with future production that will be consumed in operations.

[C] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Risk factors continued

Operational risks continued

The nature of our operations exposes us, and the communities in which we work, to a wide range of health, safety, security and environment risks.

See "Safety" on pages 133-136 and "Living by our values" on pages 139.

Risk description

The health, safety, security and environment (HSSE) risks to which we and the communities in which we work are potentially exposed cover a wide spectrum, given the geographical range, operational diversity and technical complexity of our operations. These risks include the effects of natural disasters (including weather events and earthquakes), social unrest, pandemic diseases, criminal actions by external parties, and safety lapses. If a major risk materialises, such as an explosion or hydrocarbon leak or spill, which we have experienced in the past, this could result in injuries, loss of life, environmental harm, disruption of business activities, loss or suspension of permits, loss of our licence to operate and loss of our ability to bid on mineral rights. Accordingly, this could have a material adverse effect on our earnings, cash flows and financial condition.

Our operations are subject to extensive HSSE regulatory requirements that often change and are likely to become more stringent over time. Governments could require operators to adjust their future production plans, affecting production and costs. We could incur significant extra costs in the future because of the need to comply with such requirements. We could also incur significant extra costs due to violations of or liabilities under laws and regulations that involve elements such as fines, penalties, clean-up costs and third-party claims. If HSSE risks materialise, they could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We have internal standards and a clear governance structure to help manage HSSE risks and avoid potential adverse effects. Our governance structure and standards also help us to develop mitigation strategies aimed at ensuring that if an HSSE risk materialises, we avoid the worst possible consequences and have ways to remediate any environmental damage. Our standards describe how key control processes need to be implemented, for example, to ensure safe production and equipment care. When planning new major projects, we conduct detailed environmental, social and health impact assessments. We routinely practise our emergency response plans for potential events, such as spills or fire, which pose a significant risk.

Our standards and governance structure are currently defined in our Health, Safety, Security, Environment and Social Performance (HSSE & SP) Control Framework and supporting guidance documents. We are in the process of transitioning to new Safety, Environment and Asset Management Standards as part of the Shell Performance Framework.

The Shell Internal Audit and Investigation team provides assurance on the HSSE & SP controls to the Audit and Risk Committee.

A further erosion of the business and operating environment in Nigeria could have a material adverse effect on us.

See "Upstream" on page 52 and "Legal proceedings and other contingencies" on pages 312-314.

Risk description

In our Nigerian operations, we face various risks and adverse conditions. These include: security incidents affecting the safety of our people, host communities and operations; sabotage and crude theft; ongoing litigation; limited infrastructure; challenges presented by delayed government and partner funding and budget delays; and regional instability created by militant activities. Some of these risks and adverse conditions, such as security issues affecting the safety of our people and sabotage and theft, have occurred in the past and are likely to continue in the future, with a potential material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We test the economic and operational resilience of our Nigerian projects against a wide range of assumptions and scenarios. We seek to proportionally share risks and funding commitments with joint-venture partners. When we participate in joint ventures in Nigeria, we require that they operate in accordance with good industry practice. We monitor the security situation, and liaise with host communities, governmental and non-governmental organisations to help promote peaceful and safe operations.

Upon completion of the announced sale (subject to regulatory approvals and other conditions) of our onshore Nigeria business, our exposure to these risks is expected to reduce. Shell has other businesses in Nigeria that are outside the scope of the announced transaction.

Operational risks continued

We rely heavily on information technology systems in our operations.

See "Other central activities" on page 81.

Risk description

Our continued focus on digitalising our business processes, and our increasing dependence on information technology (IT) systems for our core operations, mean that we are heavily reliant on secure, affordable and resilient IT services provided both in-house and by third parties.

Externally, we observe several developments impacting our IT and cyber risk profile: deterioration of the cyber security threat landscape represented by increasing volumes of attacks by sophisticated cyber actors, technology developments (such as artificial intelligence), geopolitical conflicts and increases in regulations across the markets in which Shell operates. We have observed an increase in social engineering (manipulation of individuals) as a method of financially driven cyber crime. Threat actors are targeting bank account changes, invoice settlement and identity fraud to extract money from corporations. Ransomware attacks on corporations continue to be widespread. These contribute to potential breaches and disruptions of critical IT services, such as the security incident involving the transfer of files which Shell experienced in 2023. If breaches are not detected early and responded to effectively, they could impact our operations and the safety of our staff and/or harm our reputation and/or result in material regulatory fines. This could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

Our global integrated Information Risk Management (IRM) and cyber defence teams are staffed with cyber security professionals that monitor, assure and defend our global IT landscape. Our cyber security capabilities are embedded into our IT systems, and our IT is protected by various detective and protective technologies. A structured approach to identify, assess and mitigate the IT and cyber security risks is built into our support processes and aligns to industry best practices. We continuously track cyber attacks, threat intelligence and vulnerabilities in our IT landscape and have a well-structured incident management and escalation process in place. The security of IT services, where operated by external IT companies, is managed through contractual clauses and additionally through formal supplier assurance reports for critical IT services. Shell engages an external party to perform periodic benchmarking of Shell's approach to cyber security risk management in comparison to industry and peers. We develop our cyber security capabilities, based on external dynamics, benchmarking outcomes and assurance results and take a risk-based approach in our investment decisions related to cyber security risk strategy.

Our information risk management practices, and cyber security risks and strategy are regularly discussed by and among our Chief Information Security Officer, Shell's Information and Digital Technology leadership, the Executive Committee, the Audit and Risk Committee and the Board of Directors. These discussions involve consideration of changes in the external environment, how Shell is responding to cyber security risks and implementation of further remedial actions as appropriate. In 2023, these reviews were supplemented by dedicated deep dives into areas such as the emerging risks (and opportunities) associated with generative artificial intelligence.

Our business exposes us to risks of social instability, criminality, civil unrest, terrorism, piracy, cyber disruption and acts of war that could have a material adverse effect on our operations.

See "Safety" on page 136.

Risk description

As seen in recent years, these risks can manifest themselves in the countries where we operate and elsewhere. These risks impact people, our operations and assets. Risks which have materialised in the past include: acts of terrorism; acts of criminality, including maritime piracy, sabotage and tapping into our pipelines in Nigeria; cyber espionage or disruptive cyber attacks; conflicts, including war - such as Russia's full-scale invasion of Ukraine; civil unrest such as the 2023 political unrest in Pakistan; malicious acts carried out by individuals within Shell, such as data exfiltration during divestments; and environmental and climate activism (including disruptions by non-governmental organisations) especially in the USA and north-west Europe, where, for example, activists boarded and protested during the sailing of the Penguins floating production and storage and offloading (FPSO) vessel to Norway.

The above risks can threaten the safe operation of our assets and the transport of our products. They can harm the well-being of our people, inflict loss of life and injuries, and disrupt our operational activities. They can also damage the environment and negatively impact our reputation. These risks could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We seek to obtain the best possible information to enable us to assess threats and risks. We conduct detailed threat and risk assessments for Shell-operated venture assets, facilities, businesses, projects and activities, so that security risk mitigations achieve the principles of deter, detect, delay and respond. Further mitigations include strengthening the security of assets, reducing our exposure as appropriate and using journey management plans. We also invest in information risk management capabilities and crisis management and business continuity measures. We learn from incidents, in order to continually improve our security risk management in Shell.

Operational risks continued

The Groningen region in the Netherlands continues to experience earthquakes induced by historical gas production activities, affecting local communities.

Risk description

Shell and ExxonMobil are 50:50 shareholders in Nederlandse Aardolie Maatschappij B.V. (NAM). An important part of NAM's gas production comes from the onshore Groningen gas field, in which EBN, a Dutch government entity, has a 40% interest and NAM a 60% interest. The Dutch government issues annual gas production instructions for the Groningen field. As per the latest instruction, production ceased on October 1, 2023. However, the Dutch government has indicated to NAM it could decree a restart of minimal production in exceptional circumstances during the current gas year, which occurred on January 8-10, 2024, for a cold spell of several days.

The region is still experiencing earthquakes induced by historical gas production. This has resulted in damaged buildings in the region, which has led to complaints and lawsuits from the local community and promises of compensation from the Dutch government to the region. The Dutch State has taken over the handling of damage claims from NAM for all claim categories, as well as activities to strengthen buildings in the region, while NAM remains financially responsible insofar as the costs correspond to NAM's liability. While we expect the cessation of production from the Groningen gas field on October 1, 2023, to further reduce seismicity, any additional earthquakes, or the government passing on costs to NAM beyond NAM's liability, could have further material adverse effects on our earnings, cash flows and financial condition.

See "Upstream" on page 49 and "Legal proceedings and other contingencies" on page 313.

How this risk is managed

NAM is working with the Dutch government and other stakeholders to fulfil its obligations to residents of the area. These include compensating for damage caused by the earthquakes and paying to strengthen houses where this is required for safety. In 2022, NAM started arbitrations with the Dutch government to have its financial liability determined for costs which the Dutch government compensated to claimants and subsequently charged to NAM.

Shell and ExxonMobil intend to reach a final, all-encompassing settlement with the Dutch government on the new design of the Dutch "Gasgebouw" and the winding-down of natural gas production in Groningen. Shell, ExxonMobil and the Dutch government reached agreements in 2018 (Heads of Agreement) and 2019 (Interim Agreement), and subsequently have been engaged in discussions on the interpretation and implementation of these agreements and on a final and all-encompassing settlement. However, as these discussions have not led to such a settlement, in December 2023, the NAM shareholders asked an independent arbitration panel to rule on the interpretation and implementation of the agreements made in 2018/2019. The purpose of this arbitration is for a neutral third party to assess the situation and provide clarity. The arbitration is expected to take several years, and the judgment will be binding. The arbitration does not preclude a final and all-encompassing settlement, provided Shell, ExxonMobil and the Dutch government agree to pursue such a settlement.

Operational risks continued

We are exposed to treasury and trading risks, including liquidity risk, interest rate risk, foreign exchange risk and credit risk. We are affected by the global macroeconomic environment and the conditions of financial and commodity markets.

See "Financial framework" on page 34.

Risk description

Our subsidiaries, joint arrangements and associates are subject to differing economic and financial market conditions around the world. Political or economic instability affects such markets.

We use debt instruments, such as bonds and commercial paper, to raise significant amounts of capital. Should access to debt markets become more challenging, the impact on our liquidity could have a material adverse effect on our operations. For example, some financial institutions have started to limit their exposure to fossil fuel projects. Group financing costs could also be affected by interest rate fluctuations or any credit rating deterioration.

We are exposed to changes in currency values and to exchange controls as a result of our substantial international operations. Our reporting currency is the US dollar, although, to a material extent, we also hold assets and are exposed to liabilities in other currencies. While we undertake some foreign exchange hedging, we do not do so for all our activities. Even where hedging is in place, it may not function as expected.

Commodity trading is an important component of our businesses. Processing, managing and monitoring many trading transactions across the world, some of which are complex and, depending on the terms of our commodity contracts, exposes us to operational and market risks, including commodity price risks. We use derivative instruments such as futures, options and contracts for difference to hedge market risks. Due to differences between derivative instruments available in the market to hedge market risks and the actual market risks we are exposed to, perfect hedging is not always achievable. Therefore, our hedging has from time to time not functioned as expected and may not function as expected in the future. We undertake commodity trading to optimise commercial margins or to profit from expected market price movements. Even with sound risk management procedures and controls in place, this activity involves forecasting and hence we are exposed to the risk of incurring significant losses if prices develop contrary to management expectations.

We are exposed to credit risk; our counterparties could fail or be unable to meet their payment and/or performance obligations under contractual arrangements.

Our pension plans invest in government bonds, so they could be affected by a sovereign debt downgrade or other default.

If any of the above risks materialise, they could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We use various financial instruments for managing exposure to foreign exchange and interest rate movements. Our treasury operations are highly centralised and seek to manage credit exposures associated with our substantial cash, foreign exchange and interest rate positions. Our portfolio of cash investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Other than in exceptional cases, the use of external derivative instruments is confined to specialist trading and central treasury organisations that have the appropriate skills, experience, supervision, control and reporting systems.

In effecting commodity trades and derivative contracts, we operate within procedures and policies designed to ensure that market risks are managed within authorised limits and trading can only be performed by staff with the appropriate skills and experience. We closely monitor developments in sanctions and export controls to ensure compliance with applicable laws and regulatory guidance. Senior Management regularly reviews mandated trading limits. A department that is independent from our traders monitors our market risk exposures daily, using value-at-risk techniques alongside other risk metrics as appropriate.

We have credit risk policies in place which seek to ensure that products are sold to customers with appropriate creditworthiness. These policies include detailed credit analysis and monitoring of customers against counterparty credit limits. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage credit risk.

We maintain committed credit facilities. Management believes it has access to sufficient debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements.

Operational risks continued

Our future performance depends on the successful development and deployment of new technologies that provide new products and solutions.

See "Other central activities" on page 81.

Risk description

Technology and innovation are essential to our efforts to help meet the world's energy demands competitively. If we fail to effectively develop or deploy new technology, products and solutions, or fail to make full, effective use of our data in a timely and cost-effective manner, there could be a material adverse effect on the delivery of our strategy and our licence to operate. We operate in environments where advanced technologies are used. In developing new technologies, products and solutions, unknown or unforeseeable technological failures or environmental and health effects could harm our reputation and licence to operate or expose us to litigation or sanctions. The associated costs of new technology are sometimes underestimated. Sometimes the development of new technology is subject to delays. If we are unable to develop the right technology and products in a timely and cost-effective manner, or if we develop technologies, products and solutions that harm the environment or people's health, there could be a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

Shell's Projects and Technology organisation and the relevant business lines work together to determine the content, scope and budget for developing new technology that supports our activities. The new technology is developed using a robust technology maturation process, to systematically de-risk both technical and commercial risks, while ensuring portfolio alignment with Shell's strategic ambitions and deployment commitments. A significant proportion of Shell's technology contributes to our emissions reduction targets. We benefit from collaborations with leading academic research institutes and universities, and from providing access to mentors and subject matter expertise to start-ups. In our Shell GameChanger programme, we help start-ups and businesses on unproven early-stage ideas to mature early-stage technologies. In our Shell Ventures scheme, we invest in and partner with start-ups and small and medium-sized enterprises that are in the early stages of developing new technologies.

We have substantial pension commitments, the funding of which is subject to capital market risks and other factors.

See "Financial framework" on page 34.

Risk description

Liabilities associated with defined benefit pension plans are significant, and the cash funding requirement of such plans can also involve significant liabilities. They both depend on various financial and demographic assumptions. Volatility in capital markets or government policies could affect investment performance, inflation and interest rates, causing significant changes to the funding level of future liabilities and/or short-term liquidity requirements. Changes in assumptions for mortality, retirement age or pensionable remuneration at retirement could also cause significant changes to the funding level of future liabilities. We operate a number of defined benefit pension plans and, in case of a shortfall, we could be required to make substantial cash contributions (depending on the applicable local regulations). This could result in a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

A pensions forum chaired by the Chief Financial Officer oversees Shell's input to pension strategy, policy and operation. A risk committee supports the forum in reviewing the results of assurance processes with respect to pension risks. Local trustees manage the funded defined benefit pension plans and set the strategic asset allocation for the plans, including the extent to which currency, interest rate and inflation risks are hedged, and the contributions paid are based on independent actuarial valuations that align with applicable local regulations. Pension fund liquidity is managed by holding appropriate liquid assets and maintaining credit facilities. Where appropriate, transactions to transfer pension liabilities to third parties are also considered.

Risk factors continued

Operational risks continued

We mainly self-insure our hazard risk exposures. Consequently, we could incur significant financial losses from different types of risks that are not insured with third-party insurers.

See "Corporate" on page 80.

Risk description

Our Group insurance companies (wholly owned subsidiaries) provide insurance coverage to Shell subsidiaries and entities in which Shell has an interest. These subsidiaries and entities may also insure a portion of their risk exposures with third parties, but such external insurance would not provide any material coverage in the event of a large-scale safety or environmental incident. Accordingly, in the event of a material incident, we would have to meet our obligations without access to material proceeds from third-party insurers. We have in the past incurred adverse impacts from events, such as Hurricane Ida in 2021. We may, in the future, incur significant losses from different types of hazard risks that are not insured with third-party insurers, potentially resulting in a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We continually assess the safety performance of our operations and make risk mitigation recommendations, where relevant, to keep the risk of an accident as low as possible. Our insurance companies are adequately capitalised and they may transfer risks to third-party insurers where economical, effective and relevant.

Many of our major projects and operations are conducted in joint arrangements or with associates. This could reduce our degree of control and our ability to identify and manage risks.

See "Other regulatory and statutory information" on page 225.

Risk description

When we are not the operator, we have less influence and control over the behaviour, performance and operating costs of joint arrangements or associates. Despite having less control, we could still be exposed to the risks associated with these operations, including reputational, litigation (where joint and several liability could apply) and government sanction risks. For example, our partners or members of a joint arrangement or an associate, (particularly local partners in developing countries), may be unable to meet their financial or other obligations to projects, threatening the viability of a given project. Where we are the operator of a joint arrangement, the other partner(s) could still be able to veto or block certain decisions, which could be to our overall detriment. Accordingly, where we have limited influence, we are exposed to operational risks that could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

For every major project where we share control, Shell appoints a Joint Venture Asset Manager, whose responsibility is to manage performance and create and protect value for Shell. The Joint Venture Asset Manager seeks to influence operators and other partners to adapt their practices in order to drive value appropriately and to mitigate identified risks. An annual review assesses how the joint venture's standards and processes align with those of Shell. The Joint Venture Asset Manager follows up on any gaps identified.

Conduct and culture risks

We are exposed to regulatory and conduct risk in our trading operations.

See "Living by our values" on page 138.

Risk description

Commodity trading is an important component of our business. Our commodity trading entities are subject to many regulations, including requirements for standards of conduct. The risk of ineffective controls, poor oversight of trading activities, and the risk that traders could deliberately operate outside compliance limits and controls, either individually or as a group, has occurred. This has resulted in losses in the past and may result in further losses in the future. The rapidly changing regulatory environment creates a risk of insufficient, delayed or incorrect implementation of new or changes to existing regulatory requirements. Violations of such regulatory requirements could also expose us and/or our employees to regulatory fines and have an adverse effect on our licence to operate. These risks could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We maintain a trading compliance function managed by a Chief Compliance Officer, as regulated by the UK Financial Conduct Authority, the US Commodities Futures Trading Commission and the Securities Commission of The Bahamas, with adequate resources, including employees and budget; a comprehensive governance structure, including mitigating control measures; and established reporting lines. Employees in Shell's trading organisation receive clear guidance through the Shell Code of Conduct; the organisation's Trading Compliance Manual, supplemented with specific policies; a specific compliance website; mandatory training modules where completion is monitored; and additional training sessions. Shell leaders reinforce the importance of managing compliance and conduct risk in the trading organisation. Shell's Trading Compliance function has a dedicated monitoring and surveillance team, which has systems for trade surveillance and monitoring communication.

Violations of antitrust and competition laws carry fines and expose us and/or our employees to criminal sanctions and civil suits.

See "Living by our values" on page 138.

Risk description

Antitrust and competition laws apply to Shell and its joint arrangements and associates in the vast majority of countries where we do business. Shell and its joint arrangements and associates have been fined for violations of antitrust and competition laws in the past. This includes a number of fines by the European Commission Directorate-General for Competition (DG COMP). Because of DG COMP's fining guidelines, any future conviction of Shell or any of its joint arrangements or associates for violation of EU competition law could potentially result in significantly larger fines and have a material adverse effect on us. Violation of antitrust laws is a criminal offence in many countries, and individuals can be imprisoned or fined. In certain circumstances, directors may receive director disqualification orders. It is also now common for persons or corporations allegedly injured by antitrust violations to sue for damages. Any violation of these laws can harm our reputation and could have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

We maintain an antitrust programme with adequate resources, a comprehensive governance structure and established reporting lines. Staff receive guidance on the requirements listed in Shell's Ethics and Compliance Manual, including via an antitrust-specific website; training modules, where completion is monitored; and messages from Shell leaders on the importance of managing antitrust risks. Staff must understand and comply with the Protect Shell Policy, which explains Shell's position on managing antitrust risks in engagements with parties external to Shell. In response to fast-moving external antitrust developments and trends, internal guidance is continually being monitored to ensure that it remains relevant.

Violations of anti-bribery, tax-evasion and anti-money laundering laws carry fines and expose us and/or our employees to criminal sanctions and civil suits.

See "Living by our values" on page 137 and "Legal proceedings and other contingencies" on pages 312-314.

Risk description

Anti-bribery, tax-evasion and anti-money laundering laws apply to Shell, its joint arrangements and associates in all countries where we do business. Shell and its joint arrangements and associates have in the past settled with the US Securities and Exchange Commission regarding violations of the US Foreign Corrupt Practices Act. Any violation of anti-bribery, tax-evasion or anti-money laundering laws, including potential violations associated with Shell Nigeria Exploration and Production Company Limited's investment in Nigerian oil block OPL 245 and the 2011 settlement of litigation pertaining to that block, could harm our reputation or have a material adverse effect on our earnings, cash flows and financial condition. Violations of such laws also could expose us and/or our employees to criminal sanctions, civil suits and other consequences, such as debarment and the revocation of licences.

How this risk is managed

We maintain an anti-bribery, anti-tax evasion and anti-money laundering (ABC/AML) programme with adequate resources, a comprehensive governance structure and established reporting lines. Staff receive guidance on the requirements listed in Shell's Ethics and Compliance Manual; an ABC/AML-specific website; training modules, where completion is monitored; and messages from Shell leaders on the importance of managing ABC/AML risks.

On July 21, 2022, the Dutch Public Prosecutor's office announced it had dismissed its investigation into bribery allegations related to OPL 245.

Conduct and culture risks continued

Violations of data protection laws carry fines and expose us and/or our employees to criminal sanctions and civil suits.

See "Living by our values" on page 137.

Risk description

Data privacy and the management of personal data have become an issue of increasing importance and focus for companies and regulators in recent years. Following the implementation of the EU General Data Protection Regulation (GDPR) in May 2018, we have on a global basis seen updates to, or the introduction of, data privacy laws largely based on the GDPR. More than 100 countries globally now have data privacy laws. Shell companies are increasingly processing large volumes of personal data as we continue to acquire small companies with relatively large amounts of customer data. In doing so, we must consider how we manage personal data effectively and responsibly, including managing the associated cyber risks. In some countries that are key to Shell's business operations, such as China, relevant legislation continues to be amended or introduced. Shell must be able to adapt dynamically to such legislative changes and be capable of updating our internal programmes if necessary. Many countries require mandatory notification of data breaches often within short time frames (72 hours) in certain situations. In these circumstances we might be required to report to affected individuals and regulators in the relevant countries. Non-compliance with data protection laws could harm individuals and expose us to regulatory investigations. This could result in fines, which could be up to 4% of global annual turnover if under the GDPR; orders to stop processing certain data; harm to our reputation; and loss of the trust of existing and potential customers, stakeholders, governments, and employees. With regard to data breaches in the past, we notified a number of data privacy regulators of personal data breaches and have had fines issued against us and this could happen in the future. In addition to imposing fines, regulators may also issue orders to stop processing personal data, which could disrupt operations. We could also be subject to litigation from persons or entities allegedly affected by data protection violations.

Violation of data protection laws is a criminal offence in some countries, and individuals can be imprisoned or fined. Any violation of these laws could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition.

How this risk is managed

Over the last decade, the Shell Group has continued to invest in and develop a mature and robust privacy compliance programme based on our Binding Corporate Rules (BCRs). BCRs are perceived as a positive mechanism by data privacy regulators for enabling lawful data sharing and demonstrating accountability within large corporate groups. BCRs allow intra-group transfers of personal data without needing to enter into additional complex intra-group agreements. The overall objective of the programme is to enable the Shell Group of companies to collect, handle and manage personal data in a professional, ethical, and lawful manner.

Shell's Chief Privacy Officer also serves as the "Data Protection Officer" (DPO) under the EU's General Data Protection Regulation and other applicable data privacy laws, except where there is a requirement to have a locally based DPO, such as in China and the Philippines.

Our staff receive guidance on the requirements listed in Shell's Ethics and Compliance Manual, a website focusing on data privacy, training modules where completion is monitored and regular messages from Shell leaders on the importance of managing data privacy risks.

We monitor new and imminent data privacy legislation and seek to ensure we have a robust impact assessment process in place for the relevant businesses. We design our operations and processes based on the relevant data privacy requirements, and we build controls into our processes and practices which cover the handling of personal data.

We maintain a Group-wide incident management process designed to immediately identify and remediate data privacy breaches. The process also helps us to comply with country-level requirements for reporting breaches.

Some of our acquired companies are not yet in full compliance with our Binding Corporate Rules. Following assessments for each of those companies, specific actions are planned and put in place to achieve compliance, with regular updates made on their progress to management.

Conduct and culture risks continued

Violations of trade compliance laws and regulations, including sanctions, carry fines and expose us and our employees to criminal proceedings and civil suits.

Risk description

We use "trade compliance" as an umbrella term for various national and international laws designed to regulate the movement of items across national boundaries and restrict or prohibit trade, financial flows and other dealings with certain parties, countries and territories. For example, the EU, the UK and the USA continue to impose comprehensive sanctions on countries and territories such as Syria, North Korea, and Crimea and other territories in Eastern Ukraine. The USA continues to have comprehensive sanctions against Iran and Cuba. The EU, the UK and some other nations such as Canada and Australia continue to maintain targeted sanctions against Iran. The EU and the USA introduced sectoral sanctions against Venezuela in 2017, which the USA expanded in 2018 and 2019 and relaxed temporarily in 2023.

Since 2014, the EU and the USA have imposed and increased restrictions and controls directed at defined oil and gas activities in Russia, as well as restricting access to EU and USA financing sources for certain Russian state-owned entities and military and dual-use controls. In February 2022, countries around the world began imposing additional sanctions and trade controls against Russia over its full-scale invasion of Ukraine, including regional trade bans, designations of entities (including Russian banks and state-owned entities) and individuals as Specially Designated Nationals and Blocked Parties, and restrictions on access by Russia to financial systems. In addition, the USA, the UK, Canada and Australia have introduced restrictions on the import of Russian-origin LNG. These restrictions are subject to different wind-down periods and limited exceptions. Furthermore, it is likely that sanctions against Russia will continue to escalate. Russia has in turn adopted a significant number of countermeasures, including making it an offence to take steps to comply with foreign sanctions.

Many other nations have adopted or expanded trade compliance programmes similar to those administered by the EU, the UK and the USA. Intergovernmental cooperation in this area has increased and there is growing pressure to enforce existing sanctions globally.

Abiding by all the laws and regulations on trade compliance is often complex and challenging because of factors such as: the expansion of sanctions; the frequent addition of prohibited parties as well as other measures; the number of markets in which we operate; the risk of differences in how jurisdictions apply sanctions; and the large number of transactions we process. Shell has voluntarily self-disclosed potential violations of sanctions in the past.

Any violation of sanctions could lead to loss of import or export privileges and significant penalties on or prosecution of Shell or its employees. This could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition.

See "Living by our values" on page 138.

How this risk is managed

We continue to develop and maintain a trade compliance programme with adequate resources, robust screening protocols, a comprehensive governance structure and established reporting lines. Staff receive guidance on the requirements listed in Shell's Ethics and Compliance Manual, a specific website for trade compliance, training modules where completion is monitored and messages from Shell leaders on the importance of managing trade compliance risks. The effectiveness of the trade compliance programme is assessed annually (or more frequently if necessary) and we are continually seeking ways to improve it.

The successful delivery of our strategy is dependent on our people and on a culture that aligns to our goals and reflects the changes we need to make as part of the energy transition.

Risk description

Shell's culture is defined as the shared values, practices and beliefs of its employees. It is influenced by decisions on organisation structure and accountabilities, people and skills, how work is done using processes and systems and what mindset and behaviours exist. All these elements need to act in harmony to create our desired culture and ensure successful and sustained performance in line with our strategy.

As the energy system transforms and we reshape our portfolio, elements of our culture will need to change. For example, we will have to develop new skills, and adapt processes and systems, which, in some areas, will need to be different from those required for our traditional oil and gas businesses. We will have to continually leverage our learner mindset to anticipate and respond to the faster pace of change in the external market. However, we also will need to retain our shared values of "honesty, integrity and respect for people" to ensure trust and openness in how we do business, and to ensure staff feel valued and perform at their best.

If we fail to maintain a culture that aligns to our strategy, this could harm our reputation and have a material adverse effect on our earnings, cash flows and financial condition.

See "Our People" on pages 128-132, "Living by our values" on page 137 and "Other regulatory and statutory information" on pages 223-224.

How this risk is managed

The Shell General Business Principles, Code of Conduct and Ethics and Compliance Manual help everyone at Shell act in line with our values.

Our Mindset and Behaviours framework, which emphasises psychological safety, is at the heart of our leadership programmes.

We have set clear goals for diversity, equity and inclusion and monitor these on a regular basis. We also continually assess our culture and staff engagement through tools such as the annual Shell People Survey.

People development is a priority for our organisation. We have increased learning offerings related to new skills that may be needed, including hydrogen production, carbon capture and storage, and energy management. Where appropriate, we recruit talent externally to add to the skills and experiences of our workforce.

In 2023, we introduced the Shell Performance Framework, replacing the Shell Control Framework with an aim to ensure that all elements of culture (structure and accountabilities, people and skills, mindset and behaviours and processes and systems) are leveraged to deliver on our strategy.

Investors should also consider the following, which could limit shareholder remedies.

Other (generally applicable to an investment in securities)

The Company's Articles of Association determine the jurisdiction for shareholder disputes. This could limit shareholder remedies.

Risk description

Our Articles of Association generally require that all disputes between our shareholders in such capacity and the Company or our subsidiaries (or our Directors or former Directors), or between the Company and our Directors or former Directors, be exclusively resolved by arbitration in London, the United Kingdom. Our Articles of Association also provide that, if this provision were to be determined invalid or unenforceable for any reason, the dispute could only be brought before the courts of England and Wales. Accordingly, the ability of shareholders to obtain monetary or other relief, including in respect of securities law claims, could be determined in accordance with these provisions.

Performance in the year

Performance indicators

These indicators enable management to evaluate Shell's performance against our annual operating plan. They are also used as part of the determination of Executive Directors' remuneration. See "Directors' Remuneration Report" on pages 191-193.

Safety remains our top priority. Sadly, five contractor colleagues died in incidents that took place at Shell operations in 2023. This is a reminder of our need to relentlessly focus on safety.

In 2023, we exceeded our targets for Financial delivery, Shell's journey in the energy transition and Operational excellence..

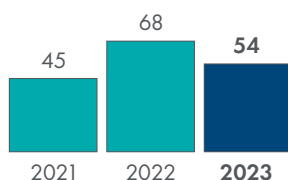
We had another year of very strong **financial delivery** with the second-highest cash flow from operations in Shell's history, despite the external uncertainty and volatility.

In **Shell's journey in the energy transition** we made good progress on increasing the number of electric vehicle charge points and reducing operational emissions. The contribution of low-carbon products in the Adjusted Earnings of the Marketing segment decreased mainly due to lower lubricants demand and higher costs for low-carbon Mobility products.

Operational excellence ensures we deliver for our customers and drive financial performance. We had good Project delivery outcomes in 2023 and the Customer excellence indicators were very positive. Upstream controllable availability was outstanding but midstream was impacted by unplanned maintenance. Chemicals and Refining availability was impacted by ongoing challenges at Shell Polymers Monaca, and the recovery after a fire in Deer Park.

Financial delivery

Cash flow from operating activities (\$ billion)

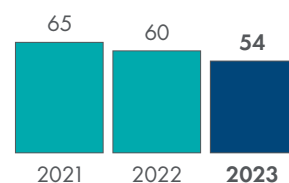


Cash flow from operating activities is the total of all the cash receipts and payments associated with our sales of oil, gas, chemicals and other products. The components that provide a reconciliation from income for the period are listed in the "Consolidated Statement of Cash Flows". This indicator reflects our ability to generate cash to service and reduce our debt, and for distributions to shareholders and for investments.

See "Financial framework" on page 35.

Shell's journey in the energy transition

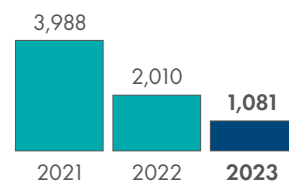
Contribution of low-carbon products (%)



The percentage of Marketing segment Adjusted Earnings from low-carbon energy products (on a life-cycle basis), defined as biofuels and electric vehicle charging, as well as non-energy products, defined as lubricants, bitumen, sulphur, and earnings from convenience retail.

See "Our journey to net zero" on page 95.

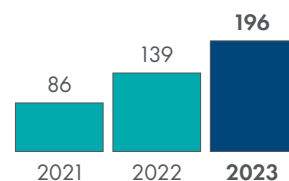
Reducing operational emissions (thousand tonnes CO₂)



GHG abatement projects that resulted in sustained GHG reductions (e.g. flare reduction projects or energy efficiency projects), site closures and decommissioning or transformations, and use of renewable electricity for Scope 2 reductions.

See "Our journey to net zero" on pages 103-113.

Electric vehicle (EV) charge points (thousand)



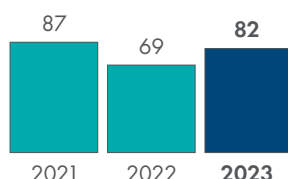
All charge points in Mobility which include both public out-of-home and Shell Recharge Solutions.

See "Our journey to net zero" on pages 89-99.

Performance indicators continued

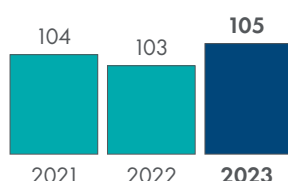
Operational excellence

Project delivery on schedule (%)



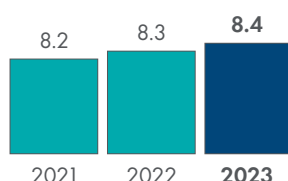
Project delivery on schedule reflects our capability to complete major projects on time and within budget. Project delivery on schedule measures the percentage of projects delivered on schedule.

Project delivery on budget (%)



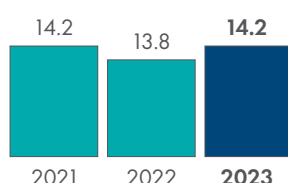
Project delivery on budget reflects the aggregate cost against the aggregate baseline for those projects, where a figure greater than 100% means over budget.

Customer satisfaction (index)



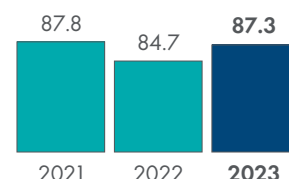
The customer satisfaction index (CSI) is the quantitative measurement of customer experience (CX) performance. It is provided from the global transactional survey programme (both email and digital surveys). CSI is calculated using simple average methodology from individual customer responses/satisfaction scores (overall satisfaction with Shell) covering all businesses and countries.

Brand Share Preference (%)



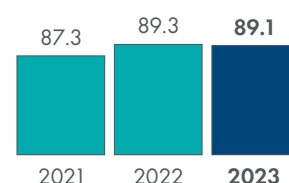
Brand Share Preference is the percentage of customers who answer "Shell" in response to the question: "Assuming that all the fuel station companies that you would consider are conveniently located, which one company do you prefer most?". Responses are taken from survey respondents in more than 60 countries covering both fuel and non-fuel retail consumers.

Upstream controllable availability (%)



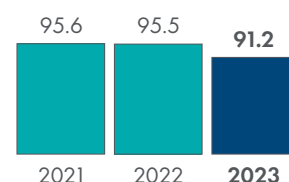
Upstream controllable availability performance reflects our ability to optimally run our Upstream assets. Reliability issues, turnarounds and maintenance at own-operated or third-party facilities all impact controllable availability, but it excludes the impact of extreme unexpected events that are outside our control, such as government restrictions and hurricanes. Upstream controllable availability includes all Shell-operated assets (excluding Groningen) and selected assets not operated by Shell, but for which Shell has strategic influence.

Midstream availability (%)



Midstream availability shows to what extent LNG assets are ready to process product as a comparison with capacity, considering the impact of planned and unplanned maintenance.

Refinery and chemical plant availability (%)

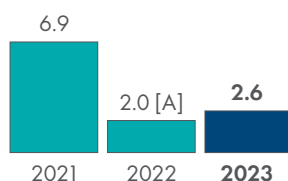


Refinery and chemical plant availability is the weighted average of the actual uptime of plants as a percentage of their maximum possible uptime. The weighting is based on the capital employed, adjusted for cash and non-current liabilities. This indicator is a measure of the operational excellence of our refinery and chemical plant facilities.

See "Chemicals and Products" on page 69.

Safety

Personal safety (SIF-F cases per 100 million working hours)

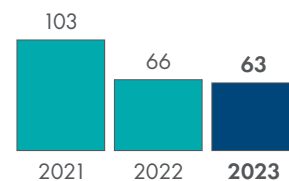


Serious Injury, Illness and Fatality (SIF) is defined as a serious work-related injury or illness that resulted in a fatality or a life-altering event, which is defined as a long-term or permanent injury or illness with a significant impact on daily activities. Serious Injury and Fatality Frequency (SIF-F) is calculated by dividing the number of employee and contractor SIF by 100 million working hours.

See "Safety" on page 136.

[A] 2022 adjustment on SIF-F from 1.7 to 2.0 due to a change in classification for one injury after publication.

Process safety (number of events)



A Tier 1 process safety event is an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials, from a process with the greatest actual consequence resulting in harm to employees, contract staff, or a neighbouring community, damage to equipment, or exceeding a threshold quantity, as defined by the API Recommended Practice 754 and IOGP Standard 456. A Tier 2 process safety event is a release of lesser consequence.

See "Safety" on page 136.



Generating shareholder value

We are committed to enhancing shareholder distributions with a focus on performance, discipline and simplification.

Generating shareholder value

Group results

Key metrics

	\$ million, except where indicated		
	2023	2022	2021
Income attributable to Shell plc shareholders	19,359	42,309	20,101
Income for the period	19,636	42,874	20,630
Total segment earnings* [A] [B]	20,281	41,562	17,482
Adjusted Earnings* [A]	28,250	39,870	19,289
Adjusted EBITDA* [A]	68,538	84,289	55,004
Cash flow from operating activities	54,191	68,414	45,104
Cash flow from investing activities	(17,734)	(22,448)	(4,761)
Free cash flow*	36,457	45,965	40,343
Cash capital expenditure*	24,392	24,833	19,697
Operating expenses* [C]	39,960	39,476	35,965
Underlying operating expenses* [C]	39,201	39,456	35,309
ROACE on a Net Income basis*	8.4%	16.7%	8.8%
ROACE on an Adjusted Earnings plus Non-controlling interest basis *	11.6%	15.8%	8.5%
Total debt at December 31 [D]	81,541	83,795	89,086
Net debt* at December 31 [D]	43,542	44,837	52,556
Gearing* at December 31	18.8%	18.9%	23.1%
Oil and gas production available for sale (thousand boe/d)	2,791	2,864	3,237
Proved oil and gas reserves at December 31 (million boe)	9,787	9,578	9,365
Basic earnings per share (\$)	2.88	5.76	2.59
Adjusted Earnings per share* (\$)	4.20	5.43	2.49
Dividend per share (\$)	1.2935	1.0375	0.8935

[A] Segment earnings, Adjusted Earnings and Adjusted EBITDA are presented on a current cost of supplies basis.

[B] See Note 7 to the "Consolidated Financial Statements".

[C] The most comparable GAAP financial measure is Production and manufacturing expenses (2023: \$25 billion, 2022: \$26 billion).

[D] See Note 20 to the "Consolidated Financial Statements".

Earnings 2023-2022

Income attributable to Shell plc shareholders in 2023 was \$19,359 million, compared with \$42,309 million in 2022. With non-controlling interest included, income for the period in 2023 was \$19,636 million, compared with \$42,874 million in 2022. After current cost of supplies adjustment, total segment earnings* in 2023 were \$20,281 million, compared with \$41,562 million in 2022.

Adjusted Earnings* in 2023 were \$28,250 million, compared with \$39,870 million 2022. The decrease was mainly driven by lower realised oil and gas prices, lower volumes and lower refining margins, partly offset by higher LNG trading and optimisation margins, and higher Marketing margins.

2023 income attributable to Shell plc shareholders also included net impairment charges and reversals of \$6,219 million, and unfavourable movements of \$1,284 million due to the fair value accounting of commodity derivatives. These charges and unfavourable movements are included in identified items amounting to a net loss of \$8,252 million.

Integrated Gas earnings* in 2023 were \$7,046 million, compared with \$22,212 million in 2022. The decrease was mainly driven by unfavourable movements due to the fair value accounting of commodity derivatives, net impairment charges and reversals,

* Non-GAAP measure (see page 365).

Segment earnings* [A] [B]

\$ million

Integrated Gas	2021	8,060
	2022	22,212
	2023	7,046
Upstream	2021	9,603
	2022	16,222
	2023	8,528
Marketing	2021	3,535
	2022	2,133
	2023	2,950
Chemicals and Products	2021	404
	2022	4,515
	2023	1,530
Renewables and Energy Solutions	2021	(1,514)
	2022	(1,059)
	2023	3,038
Corporate	2021	(2,606)
	2022	(2,461)
	2023	(2,811)

the net effect of lower realised prices, and higher contributions from trading and optimisation, unfavourable deferred tax movements, and lower volumes.

See "Integrated Gas" on page 41.

Upstream earnings* in 2023 were \$8,528 million, compared with \$16,222 million in 2022. The decrease was mainly driven by lower realised oil and gas prices, lower volumes, and net impairment charges and reversals.

See "Upstream" on page 47.

Marketing earnings* in 2023 were \$2,950 million, compared with \$2,133 million in 2022. The increase was mainly driven by higher Marketing margins, including higher unit margins in Mobility, higher margins in Lubricants due to lower feedstock costs, and higher volumes in Sectors and Decarbonisation. These were partly offset by higher operating expenses and depreciation charges, mainly as a result of asset acquisitions.

See "Marketing" on page 63.

Generating shareholder value | Group results continued

Chemicals and Products earnings* in 2023 were \$1,530 million, compared with \$4,515 million in 2022. The decrease was mainly driven by net impairment charges and reversals, and lower Products margins, which were mainly driven by lower refining margins and partly offset by higher margins from trading and optimisation. Segment earnings also reflected higher depreciation charges, due to start-up of operations at Shell Polymers Monaca in the USA, partly offset by higher Chemicals margins.

See "Chemicals and Products" on page 68.

Renewables and Energy Solutions earnings* in 2023 were \$3,038 million, compared with a loss of \$1,059 million in 2022. The increase was mainly driven by favourable movements due to the fair value accounting of commodity derivatives. This was partly offset by lower margins, mainly from trading and optimisation due to lower gas and power prices in 2023, net impairment charges and reversals, unfavourable tax movements and higher operating expenses.

See "Renewables and Energy Solutions" on page 75.

Corporate segment earnings* in 2023 were an expense of \$2,811 million, compared with an expense of \$2,461 million in 2022. The rise in expense was mainly driven by unfavourable movements in currency exchange rate effects and tax credits.

See "Corporate" on page 79.

Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2022, compared with the financial year ended December 31, 2021, can be found in the Annual Report and Accounts (page 29) and Form 20-F (page 33) for the year ended December 31, 2022, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

Cash flow from operating activities

Cash flow from operating activities was \$54,191 million in 2023, compared with \$68,414 million in 2022. The cash flow from operating activities in 2023 was primarily driven by Adjusted EBITDA, and working capital inflow of \$7.8 billion, partly offset by tax payments of \$13.7 billion, and derivatives outflow of \$6.1 billion.

Cash capital expenditure

Cash capital expenditure* was \$24,392 million in 2023, compared with \$24,833 million in 2022. The cash capital expenditure in 2023 consisted of \$12.5 billion investments in oil, oil products and other, \$5.6 billion investments in low-carbon energy solutions, \$4.0 billion investments in LNG gas and power marketing and trading and \$2.3 billion investments in non-energy products.

See "Our journey to net zero" on page 95.

Operating expenses and Underlying operating expenses

Operating expenses* were \$39,960 million in 2023, compared with \$39,476 million in 2022. Underlying operating expenses* were \$39,201 million, compared with \$39,456 million in 2022.

* Non-GAAP measure (see page 365).

Return on average capital employed

Our return on average capital employed (ROACE)* decreased to 8.4%, compared with 16.7% in 2022, mainly driven by lower earnings.

Total debt, Net debt and gearing

Total debt was \$81,541 million at the end of 2023, compared with \$83,795 million at the end of 2022.

Net debt* was \$43,542 million at the end of 2023, compared with \$44,837 million at the end of 2022.

Gearing* was 18.8% at the end of 2023, compared with 18.9% at the end of 2022.

Significant accounting estimates and judgements

See Note 2 to the "Consolidated Financial Statements" on pages 249-259.

Legal proceedings

See Note 31 to the "Consolidated Financial Statements" on pages 312-314.

Production available for sale

Oil and gas production available for sale in 2023 was 2,791 thousand boe/d, compared with 2,864 thousand boe/d in 2022. This reduction was mainly driven by divestments and partly offset by growth from new fields.

Oil and gas production available for sale [A]

	Thousand boe/d		
	2023	2022	2021
Crude oil and natural gas liquids	1,454	1,460	1,685
Synthetic crude oil	52	46	54
Natural gas [B]	1,285	1,357	1,498
Total	2,791	2,864	3,237
Of which:			
Integrated Gas	939	921	1,004
Upstream	1,800	1,897	2,178
Oil sands (part of Chemicals and Products)	52	46	54

[A] See "Oil and gas information".

[B] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Proved reserves

The proved oil and gas reserves of Shell subsidiaries and the Shell share of the proved oil and gas reserves of joint ventures and associates are summarised in "Oil and gas information" on pages 55-62 and set out in more detail in "Supplementary information – oil and gas (unaudited)" on pages 317-335.

Before taking production into account, our proved reserves increased by 1,274 million boe in 2023. Total oil and gas production was 1,065 million boe. Accordingly, after taking production into account, our proved reserves increased by 209 million boe in 2023, to 9,787 million boe at December 31, 2023.

Generating shareholder value

Financial framework

We manage our businesses to deliver strong cash flows, sustain our strategy and create profitable growth. Management applies Shell's cash to support disciplined capital expenditure and maintain a resilient balance sheet; target AA credit metrics through the cycle; deliver a progressive dividend to shareholders with growth of around 4% annually (subject to Board approval); and target total distributions to shareholders of 30-40% of our cash flow from operating activities through the cycle.

The Board may choose to return cash to shareholders through a combination of dividends and share buybacks. When setting the level of shareholder distributions, the Board looks at a range of factors, including the macro environment, the underlying business earnings and cash flows of the Group, the current balance sheet, future investment, acquisition and divestment plans, and existing commitments.

Liquidity and capital resources

Shell generated free cash flow* of \$36.5 billion in 2023, aided by disciplined capital management, portfolio simplification and operational performance improvements. Net debt* decreased to \$43.5 billion at December 31, 2023 (December 31, 2022: \$44.8 billion). Total debt reduced to \$81.5 billion at December 31, 2023 (December 31, 2022: \$83.8 billion), Gearing* decreased to 18.8% at December 31, 2023, compared with 18.9% at December 31, 2022.

See Note 20 to the "Consolidated Financial Statements" on pages 288-289.

Liquidity

We satisfy our funding, liquidity and working capital requirements by using cash generated from our operations, the issuance of debt and through divestments. In 2023, access to the international debt capital markets remained strong, with our debt principally financed from these markets through central debt programmes consisting of:

- a \$10 billion global commercial paper (CP) programme, with maturities between 183 days and 364 days;
- a \$10 billion US CP programme, with maturities not exceeding 397 days;
- an unlimited Euro medium-term note (EMTN) programme (also referred to as the Multi-Currency Debt Securities Programme); and
- an unlimited US universal shelf (US shelf) registration.

The CP, EMTN and US shelf debt is issued by Shell International Finance B.V., the issuance company for Shell, with its debt being guaranteed by Shell plc. In the future, Shell will also be able to issue debt through a new US subsidiary, Shell Finance US Inc., with its debt also being guaranteed by Shell plc.

We also maintain committed credit facilities. Of the \$9.92 billion total facility, \$1.92 billion matures in 2024 (with a one-year bank extension option, taking final maturity to 2025) and \$8.0 billion in 2026. This remained fully undrawn at December 31, 2023. These core facilities and cash on balance sheet provide back-up coverage for our CP programmes. Other than certain borrowings by subsidiaries in their local jurisdictions, we do not have any other committed credit facilities.

Our total debt decreased by \$2.3 billion to \$81.5 billion at December 31, 2023. The total debt excluding lease liabilities matures as follows: 10% in 2024; 12% in 2025; 7% in 2026; and 71% in 2027 and beyond. The portion of debt maturing in 2024 is expected to be repaid from some combination of cash balances, cash generated from operations, divestments and the issuance of new debt. In 2023, we did not issue any bonds under our US shelf registration, EMTN programme or CP programmes. The Group had no CP outstanding at December 31, 2023. Management believes it has access to sufficient debt funding

sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements.

While our subsidiaries are subject to restrictions, such as foreign withholding taxes on the transfer of funds in the form of cash dividends, loans or advances, such restrictions are not expected to have a material impact on our ability to meet our cash obligations.

Market risk and credit risk

We are affected by the global macroeconomic environment, as well as financial and commodity market conditions. This exposes us to treasury and trading risks, including liquidity risk, credit risk, and market risk (interest rate risk, foreign exchange risk and commodity price risk). The size and scope of our businesses require a robust financial control framework and effective management of our various risk exposures.

See "Risk factors" on page 22 and Note 25 to the "Consolidated Financial Statements" on pages 302-308.

We use various financial instruments for managing exposure to commodity price, foreign exchange and interest rate movements. Our treasury and trading operations are highly centralised and seek to manage credit exposures associated with our substantial cash, commodity, foreign exchange and interest rate positions. Our portfolio of cash investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. The use of external derivative instruments is confined to specialist trading and central treasury organisations that have robust control and reporting systems, and employees with appropriate skills, experience and supervision. Credit risk policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness, and include credit analysis and monitoring of customers against counterparty credit limits. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage credit risk.

In effecting commodity trades and derivative contracts, we operate according to internal procedures and policies designed to ensure that market risks are managed within authorised limits and trading can only be performed by staff with the appropriate skills and experience. We closely monitor developments in sanctions and export controls to ensure compliance with applicable laws and regulatory guidance. Management regularly reviews mandated trading limits. A department that is independent from our traders monitors our market risk exposures daily, using value-at-risk techniques alongside other risk metrics as appropriate.

Pension commitments

We have substantial pension commitments, the funding of which is subject to capital market risks. We address key pension risks in a number of ways. A pensions forum, chaired by the Chief Financial Officer, oversees Shell's input to pension strategy, policy and operation. A risk committee supports the forum in reviewing the results of assurance processes with respect to pension risks. Local trustees manage the funded defined benefit pension plans and set the strategic asset allocation for the plan, including the extent to which currency, interest rate and inflation risks are hedged. The contributions paid are based on independent actuarial valuations that align with applicable local regulations. Pension fund liquidity is managed by holding appropriate liquid assets and maintaining credit facilities. Where appropriate, transactions to transfer pension liabilities to third parties are also considered. Our total employer contributions were \$0.7 billion in 2023 and are estimated to be \$0.5 billion in 2024.

See "Risk factors" on page 23 and Note 23 to the "Consolidated Financial Statements" on pages 294-300.

* Non-GAAP measure (see page 365).

Generating shareholder value | Financial framework continued

Capitalisation table

	\$ million	
	December 31, 2023	December 31, 2022
Equity attributable to Shell plc shareholders	186,607	190,472
Current debt	9,931	9,001
Non-current debt	71,610	74,794
Total debt [A]	81,541	83,795
Total capitalisation	268,148	274,267

[A] Of total debt of \$81.5 billion (2022: \$83.8 billion), \$53.4 billion (2022: \$55.2 billion) was unsecured and \$28.2 billion (2022: \$28.6 billion) was secured. \$48.4 billion was issued by Shell International Finance B.V., a wholly owned subsidiary of Shell plc with its debt guaranteed by Shell plc (December 31, 2022: \$51.0 billion). See Note 20 to the "Consolidated Financial Statements" for further disclosure on total debt and Net debt.

Guarantees and other off-balance sheet arrangements

There were no guarantees or other off-balance sheet arrangements at December 31, 2023, or December 31, 2022, that were reasonably likely to have a material effect on Shell.

Consolidated Statement of Cash Flows

Cash flow from operating activities in 2023 was \$54.2 billion, compared with \$68.4 billion in 2022. The cash flow from operating activities in 2023 was primarily driven by Adjusted EBITDA, and working capital inflow of \$7.8 billion (compared with working capital outflow of \$5.4 billion in 2022), partly offset by tax payments of \$13.7 billion (compared with tax payments of \$13.1 billion in 2022), and derivatives outflow of \$6.1 billion (compared with derivatives inflow of \$0.6 billion in 2022).

Cash flow from investing activities in 2023 was an outflow of \$17.7 billion, compared with an outflow of \$22.4 billion in 2022. The cash flow from investing activities in 2023 included cash capital expenditure* of \$24.4 billion (compared with cash capital expenditure of \$24.8 billion in 2022), divestment proceeds* of \$3.1 billion (compared with divestment proceeds of \$2.1 billion in 2022), interest received of \$2.1 billion (compared with interest received of \$0.9 billion in 2022), and net other investing cash inflows of \$1.4 billion (compared with net other investing cash outflows of \$0.6 billion in 2022).

Cash flow from financing activities in 2023 was an outflow of \$38.2 billion, compared with outflows of \$42.0 billion in 2022, mainly due to lower repurchases of shares of \$14.6 billion (2022: \$18.4 billion) and Derivative financial instruments favourable movement of \$0.7 billion (2022: \$1.8 billion unfavourable movement), partly offset by higher net repayment of debt of \$9.8 billion (2022: \$7.9 billion net repayment).

Cash and cash equivalents were \$38.8 billion at December 31, 2023 (December 31, 2022: \$40.2 billion).

Prior year Consolidated Statement of Cash Flows

Our Consolidated Statement of Cash Flows for the financial year ended December 31, 2022, compared with the financial year ended December 31, 2021, can be found in the Annual Report and Accounts (page 241) and Form 20-F (page 219) for the year ended December 31, 2022, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

See "Consolidated Statement of Cash Flows" on page 248.

* Non-GAAP measure (see page 365).

Cash flow from operating activities

The most significant factors affecting our cash flow from operating activities are earnings, which are mainly impacted by: realised prices for crude oil, natural gas and LNG; production levels of crude oil, natural gas and LNG; chemicals, refining and marketing margins; and movements in working capital and derivative financial instruments.

The impact on earnings from changes in market prices depends on: the extent to which contractual arrangements are tied to market prices; the dynamics of production-sharing contracts; the existence of agreements with governments or state-owned oil and gas companies that have limited sensitivity to crude oil and natural gas prices; tax impacts; and the extent to which changes in commodity prices flow through into operating expenses. Changes in benchmark prices of crude oil and natural gas in any particular period provide only a broad indicator of changes in our Integrated Gas and Upstream earnings in that period. Changes in any factors, from within the industry or the broader economic environment, can influence refining and marketing margins. The precise impact of any changes depends on how the oil markets respond to them. The market response is affected by factors such as: whether the change affects all crude oil types or only a specific grade; regional and global crude oil and refined products inventories; and the collective speed of response of refiners and product marketers in adjusting their operations. As a result, margins fluctuate from region to region and from period to period.

Divestment and cash capital expenditure

The levels of divestment proceeds and cash capital expenditure in 2023 and 2022 reflect our discipline and focus as we implement our Powering Progress strategy. Proceeds from sale of property, plant and equipment and businesses were \$2.6 billion for 2023, compared with \$1.4 billion in 2022 and divestment proceeds* for 2023 were \$3.1 billion, compared with \$2.1 billion in 2022. Cash capital expenditure split per segment is presented in the table below:

Cash capital expenditure *

	\$ million		
	2023	2022	2021
Integrated Gas	4,196	4,265	3,502
Upstream	8,343	8,143	6,168
Marketing [A]	5,612	4,831	2,273
Chemicals and Products	3,192	3,838	5,175
Renewables and Energy Solutions [B]	2,681	3,469	2,359
Corporate	368	287	220
Total cash capital expenditure	24,392	24,833	19,697

[A] Includes acquisition of Nature Energy in 2023.

[B] Includes acquisition of Sprng in 2022 and Savion in 2021.

Generating shareholder value | Financial framework continued

Contractual obligations

The table below summarises our principal contractual obligations at December 31, 2023, by expected settlement period. The amounts presented have not been offset by any committed third-party revenue in relation to these obligations.

Contractual obligations

	Less than 1 year	Between 1 and 3 years	Between 3 and 5 years	5 years and later	Total
Debt [A]	5.4	10.4	8.3	30.4	54.4
Leases	6.2	9.5	6.6	16.8	39.1
Purchase obligations [B]	33.1	28.1	14.0	59.6	134.8
Other long-term contractual liabilities [C]	0.1	0.9	0.1	0.5	1.7
Total	44.7	49.0	29.1	107.2	230.0

[A] See Note 20 to the "Consolidated Financial Statements". Debt contractual obligations exclude interest, which is estimated to be \$1.6 billion payable in less than one year, \$2.7 billion between one and three years, \$2.4 billion between three and five years, and \$13.4 billion in five years and later. For this purpose, we assume that interest rates with respect to variable interest rate debt remain constant at the rates in effect at December 31, 2023, and that there is no change in the aggregate principal amount of debt other than repayment at scheduled maturity as reflected in the table. Lease contractual obligations include interest.

[B] Purchase obligations disclosed in the above table exclude commodity purchase obligations that are not fixed or determinable and are principally intended to be resold in a short period of time through sale agreements with third parties. Examples include long-term non-cancellable LNG and natural gas purchase commitments and commitments to purchase refined products or crude oil at market prices. Inclusion of such commitments would not be meaningful in measuring liquidity and cash flow, as the cash outflows generated by these purchases will generally be offset in the same periods by cash received from the related sales transactions.

[C] Includes obligations included in "Trade and other payables" and provisions related to onerous contracts included in "Decommissioning and other provisions" in "Non-current liabilities" in the "Consolidated Balance Sheet" that are contractually fixed as to timing and amount. In addition to these amounts, Shell has certain obligations that are not contractually fixed as to timing and amount, including contributions to defined benefit pension plans (see Note 23 to the "Consolidated Financial Statements") and obligations associated with decommissioning and restoration (see Note 24 to the "Consolidated Financial Statements").

Dividends

Subject to Board approval, Shell aims to grow the dividend per share by around 4% every year. In total, Shell targets the distribution of 30–40% of our cash flow from operations through the cycle to shareholders. Shell may choose to return cash to shareholders through a combination of dividends and share buybacks.

When setting the level of shareholder distributions, the Board looks at a range of factors, including the macro environment, the earnings and cash flows of the Group, the current balance sheet, future investment, acquisition and divestment plans and existing commitments. We returned \$8.4 billion to our shareholders through dividends and \$14.6 billion through share buybacks in 2023. Total shareholder distributions represented 42% of cash flow from operating activities*.

The fourth quarter 2023 dividend of \$0.344 per share will be paid on March 25, 2024, to shareholders on the register at February 16, 2024, and represents an increase of 4% compared with the third quarter of 2023.

See Note 29 to the "Consolidated Financial Statements" on page 312.

Purchases of securities

The intent to purchase shares was announced alongside the quarterly results during 2023, and covered the period up until the next quarterly announcement. In 2023, share buybacks of \$4 billion were announced on February 2, \$4 billion on May 4, \$3 billion on July 27 and \$3.5 billion on November 2 (finalised in the first quarter of 2024). In addition, on February 1, 2024, a further buyback of \$3.5 billion was announced along with the fourth quarter 2023 results; it is intended that this will be completed by the announcement date of the first quarter 2024 results.

* Non-GAAP measure (see page 365).

During 2023, 479.4 million ordinary shares were purchased and cancelled. Overall, a total nominal share value of €34 million (\$40 million), 6.8% of the Company's total issued share capital at December 31, 2022, was purchased and cancelled during 2023 for a total cost of \$14.6 billion, including expenses, at an average price of \$30.43 per share.

The buybacks completed in the first half of 2023 were in accordance with the authorities granted by shareholders at the 2022 Annual General Meeting (AGM). The buybacks completed in the second half of 2023 were in accordance with the authorities granted by shareholders at the 2023 AGM. At the 2023 AGM, authority was granted for the Company to repurchase up to a maximum of 10% of its issued ordinary shares, excluding treasury shares, (692 million ordinary shares), both on and off market, allowing purchases on Amsterdam as well as London exchanges. As at December 31, 2023, 512 million ordinary shares could still be repurchased under the current AGM authorities. The purpose of the share repurchases in 2023 was to reduce the issued share capital of the Company.

New resolutions will be proposed at the 2024 AGM to renew the authority for the Company to purchase its own share capital, up to specified limits, for a further year. These proposals will be described in more detail in the 2024 Notice of Annual General Meeting.

Shares are also purchased by the employee share ownership trusts and trust-like entities (see Note 27 to the "Consolidated Financial Statements" on page 309) to meet delivery commitments under employee share plans. All share purchases are made in open-market transactions.

The table on the next page provides information on purchases of shares in 2023 and January 2024 by the Company and affiliated purchasers. Purchases in euros and sterling are converted into dollars using the exchange rate on each transaction date.

Purchases of equity securities by issuer and affiliated purchasers in 2023 [A]

Purchase period	Euro Shares			GBP Shares			ADSs [B]	
	Number purchased for employee share plans	Number purchased for cancellation [C]	Weighted average price (\$)[D]	Number purchased for employee share plans	Number purchased for cancellation [C]	Weighted average price (\$)[D]	Number purchased for employee share plans	Weighted average price (\$)[D]
January	—	3,902,011	28.34	—	24,834,916	28.82	808,490	55.87
February	—	20,898,179	30.14	—	21,394,954	30.10	—	—
March	—	38,967,828	28.79	—	38,609,399	28.69	43,473	56.24
April	—	—	—	—	16,525,479	30.28	—	—
May	—	30,080,360	29.77	—	21,885,562	29.44	—	—
June	—	28,936,231	29.51	—	20,935,786	29.08	20,630	59.93
July	—	10,731,810	29.95	—	26,627,705	29.94	—	—
August	—	18,948,478	30.66	—	12,520,862	30.25	—	—
September	—	11,763,447	32.11	—	7,852,588	25.70	533,346	64.88
October	739,283	14,221,426	32.93	217,618	25,366,076	32.40	1,440,509	66.02
November	5,906,655	20,450,532	32.95	1,703,851	20,831,873	32.47	1,558,442	65.97
December	4,803,972	22,460,338	32.47	967,773	21,415,661	31.94	1,118,693	64.60
Total 2023	11,449,910	221,360,640	30.66	2,889,242	258,800,861	30.27	5,523,583	64.02
January	3,187,890	2,992,417	32.32	1,189,886	20,282,994	31.54	650,966	66.03
Total 2024	3,187,890	2,992,417	32.32	1,189,886	20,282,994	31.54	650,966	66.03

[A] Reported as at transaction date.

[B] American Depositary Shares.

[C] Under the share buyback programme.

[D] Includes stamp duty and brokers' commission.

Financial information relating to the Royal Dutch Shell Dividend Access Trust

The results of the Royal Dutch Shell Dividend Access Trust (the Trust) are included in the consolidated results of operations and financial position of Shell. Certain condensed financial information in respect of the Trust is given below.

The Shell Transport and Trading Company Limited and BG Group Limited have each issued a dividend access share to Computershare Trustees (Jersey) Limited (the Trustee). For the years 2023, 2022 and 2021, the Trust recorded income before tax of £nil, £nil, and £2.2 billion respectively. In each period, this reflected the amount of dividends payable on the dividend access shares. Dividends are also classified as unclaimed where amounts have not cleared recipient bank accounts.

At December 31, 2023, the Trust had total equity of £nil (December 31, 2022: £nil; December 31, 2021: £nil), reflecting assets of £4 million (December 31, 2022: £6 million; December 31, 2021: £7 million) and unclaimed dividends of £4 million (December 31, 2022: £6 million; December 31, 2021: £7 million). The Trust only records a liability for an unclaimed dividend to the extent that dividend cheque payments have not been presented within 12 months, have expired or have been returned unpresented. As these unclaimed dividends relate to dividends that were announced by the Company during the period the Company was still named Royal Dutch Shell plc, and it is expected that the Company will not announce any further dividends on the dividend access shares, the Trust continues to be named the Royal Dutch Shell Dividend Access Trust.

On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one ordinary share of the Company. This assimilation had no impact on voting rights or dividend entitlements. Dutch withholding tax, applied previously on dividends on A shares, no longer applies on dividends paid on the ordinary shares following the assimilation.

In relation to the assimilation of the Company's A and B shares, the Trust will continue in existence for the foreseeable future to facilitate the payment of unclaimed dividend liabilities for shareholders of the former B shares until these are either claimed or forfeited in line with the terms outlined. Dividends which are unclaimed after six years will be forfeited and unconditionally revert to The Shell Transport and Trading Company Limited and BG Group Limited, as appropriate.

Generating shareholder value

Market overview

Shell maintains a large business portfolio across an integrated value chain and is exposed to fluctuating prices of crude oil, natural gas, oil products, chemicals and power.

See "Risk factors" on page 14.

This diversified portfolio provides resilience when prices are volatile. Our annual planning cycle and periodic portfolio reviews aim to ensure that our levels of capital investment and operating expenses are appropriate in the context of a volatile price environment.

We prepare annual strategic and financial plans that test different scenarios and their impact on prices, our businesses and organisation. We test the resilience of our projects and other opportunities against a range of prices for crude oil, natural gas, oil products, chemicals and power. Through this process, we identify potential interventions that we believe can drive value, preserve cash levels and maintain a strong balance sheet. This provides us with resilience against weak market prices.

The range of commodity prices and margins used in our project and portfolio evaluations is subject to a rigorous assessment of short-, medium- and long-term market drivers. These drivers include the extent and pace of the energy transition.

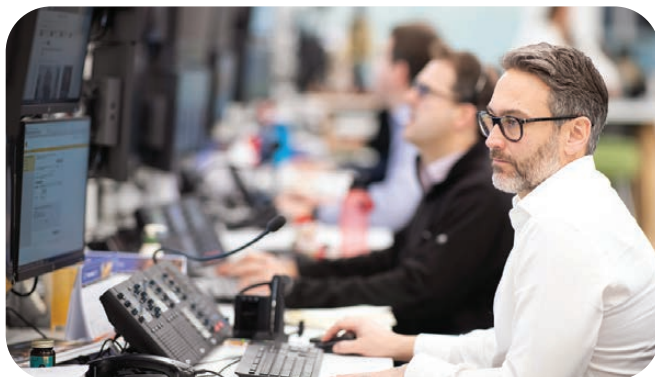


Photo: Shell staff working on the trading floor at Shell Centre, London.

Global economic growth

After a strong economic recovery from the lows of the COVID-19 pandemic, growth in 2023 was more moderate. Several forces are holding global economic growth back. These include the Russia-Ukraine war and international trade restrictions. Others are more cyclical and include the effects of sharp interest rate increases and liquidity withdrawals by central banks intended to rein in inflation. Rising public debt is also resulting in governments withdrawing the fiscal support they extended during the pandemic.

The latest World Economic Outlook, published by the International Monetary Fund (IMF) in January 2024, estimated global economic growth from 2022 to 2023 to be 3.1%, down from 3.5% in 2022 and 6.3% in 2021. Advanced economies continue to drive the decline in global growth, with weaker manufacturing offsetting stronger services activity. The slowdown was pronounced in Europe, while the USA remained relatively resilient. Developing economies, on average, have experienced stable growth over 2022-2023, although with sizeable shifts across regions. China experienced relatively strong growth, despite headwinds from its real estate crisis and weak consumer confidence.

Looking to 2024, the IMF's projections for the global economy are consistent with a soft landing, with inflation declining and growth holding up despite the rise in interest rates. But there are several downside risks to the outlook. These include: volatile commodity prices amid geopolitical and climate change risks; and upward surprises in inflation and a corresponding tightening of financial conditions and fiscal consolidation that could weigh on growth. The IMF projects global growth to be around 3% over the medium term (2024-2028) – below the historical average of 3.8% over the past two decades. In the context of geopolitical risks, this is in an environment where interest rates are expected to be higher for longer.

Global prices, demand and supply

The following table provides an overview of the main crude oil and natural gas price markers to which Shell is exposed:

Oil and gas average industry prices [A]

	2023	2022	2021
Brent (\$/b)	83	101	71
West Texas Intermediate (\$/b)	78	95	68
Henry Hub (\$/MMBtu)	2.5	6.4	4.0
EU TTF (\$/MMBtu)	13	40	16
Japan Customs-cleared Crude (\$/b) - 3 months	89	98	60

[A] Yearly average prices are based on monthly average spot prices. The 2023 average price for Japan Customs-cleared Crude is based on available market information up to the end of the period.

Crude oil and oil products

The global benchmark oil price Brent averaged about \$83 per barrel (bbl) in 2023, down from \$101/bbl in 2022. This reflected a normalisation of the market from the period of significant volatility in 2022. As trade flows adjusted after the disruption caused by the Russian invasion of Ukraine and more supply became available, supply security concerns have eased and the market balance loosened in 2023.

Global demand continued to recover in 2023, at a similar pace to 2022. Incremental demand has amounted to around 2.3 million barrels per day (mb/d), of which 1.7 mb/d came from China, where demand rebounded after the lifting of COVID-19 restrictions. However, demand growth in OECD markets, particularly OECD Europe, has moderated significantly because of slower economic growth.

Global supply increased by around 1.9 mb/d in 2023, slightly slower than demand growth. Most of the non-OPEC growth has come from the USA and Brazil, which accounted for around 1.5 mb/d and 0.4 mb/d, respectively. Iran, which is exempt from the OPEC production cut, has also markedly ramped up supply. To balance the market, OPEC+, led by Saudi Arabia and Russia, implemented a series of moves to limit the supply available to the market. In April 2023, OPEC+ announced a 1.66 mb/d voluntary production cut. This was followed by an additional 1 mb/d voluntary cut by Saudi Arabia from May, which was eventually extended through to the first quarter of 2024, with possibility for a further extension. Russia also announced a production cut of 500 thousand barrels a day (kb/d) for March through to the end of 2023, in addition to a 300 kb/d exports reduction from September to the end of the year. The actual crude output from Saudi Arabia and Russia dropped by around 1 mb/d and 0.2 mb/d, respectively in 2023 compared with 2022, based on the IEA estimate.

Generating shareholder value | Market overview continued

In 2024, the expected economic slowdown and potential supply disruptions caused by geopolitical tensions could impact demand. Macroeconomic risks and demand concerns had already started weighing on the market from the fourth quarter, with Brent dropping by \$16/bbl by the end of 2023 from the year's peak. The instability in the Middle East remains a significant risk factor. As of now, conflicts in the vicinity of key oil trade routes, such as the Red Sea, have not yet caused severe disruption to supplies. But the risk of disruption could increase if the Israel-Hamas war escalates into a regional conflict.

Natural gas Gas market

Weak demand, combined with high inventories, has put downward pressure on natural gas prices in key markets in 2023. Although prices were lower than 2022 levels, they remained elevated versus historical levels and continued to show strong volatility.

Title Transfer Facility (TTF): In Europe, TTF spot prices averaged \$13.15/MMBtu (62% lower year-on-year). Strong LNG imports and weak regional demand enabled European inventories to reach 110 billion cubic metres (bcm), almost 100% full at the end of October. By year-end, inventories fell to 95 bcm (86%), which is still a comfortable level for that time of the year. Despite storages at multi-year highs, supply-side risks in the Middle East, and the threat of renewed industrial action in Australia, increased price volatility in October, with spot TTF prices surging to \$17.0/MMBtu by the middle of the month, a 40% increase from the start of the month. By year-end, prices retreated to \$12.66/MMBtu as Egyptian exports and Israeli pipeline flows resumed and inventories remained elevated.

Japan Korea Marker (JKM): Spot LNG prices in Asia followed a similar trajectory as in Europe, averaging \$14.03/MMBtu (48% lower year-on-year). LNG demand in China remained subdued in 2023, relative to previous years. The return of incremental nuclear capacity in Japan has kept inventories at elevated levels through much of the year, capping the upside in prices.

Henry Hub: Henry Hub gas benchmark prices in North America had a less volatile year compared with 2022. Spot prices ranged from \$1.77/MMBtu to \$3.77/MMBtu with an average of \$2.54/MMBtu. The lower volatility was attributable to a warm first quarter, cool second quarter, stronger-than-expected dry gas production, an increase in LNG facility maintenance and a continued storage surplus. Temperatures in the first quarter averaged near three degrees warmer than normal. Temperatures in the second quarter averaged one degree cooler than normal. Winter 2023-2024 has been considerably warmer than the 10-year normal. In 2023, natural gas dry production averaged 101.45 billion cubic feet a day (bcf/d) or 4.37 bcf/d above 2022. In the summer of 2023, natural gas storage in the 48 lower states of the USA averaged 467 bcf higher than in the summer of 2022.

The market is expected to remain loose through the remainder of the 2023-2024 winter as production slowly increases and LNG export facilities undergo maintenance. The bearish sentiment is expected to continue into the summer of 2024, which is reflected by the softness of the prices seen in summer futures contracts on the New York Mercantile Exchange (NYMEX).

Power

United States: US power prices were largely lower across all major markets in 2023 compared with 2022. One of the key drivers for the overall lower power prices and volatility in 2023 was the decline in gas prices. After a volatile 2022, where prices ranged from below \$4/MMBtu to nearly \$10/MMBtu, Henry Hub, the benchmark gas price in North America, stayed mostly below \$3/MMBtu for most of 2023. Power price volatilities were largely driven by weather events throughout the year and across the country. For the western part of the USA, colder than normal temperatures that started in December 2022 lingered through March, resulting in strong prices in Mid-C (Mid-Columbia) (\$108/MWh) and CAISO (California) (\$92/MWh) in the first quarter of 2023. For the eastern part of the USA, a combination of a warm winter and mild summer brought stable prices across the PJM and MISO (Midcontinent) markets. For Texas, record-breaking summer temperatures resulted in strong price performance. ERCOT (Texas) market prices spiked over \$5,000/MWh in June, August and September, with On-Peak prices averaging \$282/MWh for August and \$121/MWh for September.

Europe: European power prices came down from the record levels in 2022, but were still elevated. In Germany, for example, the average power price in 2023 was around \$103/MWh, down from an average price of \$248/MWh in 2022. German power prices were still significantly higher than the average price of \$38/MWh in the period 2015-2019. Power prices are primarily driven by natural gas prices, which were lower in 2023 than in 2022, but still more than double the average of around \$5.6/MMBtu between 2015 and 2019. In addition, the availability of both hydropower and French nuclear power plants was markedly better in 2023 than in 2022, resulting in lower power prices. The continued deployment of solar and wind capacity is progressively affecting power system operations, which can be seen from the impact of weather on hourly prices.

Australia: The power and gas markets in Eastern Australia began 2023 with firm price caps on gas and coal after extreme price volatility in 2022. This – combined with lower demand because of milder winter weather, improved coal generator availability and continued growth in renewable generation – reduced tightness in international markets. Healthy domestic gas storage and stronger winter flows from LNG producers to southern markets moderated gas and power prices as they returned to normal levels. Prices, however, continued to be higher than historical levels. Power prices averaged around A\$90/MWh for 2023 compared with A\$190/MWh in 2022 and A\$75/MWh in 2021. Gas prices averaged around A\$12/GJ (gigajoule) for 2023 compared with around A\$40/GJ in 2022 and A\$10/GJ in 2021. There has also been increased intraday volatility, as more renewables and distributed solar have entered the system to replace coal.

Crude oil and natural gas price assumptions

Our ability to deliver competitive returns and pursue commercial opportunities depends on the accuracy of our price assumptions. We use a rigorous assessment of short-, medium- and long-term market uncertainties to determine what ranges of future crude oil and natural gas prices to use in project and portfolio evaluations. Market uncertainties include, for example, future economic conditions, geopolitics, actions by major resource holders, production costs, technological progress and the balance of supply and demand.

See "Risk factors" on page 14 and Note 12 to the "Consolidated Financial Statements" on pages 281-283.

Generating shareholder value | Market overview continued

Refining and chemical margins

In 2023, gross refining margins continued to be well-supported, albeit at a lower level than the highs seen in 2022. The effect of sanctions on Russian oil products meant that Europe was short of middle distillate, leading to low stocks and very high middle distillate product crack spreads. This was exacerbated by refinery slowdowns during the hot European summer as cooling systems struggled to cope. In addition, there were low US gasoline stocks at the start of the US summer holiday season when demand was rising as many more people were driving. This led to a wider spread between gasoline and crude in the Atlantic basin. In the East, Chinese oil demand growth was capped by the economic slowdown. The low product stocks of gasoline and diesel in the Atlantic basin required product flow from Asia providing margin support for Asian refineries outside of China. But this was dampened by Chinese product export quotas which remained at the same elevated level as in 2022. In 2023, new refinery capacity – such as the Al Zour refinery, the Beaumont expansion and Oman Duqm refinery – came on line and increased product supply to the market, keeping margins at a lower level than in 2022.

For 2024, further new refinery capacity, such as that from Dangote in Nigeria, is expected to come on line. Meanwhile, demand growth is expected to slow with China's economic outlook being a key factor. Currently, product stock levels in the Atlantic basin of mogas and diesel are at higher levels than a year ago, suggesting lower spreads between products and crude oil next year.

Chemical cracker margins remained pressured in 2023 because of global oversupply and weak demand. Slowing global market conditions, and high inflation and interest rates, have impacted end-consumer demand. New capacity growth, primarily in Asia and the USA, led to global oversupply with producers continuing to match demand through lower cracker utilisation. The Russia-Ukraine war and conflicts in the Middle East have impacted energy prices, resulting in lower margins.

The outlook for petrochemical margins in 2024 and beyond depends on feedstock costs and the balance of supply and demand. Global oversupply is expected to persist through the year with a slow demand recovery. A recovery in demand is needed to absorb excess capacity. The supply of petrochemicals will depend on how new facilities coming on line and plant closures will impact net capacity, with utilisation balancing the system. Product prices will reflect the cost of raw materials, which is closely linked to crude oil and natural gas prices.

Refining margins

Global indicative refining margin [A]

	\$/bbl		
	2023	2022	2021
Indicative refining margin	12.45	18.03	4.79

[A] The Indicative refining margin (IRM) is an approximation of Shell's global gross refining unit margin, calculated using price markers from third-party databases. It is based on a simplified crude and product yield profile at a nominal level of refining performance. The actual margins realised by Shell may vary due to factors including specific local market effects, refinery maintenance, crude diet optimisation as the crudes in the IRM are indicative benchmark crudes, operating decisions and product demand. Gross refining unit margin is defined as the hydrocarbon margin net of purchased/sold utilities, additives and relevant freight costs, divided by crude and feedstock intake in barrels. It is only applicable to the impact of market pricing on refining business performance, excluding trading margin.

Petrochemical margins

Global indicative chemical margin [A]

	\$/tonne		
	2023	2022	2021
Indicative chemical margin	132.63	48.04	216.44

[A] The Indicative chemical margin (ICM) is an approximation of Shell's global chemical margin performance trend (including equity-accounted associates), calculated using price markers from third-party databases. It is based on a simplified feedstock and product yield profile at a nominal level of plant performance. The actual margins realised by Shell may vary due to factors including specific local market effects, chemical plants maintenance, optimisation, operating decisions and product demand. Chemical unit margin is defined as the hydrocarbon margin net of purchased/sold utilities, additives and relevant freight costs, divided by a nominal denominator expressed in metric tonnes. It is only applicable to the impact of market pricing on Chemical business performance.

The statements in this "Market overview" section are forward-looking statements based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

See "About this Report" on pages v-vi and "Risk factors" on page 14.

Integrated Gas

Integrated Gas (IG) includes liquefied natural gas (LNG) and the conversion of natural gas into gas-to-liquids (GTL) fuels and base oils. IG activities also include natural gas exploration and extraction, and the operation of the upstream and midstream infrastructure necessary to deliver gas and gas products to market. The marketing, trading and optimisation of LNG is also part of IG. We are committed to investing in our IG activities and plan to continue growing our LNG portfolio.

Segment earnings (\$ billion)**7.0** 2022: 22.2

Adjusted Earnings (\$ billion)**13.9** 2022: 16.1

Cash flow from operating activities (\$ billion)**17.5** 2022: 27.7

Production (thousand boe/d)**939** 2022: 921

LNG liquefaction volumes (million tonnes)**28** 2022: 30

LNG sales volumes (million tonnes)**67** 2022: 66

Generating shareholder value | Integrated Gas continued

Key metrics

	\$ million, except where indicated		
	2023	2022	2021
Segment earnings* [A] [B]	7,046	22,212	8,060
Identified items	(6,861)	6,075	(988)
Adjusted Earnings* [A]	13,907	16,137	9,048
Adjusted EBITDA* [A]	23,759	26,569	16,754
Cash flow from operating activities	17,520	27,692	13,210
Cash capital expenditure*	4,196	4,265	3,502
Liquids production available for sale (thousand b/d)	128	128	169
Natural gas production available for sale (million scf/d)	4,700	4,600	4,842
Total production available for sale (thousand boe/d)	939	921	1,004
LNG liquefaction volumes (million tonnes)	28.3	29.7	31.0
LNG sales volumes (million tonnes)	67.1	66.0	64.2

[A] Segment earnings, Adjusted Earnings, and Adjusted EBITDA are presented on a current cost of supplies basis.

[B] See Note 7 to the "Consolidated Financial Statements".

Business conditions

For the business conditions relevant to Integrated Gas, see "Market overview" on pages 38-40.

Production available for sale

In 2023, natural gas production increased by 2% compared with 2022, mainly because of the new fields and ramp-up in Oman, Canada, Australia and Trinidad and Tobago. Lower levels of maintenance at Pearl GTL in Qatar, and in Trinidad and Tobago also contributed to the higher production levels. These were partly offset by the derecognition of Russia's Sakhalin-related volumes and production-sharing contract effects in Egypt and at Pearl GTL. In 2023 and 2022, natural gas and liquids made up 86% and 14% of total production, respectively.

LNG liquefaction and sales volumes

LNG liquefaction volumes decreased by 5% compared with the previous year, mainly as a result of the derecognition of Sakhalin-related volumes.

LNG sales volumes increased primarily because of higher purchases from third parties but this was partly offset by the derecognition of Sakhalin-related volumes.

Through our trading organisation, we market and sell a portion of our share of equity production of LNG together with third-party LNG through our hubs in the UK, the UAE and Singapore. Shell has term sales contracts for the majority of our LNG liquefaction and term purchase contracts. We are able to optimise the income we generate from our LNG cargoes through our shipping network, regasification terminals and ability to purchase and deliver LNG spot cargoes from third parties. For example, if one customer does not need a scheduled cargo, we can deliver it to another customer who does need it. Similarly, if a customer needs an additional cargo not available from our production facilities, we contract with third parties to deliver the additional cargo. We conduct paper trades, primarily to manage commodity price risk related to sales and purchase contracts. We also sell LNG for trucks in India, China and Europe, and LNG for shipping in the USA, Europe and Singapore.

* Non-GAAP measure (see page 365).

Integrated gas data table

LNG liquefaction volumes

	Million tonnes		
	2023	2022	2021
Australia	13.3	13.2	13.1
Brunei	1.1	1.2	1.4
Egypt	0.3	0.5	0.3
Nigeria	3.3	3.6	4.3
Oman	2.7	2.8	2.5
Peru	0.8	0.8	0.6
Qatar	2.4	2.4	2.4
Russia	—	0.9	2.8
Trinidad and Tobago	4.3	4.3	3.6
Total	28.3	29.7	31.0

Earnings 2023-2022

Segment earnings in 2023 were lower in comparison to 2022 and reflected the net effect of lower realised prices and higher contributions from trading and optimisation (decrease of \$1,143 million), lower volumes (decrease of \$466 million), and unfavourable deferred tax movements (decrease of \$728 million).

Segment earnings included identified items: mainly unfavourable movements of \$4,407 million due to the fair value accounting of commodity derivatives and net impairment charges and reversals of \$2,247 million. In 2022, identified items included favourable movements of \$6,273 million due to the fair value accounting of commodity derivatives and net impairment reversals of \$779 million. In 2022, these were partly offset by other impacts of \$608 million, mainly loan write-downs, as well as charges of \$387 million as provisions for onerous contracts.

Adjusted Earnings and Adjusted EBITDA were driven by the same factors as the segment earnings, and adjusted for identified items.

Generating shareholder value | Integrated Gas continued

Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2022, compared with the financial year ended December 31, 2021, can be found in the Annual Report and Accounts (page 39) and Form 20-F (page 43) for the year ended December 31, 2022, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

Cash flow from operating activities

Cash flow from operating activities for 2023 was primarily driven by Adjusted EBITDA and a working capital inflow of \$2,023 million, partly offset by net cash outflows, related to derivatives of \$4,668 million, and tax payments of \$3,574 million.

Cash capital expenditure

Our cash capital expenditure in 2023 was at the same level as in 2022. Our cash capital expenditure is expected to be around \$5 billion in 2024.

Portfolio and business development

Significant portfolio and business developments:

- In January 2023, we produced first gas from Oman's Mabrouk North-East field in Block 10 (Shell interest 53.45%).
- In June 2023, we completed the purchase of 25% of the shareholding in the QatarEnergy LNG NFS(2) joint venture, which owns a 37% interest in the North Field South (NFS) project. Shell's ownership of NFS via its joint-venture shareholding is 9.375%.
- In October 2023, we sold our 35% interest in Indonesia's Masela PSC to Indonesia's PT Pertamina Hulu Energi and PETRONAS Masela Sdn. Bhd. The sale included the Abadi gas project.
- In October 2023, we and our partners in the Oman LNG LLC venture signed an amended shareholders' agreement for Oman LNG LLC (Oman LNG), extending the business beyond 2024. We will remain the largest private shareholder in Oman LNG, with a 30% interest.
- In December 2023, Shell entered into agreements with the government of the Republic of Trinidad and Tobago and Atlantic LNG shareholders to restructure the Atlantic LNG facility, which will change Shell's overall shareholding in Atlantic LNG. These changes aim to take effect in a phased approach, starting on October 1, 2024, and are expected to be completed by May 2, 2027. On completion, Shell is expected to have a 45% share in Atlantic LNG.

Business and property

Integrated Gas

A complete list of LNG and GTL plants in operation and under construction in which we have an interest is provided below.

LNG liquefaction plants in operation at December 31, 2023 [A]

	Asset	Location	Shell interest (%)	100% capacity (mtpa) [B]	Shell-operated
Asia					
Brunei	Brunei LNG	Lumut	25	7.6	No
Oman	Oman LNG	Sur	30	7.1	No
	Qalhat LNG [C]	Sur	11	3.7	No
Qatar	QatarEnergy LNG N(4) [D]	Ras Laffan	30	7.8	No
Oceania					
Australia	Australia North West Shelf [D]	Karratha	16.7	16.9	No
	Gorgon LNG [D]	Barrow Island	25	15.6	No
	Prelude [D]	Browse Basin	67.5	3.6	Yes
	Queensland Curtis LNG T1 [D]	Curtis Island	50	4.3	Yes
	Queensland Curtis LNG T2 [D]	Curtis Island	97.5	4.3	Yes
Africa					
Egypt	Egyptian LNG T1	Idku	35.5	3.6	No
	Egyptian LNG T2	Idku	38	3.6	No
Nigeria	Nigeria LNG	Bonny	25.6	24.1	No
South America					
Peru	Peru LNG	Pampa Melchorita	20	4.5	No
Trinidad and Tobago	Atlantic LNG T1	Point Fortin	46	3	No
	Atlantic LNG T2/T3	Point Fortin	57.5	6.6	No
	Atlantic LNG T4	Point Fortin	51.1	5.2	No

[A] We have offtake rights via a lease to 100% of the capacity (2.5 mtpa) of the Kinder Morgan-operated Elba Island liquefaction plant in Georgia, USA.

[B] 100% capacity represents the total capacity that all trains can process as reported by the operator.

[C] The interest is held via an indirect shareholding through Oman LNG.

[D] These assets are clustered as integrated assets and have onshore or offshore upstream production.

Generating shareholder value | Integrated Gas continued

LNG liquefaction plants under construction at December 31, 2023

	Asset	Location	Shell interest (%)	100% capacity (mtpa) [A]	Shell-operated
Africa					
Nigeria	Train 7 [B]	Bonny	25.6	7.6	No
North America					
Canada	LNG Canada T1-2 [C]	Kitimat	40.0	14.0	No
Asia					
Qatar	QatarEnergy LNG NFE(2) [D]	Ras Laffan	25.0	8.0	No
	QatarEnergy LNG NFS(2) [E]	Ras Laffan	25.0	6.0	No

[A] 100% capacity represents the total capacity that all trains are expected to process as reported by the operator.

[B] First LNG is expected later in the 2020s.

[C] Construction started in October 2018 and first LNG is expected around the middle of the 2020s.

[D] Shell holds 25% in the joint venture, which owns 25% of the North Field East expansion project, which has a nameplate capacity of 32 mtpa. First LNG is expected later in the 2020s.

[E] Shell holds 25% in the joint venture, which owns 37.5% of the North Field South expansion project, which has a nameplate capacity of 16 mtpa. First LNG is expected later in the 2020s.

GTL plants in operation at December 31, 2023

	Asset	Location	Shell interest (%)	100% capacity (b/d) [A]	Shell-operated
Asia					
Malaysia	Shell MDS	Bintulu	72.0	14,700	Yes
Qatar	Pearl	Ras Laffan	100.0	140,000	Yes

[A] 100% capacity represents the total capacity of the plant.

In 2023, we also had interests and rights in the regasification terminals listed below. Extension of leases or rights beyond the periods mentioned below will be reviewed on a case-by-case basis.

LNG regasification terminals

Project name	Location	Shell capacity rights (mtpa)	Capacity rights period	Shell interest (%) and rights
Costa Azul	Baja California, Mexico	2.7	2008–2028	Capacity rights
Cove Point [A]	Lusby, MD, USA	1.8	2003–2023	Capacity rights
Dragon LNG	Milford Haven, UK	3.1	2009–2029	50
Eemshaven	Groningen, the Netherlands	3.1	2022–2027	Capacity rights
Elba Island	Elba Island, GA, USA	4.6	2003–2027	Leased
Elba Island	Elba Island, GA, USA	2.8	2006–2036	Leased
Elba Island Expansion	Elba Island, GA, USA	4.2	2010–2035	Leased
GATE (Gas Access to Europe)	Rotterdam, the Netherlands	1.5	2015–2031	Capacity rights
Lake Charles	Lake Charles, LA, USA	4.4	2002–2030	Leased
Lake Charles Expansion	Lake Charles, LA, USA	8.7	2005–2030	Leased
Singapore SGM	SLNG, Singapore	[B]	2013–2029	Import rights
Singapore SETL	SLNG, Singapore	[B]	2018–2035	Import rights
Singapore SETL	SLNG, Singapore	up to 1.0 [C]	2021–2025	Import rights
Shell Energy India Pvt Ltd (formerly Hazira)	Gujarat, India	5	2005–2035	100
Shell LNG Gibraltar	Gibraltar	up to 0.04	2018–2038	51

[A] Contract expired in August 2023 and was not extended.

[B] Licences to import LNG and sell regasified LNG in Singapore with no volume cap.

[C] Exclusive licence to import LNG and sell regasified LNG in Singapore for up to 1.0 mtpa.



First gas from Block 10 in heartland of Oman

We produced first gas from Oman's Mabrouk North-East field in Block 10 (Shell interest 53.45%) in 2023. Block 10 is our first operated venture in the country, a market that is core to our integrated gas and upstream strategy.

Phase 1 of Block 10 was developed in close cooperation with Petroleum Development Oman (PDO), which is a joint venture operated by the government of Oman (60%), Shell (34%), TotalEnergies (4%) and Partex (2%).

Production from Block 10 started in January 2023 and is expected to reach 0.5 billion standard cubic feet of gas per day by the middle of 2024. The gas is supplied to Oman's gas network, which feeds local industries and export facilities, such as Oman LNG.

When Shell became operator of Block 10 in March 2022, we sought to provide quality accommodation for employees

and contractors at Block 10. We are building a 590-bed accommodation unit with catering, sports facilities and WiFi access for our staff and contractors in the field.

We have also implemented a comprehensive road safety programme at Block 10. The programme is not limited to Shell operations but has already supported changes to road safety regulations in Oman. Shell, together with the Royal Oman Police and the Ministry of Education, has also set up a road safety educational programme and curriculum for children in Oman.

Shell has been present in Oman for more than 80 years. As part of our own net-zero targets and the ambitions of Oman, we are evaluating a potential hydrogen project, which could be supplied by gas from Block 10. There is potential for the produced CO₂ to be stored underground and supplied to manufacture low-carbon products.

Photo: Block 10 facility in Mabrouk North-East field, Oman.

Generating shareholder value | Integrated Gas continued

Oil and natural gas production, exploration and development Australia

We operate the Queensland Curtis LNG (QCLNG) venture's natural gas operations in Queensland's Surat Basin. Our interests range from 44% to 74% in 25 field compression stations and six central processing plants. Our production of natural gas from the onshore Surat Basin supplies the QCLNG liquefaction plant and the domestic gas market.

We have a 50% interest in Arrow, a Queensland-based joint venture with China National Petroleum Corporation (CNPC). Arrow owns coalbed methane assets and a domestic power business.

In addition, Shell has interests in offshore production, LNG liquefaction and exploration licences in the Browse Basin and in the North West Shelf (NWS) and Greater Gorgon areas of the Carnarvon Basin. Woodside is the operator on behalf of the NWS joint venture (Shell interest 16.7%). We have a 25% interest in the Chevron-operated Gorgon LNG joint venture that includes offshore production.

In the Browse Basin, Shell operates the Prelude field (Shell interest 67.5%), the Crux gas and condensate development field (Shell interest 84.5%) and other backfill projects for Prelude FLNG.

In 2023, we sold our stake in the Browse joint arrangement (Shell interest 27%), which covers the Brecknock, Calliance and Torosa gas fields.

Bolivia

We hold a 37.5% interest in the Caipipendi block where we produce and deliver natural gas to domestic and export markets. Repsol is the operator. We also have a 25% interest in the Tarija XX West block, where we produce from the Itaú field.

Canada

In Canada, we produce and market natural gas, natural gas liquids and condensate. We hold mineral acres, primarily in the Montney play in British Columbia and Alberta. We operate four natural gas processing area facilities at our Groundbirch asset in British Columbia, with another natural gas processing facility under construction.

China

We develop and produce from the onshore Changbei tight-gas field under a PSC with China National Petroleum Company.

Egypt

We have a 25% interest in the Burullus Gas Company (Burullus) joint venture, which operates the West Delta Deep Marine concession (Shell interest 50%) and supplies gas to the domestic market and an Egyptian LNG plant. We have a 50% interest in the Rashid Petroleum Company (Rashpetco) joint venture, which operates the Rosetta concession (Shell interest 100%). We have a 30% interest in the El Burg Offshore Company (EBOC) joint venture, which operates the El Burg offshore concession (Shell interest 60%).

We have interests in several exploration concessions in the Nile Delta, the wider East Mediterranean and the Red Sea.

Oman

We have an operated concession to develop and produce natural gas and condensate from Block 10 (Shell interest 53.45%). We have a separate gas sales agreement and oil supply agreement for production from the block. We also have an exploration and production-sharing agreement with the government for the exploration and appraisal of natural gas and condensate in Block 11 (Shell interest 67.5%), operated by Shell.

Qatar

We operate the Pearl GTL plant (Shell interest 100%) in Qatar under a development and production-sharing contract with the government. The fully integrated facility has the capacity to produce, process and transport 1.6 billion standard cubic feet per day (scf/d) of gas from Qatar's North Field.

We have a 30% interest in QatarEnergy LNG N(4), which comprises integrated facilities to produce around 1.4 billion scf/d of gas from Qatar's North Field, an onshore gas-processing facility operated by QatarEnergy LNG. We also have 25% of the shareholding in the QatarEnergy LNG NFE(2) joint venture which owns a 25% interest in the North Field East (NFE) project. Thus, Shell's ownership of NFE via its joint-venture shareholding is 6.25%. In June 2023, we purchased 25% of the shareholding in the QatarEnergy LNG NFS(2) joint venture which owns a 37% interest in the North Field South (NFS) project. Shell's ownership of NFS via its joint-venture shareholding is 9.375%.

Russia

In the first quarter of 2022, Shell announced its intent to withdraw in a phased manner from its involvements in all Russian hydrocarbons, including crude oil, petroleum products, gas and LNG. Note 6 to the Consolidated Financial Statements for the year ended December 31, 2022, presented in the "Annual Report and Accounts and Form 20-F" for that year, sets out Shell's progress made with respect to such intention, including its exit from the Sakhalin-2 project. Shell still holds a 27.5% (minus one share) interest in Sakhalin Energy Investment Company Ltd. (SEIC), a Bermudan entity, which purportedly no longer holds any licences, rights and obligations in Sakhalin-2. The accounting treatment of SEIC is stated and explained in Note 14 "Investments in securities" to the Consolidated Financial Statements on page 285. In February 2023, Shell noted that SEIC had renounced a long-term LNG purchase contract by failing to perform, meaning the contract stood terminated. Shell still holds one long-term LNG purchase contract with a Novatek entity.

Trinidad and Tobago

We have interests in three concessions with producing fields: Central Block (Shell interest 65%), North Coast Marine Area (Shell interest 80.5%) and East Coast Marine Area (Shell interest 100%).

We have a 100% interest in exploration blocks 5(c)REA, 5(d) and 6(d). In 2023, we signed PSCs for three new exploration blocks 25a, 25b and 27 in the Columbus Basin (Shell interest 50%). We operate Block 27 and BP is the operator of the remaining two. Additionally, we relinquished our 35% interest in the PSC for Atlantic Area Block 5.

Other

We also have interests in Barbados, Colombia, Cyprus and Tanzania.

In 2023, we sold our interest (35%) in the Masela PSC in Indonesia, which includes the Abadi gas project.

Upstream

Upstream explores for and extracts crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market. Shell's Upstream business delivers reliable energy from conventional and deep-water oil and gas operations. We are committed to our Upstream activities and plan to maintain our liquids production to the end of the decade.

Segment earnings (\$ billion)

8.5 2022: 16.2

Adjusted Earnings (\$ billion)

9.8 2022: 17.3

Cash flow from operating activities (\$ billion)

21.5 2022: 29.6

Production (thousand boe/d)

1,800 2022: 1,897

Generating shareholder value | Upstream continued

Key metrics

	\$ million, except where indicated		
	2023	2022	2021
Segment earnings* [A] [B]	8,528	16,222	9,603
Identified items	(1,267)	(1,096)	1,587
Adjusted Earnings* [A]	9,794	17,319	8,015
Adjusted EBITDA* [A]	30,607	42,100	27,170
Cash flow from operating activities	21,450	29,641	21,562
Cash capital expenditure*	8,343	8,143	6,168
Liquids production available for sale (thousand b/d)	1,325	1,333	1,515
Natural gas production available for sale (million scf/d)	2,754	3,272	3,845
Total production available for sale (thousand boe/d)	1,800	1,897	2,178

[A] Segment earnings, Adjusted Earnings, and Adjusted EBITDA are presented on a current cost of supplies basis.

[B] See Note 7 to the "Consolidated Financial Statements".

Business conditions

For the business conditions relevant to Upstream, see "Market overview" on pages 38-40.

Production available for sale

In 2023, liquids production was flat and natural gas production decreased by 16%, compared with 2022.

Total production, compared with 2022, decreased mainly due to the impact of divestments. The impact of field decline was more than offset by growth from new fields.

Earnings 2023-2022

Segment earnings, compared with 2022, mainly reflected lower realised oil and gas prices (decrease of \$5,696 million) and lower volumes (decrease of \$2,001 million).

Segment earnings in 2023 also included net impairment charges and reversals of \$642 million, and net charges of \$295 million, which related to the impact of the weakening Argentine peso and strengthening Brazilian real on a deferred tax position. These charges and gains are part of identified items and compare with 2022, where segment earnings included net impairment reversals and charges of \$853 million, and charges of \$1,385 million relating to the EU solidarity contribution and \$802 million relating to the UK Energy Profits Levy.

Adjusted Earnings and Adjusted EBITDA were driven by the same factors as the segment earnings and adjusted for identified items.

Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2022, compared with the financial year ended December 31, 2021, can be found in the Annual Report and Accounts (page 45) and Form 20-F (page 49) for the year ended December 31, 2022, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

Cash flow from operating activities

Cash flow from operating activities for 2023 was primarily driven by Adjusted EBITDA, partly offset by tax payments of \$8,470 million.

* Non-GAAP measure (see page 365).

Cash capital expenditure

Cash capital expenditure in 2023 was higher, compared with 2022. The increase was mainly a result of the ramp-up of projects in the Gulf of Mexico, Malaysia and the UK. This was partially offset by the Brazil Atapu Transfer of Rights in 2022. Cash capital expenditure is expected to be around \$8 billion in 2024.

Portfolio and business developments

Significant portfolio and business developments:

- In February 2023, we started production at our operated Vito floating production facility (Shell interest 63.1%) in the Gulf of Mexico.
- In February 2023, we completed the sale of our 50% interest in the CJSC Khanty-Mansiysk Petroleum Alliance in Russia to a subsidiary of GazpromNeft (GPN). In March 2023, we completed the sale of our 50% interest in Salym Petroleum Development LLC to a subsidiary of GPN.
- In February 2023, we sold our 100% interest in Shell Onshore Ventures LLC in the USA which held a 51.8% membership interest in Aera Energy LLC, to IKAV.
- In March 2023, we divested our 50% interest in the offshore Block SK307 PSC in Malaysia, and our 40% interest in the offshore Baram Delta Operations (BDO) PSC to Petroleum Sarawak Exploration & Production Sdn. Bhd.
- In April 2023, we completed the restart of operations at the operated Pierce field (Shell interest 92.5%) in the UK Central North Sea following a significant upgrade. Pierce is a joint arrangement between Shell and Ithaca Energy (UK) Limited (interest 7.48%).
- In August 2023, we started production at the Timi platform in Malaysia. Timi is developed as part of the SK318 PSC. Our subsidiary, Sarawak Shell Berhad (SSB), is the operator holding 75% equity. The other two partners are PETRONAS Carigali Sdn Bhd (15%) and Brunei Energy Exploration (10%).
- In December 2023, we took FID on the Sparta project (Shell interest 51%) in the Gulf of Mexico. This will be a Shell-operated production hub developed with Equinor Gulf of Mexico LLC (49%).
- In December 2023, the Sepetiba FPSO production started in the Mero field.
- In January 2024, we reached an agreement to sell The Shell Petroleum Development Company of Nigeria Limited (SPDC) to Renaissance. Completion of the transaction is subject to approvals by the Federal Government of Nigeria and other conditions.

Generating shareholder value | Upstream continued

Business and property

Our subsidiaries, joint ventures and associates are involved in all aspects of upstream activities. These activities include land tenure and the exploration, development and production of crude oil, natural gas and natural gas liquids. They also include the marketing and transportation of oil and gas, as well as the operation of the infrastructure necessary to deliver them to market.

The conditions of the leases, licences and contracts under which oil and gas interests are held vary from country to country.

In almost all cases outside North America, legal agreements are generally granted by, or entered into with, a government, state-owned company, government-run oil and gas company or agency. The exploration risk usually rests with the independent oil and gas company. In North America, these agreements may also be with private parties that own mineral rights.

Of these agreements, the following are most relevant to our interests:

- Licences (or concessions), which entitle the holder to explore for hydrocarbons and exploit any commercial discoveries. Under a licence, the holder bears the risk of exploration, development and production activities, and is responsible for financing these activities. In principle, the licence holder is entitled to the totality of production less any royalties in kind. The government, state-owned company or government-run oil and gas company may sometimes enter into a joint arrangement as a participant, sharing the rights and obligations of the licence but usually without sharing the exploration risk. In a few cases, the state-owned company, government-run oil and gas company or agency has an option to purchase a certain share of production.
- Lease agreements, which are typically used in North America and are usually governed by terms similar to licences. Participants may include governments or private entities. Royalties are paid either in cash or in kind.
- Production-sharing contracts (PSCs) entered into with a government, state-owned company or government-run oil and gas company. PSCs generally oblige the independent oil and gas company, as contractor, to provide all the financing and bear the risk of exploration, development and production activities in exchange for a share of the production. Usually, this share consists of a fixed or variable part that is reserved for the recovery of the contractor's cost (cost oil). The remaining production is split with the government, state-owned company or government-run oil and gas company on a fixed or volume/revenue-dependent basis. In some cases, the government, state-owned company or government-run oil and gas company will participate in the rights and obligations of the contractor and will share in the costs of development and production. Such participation can be across the venture or on a field-by-field basis. Additionally, as the price of oil or gas increases above certain predetermined levels, the independent oil and gas company's entitlement share of production normally decreases, and vice versa. Accordingly, its interest in a project may not be the same as its entitlement.

Europe

Germany

Shell is a 50% shareholder in BEB Erdgas und Erdoel GmbH & Co. KG (BEB), which owns interests in various concessions, mainly in Lower Saxony. ExxonMobil Production Deutschland GmbH has a service contract with BEB, under which it provides operating services to BEB for most of the concessions.

Italy

Shell has a 39% interest in the Val d'Agri producing concession, operated by ENI S.p.A., and a 25% interest in the Tempa Rossa producing concession, operated by TotalEnergies EP Italia S.p.A.

Netherlands

Shell and ExxonMobil are 50:50 shareholders in Nederlandse Aardolie Maatschappij B.V. (NAM). NAM holds a 60% interest in the onshore low-calorific Groningen gas field (the remaining 40% interest is held by EBN, a Dutch government entity), the Schoonebeek oil field, some 25 smaller hydrocarbon production licences and two underground gas storage facilities.

The Dutch government issues annual gas production instructions for the Groningen field. As per the latest instruction, production has ceased since October 1, 2023. However, the Dutch government has indicated to NAM it could decree a restart of minimal production in exceptional circumstances during the current gas year, which occurred on January 8-10, 2024, for a cold spell of several days.

Historical production from the Groningen field induces earthquakes which have led to damage claims, security concerns, and a strengthening operation to make buildings earthquake resistant. In June 2018, NAM's shareholders and the Dutch government signed a Heads of Agreement (HoA) to inter alia reduce, and eventually cease production from the Groningen field. Under the terms of the HoA, it was agreed that the Dutch government would pass on to NAM costs insofar as the costs corresponded to NAM's liability. Further agreements were signed to implement the HoA. As part of these agreements, Shell guaranteed half of NAM's 60% share of earthquake-related costs for damage claims and the strengthening of buildings. We are currently in discussions with the Dutch government about appropriate financial securities for the longer term as agreed under the HoA.

NAM is working with the Dutch government and other stakeholders to fulfil its obligations to residents of the area. These include compensating for damage caused by the earthquakes and paying to strengthen houses where this is required for safety. In 2022, NAM started arbitrations with the Dutch government to have its financial liability determined for costs which the Dutch government compensated to claimants and subsequently charged to NAM.

In October 2021, NAM announced that it would split up its non-Groningen assets into several new legal entities, with the intent to divest those legal entities. No split-up has occurred to date.

See "NAM (Groningen gas field) Litigation" on page 313.

Norway

Shell is a partner in 19 production licences on the Norwegian continental shelf, and the operator of seven of these. We have interests in two producing gas fields: Shell-operated Ormen Lange (Shell interest 17.8%) and Equinor-operated Troll (Shell interest 8.1%). Additionally, we hold an interest in the Equinor-operated Irpa (Shell interest 10%) gas discovery under development. We operate two fields which are being decommissioned, Knarr and Gaupe. We are also the technical service provider for the Nyhamna processing plant, operated by Gassco.

Generating shareholder value | Upstream continued

UK

Shell operates a number of assets on the UK continental shelf mostly under unincorporated joint-venture agreements. Shell also has non-operated positions in the West of Shetland area, including Clair (Shell interest 27.97%) and Schiehallion (Shell interest 44.89%). Both Clair and Schiehallion are operated by BP.

In April 2023, Shell restarted operations at the Pierce field (Shell interest 92.5%) in the UK North Sea after a major redevelopment to enable gas production, after years of the field producing only oil. The Haewene Brim floating production, storage and offloading (FPSO) vessel, which produces from the Pierce field, is currently shutdown to address an integrity threat to the mooring lines. The work is nearing completion with production expected to resume in the near future.

Progress continues to develop the operated Penguins FPSO vessel (Shell interest 50%) and the Jackdaw platform (Shell interest 100%) in the North Sea. Both are expected to become operational in the mid-2020s.

In November 2023, we completed the sale of our 30% stake in the Cambo field to Ithaca Energy, following regulatory approval. The agreement to sell was signed in September 2023.

During the third quarter of 2023, the UK government announced that the Acorn carbon capture, utilisation and storage project (Shell interest 30%) was selected as one of two clusters to enter "Track 2" of the UK's cluster sequencing process for carbon capture and storage (CCS). In 2024, we expect to start more detailed discussions on the project between the UK government and the Acorn co-venturers. It was also announced that Acorn had received CCS licences from the North Sea Transition Authority for the Acorn East and East Mey CO₂ stores, expanding its transport and storage system's capacity deep beneath the North Sea. In addition, ventures in which Shell has a 50% interest were awarded three carbon storage appraisal licences.

Decommissioning of the Heather A platform and Curlew FPSO asset continued in 2023, and we began a campaign of subsea well plug and abandonment activity to decommission 25 wells in the Central North Sea. All remaining staff left Brent Charlie on October 6, 2023, bringing 47 years of continuous presence on Brent installations to an end. We expect the topside to be lifted in 2024. The Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) continues to assess the Brent Field decommissioning programme for the Brent gravity-based substructures.

Rest of Europe

Shell also has interests in Albania.

Asia (including the Middle East and Russia)

Brunei

Shell and the Brunei government are 50:50 shareholders in Brunei Shell Petroleum Company Sendirian Berhad (BSP). BSP has long-term onshore and offshore oil and gas concession rights and sells most of its gas production to Brunei LNG Sendirian Berhad, with the remainder sold in the domestic market.

In addition to our interest in BSP, we have a non-operated interest in the offshore Block B concession (Shell interest 35%) which is operated by TotalEnergies. The gas and condensate are produced from the Maharaja Lela field.

We have a non-operated interest under a PSC in a gas-holding area for deep-water Block CA2, which is operated by Petronas. Shell's interest increased in 2023 from 12.5% to 20% when we acquired 7.5% from Petronas.

We operate the deep-water Block CA1 (Shell interest 86.95%), in which the Jagus East field is located, under a PSC. As referred to in the Malaysia section, the Jagus East field and the Geronggong field, held by BSP, form part of the unitised GKGJE field. In 2023, we relinquished the exploration acreage that formed part of Block CA1.

Iraq

Shell has a 44% interest in the Basrah Gas Company, which gathers, treats and processes associated gas that was previously flared from the Rumaila, West Qurna 1 and Zubair fields. Processed gas and associated products, such as condensate and LPG, are sold to the domestic market. Any surplus condensate and LPG is exported.

Kazakhstan

Shell is the joint operator with ENI S.p.A. of the onshore Karachaganak oil and condensate field (Shell interest 29.3%) and, in north-west Kazakhstan which covers more than 280 square kilometres.

We also have an interest in the North Caspian Sea PSA (Shell interest 16.8%) which includes the Kashagan field in the Kazakh sector of the Caspian Sea. The North Caspian Operating Company is the operator. This shallow-water field covers around 3,400 square kilometres.

We have a 7.4% interest in the Caspian Pipeline Consortium (CPC), which owns and operates an oil pipeline running from the Caspian Sea to the Black Sea across parts of Kazakhstan and Russia. We hold our interest in the CPC via three legal entities. Two of these are wholly owned by Shell and the other is a joint venture with Rosneft, Rosneft-Shell Caspian Ventures Ltd (Cyprus) (RSCV) (Shell interest 49%), which was formed in 1996 to own and manage pipeline capacity rights. We continue to manage our interest in CPC held through RSCV in full compliance with applicable laws, including sanctions.

Kuwait

The wholly owned Shell Kuwait Exploration and Production B.V. holds three Enhanced Technical Service Agreements with Kuwait Oil Company. These contracts run up to 2026 for Jurassic Gas and 2027 for Conventional Oil and Heavy Oil.

Malaysia

Shell explores for and produces oil and gas off the coast of Sabah and Sarawak under 19 PSCs, in which our interests range from 21% to 92.5%.

Offshore Sabah

We operate two producing oil fields: the Malikai deep-water field (Shell interest 35%) in the Block G PSC, and the unitised Gumusut-Kakap Geronggong-Jagus East (GKGJE) field which straddles the Malaysia-Brunei border (Shell interest 37.89%).

We hold a 50% participating interest in exploration phase Block 2W, SB-X PSC and ND6/7 PSCs. The exploration activities in Block ND6/7 PSC have been suspended because of Malaysia's border disputes with Indonesia.

We have non-operated interests of 21% in the unitised Siakap North-Petai deep-water field in Block G and 30% in the Kebabangan Cluster PSC.

In our non-operated portfolio, we hold exploration interests ranging from 25.1% to 40% in the Block SB 2K, N and SB2V PSCs.

Generating shareholder value | Upstream continued

Offshore Sarawak

We are the operator of eight producing gas fields and one producing oil and gas field holding interests ranging from 30% to 50%. Nearly all the gas produced offshore Sarawak is supplied to Malaysia LNG (MLNG) and to our gas-to-liquids plant in Bintulu. The fields are under the MLNG, SK308, SK408 and SK308 PSCs.

We are also the operator for the Block SK318 PSC. This block contains the Timi field (Shell interest 75%), and the Rosmari-Marjoram fields (Shell interest 80%). Rosmari is unitised between the Block SK318 PSC and Block SK316 PSC (no Shell interest) with the resulting Shell interest at 68%. Rosmari-Marjoram is a natural gas project situated around 220 kilometres off the coast of Bintulu, comprising a remotely operated offshore platform and onshore gas plant. Rosmari-Marjoram will mainly be powered by renewable energy from solar power offshore and hydroelectric power onshore. Timi achieved first gas in August 2023 and the gas is moved through an 80-kilometre pipeline to the F23 production hub.

We hold participating interests ranging from 70% to 92.5% in the exploration phase Block SK312, SK437, SK439 and SK440 PSCs. In March 2023, we signed one new PSC for Block SK3B (Shell interest 45%), a deep-water block, off the coast of Sarawak.

In our non-operated portfolio, we hold a 20% interest in the Pegaga field under the Block SK320 PSC and a 30% interest in the Jerun field which is part of the Block SK408 PSC. Jerun is a gas development with an integrated central processing platform. The Block SK408 PSC also contains the producing non-operated Larak and Bakong fields.

In March 2023, we divested our 50% interest in the offshore Block SK307 PSC and our 40% interest in the offshore Baram Delta Operations (BDO) PSC to Petroleum Sarawak Exploration & Production Sdn. Bhd.



Timi platform, powered by sun and wind, achieves first gas

Our unmanned solar- and wind-powered platform in the Timi gas field (Shell interest 75%) shows how we are working to produce energy with less emissions. Timi delivered first gas in August 2023 and is expected to produce up to 50,000 barrels of oil equivalent per day at peak production.

The Timi field is situated about 200 kilometres (km) off the coast of Sarawak, Malaysia, and is part of our operated SK318 production-sharing contract. Timi features Shell's first wellhead platform in Malaysia that is powered by a solar and wind hybrid power system. The design demonstrates our Upstream business's ability to deliver projects that support a balanced energy transition. In addition to delivering value for shareholders with less emissions, Timi is also more cost efficient to operate because it is around 60% lighter in weight than a conventional drilling wellhead platform that relies on oil and gas for power.

The field qualifies as a critical habitat because it lies within the Luconia Shoals National Park where migratory mammals, turtles and coral reefs are found. The project therefore required a biodiversity action plan designed with conservation initiatives in collaboration with the local university.

Timi is not the only Shell asset in Malaysia powered by renewable energy. In May 2020, we produced first gas from a fully solar-powered platform in the Gorek field, about 145 km offshore Malaysia. In 2022, we took the final investment decision on the Rosmari-Marjoram gas project, the largest integrated offshore and onshore project in Sarawak, which will be primarily powered by renewable energy.

Shell retains a strong presence in Malaysia's upstream, gas-to-liquids, downstream and business services sectors. We remain committed to supporting the country's economic progress and energy transition efforts through competitive and resilient investments.

Photo: Aerial photograph of the Timi platform in Malaysia before operations started.

Generating shareholder value | Upstream continued

Oman

Shell has a 34% interest in Petroleum Development Oman (PDO), which operates the Block 6 oil concession. Shell is entitled to 34% of oil produced from Block 6 through its interest in Private Oil Holdings Oman Ltd. The government of Oman has a 60% interest in PDO and the Block 6 oil concession through its wholly owned company, Energy Development Oman (EDO). PDO operates a concession area of about 90,000 square kilometres and has more than 200 producing oil fields.

We have a 50% interest in Block 42 under an Exploration and Production Sharing Agreement (EPSA) where Shell is the operator. The other 50% interest is held by the government through its wholly owned company, OQ. We have a 100% interest in Block 55 under an EPSA.

Russia

In the first quarter of 2022, Shell announced its intent to withdraw in a phased manner from its involvement in all Russian hydrocarbons, including crude oil, petroleum products, gas and LNG. In connection with this:

- On February 22, 2023, Shell completed the sale of its 50% interest in the CJSC Khanty-Mansiysk Petroleum Alliance to a subsidiary of GazpromNeft (GPN); and
- On March 3, 2023, Shell completed the sale of its 50% interest in Salym Petroleum Development LLC to a subsidiary of GPN. Salym Petroleum Development N.V. (SPD), a joint operation with GPN which was formerly developing the Salym project and in which Shell previously had a 50% interest, was liquidated in December 2023, and its wholly owned subsidiary Salym Petroleum Services B.V. was liquidated in November 2023.

Syria

Shell holds a 65% interest in Syria Shell Petroleum Development B.V. (SSPD), a joint venture between Shell and the China National Petroleum Corporation. SSPD holds a 31.25% interest in Al Furat Petroleum Company, a Syrian joint stock company, whose role was to perform petroleum operations. Shell also holds a 70% interest in two exploration licences via Shell South Syria Exploration B.V. In December 2011, in compliance with international sanctions on Syria, including European Council Decision 2011/782/CFSP, Shell suspended all exploration and production activities in Syria. SSPD continued to fulfil minimum contractual obligations towards the Syrian finance and labour ministries, in compliance with applicable trade control laws. In 2023, as part of the minimum contractual obligations, payments for taxes related to salary and social security amounted to \$1,350.

Rest of Middle East and Asia

Shell also has interests in the United Arab Emirates.

Africa

Nigeria

Shell operates a number of interests in onshore and offshore oil exploration and production assets in Nigeria.

Onshore

The Shell Petroleum Development Company of Nigeria Limited (SPDC) is the operator of the SPDC joint venture (SPDC JV, Shell interest 30%) which has 15 Niger Delta onshore oil mining leases (OMLs).

SPDC also has three shallow-water oil mining leases (OML 74, 77 and 79) and a 40% interest in the non-operated Sunlink joint venture, which has one shallow-water lease (OML 144).

On January 16, 2024, Shell agreed to sell SPDC to Renaissance, subject to approvals by the Federal Government of Nigeria and other conditions. As part of the transaction, parties have agreed a sharing mechanism that, upon completion, will give Shell an interest in the performance of the export feedgas business going forward. Shell will retain its interest in one shallow-water lease (OML 144).

Offshore

Our main offshore deep-water activities are carried out by our wholly owned subsidiary Shell Nigeria Exploration and Production Company Limited (SNEPCo). SNEPCo has interests in three deep-water blocks that are under PSC terms: the producing assets Bonga (OML 118) and Erha (OML 133), and the non-producing asset Bolia Chota (OML 135). SNEPCo operates OML 118 (Shell interest 55%), including the Bonga field FPSO vessel. We also operate OML 135, encompassing the Bolia and Doro fields (Shell interest 55%). We have a 43.8% non-operated interest in OML 133 (including the Erha FPSO).

Authorities have investigated our involvement in the 2011 settlement of litigation pertaining to OPL 245.

See Note 31 to the "Consolidated Financial Statements" on pages 312-314.

Business update

In 2021, the Petroleum Industry Act (PIA) entered into effect, creating a new regulatory framework for the petroleum industry in Nigeria. The PIA introduces significant changes and we are actively engaged in the implementation process to ensure that these changes are implemented in a timely manner in our operations.

Security issues, sabotage and crude oil theft in the Niger Delta continued and remained significant challenges to our onshore operations in 2023. We will continue to monitor the situation closely and evaluate implications for the integrity of our infrastructure and the sustainability of our current operations. We continue to put the safety of our employees and contractors first.

In our Nigerian operations, we face various risks and adverse conditions which could have a significant adverse effect on our operational performance, earnings, cash flows and financial condition.

See "Respecting nature" on pages 116-123.

Generating shareholder value | Upstream continued

There are limitations to the extent to which we can mitigate these risks. We monitor the security situation, and liaise with host communities, governmental and non-governmental organisations to help promote peaceful and safe operations for our people and local communities. We test the economic and operational resilience of our Nigerian projects against a wide range of assumptions and scenarios. We seek to proportionally share risks and funding commitments with joint-venture partners. When we participate in joint ventures in Nigeria, we require that they operate in accordance with good industry practice. Upon completion of the announced sale (subject to regulatory approvals and other conditions) of our onshore Nigeria business, our exposure to these risks are expected to reduce. Shell has other businesses in Nigeria that are outside the scope of the announced transaction.

See "Risk factors" on page 19.

We support the Nigerian government's efforts to improve the efficiency, functionality and domestic benefits of Nigeria's oil and gas industry. We report spills and how we respond to spills, including those that are caused by third-party interference. We implement a maintenance strategy to support sustainable equipment reliability and we have a multi-year programme to reduce routine flaring of associated gas.

See "Our Journey to net zero" on page 104.

Rest of Africa

Shell also has interests in Algeria, Mauritania, Namibia, São Tomé and Príncipe, South Africa and Tunisia.

In 2021, Shell announced plans to hand back upstream assets associated with the Miskar and Hasdrubal concessions to the government of Tunisia. In June 2022, Shell handed back the Miskar concession upon its expiry. Discussions continue regarding the Hasdrubal early relinquishment.

North America USA

The majority of our oil and gas interests in the USA comprise leases for federal offshore blocks in the deep waters of the Gulf of Mexico. Such leases usually have a fixed primary term and, once production is established, remain in effect through continued production, subject to compliance with the relevant terms and provisions (including applicable laws and regulations).

In February 2023, we completed the sale of our 100% interest in Shell Onshore Ventures LLC, which held a 51.8% membership interest in Aera Energy LLC, an onshore production entity located in California.

Shell holds an interest in one licence in the North Slope area of Alaska. In 2020, we received regulatory approval to combine our near-shore leases in West Harrison Bay into a single unit. Shell is seeking a co-owner to operate the unit.

Gulf of Mexico

Shell's major production area in the USA is the Gulf of Mexico. We have a total of 288 active federal offshore leases, where Shell is the operator, and 116 active federal offshore leases, where Shell has a non-operated interest.

We are the operator of nine production hubs: Mars (Shell interests 33.7% to 100%), Olympus (Shell interests 71.5% to 100%), Auger (Shell interests 27.5% to 100%), Perdido (Shell interests 33.3% to 40%), Ursa (Shell interests 45.4% to 100%), Enchilada/Salsa (Shell interests 37.5% to 75%), Appomattox (Shell interest 79%), Vito (Shell interest 63.1%), and Stones (Shell interest 100%). We also have an interest in the West Delta 143 offshore processing facilities (Shell interest 71.5%).

We continue to produce from the Coulomb field (Shell interest 100%) which ties into the Na Kika platform (Shell interest 50%) co-owned and operated by BP Exploration and Production Inc.

We continued exploration, development and decommissioning activities in the Gulf of Mexico in 2023.

In February 2023, we began production at Vito (Shell interest 63.1%), a Shell-operated production hub located approximately 10 miles (16 kilometres) south of the Shell-operated Mars hub. Vito is expected to produce up to 100,000 boe/d.

In March 2023, we announced our FID for Dover (Shell interest 100%), a planned subsea tieback to the Shell-operated Appomattox (Shell interest 79%) production hub. Dover is expected to start production in late 2024/early 2025 and produce up to 21,000 boe/d.

In December 2023, FID was taken on the Sparta development (Shell interest 51%). This will be a Shell-operated production hub, which straddles four blocks of the Garden Banks area and replicates much of the Vito and Whale topsides design. The Sparta development is expected to reach first oil in 2028 and reach peak production of approximately 90,000 boe/d.

FID was also taken on the Perdido Phase 3 development, a planned subsea tieback campaign delivering three wells in the Great White unit to increase production at the Shell-operated Perdido spar (Shell interests 33.3% to 40%). After completion of this campaign in April 2025, these wells collectively are expected to produce up to 22,000 boe/d at peak production.

In 2023, we continued to build our Gulf of Mexico portfolio through inorganic growth, acquiring an additional 20% working interest in the Kaikias field (Shell interest now 100%). Kaikias is a subsea tieback to the Shell-operated Ursa production hub (Shell interests 45.4% to 100%).

In early 2024, the Whale production hub (Shell interest 60%) arrived at its offshore destination in the Alaminos Canyon area. Whale is expected to start production in late 2024 and reach a peak production of approximately 100,000 boe/d.

In February 2024, we began production at Rydberg (Shell interest 80%), a subsea tie-back to the Shell-operated Appomattox production hub (Shell interest 79%). Rydberg is expected to produce up to 14,000 barrels of oil equivalent per day (boe/d) at peak rates.

Generating shareholder value | Upstream continued



Simplified platforms lower costs and emissions in Gulf of Mexico

Our oil and gas business is working to generate more value from our assets with less emissions, while providing the energy the world needs. In the US Gulf of Mexico, we are the leading operator and have one of the lowest greenhouse gas intensities in the world for producing oil, compared with those of other members of the International Association of Oil & Gas Producers.

Our operated deep-water platform Vito (Shell interest 63.1%) started production in 2023. Vito is a third the size of its original design, which will reduce its emissions by around 80% over its operating life. We are using the same design concept for our operated Whale facility (Shell interest 60%), which is expected to start production in 2024.

In December 2023, we took the final investment decision to build the Sparta platform (Shell interest 51%), which will be our 15th deep-water host in the Gulf of Mexico. Its design is based on decades of technical expertise and showcases our simplified approach to designing platforms. The Sparta development will be the first of Shell's replicable projects to feature all-electric topsides equipment, significantly reducing GHG intensity and emissions. Sparta is expected to start production in 2028.

Photo: The Whale platform in Singapore where it was built.

Rest of North America

Shell also has deep-water licences and one shallow-water licence in Mexico.

South America

Argentina

Shell has interests in the onshore Vaca Muerta Basin in the Neuquén Province. We are the operator of the Cruz de Lorena, Sierras Blancas, Coiron Amargo Sur Oeste (Shell interest 90% each), and Bajada de Añelo (Shell interest 50%) areas. We have non-operated interests in the areas of Rincon La Ceniza and La Escalonada (Shell interest 45% each), both operated by Total Austral S.A., and in the Bandurria Sur area (Shell interest 30%), operated by YPF S.A. We are the administrator in a joint property agreement that regulates the operation of the pipeline (Shell interest 60%) which connects Sierras Blancas and the regional distribution network. Shell has a participating interest in an oil pipeline located in the northern area of the basin which connects to the Pacific Evacuation Route (Shell interest 13.3%), operated by YPF S.A.

In the north-western Argentina basin, we have a non-operated interest in the onshore Acambuco area (Shell interest 22.5%), operated by Pan American Energy.

In addition to the producing interests, we are the operator of two frontier exploration blocks offshore Argentina (Shell interest 60% each) and we have a non-operated interest in an adjacent block (Shell interest 30%), operated by Equinor.

Brazil

Shell's operated assets in Brazil consist of the Bijupirá and Salema fields (Shell interest 80% each), which are being decommissioned; the producing BC-10 field (Shell interest 50%) in the Campos Basin; the Gato do Mato and the adjacent Sul de Gato do Mato areas in the Santos Basin (Shell interest 50%), subject to unitisation and with development options under evaluation. We also hold interests in exploration blocks: 11 in the Santos Basin (Shell interests 70% to 100%), six blocks in the Barreirinhas Basin (Shell interests 50% to 100%), five blocks in the Campos Basin (Shell interests 40% to 100%) and one block in the Potiguar Basin (Shell interest 100%).

Our non-operated portfolio consists of eight producing fields in the offshore Santos Basin: the Sapinhoá field (Shell interest 30%, operated by Petrobras and straddling the BM-S-9 and Entorno de Sapinhoá blocks already unitised); the Lapa field (Shell interest 30% in Block BM-S-9A, operated by TotalEnergies); the Berbigão and Sururu fields (Shell interest 25% in Block BM-S-11A, operated by Petrobras and subject to ongoing unitisation agreement discussions); the Atapu field (Shell interest 16.7% and straddling the BM-S-11A and Atapu PSC area already unitised); the Tupi field (Shell interest 23%, already unitised, in Block BM-S-11 and operated by Petrobras); the Iracema field (Shell interest 25% in Block BM-S-11 and operated by Petrobras); and the Mero field in the Libra PSC area (Shell interest 19.3%, already unitised with an adjoining open area and operated by Petrobras).

In addition to the producing assets, we hold interests in five non-operated exploration blocks: three in the Santos Basin (Shell interests 20% to 40%, operated by Petrobras) and two in the Potiguar Basin (Shell interests 40%, both operated by Petrobras).

In December 2023, the Sepetiba FPSO production started in the Mero field. Mero is expected to receive two more FPSOs and start producing from these by the end of 2025.

Rest of South America

Shell also has interests in Suriname and Uruguay.

Trading and Supply

Shell markets and trades crude oil from most of its Upstream operations.

Generating shareholder value

Oil and gas information

Proved developed and undeveloped reserves of Shell subsidiaries and Shell share of joint ventures and associates

	Crude oil and natural gas liquids (million barrels)	Synthetic crude oil (million barrels)	Natural gas (thousand million scf)	Total (million boe)
Shell subsidiaries				
Increase/(decrease) in 2023:				
Revisions and reclassifications	425	35	2,602	909
Improved recovery	3	—	—	3
Extensions and discoveries	97	—	336	155
Purchases and sales of minerals in place	(117)	11	(97)	(123)
Total before taking production into account	408	46	2,841	944
Production [A]	(508)	(20)	(2,613)	(978)
Total	(100)	26	228	(34)
At January 1, 2023	3,612	731	23,048	8,317
At December 31, 2023	3,512	757	23,276	8,283
Shell share of joint ventures and associates				
Increase/(decrease) in 2023:				
Revisions and reclassifications	(7)	—	(84)	(21)
Improved recovery	—	—	—	—
Extensions and discoveries	—	—	30	5
Purchases and sales of minerals in place	85	—	1,516	346
Total before taking production into account	78	—	1,462	330
Production [B]	(23)	—	(368)	(87)
Total	55	—	1,094	243
At January 1, 2023	337	—	5,359	1,261
At December 31, 2023	392	—	6,453	1,504
Total	—	—	—	—
Increase/(decrease) before taking production into account	486	46	4,303	1,274
Production	(531)	(20)	(2,981)	(1,065)
Increase/(decrease)	(45)	26	1,322	209
At January 1, 2023	3,949	731	28,407	9,578
At December 31, 2023	3,904	757	29,729	9,787
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31, 2023				
	—	378	—	378

[A] Includes 41 million boe consumed in operations (natural gas: 233 thousand million scf; synthetic crude oil: 1 million barrels).

[B] Includes 5 million boe consumed in operations (natural gas: 27 thousand million scf).

Generating shareholder value | Oil and gas information continued

Proved reserves

Before taking production into account, our proved reserves increased by 1,274 million boe in 2023. This consisted of an increase of 944 million boe from Shell subsidiaries and an increase of 330 million boe from the Shell share of joint ventures and associates. After taking production into account, our proved reserves increased by 209 million boe in 2023 to 9,787 million boe at December 31, 2023.

Shell subsidiaries

Before taking production into account, Shell subsidiaries' proved reserves increased by 944 million boe in 2023. This consisted of an increase of 408 million barrels of crude oil and natural gas liquids, an increase of 490 million boe (2,841 thousand million scf) of natural gas and an increase of 46 million barrels of synthetic crude oil. The 944 million boe increase comprised a net increase of 909 million boe from revisions and reclassifications, an increase of 155 million boe from extensions and discoveries, an increase of 3 million boe from improved recovery and a net decrease of 123 million boe related to purchases and sales of minerals in place.

After taking into account production of 978 million boe (of which 41 million boe were consumed in operations), Shell subsidiaries' proved reserves decreased by 34 million boe in 2023 to 8,283 million boe. In 2023, Shell subsidiaries' proved developed reserves (PD) increased by 100 million boe to 6,321 million boe and proved undeveloped reserves (PUD) decreased by 134 million boe to 1,962 million boe.

Shell share of joint ventures and associates

Before taking production into account, the Shell share of joint ventures and associates' proved reserves increased by 330 million boe in 2023. This consisted of an increase of 78 million barrels of crude oil and natural gas liquids, and an increase of 252 million boe (1,462 thousand million scf) of natural gas. The 330 million boe increase comprises a net increase of 346 million boe from purchase of minerals in place, an increase of 5 million boe from extensions and discoveries, and a net decrease of 21 million boe from revisions and reclassifications.

After taking into account production of 87 million boe (of which 5 million boe were consumed in operations), the Shell share of joint ventures and associates' proved reserves increased by 243 million boe to 1,504 million boe at December 31, 2023.

The Shell share of joint ventures and associates' PD decreased by 100 million boe to 508 million boe, and PUD increased by 343 million boe to 996 million boe.

See "Supplementary information - oil and gas (unaudited)" on pages 317-335 for more information about proved oil and gas reserves of Shell subsidiaries and the Shell share of the proved oil and gas reserves of joint ventures and associates.

Proved undeveloped reserves

In 2023, Shell subsidiaries and the Shell share of joint ventures and associates' PUD increased by 209 million boe to 2,958 million boe. There were decreases of 494 million boe as a result of maturation to PD, mainly 81 million boe in Mabrouk North-East (Oman), 77 million boe in Vito (USA), 74 million boe in Gorgon (Australia) and 262 million boe spread across other fields. These were offset by an increase of 47 million boe due to de-maturation of PD to PUD, an increase of 146 million boe as a result of revisions, reclassifications and entitlement changes, a net increase of 347 million boe due to purchases and sales of minerals in place, a net increase of 160 million boe due to extensions and discoveries, mainly due to 57 million boe in Sparta (USA), 39 million boe in Groundbirch (Canada), and 64 million boe spread across other fields, and an increase of 3 million boe due to improved recovery.

In addition to the maturation of 494 million boe from PUD to PD, 90 million boe was matured to PD as through PUD as a result of project execution during the year.

PUD held for five years or more (PUD5+) on December 31, 2023, amounted to 212 million boe, an increase of 56 million boe compared with the end of 2022. The increase in PUD5+ during 2023 was driven mainly by changes in Assa North (Nigeria) and Gbaran (Nigeria).

The fields with the largest PUD5+ on December 31, 2023, were Assa North (Nigeria) and Tupi (Brazil). These PUD5+ remain undeveloped because of delays in drilling operations and security incidents (Nigeria) or because of ongoing development involving a large number of deep-water wells (Brazil).

During 2023, we spent \$7.2 billion on development activities related to PUD maturation.

Delivery commitments

We sell crude oil and natural gas from our producing operations under a variety of contractual obligations. Most contracts generally commit us to sell quantities based on production from specified properties, although some natural gas sales contracts specify delivery of fixed and determinable quantities, as discussed below.

In the past three years, we met our contractual delivery commitments, with the notable exceptions of Egypt, Trinidad and Tobago, and Malaysia. The delivery commitments for Egypt and Trinidad and Tobago have been renegotiated. In the period 2024-2026, we are contractually committed to deliver to third parties, joint ventures and associates a total of some 5,380 billion scf of natural gas from our subsidiaries, joint ventures and associates. The sales contracts contain a mixture of fixed and variable pricing formulae that are generally referenced to the prevailing market price for crude oil, natural gas or other petroleum products at the time of delivery.

In the period 2024-2026, we expect to meet our delivery commitments for almost all the areas in which they are carried, with an estimated 70% coming from PD, 5% through the delivery of gas that becomes available to us from paying royalties in cash, and 25% from the development of PUD as well as other new projects and purchases.

The key exception is:

- In Malaysia, a the third-party gas supply line under maintenance was not repaired in 2023. Force majeure has been declared, and no penalties have been incurred, resulting in an expected true shortfall of some 68 billion scf of gas (62% of the promised gas delivery).

Generating shareholder value | Oil and gas information continued

Summary of proved oil and gas reserves of Shell subsidiaries and Shell share of joint ventures and associates (at December 31, 2023)

Based on average prices for 2023

	Crude oil and natural gas liquids (million barrels)	Natural gas (thousand million scf)	Synthetic crude oil (million barrels)	Total (million boe) [A]
Proved developed				
Europe	124	2,325	–	525
Asia	1,098	9,284	–	2,699
Oceania	53	5,098	–	932
Africa	230	875	–	381
North America				
USA	305	268	–	351
Canada	2	706	757	881
South America	841	1,273	–	1,060
Total proved developed	2,653	19,829	757	6,829
Proved undeveloped				
Europe	38	305	–	91
Asia	684	5,987	–	1,717
Oceania	26	1,359	–	260
Africa	29	972	–	196
North America	–	–	–	–
USA	134	217	–	172
Canada	3	777	–	137
South America	337	283	–	385
Total proved undeveloped	1,251	9,900	–	2,958
Total proved developed and undeveloped				
Europe	162	2,630	–	616
Asia	1,782	15,271	–	4,416
Oceania	79	6,457	–	1,192
Africa	259	1,847	–	577
North America				
USA	439	485	–	523
Canada	5	1,483	757	1,018
South America	1,178	1,556	–	1,445
Total	3,904	29,729	757	9,787
Reserves attributable to non-controlling interest in Shell subsidiaries	–	–	378	378

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Exploration

Shell continues to explore for and mature hydrocarbons across our Integrated Gas and Upstream businesses. Exploration may result in discoveries of oil and gas that we can develop, helping maintain energy security and contributing to our strategy.

We use our subsurface, project and technical expertise, and actively manage non-technical risks across a diversified portfolio of opportunities and projects. This involves adopting an integrated approach for all stages, from basin choice to development. We use competitive techniques and benchmark our approach internally and externally.

In 2023, hydrocarbons were found in the UK, the Gulf of Mexico, Brazil, Namibia, Brunei, Egypt, Colombia and Oman.

UK

In 2023, Shell farmed into two BP-operated exploration licences in the West of Shetlands area, acquiring a 33.33% non-operated interest. We were also awarded nine licences as part of the 33rd Offshore Licensing Round, two of which are pending government approval (Shell-operated interests 55.5% to 100%). Additionally we relinquished four operated and two non-operated exploration licences across the UK Continental Shelf (Shell interests 40% to 100%).

Brunei

In 2023, the exploration acreage that formed part of Block CA1 was relinquished.

Malaysia

In 2023, Shell signed two exploration PSCs, one for an offshore Sarawak block (Shell interest 45%, operator) and one for a Sabah ultra-deep-water block (Shell interest 40%, non-operated).

Generating shareholder value | Oil and gas information continued

Egypt

In 2023, Shell signed an agreement to farm out 40% of its participating interest in the Concession Agreement for Gas and Crude Oil Exploration and Exploitation for the North East El Amriya Offshore Area of the Mediterranean Sea. The transaction is awaiting government approval. Shell will remain the operator with a 60% interest.

Gulf of Mexico

In 2023, Shell sold its operated working interests in six blocks (Shell interest 55.88% in four of them, 75% in two). We acquired 20 blocks in Lease Sale 259 (Shell interest 100%, operator). We relinquished leases for 25 blocks, with 12 of these blocks relinquished ahead of expiration (Shell interests 50% to 100%). We also were apparent high bidder for 65 blocks in the Gulf of Mexico in Lease Sale 261.

Brazil

In 2023, the government ratified one Petrobras-operated Santos Basin block (Shell interest 40%), which was secured in 2022 in the 1st Production Sharing Permanent Offer Bid Round. Shell relinquished five operated blocks (Shell interest 40% to 65%) and one non-operated block (Shell interest 40%) ahead of expiration. We also secured 29 Petrobras-operated Pelotas Basin blocks in the 4th Permanent Offer Concession Bid-Round (Shell interest 30%) and these are pending government ratification.

Trinidad and Tobago

In 2023, Shell relinquished one non-operated licence (Shell interest 35%). We also signed three deep-water PSCs for three exploration blocks in the Columbus Basin (Shell interest 50%). We are an operator in one of them, BP is the operator of the other two.

Other

In Mauritania, in 2023, Shell acquired an exploration and production licence for one offshore block (Shell interest 90%, operator). We sold a 40% participating interest in our operated offshore block PSC and our remaining interest is 50%.

In São Tomé and Príncipe, in 2023, we signed an agreement to farm out our interest in three blocks (45% interest in two of them, 25% interest in the third). The remaining Shell-operated interest will be 40% in each block.

In Bolivia, in 2023, we relinquished one operated exploration licence (Shell interest 100%).

In Colombia, in 2023, we relinquished one non-operated licence (Shell interest 60%).

In Suriname, in 2023, we acquired one block in the Demerara Bid Round (Shell interest 60%, operator). We also relinquished our non-operated interest in one PSC for the shallow-water block.

In Uruguay, in 2023, the government ratified two exploration blocks secured in the 2022 Open Uruguay Round (Shell-operated interest 100%).

For further information, see "Supplementary information - oil and gas (unaudited)" on pages 317-335.

Location of oil and gas exploration and production activities

Location of oil and gas exploration and production activities [A] (at December 31, 2023)

	Exploration	Development and/or Production	Shell operator [B]
Europe			
Albania	●	●	●
Cyprus		●	
Germany		●	
Italy		●	
Netherlands	●	●	●
Norway	●	●	●
UK	●	●	●
Asia			
Brunei	●	●	●
China	●	●	●
Kazakhstan		●	
Malaysia	●	●	●
Oman	●	●	●
Qatar		●	●
Oceania			
Australia	●	●	●
Africa			
Egypt	●	●	●
Mauritania	●		●
Namibia	●		●
Nigeria	●	●	●
São Tomé and Príncipe	●		●
South Africa	●		●
Tanzania		●	●
Tunisia		●	●
North America			
Barbados	●		
Canada	●	●	●
Mexico	●		●
USA	●	●	●
South America			
Argentina	●	●	●
Bolivia		●	
Brazil	●	●	●
Colombia	●	●	●
Suriname	●		●
Trinidad and Tobago	●	●	●
Uruguay	●		●

[A] Includes joint ventures and associates. Where a joint venture or an associate has properties outside its base country, those properties are not shown in this table.

[B] In several countries where "Shell operator" is indicated, Shell is the operator of some but not all exploration and/or production ventures.

Generating shareholder value | Oil and gas information continued

Oil and gas production available for sale

Crude oil and natural gas liquids [A]

	2023		2022		2021	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe						
Italy	8,373	—	9,091	—	9,677	—
UK	23,458	—	23,905	—	25,554	—
Other [B]	2,493	524	3,722	621	5,456	1,205
Total Europe	34,324	524	36,718	621	40,687	1,205
Asia						
Brunei	1,271	14,395	3,256	16,282	1,076	17,894
Kazakhstan	38,765	—	29,667	—	35,592	—
Malaysia	12,630	—	16,759	—	17,983	—
Oman	82,849	—	82,006	—	78,745	—
Russia	—	—	10,955	1,963	21,012	7,769
Other [B]	25,240	7,443	24,965	7,498	30,061	7,548
Total Asia	160,755	21,838	167,608	25,743	184,469	33,211
Total Oceania [B]	10,370	—	9,391	—	11,844	—
Africa						
Nigeria	37,137	—	27,554	—	35,911	—
Other [B]	1,084	—	1,855	—	5,540	—
Total Africa	38,221	—	29,409	—	41,451	—
North America						
USA	112,912	—	121,690	—	164,811	—
Canada	597	—	687	—	2,640	—
Total North America	113,509	—	122,377	—	167,451	—
South America						
Argentina	12,152	627	9,023	2,587	4,836	1,566
Brazil	136,825	—	127,862	—	126,566	—
Other [B]	1,425	—	1,583	—	1,620	—
Total South America	150,402	627	138,468	2,587	133,022	1,566
Total	507,581	22,989	503,971	28,951	578,924	35,982

[A] Reflects 100% of production of subsidiaries except in respect of production-sharing contracts (PSCs), where the figures shown represent the entitlement of the subsidiaries concerned under those contracts.

[B] Comprises countries where production was lower than 10,100 thousand barrels or where specific disclosures are prohibited.

Synthetic crude oil

	Thousand barrels		
	2023	2022	2021
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America - Canada	19,102	16,949	19,891

Generating shareholder value | Oil and gas information continued

Natural gas [A]

	2023		2022		Million standard cubic feet	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe						
Netherlands	–	55,351	–	133,210	–	159,107
Norway	150,318	–	174,523	–	178,577	–
UK	70,585	–	69,647	–	49,128	–
Other [B]	38,774	–	45,159	–	47,127	–
Total Europe	259,677	55,351	289,329	133,210	274,832	159,107
Asia						
Brunei	13,531	136,684	15,328	138,007	17,989	147,865
China	48,170	–	56,008	–	55,967	–
Kazakhstan	75,521	–	57,932	–	72,176	–
Malaysia	173,638	–	200,249	–	193,871	–
Oman	55,675	–	–	–	–	–
Russia	–	–	2,085	37,897	4,113	125,973
Other [B]	369,125	118,252	378,313	118,435	447,743	118,397
Total Asia	735,660	254,936	709,915	294,339	791,859	392,235
Oceania						
Australia	700,248	29,773	693,293	22,577	696,562	19,272
Total Oceania	700,248	29,773	693,293	22,577	696,562	19,272
Africa						
Egypt	21,434	–	49,618	–	86,348	–
Nigeria	96,967	–	118,032	–	161,916	–
Other [B]	3,423	–	11,966	–	23,473	–
Total Africa	121,824	–	179,616	–	271,737	–
North America						
USA	104,079	–	112,560	–	198,578	–
Canada	137,660	–	122,753	–	116,423	–
Total North America	241,739	–	235,313	–	315,001	–
South America						
Bolivia	35,432	–	40,360	–	45,214	–
Brazil	71,162	–	73,975	–	72,107	–
Trinidad and Tobago	199,877	–	186,150	–	121,411	–
Other [B]	14,204	857	12,912	2,227	11,006	393
Total South America	320,675	857	313,397	2,227	249,738	393
Total	2,379,823	340,917	2,420,863	452,353	2,599,729	571,007

[A] Reflects 100% of production of subsidiaries except in respect of PSCs, where the figures shown represent the entitlement of the subsidiaries concerned under those contracts.

[B] Comprises countries where production was lower than 41,795 million scf or where specific disclosures are prohibited.

Generating shareholder value | Oil and gas information continued

Average realised price by geographical area

Crude oil and natural gas liquids

	2023		2022		\$ /barrel 2021	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe	77.19	79.10	94.52	91.26	68.30	64.18
Asia	76.57	82.24	88.69	100.81	63.82	70.09
Oceania	58.31	—	78.37	—	63.56	—
Africa	84.33	—	104.84	—	70.89	—
North America - USA	75.07	—	92.89	—	62.75	—
North America - Canada	46.45	—	62.10	—	46.58	—
South America	71.93	67.98	85.84	71.21	64.28	56.91
Total	75.12	81.75	90.06	97.80	64.28	69.34

Synthetic crude oil

	2023	2022	\$ /barrel 2021
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America - Canada	69.26	86.93	60.11

Natural gas

	2023		2022		\$ /thousand scf 2021	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe	17.47	18.89	27.24	39.11 [A]	10.71	9.86
Asia	2.84	7.60	3.74	10.88	2.54	6.91
Oceania	11.05	6.23	13.21	6.75	7.74	4.04
Africa	3.25	—	7.08	—	3.43	—
North America - USA	3.74	—	8.46	—	4.40	—
North America - Canada	2.25	—	4.08	—	2.70	—
South America	5.10	3.69	8.71	3.90	4.04	1.82
Total	7.40	9.78	10.88	17.59 [A]	5.39	7.60

[A] As revised, following a reassessment.

Generating shareholder value | Oil and gas information continued

Average production cost by geographical area

Crude oil, natural gas liquids and natural gas [A]

	2023		2022		2021	
	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates	Shell subsidiaries	Shell share of joint ventures and associates
Europe	20.93	25.33	24.83	12.25	21.48	8.59
Asia	6.35	9.64	6.75	8.06	5.66	7.64
Oceania	9.01	21.23	10.32	24.97	9.26	24.68
Africa	11.12	—	13.66	—	11.47	—
North America - USA	9.62	—	11.03	—	10.88	—
North America - Canada	9.70	—	11.15	—	10.64	—
South America	7.36	9.03	6.91	7.74	5.80	5.51
Total	9.08	12.29	10.20	9.59	9.12	8.23

[A] Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Synthetic crude oil

	2023	2022	2021
	Shell subsidiaries	Shell subsidiaries	Shell subsidiaries
North America - Canada	19.47	23.05	18.87

Marketing

Marketing comprises Mobility, Lubricants, and Sectors and Decarbonisation activities. Mobility operates our retail network, including electric vehicle charging services. Lubricants produces, markets and sells lubricants for road transport, and for machinery used in manufacturing, mining, power generation, agriculture and construction. Through Sectors and Decarbonisation we provide services, fuels and other products that help customers reduce emissions in the aviation, marine and agricultural sectors, among others. We are high-grading our electric vehicle charging network to focus on key markets, such as China, Europe and the USA.

Segment earnings (\$ billion)

3.0 2022: 2.1

Adjusted Earnings (\$ billion)

3.2 2022: 2.8

Cash flow from operating activities (\$ billion)

6.1 2022: 2.4

Marketing sales volumes (thousand b/d)

2,554 2022: 2,503

Generating shareholder value | Marketing continued

Key metrics

	\$ million, except where indicated		
	2023	2022	2021
Segment earnings* [A] [B]	2,950	2,133	3,535
Identified items	(229)	(622)	68
Adjusted Earnings* [A]	3,180	2,754	3,468
Adjusted EBITDA* [A]	6,037	5,324	6,021
Cash flow from operating activities	6,088	2,376	5,019
Cash capital expenditure*	5,612	4,831	2,273
Marketing sales volumes (thousand b/d)	2,554	2,503	2,433

[A] Segment earnings, Adjusted Earnings, and Adjusted EBITDA are presented on a current cost of supplies basis.

[B] See Note 7 to the "Consolidated Financial Statements".

Business conditions

For the business conditions relevant to Marketing, see "Market overview" on pages 38-40.

Marketing sales

In 2023, Marketing sales volumes were 2% higher than in 2022, mainly as a result of improved demand from aviation.

Earnings 2023-2022

Segment earnings in 2023 were 38% higher than in 2022, reflecting higher Marketing margins (increase of \$1,465 million), including higher unit margins in Mobility; higher margins in Lubricants because of lower feedstock costs; and higher volumes in Sectors and Decarbonisation. These increases were partly offset by higher operating expenses (increase of \$703 million) and higher depreciation charges (increase of \$264 million), mainly due to asset acquisitions.

Segment earnings in 2023 included impairment charges of \$457 million and charges of \$111 million related to redundancy and restructuring partly offset by gains of \$298 million, related to indirect tax credits. These charges and gains are part of identified items and compare with 2022, which included net impairment charges and reversals of \$321 million; net losses of \$135 million related to the sale of assets; and provisions for onerous contracts of \$62 million.

Adjusted Earnings increased by \$426 million compared with 2022, as a result of the following:

- Mobility Adjusted Earnings were \$53 million lower, mainly as a result of higher operating expenses and higher depreciation. This was partly offset by better margins.
- Lubricants Adjusted Earnings were \$339 million higher, mainly because of higher margins due to lower feedstock costs.
- Sectors and Decarbonisation Adjusted Earnings were \$141 million higher, mainly because of increased volumes and higher earnings in joint ventures.

Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2022, compared with the financial year ended December 31, 2021, can be found in the Annual Report and Accounts (page 61) and Form 20-F (page 65) for the year ended December 31, 2022, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

* Non-GAAP measure (see page 365).

Cash flow from operating activities

Cash flow from operating activities was primarily driven by Adjusted EBITDA; working capital inflows of \$873 million; and the timing impact of payments, relating to emission certificates and biofuel programmes of \$296 million. These inflows were partly offset by tax payments of \$744 million and non-cash cost-of-sales (CCS) adjustments of \$221 million.

Cash capital expenditure

Cash capital expenditure in 2023 reflected \$3.3 billion in low-carbon energy solutions, compared with \$1.4 billion in 2022.

Cash capital expenditure in low-carbon energy solutions was 136% higher than in 2022, mainly due to the acquisition of Nature Energy and the expansion of our Mobility electric vehicle charging business.

See "Our journey to net zero" on page 95.

Our cash capital expenditure is expected to be around \$3 billion in 2024.

Portfolio and business developments

Significant portfolio and business development:

- In February 2023, we completed the acquisition of 100% of the shares of Nature Energy Biogas A/S for nearly \$2 billion. This supports our ambitions to build an integrated renewable natural gas (RNG) value chain at global scale.



Our largest electric vehicle charging station opens in Shenzhen

We opened our largest electric vehicle (EV) charging station globally in Shenzhen, China, in September 2023. The Shell Recharge Shenzhen Airport EV Station is designed to serve thousands of drivers every day with 258 fast-charging points in one of the country's major economic and technology hubs.

China is one of the most important growth markets for Shell Mobility and will play a key role in Shell's electric vehicle charging strategy which is to continue building the infrastructure needed to meet our customers' future demand for charging. Globally, we are focusing on public charging and we expect to increase our charge points to around 200,000 by 2030.

The Shenzhen charging station – operated by Shell and BYD Electric Vehicle Investment Company Limited, a joint venture between Shell and Chinese electric vehicle manufacturer BYD – served more than 3,300 electric vehicles a day during its trial operation.

The rooftop solar panels installed at the Shenzhen station have the capacity to generate about 300,000 kilowatt-hours of renewable electricity per year, and this would be available to charge customers' vehicles. In addition to charging, the station also offers convenience retailing, food and beverages, and a drivers' lounge.

Through joint ventures and wholly owned enterprises, Shell in China operates a retailing network of around 2,000 fuel stations and an electric vehicle charging network of 25,000 public charge points. The utilisation rate of our electric vehicle chargers in all of China was around 25% in 2023, which is two-and-a-half times the industry average.

Shell offers products and services to meet the different energy and mobility needs of drivers. In September 2023, we opened the Panlong Integrated Energy Station in Wuhan. This station offers petrol and diesel, charging and hydrogen refuelling.

Photo: Electric vehicle charging station at Shenzhen airport, China.

Business and property Mobility

Shell is one of the world's largest mobility retailers by number of sites, with more than 47,000 Shell-branded mobility locations in more than 80 markets at the end of 2023. We operate different models across these markets, from full ownership of sites to brand licensing agreements. As we aim to high-grade our network, we plan to divest around 500 Shell-owned sites (including joint ventures) each year until 2025.

Every day, around 33 million retail customers visit our mobility locations for a range of quality fuels, electric vehicle charging, and convenience and non-fuel products and services. Through Shell Fleet Solutions, our business customers can obtain fuel cards, road services and carbon-offset offers, among other products and services.

We are expanding our convenience and non-fuel retail offer to cater to our customers' needs. At many of our sites, we offer convenience items, including beverages and fresh food, and services such as lubricant changes and car washes. At the end of 2023, Shell operated 13,000 convenience stores worldwide. We have upgraded close to 2,000 stores with our Shell Café premium fresh coffee and food offer since launching in 2021.

Shell Mobility aims to take a leadership position in the energy transition by marketing more and cleaner fuels for our customers, focusing on growing our presence in key markets like China, Europe and the USA. To support this, we acquired Volta Inc. in 2023 and now own and operate one of the largest public electric vehicle charging networks in the USA. At the end of 2023, Shell had around 54,000 public charge points globally at Shell forecourts, on-street locations, mobility hubs and other sites, such as supermarkets.

Shell opened its largest electric vehicle charging station in the world in Shenzhen, China, with 258 public fast-charging points.

As we work to provide more low-carbon alternatives to our customers, we continue to develop traditional fuels for drivers of internal combustion engine vehicles. Aided by our partnership with Scuderia Ferrari, we have concentrated on developing fuels with special formulations designed to clean engines and improve performance. We sold fuels under the Shell V-Power brand in 68 markets in 2023.

Shell Commercial Road Transport (CRT) provides fuels, lubricants and digital services to customers with heavy-duty vehicles in their fleets. In 2023, Shell opened its first public electric vehicle charging facility for trucks in Hamburg, Germany. This consists of four fast-charging stations, and multiple eDepot solutions, which provide charging facilities at customer sites.

We also offer drivers using heavy-duty LNG-fuelled trucks access to operated and partner networks in Europe. In 2023 we opened our first LNG refuelling sites in Austria and Hungary.

Generating shareholder value | Marketing continued

In Germany, Shell is building a bioLNG liquefaction plant at Shell's Energy and Chemicals Park Rheinland. This liquefaction plant will supply the German market with bioLNG from 2024 and will help our CRT customers decarbonise their operations. Since 2022, Shell's customers in the Netherlands have been able to receive a bioLNG blend.

Lubricants

Shell Lubricants has been the number one global finished lubricants supplier in terms of market share for 17 consecutive years, according to Kline & Company data for 2022. Shell lubricants are available across more than 160 markets for passenger cars, motorcycles, trucks, coaches, and machinery used in manufacturing, mining, power generation, agriculture and construction.

We also make premium lubricants for conventional vehicles and Shell E-fluids for electric vehicles using gas-to-liquids (GTL) base oils that are made from natural gas at our Pearl GTL plant in Qatar.

See "Integrated Gas" on page 46.

Our global lubricants supply chain has a network of 32 lubricants blending plants, four base oil plants (one of which we operate), 10 grease plants and six GTL base oil storage hubs.

During 2023, we completed the acquisition from M&I Materials Development Limited of the MIDEL premium product range of ester-based dielectric transformer fluids, which provide a differentiated position in Transformer Oils. These oils are used in power distribution, offshore wind parks, utility companies and traction power systems. We also acquired the MIVOLT brand of dielectric fluids for the direct immersion cooling of battery systems and power electronics. MIVOLT's ester-based immersion cooling fluids support the development of thermally efficient electric vehicle batteries, battery storage systems and data centres.

Sectors and Decarbonisation

Sectors and Decarbonisation sells fuels, speciality products and services, including low-carbon energy solutions, to a broad range of commercial customers, including in the aviation, marine and agricultural sectors.

Shell Aviation provides aviation fuel, lubricants and low-carbon solutions globally. In May 2023, Shell announced a multi-year offtake agreement for sustainable aviation fuel with Montana Renewables, one of the largest sustainable aviation fuel producers in North America. In 2022, Shell launched Avelia, one of the world's first blockchain-powered digital sustainable aviation fuel (SAF) book-and-claim solutions for business travel. Since then, customers – including Google, Bank of America and Yokogawa – have joined the platform. Avelia is designed to help trigger demand for SAF, encouraging investment in production, which could lower the price point for these fuels.

Shell Marine offers customers marine fuels and lubricants, as well as low-carbon solutions, and has a supply network that covers key bunkering locations around the world. Through our marine activities, we primarily provide the shipping and maritime sectors with lubricants, and we provide fuels, chemical products, and related technical and digital services. We supply more than 300 grades of lubricants and seven types of fuel to vessels worldwide, ranging from ocean-going tankers to fishing boats. Shell Marine lubricant products are used in around 10,000 vessels and are available in more than 700 ports across more than 60 countries.

Shell Bitumen supplies customers across 60 markets and provides enough bitumen to resurface 500 kilometres of road lanes every day. It also invests in research and development to create innovative products, such as bitumen that can help reduce the impact of asphalt production and paving on local air quality.

Shell Sulphur Solutions manages the value chain of sulphur from refining to marketing. It provides sulphur for use in applications, such as fertiliser, mining and chemicals. It also licenses Shell Thiogro technologies to create sulphur-enhanced fertilisers.

Shell and the non-operated joint venture Raízen (Shell interest 44%) are, together, one of the world's largest blenders and distributors of biofuels. In 2023, around 9.7 billion litres of biofuels (2022: 9.5 billion litres) went into Shell's sale of fuels worldwide, which includes the Shell share of sales made by Raízen. In addition, in 2023, Raízen produced, on a 100% basis, around 3.12 billion litres of ethanol (2022: 3 billion litres) and around 5.8 million tonnes of sugar from sugar cane (2022: 4.8 million tonnes). The cellulosic ethanol plant at Raízen's Costa Pinto mill in Brazil produced 30 million litres of second-generation ethanol in 2023 (2022: 26 million litres). The majority of the ethanol and cellulosic ethanol produced by Raízen is sold unblended to international customers in markets such as the USA, Europe and Japan.

RNG, also known as biogas or biomethane, is gas derived from processing organic waste in a controlled environment until it is fully interchangeable with conventional natural gas.

In February 2023, Shell completed the acquisition of Nature Energy, one of the largest producers of RNG in Europe. This acquisition supports our ambitions to build an integrated RNG value chain at global scale as we seek to profitably grow our low-carbon offerings across multiple sectors. Shell aims to generate additional value from our trading and supply chain. Together with its partners, Nature Energy owns and operates 13 biogas plants in Denmark and one in the Netherlands.

Shell is constructing two facilities which will convert dairy manure to RNG and which will be located at the Bettencourt Dairies in Wendell, Idaho, USA. Shell Downstream Bovarius is expected to produce around 400,000 MMBtu a year of negative-carbon-intensity RNG. The second facility, Shell Downstream Friesian, is expected to produce around 350,000 MMBtu a year of negative-carbon-intensity RNG using cow manure from the dairy once operational. Both facilities are expected to be operational in 2024.

Generating shareholder value | Marketing continued

Marketing data tables

Branded mobility locations [A]

	2023	2022	2021
Europe	8,346	8,260	8,178
Asia [B]	10,824	10,470	10,753
Oceania [B]	1,087	1,083	1,060
Africa	2,917	2,815	2,724
Americas [C]	23,830	23,597	23,305
Total [D]	47,004	46,225	46,020

[A] Includes different models, from full-ownership retail sites, and sites operated by joint ventures, through to trademark licensing agreements, and excludes sites closed for more than six months.

[B] Asia includes Turkey; Oceania includes French Polynesia, Guam, Palau and New Caledonia.

[C] Includes around 8,110 sites operated by the Raízen joint venture.

[D] Includes 10,112 sites operated through trademark licensing agreements.

Marketing sales volumes [A][B][C]

	Thousand b/d		
	2023	2022	2021
Europe			
Mobility	377	359 [D]	360
Lubricants	16	17	16
Sectors and Decarbonisation	186	175 [D]	121
Total	579	551	497
Asia			
Mobility	524	531 [D]	512
Lubricants	39	38	42
Sectors and Decarbonisation	138	113 [D]	107
Total	701	682	661
Africa			
Mobility	47	47 [D]	45
Lubricants	3	3	3
Sectors and Decarbonisation	9	8 [D]	7
Total	59	58	55
Americas			
Mobility	787	797 [D]	828
Lubricants	24	25	24
Sectors and Decarbonisation	404	390 [D]	368
Total	1,215	1,212	1,220
Total product sales			
Mobility	1,735	1,734 [D]	1,745
Lubricants	82	83	85
Sectors and Decarbonisation	737	686 [D]	603
Total	2,554	2,503	2,433
Gasolines	1,183	1,160	1,165
Kerosenes	365	321	232
Gas/Diesel oils	716	731	746
Fuel oil	13	11	7
Other products [E]	277	280	283
Total	2,554	2,503	2,433

[A] Excludes deliveries to other companies under reciprocal sale and purchase arrangements, that are in the nature of exchange contracts.

[B] Includes the Shell share of Raízen's sales volumes and other joint ventures' sales volumes.

[C] Excludes sales volumes from markets where Shell operates under trademark licensing agreements.

[D] Previously reported within the Sectors and Decarbonisation class of business, with effect from July 1, 2023, the Commercial Road Transport business (CRT) is part of Mobility and Customer Operations is part of Lubricants. Comparative information has been revised.

[E] Includes LPG sales volumes of 14 thousand b/d (2022: 14 thousand b/d; 2021: 13 thousand b/d).

Chemicals and Products

Chemicals and Products includes refineries which turn crude oil and other feedstocks into a range of products. It also includes chemicals manufacturing plants with their own marketing network. We move products around the world for domestic, industrial and transport use. The business also includes pipelines, trading of oil, oil products and petrochemicals, and the extraction of bitumen from mined oil sands which is converted into synthetic oil. We are expanding our product portfolio to include sustainable chemicals made from bio-based and circular feedstocks. We are also repurposing our refineries into energy and chemicals parks to help us meet customers' low-carbon and sustainability needs.

Segment earnings (\$ billion)

1.5 2022: 4.5

Adjusted Earnings (\$ billion)

3.7 2022: 4.7

Cash flow from operating activities (\$ billion)

7.0 2022: 12.9

Refinery processing intake (thousand b/d)

1,349 2022: 1,402

Refining & Trading sales volumes (thousand b/d)

1,570 2022: 1,700

Chemicals sales volumes (thousand tonnes)

11,245 2022: 12,281

Generating shareholder value | Chemicals and Products continued

Key metrics

	\$ million, except where indicated		
	2023	2022	2021
Segment earnings* [A] [B]	1,530	4,515	404
Identified items	(2,160)	(204)	(1,712)
Adjusted Earnings* [A]	3,690	4,719	2,115
Adjusted EBITDA* [A]	7,710	8,561	5,635
Cash flow from operating activities	6,987	12,906	3,709
Cash capital expenditure*	3,192	3,838	5,175
Chemicals manufacturing plant utilisation (%)	68%	79%	85%
Refinery utilisation (%)	85%	86%	80%
Refinery processing intake (thousand b/d)	1,349	1,402	1,639
Refining & Trading sales volumes (thousand b/d)	1,570	1,700	2,026
Chemicals sales volumes (thousands tonnes)	11,245	12,281	14,216

[A] Segment earnings, Adjusted Earnings, and Adjusted EBITDA are presented on a current cost of supplies basis.

[B] See Note 7 to the "Consolidated Financial Statements".

Business conditions

For the business conditions relevant to Chemicals and Products, see "Market overview" on pages 38-40.

Chemicals manufacturing plant utilisation

Utilisation is defined as the actual usage of the plants as a percentage of the rated capacity. Chemicals manufacturing plant utilisation was 11 percentage points lower than in 2022, mainly due to planned and unplanned maintenance.

Refinery utilisation

Utilisation is defined as the actual usage of the plants as a percentage of the rated capacity. Refinery utilisation was in line with 2022.

Chemicals and Products sales

Chemicals sales volumes were 8% lower than in 2022, mainly because of lower demand driven by oversupply and a weak economic outlook.

Refining & Trading sales volumes were 8% lower than in 2022 due to lower Trading sales volumes in the USA and Asia.

Earnings 2023-2022

Segment earnings in 2023 were 66% lower than in 2022, reflecting lower Products margins (decrease of \$1,528 million), mainly driven by lower refining margins and partly offset by higher margins from trading and optimisation. The segment earnings also reflected higher depreciation charges (increase of \$546 million) due to the start-up of operations at Shell Polymers Monaca in the USA. These losses were partly offset by higher Chemicals margins (increase of \$612 million).

Segment earnings in 2023 included the following:

- net impairment charges and reversals of \$2,204 million, mainly related to the Chemicals assets in Singapore;
- charges of \$84 million related to redundancy and restructuring; partly offset by favourable movements of \$213 million related to the fair value accounting of commodity derivatives.

* Non-GAAP measure (see page 365).

These charges and gains are part of identified items and compare with 2022, which included:

- net impairment charges and reversals of \$226 million;
- legal provisions of \$149 million;
- unfavourable movements of \$147 million related to the fair value accounting of commodity derivatives;
- tax charges relating to the EU solidarity contribution of \$74 million; partly offset by gains of \$223 million, related to the sale of assets; and
- gains of \$104 million, related to the remeasurement of redundancy and restructuring costs.

In 2023, Adjusted Earnings from Chemicals accounted for (44)%, Refining for 66% and Trading and Supply for 78%. The decrease in Adjusted Earnings of \$1,029 million was driven by the following:

- Products Adjusted Earnings were \$778 million lower than in 2022, mainly driven by lower refining and oil sands margins and partly offset by higher margins from Trading & Optimisation.
- Chemicals negative Adjusted Earnings were \$251 million more than in 2022, mainly because of higher depreciation and operating expenses, partly offset by higher margins and Income from associates.

Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2022, compared with the financial year ended December 31, 2021, can be found in the Annual Report and Accounts (page 66) and Form 20-F (page 70) for the year ended December 31, 2022, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

Cash flow from operating activities

Cash flow from operating activities was primarily driven by Adjusted EBITDA, working capital inflows of \$609 million, cash inflows relating to commodity derivatives of \$529 million, and dividends (net of profits) from joint ventures and associates of \$300 million. These inflows were partly offset by the timing impact of payments relating to emission certificates and biofuel programmes of \$1,224 million, non-cash cost-of-sales (CCS) adjustments of \$627 million, and tax payments of \$484 million.

Generating shareholder value | Chemicals and Products continued

Cash capital expenditure

Cash capital expenditure decreased by \$0.6 billion in 2023 mainly because of the completion of construction of our cracker facilities in Pennsylvania, USA, in 2022. Our cash capital expenditure is expected to be in the range of \$3-4 billion in 2024.

Portfolio and business developments

Significant portfolio and business developments:

- In November 2022, we commenced operations of our Pennsylvania Chemical project, Shell Polymers Monaca (SPM). The facility was not fully functional during 2023 due to operational and start-up challenges.
- In June 2023, Shell announced its intention to conduct a strategic review of energy and chemicals assets on Bukom and Jurong Island in Singapore.
- In January 2024, we announced the final investment decision to convert the hydrocracker of the Wesseling site at the Energy and Chemicals Park Rheinland in Germany into a production unit for Group III base oils.

Business and property Chemicals

Our plants produce a range of base chemicals, including ethylene, propylene and aromatics, and intermediate chemicals, such as styrene monomer, propylene oxide, solvents, detergent alcohols, ethylene oxide and ethylene glycol. We have the capacity to produce around 8.1 million tonnes of ethylene a year (including the Shell share of capacity entitlement (offtake rights) of joint ventures and associates, which may be different from nominal equity interest). Our Pennsylvania Chemical project, SPM, which commenced operations in November 2022, was not fully functional during 2023 due to operational and start-up challenges. The facility ramped up to full operation during the first quarter of 2024. We are expanding our product portfolio to include sustainable chemicals made from bio-based and circular feedstocks, and more intermediates and performance chemicals, such as polyethylene and polycarbonate. We operate chemical plants worldwide and have a balance of locations, feedstocks and products.

In addition to our stand-alone, chemicals-only production sites, we are repurposing our refineries into energy and chemicals parks. This is under way at Norco in the USA, Scotford in Canada, Rotterdam in the Netherlands and Rheinland in Germany. We continue to explore options for the former Convent Refinery in Louisiana, USA, which has been shut down. The energy and chemicals parks are expected to focus more on meeting customers' low-carbon and sustainability needs.

In 2023, we supplied more than 11 million tonnes of petrochemicals to more than 1,000 industrial customers. Products made from chemicals are used in everyday life, including in medical equipment, construction, transport, electronics, agriculture and sports.

Products – Refining & Trading

Refining

We have interests in eight refineries worldwide, with a capacity to process a total of 1.6 million barrels of crude oil a day. The distribution of our refining capacity is 60% in Europe, 26% in the Americas and 14% in Asia.

We continue to evaluate ways to high-grade our refining portfolio to meet our strategic aims and to capitalise on the strong integration between our customers, trading operations and chemical plants. We are repurposing our refining sites into energy and chemicals parks. This will mean developing new facilities or converting existing units to support low-carbon products, while dismantling existing units that do not deliver sustainable long-term value. We initiated a strategic review of our Bukom and Jurong Island assets in Singapore.

We announced the final investment decision to convert the hydrocracker of the Wesseling site at the Energy and Chemicals Park Rheinland in Germany into a production unit for Group III base oils. These mineral base oils have a very high viscosity index and are produced with hydrocracking technology. The market for high-quality engine and transmission oils, as well as e-fluids and cooling fluids, some of which are made from these oils, is expected to grow. Crude oil processing will end at the Wesseling site by 2025 but continue at the Godorf site.

Trading and Supply

Through our main trading offices in London, Houston, Singapore and Rotterdam, we trade crude oil, low-carbon fuels, refined products, chemical feedstocks and environmental products. Trading and Supply trades in physical and financial contracts, lease storage and transportation capacities, and manages global shipping and wholesale commercial fuel activities.

Operating in around 25 countries, with about 180 Shell and joint-venture (including pipeline) terminals, we believe our supply and distribution infrastructure is well positioned to make deliveries around the world.

Shipping and Maritime enables the safe delivery of the Shell Trading and Supply contracts. This includes supplying feedstocks for our refineries and chemical plants, and finished products such as gasoline, diesel and aviation fuel to our Marketing segment and customers.

Shell Wholesale Commercial Fuels provides fuels for transport, industry and heating. These range from reliable main-grade fuels to premium products.

Pipelines

We own and operate eight tank farms across the USA through Shell Pipeline Company LP (Shell interest 100%). It transports around 1.5 billion barrels of crude oil, refined products and chemicals a year through around 6,000 kilometres of pipelines in the Gulf of Mexico and nine US states. Our non-operated ownership interests provide another 13,000 kilometres of pipeline.

We carry more than 40 types of crude oil and more than 20 grades of fuel and chemicals, including gasoline, diesel, aviation fuel, chemicals and ethylene.

We own, operate, develop and acquire pipelines and other midstream and logistics assets. Our assets include interests in entities that own crude oil and refined products pipelines and terminals that serve as key infrastructure to:

- transport onshore and offshore crude oil production to US Gulf Coast and Midwest refining markets; and
- deliver refined products from those markets to major demand centres.

Our assets also include interests in entities that own natural gas and refinery gas pipelines that transport offshore natural gas to market hubs and deliver refinery gas from refineries and plants to chemical sites along the US Gulf Coast.

Generating shareholder value | Chemicals and Products continued

Oil Sands

Synthetic crude oil is produced by mining bitumen-saturated sands, extracting the bitumen and transporting it to a processing facility where hydrogen is added to make a wide range of feedstocks for refineries. The Athabasca Oil Sands Project (AOSP) in Alberta, Canada, includes the Albion Sands mining and extraction operations, the Scotford upgrader and the Quest CCS project.

We have a 50% interest in 1745844 Alberta Ltd. (formerly known as Marathon Oil Canada Corporation), which holds a 20% interest in the Athabasca Oil Sands Project.

Chemicals and Products data tables

The tables below reflect Shell subsidiaries and instances where Shell owns the crude oil or feedstocks processed by a refinery. Other joint ventures and associates are only included where explicitly stated.

Refining & Trading sales volumes [A][B]

	Thousand b/d		
	2023	2022	2021
Europe	809	830	426
Asia	324	377	870
Africa	27	39	47
Americas	410	454	683
Total	1,570	1,700	2,026
Gasolines	293	410	551
Kerosenes	124	117	123
Gas/Diesel oils	642	616	735
Fuel oil	232	270	337
Other products [C]	279	287	280
Total	1,570	1,700	2,026

[A] Excludes deliveries to other companies under reciprocal sale and purchase arrangements, that are in the nature of exchanges. Sales of condensate are included.

[B] Certain contracts are held for trading purposes and reported net rather than gross. The effect in 2023 was a reduction in refining and trading sales of around 1,202 thousand b/d (2022: 1,197 thousand b/d; 2021: 1,127 thousand b/d).

[C] Includes LPG sales volumes of 70 thousand b/d (2022: 67 thousand b/d; 2021: 81 thousand b/d).

Cost of crude oil processed or consumed [A]

	\$/barrel		
	2023	2022	2021
Total	71.13	84.39	60.51

[A] Includes Upstream and Integrated Gas margins on crude oil supplied by Shell subsidiaries, joint ventures and associates.

Crude distillation capacity [A]

	Thousand b/stream day [B]		
	2023	2022	2021
Europe	975	990	1,023
Asia	237	237	307
Africa	—	23	90
Americas	435	449	729
Total	1,646	1,698	2,149

[A] Average operating capacity for the year, excluding mothballed capacity.

[B] Stream day capacity is the maximum capacity with no allowance for downtime.

Crude oil processed [A]

	Thousand b/d		
	2023	2022	2021
Europe	732	715	761
Asia	168	184	223
Africa	—	16	57
Americas	322	353	455
Total	1,222	1,268	1,496

[A] Includes natural gas liquids, share of joint ventures and associates and processing for others.

Refinery processing intake [A]

	Thousand b/d		
	2023	2022	2021
Crude oil	1,222	1,267	1,496
Feedstocks	127	135	143
Total	1,349	1,402	1,639
Europe	764	763	806
Asia	171	184	225
Africa	—	16	57
Americas	414	439	551
Total	1,349	1,402	1,639

[A] Includes crude oil, natural gas liquids and feedstocks processed in crude distillation units and in secondary conversion units.

Refinery processing outturn [A]

	Thousand b/d		
	2023	2022	2021
Gasolines	489	477	624
Kerosenes	168	166	141
Gas/Diesel oils	516	512	611
Fuel oil	88	90	108
Other	149	193	258
Total	1,410	1,438	1,742

[A] Excludes own use and products acquired for blending purposes.

Generating shareholder value | Chemicals and Products continued

Manufacturing plants at December 31, 2023

Refineries

		Thousand barrels/stream day, 100% capacity [B]					
	Location	Asset class	Shell interest (%) [A]	Crude distillation capacity	Thermal cracking/visbreaking/coking	Catalytic cracking	Hydro-cracking
Europe							
Germany	Miro [C]		32	313	40	96	—
	Rheinland	■ ●	100	339	32	—	87
	Schwedt [C] [E]		38	234	46	57	—
Netherlands	Pernis	■ ●	100	447	—	53	104
Asia							
Singapore	Pulau Bukom	■ ●	100	237	—	—	61
Africa							
South Africa	Durban [C] [D]		36	180	25	37	—
Americas							
Argentina	Buenos Aires [F]	● □	44	112	14	22	—
Canada							
Alberta	Scotford	■	100	100	—	—	83
Ontario	Sarnia	□	100	85	5	21	10
USA							
Louisiana	Norco	■	100	250	29	119	44

[A] Shell interest is rounded to the nearest whole percentage point; Shell share of production capacity may differ.

[B] Stream day capacity is the maximum capacity with no allowance for downtime.

[C] Not operated by Shell.

[D] Refinery operations were paused from Q2 2022.

[E] Refinery has been classified as Held for Sale.

[F] Owned through Raizen joint venture.

■ Integrated refinery and chemical complex

● Refinery complex with cogeneration capacity

□ Refinery complex with chemical unit(s)

Chemicals data tables

The tables below reflect Shell subsidiaries and instances where Shell owns the crude oil or feedstocks processed by a refinery. Other joint ventures and associates are only included where explicitly stated.

Ethylene capacity [A]

		Thousand tonnes/year		
		2023	2022	2021
Europe		1,710	1,710	1,726
Asia		2,542	2,542	2,542
Americas [B]		3,821	3,821	2,321
Total		8,073	8,073	6,589

[A] Includes the Shell share of capacity entitlement (offtake rights) of joint ventures and associates, which may be different from nominal equity interest. Nominal capacity is quoted at December 31, 2023.

[B] Includes data pertaining to Shell Polymers Monaca which commenced operations in November 2022. The facility was not fully functional during 2023 due to operational and start-up challenges. The facility ramped up to full operation in the first quarter of 2024.



Wind and hydrogen for decarbonisation in Rotterdam

We are aiming for more value with less emissions by working to integrate our assets and projects. Take our investment in Holland Hydrogen 1 (HH1), for example. HH1 will be one of Europe's largest renewable hydrogen facilities when it is operational in the middle of the decade.

Construction of the 200 MW electrolyser facility HH1 began at the end of 2022. HH1 is designed to produce up to 80,000 kilograms of renewable hydrogen per day and will be powered by the Hollandse Kust Noord wind farm, operated by the CrossWind joint venture (Shell interest 79.9%) with Eneco. HH1 will supply hydrogen to the Shell Energy and Chemicals Park Rotterdam, which will use it to partially decarbonise its production of petrol, diesel and jet fuel.

In June 2023, Hollandse Kust Noord, which lies 18.5 kilometres off the west coast of the Netherlands, produced its first electricity. Hollandse Kust Noord has been operational since December 2023 with an installed capacity of 759 MW, generating at least 3.3 TWh per year. CrossWind is exploring the use of innovative technologies, including artificial intelligence (AI), to help ensure a continuous supply of electricity, even when there is no wind.

HH1 is energy transition being put into action where we are leveraging our expertise across the value chain to produce renewable hydrogen which will be used to decarbonise our own energy products and, when the hydrogen market develops, potentially supply other customers.

Photo: Final installation of the Hollandse Kust Noord wind park, located 18.5 kilometres off the coast of Egmond aan Zee. The wind farm was built by CrossWind, a joint venture between Shell and Eneco.

Chemicals sales volumes [A]

	Thousand tonnes/year		
	2023	2022	2021
Europe			
Base chemicals	1,741	2,809	3,883
Intermediates and other chemicals products	1,848	1,955	2,076
Total	3,589	4,764	5,959
Asia			
Base chemicals	1,190	825	1,354
Intermediates and other chemicals products	1,917	2,147	2,656
Total	3,107	2,972	4,010
Americas			
Base chemicals	1,508	2,125	1,984
Intermediates and other chemicals products	3,041	2,420	2,263
Total	4,549	4,545	4,247
Total product sales			
Base chemicals	4,439	5,759	7,221
Intermediates and other chemicals products	6,806	6,522	6,995
Total	11,245	12,281	14,216

[A] Excludes feedstock trading and by-products.

Generating shareholder value | Chemicals and Products continued

Major chemical plants [A]

		Thousand tonnes/year, Shell share capacity [B]					
	Location	Ethylene	Polyethylene	Styrene monomer	Ethylene glycol	Higher olefins [C]	Additional products
Europe							
Germany	Rheinland	324	—	—	—	—	A
Netherlands	Moerdijk	971	—	815	153	—	A, I
UK	Mossmorran [D]	415	—	—	—	—	O
Asia							
China	Nanhai [D]	1,100	605	645	415	—	A, I
Singapore	Jurong Island [E]	281	40	1,069	924	—	A, I, P, O
	Pulau Bukom	1,161	—	—	—	—	A
Americas							
Canada	Scotford	—	—	475	462	—	A, I
USA	Monaca [F]	1,500	1,600	—	—	—	
	Deer Park	889	—	—	—	—	A, I
	Geismar	—	—	—	400	1,390	I
	Norco	1,432	—	—	—	—	A
Total		8,073	2,245	3,004	2,354	1,390	

[A] Major chemical plants are large integrated chemical facilities, typically producing a range of chemical products from an array of feedstocks.

[B] Shell share of capacity of subsidiaries, joint arrangements and associates (Shell- and non-Shell-operated), excluding capacity of the Infineum additives joint ventures.

[C] Higher olefins are linear alpha and internal olefins (products range from C4 to C2024).

[D] Not operated by Shell.

[E] The polypropylene and olefins production mentioned refers to Shell share of capacity of our non-operated joint ventures Petchem Corporation of Singapore (PCS) and The Polyolefin Company (TPC) which are on Jurong Island.

[F] Shell Polymers Monaca commenced its operations in November 2022. The facility was not fully functional during 2023 due to operational and start-up challenges. The facility ramped up to full operation in the first quarter of 2024.

A Aromatics, lower olefins

I Intermediates

P Polypropylene

O Other

Other chemical locations [A]

	Location	Products
Europe		
Germany	Karlsruhe	A
	Schwedt	A
Netherlands	Rotterdam	A, I, O
Americas		
Argentina	Buenos Aires	I
Canada	Sarnia	A, I

[A] Other chemical locations reflect locations with smaller chemical units, typically serving more local markets.

A Aromatics, lower olefins

I Intermediates

O Other

Renewables and Energy Solutions

Renewables and Energy Solutions (R&ES) includes renewable power generation, the marketing and trading and optimisation of power and pipeline gas, as well as carbon credits and digitally enabled customer solutions. R&ES also includes hydrogen production and marketing, development of commercial carbon capture and storage (CCS) hubs, investment in nature-based projects that avoid or reduce carbon emissions (NBS), and Shell Ventures, which invests in companies working to accelerate the energy and mobility transformation. We are building a business to profitably deliver clean energy for our customers, using a strong portfolio of energy solutions to help them decarbonise.

Segment earnings (\$ billion)

3.0 2022: (1.1)

Adjusted Earnings (\$ billion)

0.7 2022: 1.7

Cash flow from operating activities (\$ billion)

3.0 2022: (6.4)

External power sales (terawatt hours)

279 2022: 243

Sales of pipeline gas to end-use customers (terawatt hours)

738 2022: 843

Generating shareholder value | Renewables and Energy Solutions continued

Key metrics

	\$ million, except where indicated		
	2023	2022	2021
Segment earnings* [A] [B]	3,038	(1,059)	(1,514)
Identified items	2,333	(2,805)	(1,272)
Adjusted Earnings* [A]	705	1,745	(243)
Adjusted EBITDA* [A]	1,413	2,459	(21)
Cash flow from operating activities	2,984	(6,394)	451
Cash capital expenditure*	2,681	3,469	2,359
External power sales (terawatt hours) [C]	279	243	247
Sales of pipeline gas to end-use customers (terawatt hours) [D]	738	843	899

[A] Segment earnings, Adjusted Earnings and Adjusted EBITDA are presented on a current cost of supplies basis.

[B] See Note 7 to the "Consolidated Financial Statements".

[C] Physical power sales to third parties; excluding financial trades and physical trade with brokers, investors, financial institutions, trading platforms, and wholesale traders.

[D] Physical natural gas sales to third parties; excluding financial trades and physical trade with brokers, investors, financial institutions, trading platforms, and wholesale traders. Excluding sales of natural gas by other segments and LNG sales.

Business conditions

For the business conditions relevant to Renewables and Energy Solutions, see "Market overview" on pages 38-40.

External power sales

In 2023, our external power sales increased compared with 2022 as a result of organic customer growth across the portfolio and portfolio additions.

Sales of pipeline gas to end-use customers

In 2023, the decrease in our sales of pipeline gas to end-use customers was mainly driven by commercial decisions to reduce our supply to certain counterparties.

Earnings 2023-2022 [A]

Segment earnings reflected lower margins (decrease of \$684 million), mainly from trading and optimisation. This was because of lower gas and power price volatility in 2023, unfavourable tax movements (decrease of \$218 million) and higher operating expenses, resulting from business growth (increase of \$186 million).

Segment earnings also included favourable movements of \$2,756 million, due to the fair value accounting of commodity derivatives, partly offset by net impairment charges and reversals of \$669 million. These favourable movements and charges are part of identified items and compare with 2022 which included unfavourable movements of \$2,443 million due to the fair value accounting of commodity derivatives, and impairment charges of \$361 million.

In 2023, Adjusted Earnings from Energy Marketing and Trading and Optimisation accounted for 216% of Renewables and Energy Solutions Adjusted Earnings. This was partially offset by Renewable Power Generation, Hydrogen, CCS, NBS and Shell Ventures that accounted for a negative 116%.

Prior year earnings summary [A]

Our earnings summary for the financial year ended December 31, 2022, compared with the financial year ended December 31, 2021, can be found in the Annual Report and Accounts (page 74) and Form 20-F (page 78) for the year ended December 31, 2022, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

[A] All earnings amounts are shown post-tax, unless stated otherwise. 2022-2021 reported pre-tax segment figures.

* Non-GAAP measure (see page 365).

Cash flow from operating activities

Cash flow from operating activities was primarily driven by working capital inflows of \$3,723 million and Adjusted EBITDA. This was partly offset by net cash outflows, related to derivatives of \$1,988 million and tax payments of \$762 million.

Cash capital expenditure

Within cash capital expenditure, \$2.3 billion was in low-carbon energy solutions. This includes Renewable Power Generation, Environmental Solutions, Hydrogen and CCS. In 2022, cash capital expenditure included \$2.9 billion in low-carbon energy solutions. Higher cash capital expenditure in 2022 was mainly a result of the acquisition of the renewable energy platform Sprng Energy group.

See "Our journey to net zero" on page 95.

Our cash capital expenditure is expected to be in the range of \$4-5 billion in 2024.

Portfolio and business development

Key portfolio and business developments:

- In March 2023, we entered into a joint venture with Eku Energy (Shell interest 45%) to deliver a utility-scale battery energy storage system in Australia.
- In June 2023, Hollandse Kust Noord, our offshore wind park in the Netherlands (Shell interest 79.9%), delivered its first megawatt hours of electricity.
- In November 2023, we sold our home energy businesses in the UK and Germany to Octopus Energy Group.

Business and property

We are building a business to profitably deliver clean energy for our customers.

Energy Marketing

We provide electricity and smart energy solutions to residential, commercial and industrial customers. We do this through direct electricity sales, storage solutions and energy optimisation services. Our largest markets for commercial and industrial customers are Australia and the USA. In Australia, we are one of the largest commercial and industrial retailers of electricity in the market.

We entered into a joint venture with Eku Energy to deliver a utility-scale battery energy storage system in Australia. With this system, Shell will have access to 100% of the battery system's offtake over a 20-year period. Completion of the project is expected in late 2024.

Generating shareholder value | Renewables and Energy Solutions continued

In November 2023, we divested our retail businesses in the UK and Germany to Octopus Energy, and we are winding down the business in the Netherlands. We continue to sell natural gas and power to retail customers in the USA and Australia.

Trading and Optimisation

We trade and optimise power and pipeline gas, and carbon credits from our own assets and from third parties. We work in partnership with Shell businesses across the regions to offer energy solutions that can help our customers decarbonise. We have a gas and power trading presence in key markets, including North America and Europe.

Renewable Power Generation

We enable renewable power generation by owning and operating wind farms and solar plants, and participating in joint ventures. We target selective growth in markets where there is integration potential.

In the USA, Shell's Brazos Wind Farm achieved its first power following the dismantling and refurbishing of existing wind turbines and the commissioning of new ones. In December 2023, we strategically sold 60% of our interest in Brazos to InfraRed Capital Partners to release capital for investment in other renewables projects. Shell will retain 100% of the power offtake.

In June 2023, the Hollandse Kust Noord offshore wind development within the CrossWind joint venture (Shell interest 79.9%) reached a significant milestone by producing its first megawatts of renewable electricity. The electricity from this wind farm is planned to supply the 200 MW electrolyser Holland Hydrogen 1 (Shell interest 100%) in the Netherlands as it comes on line.

At the end of 2023, our share of renewable power generation capacity was 2.5 GW in operation and 4.1 GW in development. Our renewable power capacities are listed below:

Renewable power generation capacity in operation and in development as of December 31, 2023 - by region

Location	In operation [A]		In development [B]	
	100% capacity (MW)	Shell interest (MW)	100% capacity (MW)	Shell interest (MW)
Asia	2,285	1,936	1,636	1,354
Europe	1,128	537	1,722	1,263
Americas	103	51	2,182	1,318
Australia	—	0	120	120
Total	3,516	2,525	5,660	4,055

Renewable power generation capacity in operation and in development as of December 31, 2023

	2023	2022	2021
Renewable power generation capacity (Shell interest - gigawatts):			
In operation [A]	2.5	2.2	0.7
In development [B]	4.1	4.2	2.3

[A] Renewable generation capacity post commercial operation date.

[B] Renewable generation capacity under construction and/or committed for sale under long-term offtake agreements (PPA).

Hydrogen

Hydrogen can help to decarbonise hard-to-abate sectors, such as heavy industry and heavy-duty transport, as well as decarbonise our own assets. We are part of joint ventures and alliances that have built electrolyzers and hydrogen filling stations. We have also participated in feasibility studies that aim to show the viability of a global import and export market for hydrogen. We aim to develop opportunities where we see adjacencies with our integrated business and pathways to attractive returns.

Since 2021, we have operated an electrolyser (Shell interest 100%) in Germany, which produces hydrogen using electricity from renewable sources. In July 2022, we announced the final investment decision to build Holland Hydrogen 1 to produce renewable hydrogen.

Carbon capture and storage

CCS is a combination of technologies that capture and store CO₂ deep underground, preventing its release into the atmosphere. R&ES offers CCS services to our customers. We report existing CCS operations that help decarbonise our own assets in the segment where the relevant asset sits.

We have a 33.3% interest in the Northern Lights Joint Venture, where the other partners are Equinor and TotalEnergies (equal partners). The project is in Norway and is under construction. Phase One is expected to be ready for start-up in 2025. In 2023, the Northern Lights CCS joint venture signed agreements with both Yara International and Ørsted for the transport and permanent storage of CO₂, marking an important step in helping to create a commercial market for CCS in Europe.

Nature and Environmental Solutions

Nature and Environmental Solutions include our NBS business and the Environmental Products Trading Business (EPTB). NBS invests in projects that conserve, enhance and restore ecosystems – such as forests, grasslands and wetlands – to prevent GHG emissions or reduce atmospheric CO₂ levels.

Through EPTB we develop, source offtake, trade and supply environmental products across compliance and voluntary markets. This includes working with our other businesses such as Integrated Gas or Marketing to provide integrated energy solutions to customers.

Shell Ventures

Shell Ventures are corporate venture funds where we act as an investor and a partner to start-ups and businesses to accelerate the energy and mobility transformation. We invest in companies that work on solutions to lower emissions, electrify energy systems, gain data-based insights and provide innovative consumer solutions.

Investments

Within R&ES, we maintain an integrated business model, with trading and optimisation, to help us manage our value delivery. Our investments are subject to financial modelling and stress-testing, due diligence and risk assessments to ensure that our capital is allocated to the most attractive low-carbon projects and opportunities. We monitor and evaluate the performance of our acquisitions against our expectations. Some acquired companies in new business sectors are not yet in full compliance with our Binding Corporate Rules. Following assessments of each new acquisition, specific actions are put in place to achieve compliance with our Binding Corporate Rules.



Brazos windfarm upgrade and first power

Shell's upgraded Brazos Wind Farm produced its first power in 2023. This was achieved after we decommissioned and restored a legacy wind farm at the end of its useful life and "repowered" it by building newer, more efficient turbines on the same acreage of land.

Brazos is expected to generate 182 megawatts, which will be put into the Texas electricity grid. From there, it is used for both residential and commercial needs. The energy that Brazos generates is enough to power more than 50,000 households. We are recycling the decommissioned turbine blades to be used as a component in concrete.

In December, we sold 60% of our interest in Brazos to InfraRed Capital Partners, releasing capital for investment in other renewables projects. Shell will retain 100% of the power offtake. The Brazos wind farm in Texas, USA is an example of an investment which is bringing more green electricity to the grid today. It is also a demonstration of capital discipline in our power investments where during development or upon achieving operations, we may choose to sell a share of the project to a third party to release capital to be used in the next renewable generation project. This allows us to make further investments in the energy transition, as we transform to a net-zero emissions energy business by 2050.

Harnessing wind power is a vital part of the energy transition and there has been unprecedented global growth over the past 12 months. At COP28, countries agreed to triple capacity by 2030.

Photo: Brazos wind farm is located in Fluvanna, Texas, 112 kilometres (70 miles) south-east of Lubbock, on the Caprock of the Llano Estacado.

Corporate

Corporate covers the non-operating activities supporting Shell. It comprises Shell's holdings and treasury organisation, self-insurance activities, headquarters and central functions.

Segment earnings (\$ billion)

(2.8) 2022: (2.5)

Adjusted Earnings (\$ billion)

(2.7) 2022: (2.4)

Cash flow from operating activities (\$ billion)

(0.8) 2022: 2.2

Key metrics

	2023	2022	\$ million 2021
Segment earnings* [A] [B]	(2,811)	(2,461)	(2,606)
Identified items	(69)	(90)	81
Adjusted Earnings* [A]	(2,742)	(2,371)	(2,686)
Adjusted EBITDA* [A]	(987)	(725)	(554)
Cash flow from operating activities	(832)	2,192	1,154

[A] Segment earnings, Adjusted Earnings, and Adjusted EBITDA are presented on a current cost of supplies basis.

[B] See Note 7 to the "Consolidated Financial Statements".

Overview

All finance expense, income and related taxes are included in Corporate segment earnings rather than the business segment earnings.

The holdings and treasury organisation manages many of the Corporate entities. It is the point of contact between Shell and external capital markets, conducting a range of transactions, such as raising debt instruments and conducting foreign exchange transactions. Treasury centres in London and Singapore support these activities.

Headquarters and central functions provide business support in communications, finance, health, human resources, information technology (IT), legal services, real estate and security. They also provide support for shareholder-related activities. The central functions are supported by business service centres, which process transactions, manage data and produce statutory returns, among other services. Most headquarters and central-function costs are recovered from the business segments. Costs that are not recovered are retained in Corporate.



Earnings 2023-2022

An increase in the negative segment earnings was mainly driven by unfavourable movements in currency exchange rate effects and tax credits.

Prior year earnings summary

Our earnings summary for the financial year ended December 31, 2022, compared with the financial year ended December 31, 2021, can be found in the Annual Report and Accounts (page 77) and Form 20-F (page 81) for the year ended December 31, 2022, as filed with the Registrar of Companies for England and Wales and the US Securities and Exchange Commission, respectively.

Cash flow from operating activities

Cash flow from operating activities decreased primarily due to unfavourable working capital movements.

Self-insurance

We mainly self-insure our hazard risk exposures. We continually assess the safety performance of our operations and make risk mitigation recommendations, where relevant, to keep the risk of an accident as low as possible. Our insurance companies are adequately capitalised and they may transfer risks to third-party insurers where economical, effective and relevant.

See "Risk factors" on page 24.

* Non-GAAP measure (see page 365).

Generating shareholder value

Other central activities

Information technology and cyber security

Digitalisation is a key success factor in delivering Shell's Powering Progress strategy. Shell is transforming its IT systems to support its evolving portfolio of businesses. We invest in new technologies, such as artificial intelligence and machine learning, to enhance our IT capabilities and bring value to the business.

The growing dependence on IT and data brings risks. A breach of IT systems or loss of data could cause significant harm to Shell in the form of loss of productivity, loss of intellectual property, regulatory fines or reputational damage. Sanctions, including regulatory fines, might be imposed on Shell if authorities find Shell in breach of cyber security or data protection regulations. Cyber security is key to managing those risks, especially in today's increasingly regulated environment where cyber threats are growing.

Shell operates a multi-level defence strategy, underpinned by the Shell Performance Framework. Our advanced cyber defence capabilities help us prevent, detect, respond to and evolve as cyber security and data privacy risks become more complex. We continuously assess and, where relevant, improve these capabilities to reduce the likelihood of successful cyber attacks.

Our global integrated Information Risk Management (IRM) and cyber defence teams are staffed with cyber security professionals that monitor, assure and defend our global IT landscape. The combined Global Functions Chief Information Officer and Chief Information Security Officer (CISO) roles were split as of November 1, 2023. This resulted in a dedicated CISO role within Shell's Information & Digital Technology (IDT) leadership.

Cyber security risk management

Our cyber security capabilities are embedded in our IT systems and our IT is protected by various detective and protective technologies. A structured approach to identify, assess and mitigate IT and cyber security risks is built into our support processes and aligns with industry best practices. We continuously track cyber attacks, threat intelligence and vulnerabilities in our IT landscape and have an established incident management and escalation process in place. The security of IT services, where operated by external IT companies, is managed through contractual clauses and additionally through formal supplier assurance reports for critical IT services. Shell engages an external party to perform periodic benchmarking of Shell's approach to cyber security risk management in comparison to industry and peers. We develop our cyber security capabilities, based on external dynamics, benchmarking outcomes and assurance results and take a risk-based approach in our investment decisions related to cyber security risk strategy. Shell's first line of defence is formed by a workforce that is trained to be cyber security aware. In 2023, our annual safety day included cyber security awareness raising. Robust governance processes are embedded across Shell to increase cyber awareness, monitor key cyber risks, and provide risk assurance. Our IRM practices and cyber security risks and strategy are regularly discussed by and among our CISO, Shell's Information and Digital Technology leadership, the Executive Committee, the Audit and Risk Committee and the Board of Directors. These discussions involve consideration of changes in the external environment, how Shell is responding to cyber security risks and implementation of further remedial actions as appropriate. In 2023, these discussions were supplemented by dedicated deep dives into areas such as the emerging risks and opportunities associated with generative artificial intelligence. Shell employees and contract staff are required to complete mandatory training courses and participate in regular awareness campaigns

aimed at protecting us against cyber threats. Shell has reported incidents in 2023 to regulatory authorities in several jurisdictions. None of these had a material impact on Shell, including its business strategy, results of operations, or financial condition.

The IRM and cyber defence leadership teams involved in monitoring and managing our cyber security threat risk and assurance process have an average of around 25 years of experience. This group is led by our CISO, who has more than 20 years of experience in the information technology and information security field, including serving as the chief information officer for various large public companies. Our CISO holds qualified technical expert certifications, has completed the London School of Economics Executive Development programme and holds an undergraduate degree in management information systems, risk management and corporate finance. Our CISO is active in various cyber security industry trade groups, having previously held leadership positions in the Oil & Gas Cyber Security Network and the Chief Information Officers Strategy Exchange.

Projects & Technology

Projects & Technology and the relevant business lines work together to determine the content, scope and budget for developing new technology that supports our activities. The new technology is developed, using a robust maturation process, to systematically de-risk technical and commercial risks. This is done while we seek to align our portfolio with Shell's strategic ambitions and deployment commitments.

A significant proportion of Shell's technology contributes to our emissions reduction targets. We collaborate with leading academic research institutes and universities, and provide start-ups with access to mentors and subject matter experts. Shell Ventures invests in and partners with start-ups and small and medium-sized enterprises that are in the early stages of developing new technologies. The Shell GameChanger programme helps companies to mature early-stage technologies.

See "Risk factors" on page 23.

Intellectual property

At Shell, we have a wide-ranging intellectual property (IP) portfolio which includes patents, trademarks, know-how, trade secrets, and copyrights. These legally recognised forms of IP enable companies to protect aspects of their IP and to derive value from them. For example, the distinctive Shell pecten, a trademark in use since the early 20th century, and trademarks in which the word Shell appears, help raise the profile of our brand globally.

We protect and defend our IP around the world. Equally we respect the valid IP rights of others. Not doing so risks damage to our business and reputation, negatively impacts our ability or licence to operate, and could result in legal and financial risks as well as the loss of IP rights. At December 31, 2023, we held 8,829 patents, which includes granted patents and pending patent applications.

Shell holds trademarks in countries all around the world, including some in which we no longer have operations. For example, in 2023, we renewed our trademark LINEVOL in Syria and paid \$370 to the Syrian Arab Republic, Ministry of Finance, and \$713 in agent and handling fees. In addition, we renewed one international trademark application, which amongst other countries, included the Islamic Republic of Iran, through the World Intellectual Property Organization Madrid system, for a fee of \$113 for Iran specifically. We ceased all operations in Syria in 2011 and Iran in 2018 and the renewals of our trademarks are not indicative of any sales of products in either country.



Our journey to net zero

We aim to be a net-zero emissions energy business by 2050 and work with our customers and across sectors to help accelerate the energy transition.

Our journey to net zero continued

Introduction

Shell recognises that greenhouse gas (GHG) emissions from the use of hydrocarbon-based energy contribute to climate change. The Paris Agreement aims to strengthen the global response to the threat of climate change by "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels". Shell supports the more ambitious goal of the Paris Agreement, which is to limit the rise in global average temperature this century to 1.5°C above pre-industrial levels.

Shell's Powering Progress strategy is designed to generate shareholder value, while meeting our target of becoming a net-zero emissions energy business by 2050.

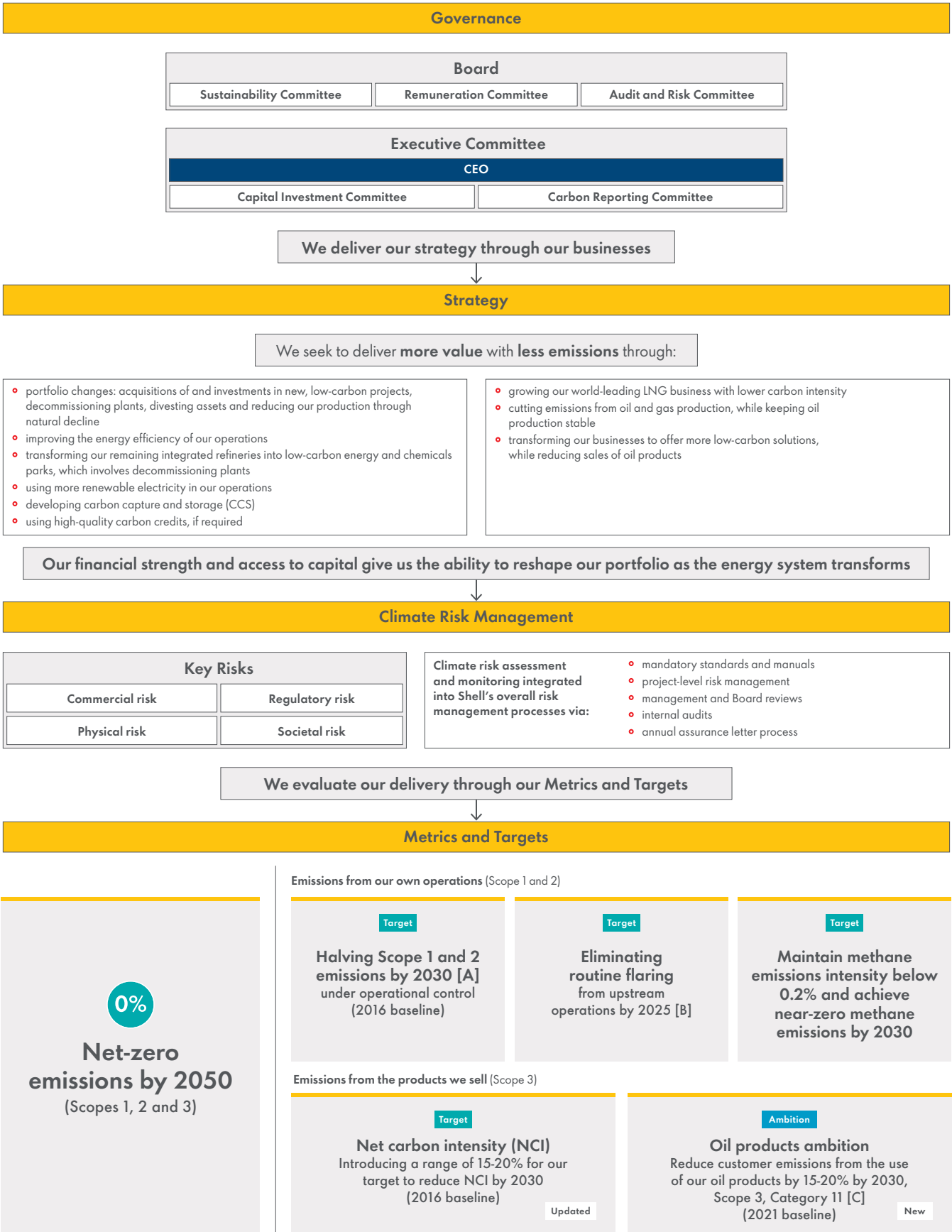
Since 2017, Shell has supported the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The TCFD framework aims to improve the disclosure of climate-related risks and opportunities and provide stakeholders with the information they need

to undertake robust and consistent analyses of the potential financial impacts of climate change. The TCFD recommends disclosure of qualitative and quantitative information aligned to its four core elements: governance, strategy, risk management, and metrics and targets.

We recognise the value that the recommendations bring and, in accordance with UK Listing Rule 9.8.6R, set out below our climate-related financial disclosures consistent with all of the TCFD Recommendations and Recommended Disclosures. By this we mean the four recommendations and the 11 recommended disclosures set out in Figure 4 of Section C of the report entitled "Recommendations of the Task Force on Climate-related Financial Disclosures" published in June 2017 by the TCFD. We also take into account relevant supplemental guidance including, for example, the TCFD's additional guidance "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures" (also known as the 2021 TCFD Annex) published in October 2021 by the TCFD. We continue to align and enhance our climate-related disclosures.

TCFD disclosures index

TCFD Pillars	TCFD Recommendations	Reference
Governance	Describe the board's oversight of climate-related risks and opportunities	See page 85.
	Describe management's role in assessing and managing climate-related risks and opportunities	See page 86.
Strategy	Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term	See page 89.
	Describe the impact of climate-related risks and opportunities on the organisation's business, strategy, and financial planning	See page 93.
	Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	See page 94.
Risk Management	Describe the organisation's processes for identifying and assessing climate-related risks	See page 100.
	Describe the organisation's processes for managing climate-related risks	See page 100.
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management	See page 101.
Metrics and Targets	Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk-management process	See page 103.
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	See page 104.
	Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets	See page 107.



[A] On a net basis.
[B] Subject to completion of the sale of Shell Petroleum Development Company of Nigeria Limited (SPDC).
[C] Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes carbon dioxide equivalent (CO₂e) in 2023 and 569 million tonnes CO₂e in 2021.

Our journey to net zero continued

Governance of climate-related risks and opportunities

Board oversight of climate-related risks and opportunities

Our governance framework is designed to effectively deliver on the energy transition ambitions and targets of our Powering Progress strategy, which seeks to deliver more value with less emissions.

See our "Powering Progress strategy" on pages 6-13.

The Board reviews our energy transition strategy periodically and oversees its implementation and delivery. In 2023, the Board considered climate-related matters throughout the year, including the assessment of climate-related risks and the effectiveness of corresponding risk management activities. The Board also challenged and endorsed business plans, including consideration of major capital expenditures, acquisitions and divestments. In 2023, the Board convened nine times and continued to oversee the Powering Progress strategy and net-zero initiatives, including at the Board Strategy Days in June 2023.

See "Governance framework" on page 160 and "Board activities" on page 162.

The Board of Directors has the primary oversight of the delivery of Shell's energy transition strategy and is supported by the Sustainability Committee (SUSCO) [A], the Remuneration Committee (REMCO) and the Audit and Risk Committee (ARC). The importance of our energy transition strategy means that these committees are informed about climate-related matters on a frequent basis throughout the year. See "Climate change governance organogram" below.

[A] The SUSCO was previously the Safety, Environment and Sustainability Committee.

The SUSCO assists the Board in fulfilling its responsibilities by reviewing Shell's progress with respect to climate and sustainability elements of Shell's Powering Progress strategy.

During 2023, the SUSCO refocused its agenda on the areas of greatest strategic importance to Shell, in line with its updated terms of reference. This allowed the SUSCO to more effectively oversee Shell's progress with respect to sustainability.

The SUSCO reviewed the progress made against the non-financial elements of Shell's Powering Progress strategy, including progress against the ambitions and targets under the goals of achieving net-zero emissions, respecting nature and powering lives.

The SUSCO met four times in 2023. After each meeting, the SUSCO Chair provided updates to the Board.

See the SUSCO's activities in 2023 on pages 177-178.

The REMCO develops the remuneration policy for Executive Directors and Executive Committee members and sets performance conditions designed to challenge and support the Executive Committee (EC) to reduce net carbon emissions, while generating shareholder value. The REMCO met four times during 2023, with climate-related matters discussed at each meeting.

See "Directors' Remuneration Report" on pages 191-193 and the "Annual Report on Remuneration" on pages 194-210.

Climate performance and remuneration

Energy transition targets were part of the 2023 annual bonus scorecard (15% weighting), applicable to the majority of Shell's employees, as well as the 2023 Long-term Incentive Plan (LTIP) awards for senior executives (25% weighting) and the 2023 Performance Share Plan (PSP) awards for other employees (12.5% weighting), both vesting in 2026.

See "Directors' Remuneration Report" on pages 191-193 for further information.

See the "Governance framework" for the Board's oversight on pages 160-161.

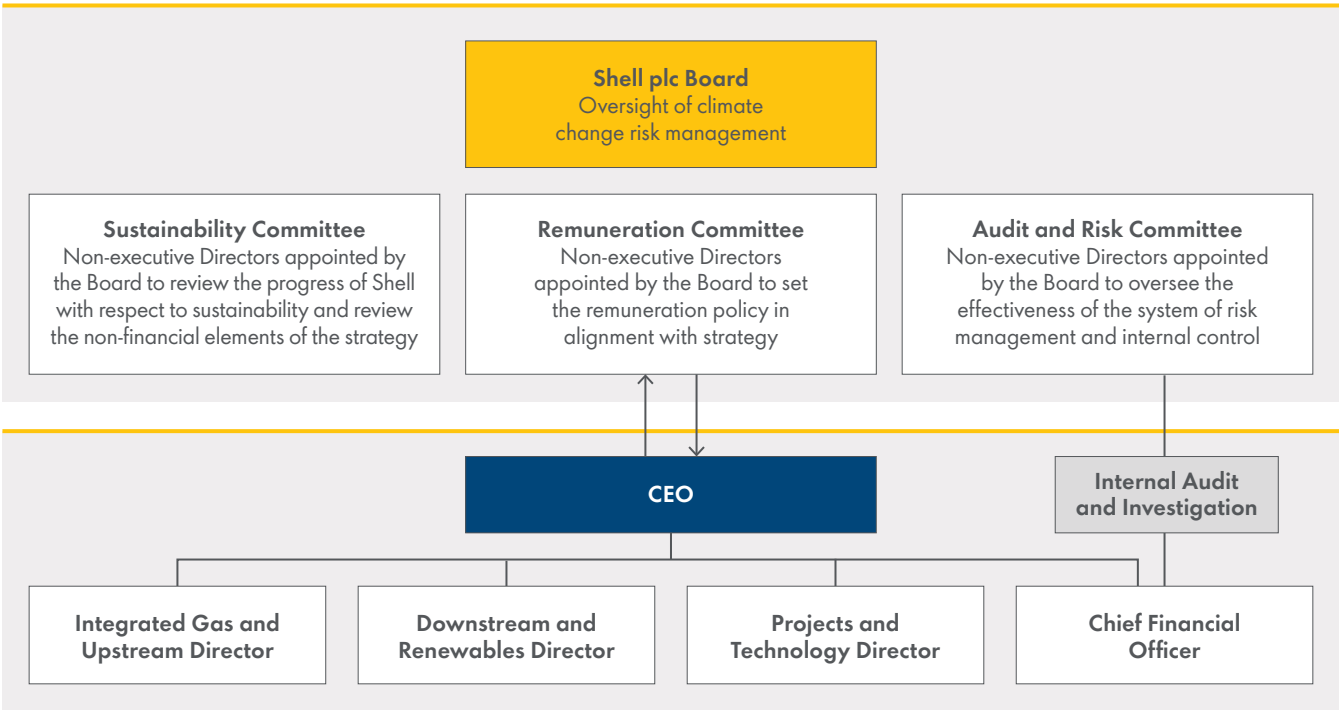
The ARC provides oversight of the effectiveness of the risk management framework and the integrity of our financial reporting to ensure that our financial statements reflect the risks and opportunities associated with our energy transition strategy and climate change. In 2023, the ARC met six times with climate-related matters regularly addressed.

See the "Audit and Risk Committee Report" on pages 179-190.

Our journey to net zero continued

Management's role in assessing and managing climate-related risks and opportunities

Climate change governance organogram



On January 30, 2023, Shell announced it would reduce the size of its EC with the changes taking effect from July 1, 2023. The new structure is designed to focus on performance, discipline and simplification across the organisation as we deliver our Powering Progress strategy.

The Chief Executive Officer (CEO) has the delegated authority from the Board to manage Shell's actions in relation to the Company's strategy. The CEO is assisted on climate-related matters by members of the EC to review and implement Shell's energy transition strategy and ensure that such matters are appropriately monitored:

- The Integrated Gas and Upstream Director is responsible for identifying and delivering low-carbon and emission-reduction investment opportunities in our oil and gas business, as well as managing and reducing carbon emissions from the business and using renewable energy to power our oil and gas extraction activities.
- The Downstream and Renewables and Energy Solutions Director is responsible for identifying and delivering climate-related opportunities, as well as managing and mitigating the climate risks of our Downstream and Renewables and Energy Solutions business.

- The Projects & Technology (P&T) Director is responsible for setting emissions, climate and reporting standards that are applicable to all our businesses. The P&T Director is also responsible for developing new technologies that will help our businesses to deliver on net-zero emissions reduction targets through both energy efficiency measures and solutions for decarbonisation.
- The Chief Financial Officer (CFO) is responsible for monitoring the effective application of the Shell Performance Framework, which provides the basis for managing our material risks, including climate-related risks and opportunities, and the assurance over our financial information, carbon emissions and climate-related disclosures. In addition, the CFO is responsible for Corporate Strategy, Sustainability and Carbon, including supporting the CEO in developing Shell's energy transition strategy and our Carbon Management Framework (CMF).

Our journey to net zero continued

Additional supporting governance

There are two key supporting management committees, with representatives from across Shell, which play a critical role in driving our energy transition strategy:

- The Capital Investment Committee (CIC) facilitates portfolio management and capital allocation decisions and reviews each investment opportunity that is, due to its size or risk profile, subject to approval by the CEO or the Board. These reviews ensure that risk-reward trade-offs, together with other defined criteria including climate risks and opportunities, are embedded in investment decision-making. This committee is made up of senior executives, including the CEO, CFO and individual business directors.
- The Carbon Reporting Committee (CRC) includes senior management representatives focusing on climate-related matters from across the businesses, P&T climate-related disciplines and functions including Finance, Legal and Strategy. The CRC is responsible at the Group level for the Carbon Control Framework, the calculation methodologies and reporting of GHG emissions metrics, and the review and approval of external GHG-related disclosures. It is tasked with ensuring that GHG emissions measures, both absolute emissions and carbon intensities, and associated metrics comply with all regulatory and legal requirements.

In addition to these committees, our network of country chairs supports the overall governance, development and deployment of climate-related initiatives. They facilitate the setting of each country's plans and their engagement with external stakeholders in support of our strategy.

Processes by which management is informed about climate-related issues

Several processes are employed across the organisation to ensure that management teams can effectively monitor and manage climate-related matters. Our response to the evolving risk outlook requires transparency and clarity around our plans and actions to achieve our climate targets. The management teams are supported by a combination of carbon-management-related standards and frameworks, forums at various levels of the organisation, and capability development programmes. These include our carbon management framework (CMF), carbon pricing, and the Greenhouse Gas (GHG) and Energy Management process, policies and controls, which form part of our Health, Safety, Security, Environment and Social Performance (HSSE & SP) Control Framework.

Carbon management framework

Shell's CMF provides the structure and processes to drive delivery of Group carbon targets. The CMF seeks to manage and reduce emissions in a manner that is similar to how we use our financial framework. Carbon budgets are used as input to and guidance for the annual business plan process. They act as an effective mechanism to maintain absolute emissions below a capped level and help drive a change in product mix. The carbon budgets are allocated to the businesses and enable trade-offs between emitting carbon and generating shareholder value to occur within those budgets. The CMF informs portfolio decisions and supports delivery of our decarbonisation targets.

For the 2023 operating plan cycle, our net carbon intensity (NCI) targets were translated into net absolute emissions budgets for each business (see definition on page 88). These budgets were used by each business to optimise their operating plans. Performance against the targets embedded in the operating plan and the relative mix of products driving the Group's NCI are monitored and reviewed by the EC on a quarterly basis, facilitating corrective action if required.

Examples of how our decarbonisation targets are taken into account in fundamental decisions across the organisation are:

- Carbon metrics (profitability per unit of carbon emitted) is a key parameter considered in decision-making and when comparing different growth opportunities against each other within the various businesses.
- We translate our carbon targets into carbon budgets for each business as input and guidance to the annual business plan process. Businesses need to deliver a plan that maximises value within their carbon budgets.

Our journey to net zero continued



Greenhouse gas and energy management

Each Shell entity and Shell-operated venture is responsible for the development of its GHG emissions and energy management plans. Plans are in place for all significant assets.

Our Greenhouse Gas and Energy Management process sets out Shell's requirements for GHG reduction opportunities and portfolio choices to meet our carbon budgets and achieve our decarbonisation targets. These requirements allocate accountabilities for GHG and energy management within businesses, assets and projects, including responsibility for analysing our emissions, benchmarking performance, identifying improvement opportunities, and forecasting future performance. These requirements are applied to capital project delivery and through the asset-level annual business planning process, ensuring it is reflected in both opportunity realisation and strategic asset management planning.

A key aspect of the GHG and Energy Management process is the development of an energy efficiency and greenhouse gas reduction opportunity curve, economically assessed against the current and future costs of carbon. This information provides the basis for forecasts of absolute GHG emissions and associated intensities at the asset and project level. These forecasts are then aggregated to inform decisions on potential decarbonisation opportunities across our businesses.

A Global Process Council for GHG and Energy Management, led by the Global Process Owner for GHG and including business and functional experts, meets regularly to evaluate opportunities for the ongoing improvement of processes, tools, communications, and capabilities needed within the businesses to achieve our decarbonisation aspirations.

The requirements of our GHG & Energy Management Process are integrated into our annual business planning cycle.

Definition - Scope 1, 2 and 3 emissions

We follow the GHG Protocol's Corporate Accounting and Reporting Standard, which defines three scopes of GHG emissions:

- Scope 1: direct GHG emissions from sources under Shell's operational control.
- Scope 2: indirect GHG emissions from generation of purchased energy consumed by Shell assets under operational control.
- Scope 3: other indirect GHG emissions, including emissions associated with the use of energy products sold by Shell.



Carbon pricing

We consider the potential costs associated with operational GHG emissions when we assess the resilience of projects. For each region, we have developed short-, medium- and long-term estimates of future costs of carbon. These are reviewed and updated annually. See Note 4 to the "Consolidated Financial Statements" for further details on our regional cost of carbon estimates.

Up to 2030, costs for carbon emissions estimates are largely policy driven through emission trading schemes or taxation which is levied by governments and which varies significantly on a country-by-country basis. Beyond 2030, where policy predictions are more challenging, the costs for carbon emissions are estimated based on the expected costs of abatement technologies required for 2050. The estimated cost is trending towards \$125 or \$170 per tonne (RT23), depending on the country, in 2050. Shell's mid-price outlook of \$125 - \$170 per tonne used for the operating plan sits within the middle tranche of the abatement costs range of \$100 - \$200 which incorporates a broad range of technologies.

See "The resilience of Shell's strategy" on page 94 for more information on how carbon costs impact our resilience to climate-related risks, including sensitivity analysis.

See the "Shell Climate and Energy Transition Lobbying Report 2023" which will be published in April 2024 for more information on Shell's advocacy across a range of issues including carbon pricing.

Our journey to net zero continued

Energy transition strategy

Powering Progress is our strategy to generate more value with less emissions for the benefit of our shareholders, customers and wider society as we work to become a net-zero emissions energy business by 2050. Our purpose – to provide more and cleaner energy solutions – drives our strategy.

Our strategy supports a balanced energy transition by responsibly delivering the oil and gas people need today, while helping to build the energy system of the future. As we implement our strategy, we are becoming a multi-energy business offering our customers more and cleaner energy solutions. Our energy transition plans cover all our businesses. They aim to reduce emissions from our operations, and help our customers transition to cost-competitive and cleaner energy.

We are reducing emissions from our operations, and helping our customers move to cost-competitive and cleaner energy. Our energy transition plans cover all our businesses:

- Integrated Gas - Growing our world-leading LNG business with lower carbon intensity.
- Upstream - Cutting emissions from oil and gas production, while keeping oil production stable.
- Downstream, Renewables and Energy Solutions – Transforming our businesses to offer more low-carbon solutions, while reducing sales of oil products.

See the "Our strategy" section on pages 7-9.



Board holds Strategy Days in Canada and visits LNG project

In June 2023, the Board held its Strategy Days in Canada, where members discussed the key elements of Shell's energy transition strategy with the Executive Committee. Board members also visited LNG Canada (Shell interest 40%, non-operated), which is being built on the west coast of Canada. They met with employees, customers, suppliers and other key stakeholders, including leaders of the Haisla Nation in the nearby community of Kitimat, British Columbia.

LNG Canada is expected to start production in the middle of this decade. It is designed to have the lowest carbon intensity of any large liquefaction facility currently operating anywhere in the world – about 60% lower than the average facility today and 35% lower than the best-performing facility.

Photo: Viewing the LNG Canada plant construction progress from the south end of liquefaction train 1.

Our strategy aims to support the more ambitious goal of the Paris Agreement

Tackling climate change is an urgent challenge. It requires a fundamental transformation of the global economy and the energy system so that society stops adding to the total amount of greenhouse gases in the atmosphere, achieving what is known as net-zero emissions. That is why Shell has set a target to become a net-zero emissions energy business by 2050.

The Paris Agreement aims to strengthen the global response to the threat of climate change by "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels". Shell supports the more ambitious goal of the Paris Agreement, which is to limit the rise in global average temperature this century to 1.5°C above pre-industrial levels.

To help us get there, we have set short, medium- and long-term targets to reduce the carbon intensity of the energy products we sell, measured using our net carbon intensity metric. We believe these targets are aligned with a 1.5°C pathway derived from scenarios developed for the IPCC's Sixth Assessment Report (AR6). For more information see "Setting targets for NCI" on page 107.

Becoming a net-zero emissions energy business means reducing emissions from our operations, and from the fuels and other energy products, such as electricity, that we sell to our customers. It also means capturing and storing any remaining emissions using technology, protecting natural carbon sinks, and providing high-quality carbon credits to our customers to compensate for hard-to-abate emissions.

An increasing number of countries and companies have announced targets to achieve net-zero emissions by the middle of the century, and we are starting to see some changes in the demand and supply of energy. However, achieving the 1.5°C goal will be challenging and requires unprecedented global collaboration. The pace of change will also vary around the world.

Climate-related risks and opportunities identified by Shell over the short, medium and long term

We are continually enhancing our approach to assessing and managing risks and opportunities resulting from climate change. This includes considering different time horizons and their relevance to risk identification and business planning. We actively monitor societal developments, such as regulation-driven carbon pricing mechanisms and customer-driven preferences for products. We incorporate these into potential scenarios which provide insights into how the energy transition may unfold in the medium and long term. These insights and those from various other external scenarios (such as those prepared for the IPCC AR6) guide how we set our strategic direction, capital allocation and carbon emission reduction targets.

The process for identifying and assessing climate-related risks and opportunities is set out in the "Climate Risk Management" section. Shell has identified climate change and the associated energy transition as a material risk based on societal concerns and developments related to climate change and managing GHG emissions. The risks could potentially result in changes to the demand for our products, supply chains and markets; further changes to the regulatory environment in which we operate, and increased litigation (see Note 31 to the Consolidated Financial Statements "Legal proceedings and other contingencies" on page 313). The risks are composed of a combination

Our journey to net zero continued

of complex and interrelated elements that affect Shell's overall business value chain, and our asset, product and business portfolio. The risk landscape is evolving rapidly. To achieve our emissions reduction targets, active holistic management of all climate-related risk components is important. The composite risk is broken down into the following sub-components:

- commercial risk;
- regulatory risk;
- societal risk (including litigation risk); and
- physical risk.

Overall, we mitigate climate-related risks through our Powering Progress strategy to deliver more value with less emissions. With our focus on performance, discipline and simplification, we believe that we are in a better position to achieve both our financial targets and climate-related targets and ambitions. This approach includes:

- reducing the GHG emissions from our operations (Scope 1 and 2) by improving our energy efficiency, deploying renewable electricity, managing flaring and reducing methane emissions from our assets and projects;
- growing our world-leading liquefied natural gas (LNG) business, while decarbonising our LNG portfolio in two main ways: by growing our portfolio with a lower carbon intensity, and by focusing on reducing emissions of methane;
- managing our Upstream portfolio to support a balanced energy transition by cutting emissions from oil and gas production, while keeping oil production stable. Oil production is increasingly from our deep-water business which, through innovation, produces higher-margin and lower-carbon barrels; and
- transforming our businesses in Downstream and Renewables and Energy Solutions to offer more low-carbon solutions while reducing sales of oil products.

In addition, we are working to effectively adapt our assets and activities to enhance our resilience to the physical risks related to climate change where needed.

See page 92 for more details of Physical risks.

We are also working with governments on their climate policies to help establish regulatory frameworks that will enable society to reach the goals of the Paris Agreement.

We signed up to the Oil and Gas Decarbonisation Charter announced at COP28, within which organisations have pledged to achieve near-zero methane emissions by 2030 and zero routine flaring by no later than 2030. We also intend to contribute to the World Bank's Global Flaring and Methane Reduction Fund, which was launched at COP28.

As a leading global energy business, Shell seeks to identify opportunities in the energy transition. These risks and opportunities are described below. Climate-related risks are also summarised in the "Risk factors" section of the Strategic Report on page 15.

- Time horizons: short, medium and long**
- Due to the inherent uncertainty and pervasive risks across our strategy and business model, we monitor climate-related risks and opportunities across multiple time horizons.
- Short term (up to three years): we develop detailed financial projections and use them to manage performance and expectations on a three-year cycle. These projections incorporate decarbonisation measures required to meet our short-term targets.
 - Medium term (generally three to 10 years): these are embedded within our operating plan, with our continued focus on the customer, the investments and portfolio shifts required in the medium term that will reshape Shell's portfolio.
 - Long term (generally beyond 10 years): it is expected that our portfolio and product mix will look very different.

Transition risks

Climate-related commercial risk

- The transition to a low-carbon economy may lead to lower sales volumes and/or margins due to a general reduction or elimination of demand for oil and gas products, possibly resulting in underutilised or stranded oil and gas assets, and a failure to secure new opportunities.
- Changing preferences of investors and financial institutions could reduce access to and increase the cost of capital.

Relevant time horizon:
medium and long

Potential material impacts on the organisation

Lower demand and margins for oil and gas products
Changing customer sentiment towards renewable and sustainable energy products may reduce demand for our oil and gas products. An excess of supply over demand could reduce fossil fuel prices. This could be a factor contributing to additional provisions for our assets and result in lower earnings, cancelled projects and potential impairment of certain assets.

Changing preferences of investors and financial institutions
Financial institutions are increasingly aligning their portfolios to a low-carbon and net-zero world, driven by both regulatory and broader stakeholder pressures. A failure to decarbonise the business portfolios in line with investor and lender expectations could have a material adverse effect on our ability to use financing for certain types of projects. This could also adversely affect our partners' ability to finance their portion of costs, either through equity or debt.

Sensitivity analysis of a 1% shift in Shell's weighted average cost of capital on asset carrying values is presented in the section "Carbon pricing and discount rate sensitivities" on page 96.

Remaining in step with the pace and extent of the energy transition
The energy transition provides us with significant opportunities, as described in "Transition opportunities" below. If we fail to stay in step with the pace and extent of change or customers' and other stakeholders' demand for low-carbon products, this could adversely affect our reputation and future earnings. If we move much faster than society, we risk investing in technologies, markets or low-carbon products that are unsuccessful. Therefore we cannot transition too quickly or we will be trying to sell products that customers do not want. This could also have a material adverse effect on financial results.

Technology and innovation are essential to our efforts to help meet the world's energy demands competitively. If we are unable to develop the right technology and products in a timely and cost-effective manner, or if we develop technologies, products and solutions that harm the environment or people's health, there could be an adverse effect on our future earnings.

Our journey to net zero continued

Transition risks continued

Climate-related regulatory risk

The transition to a low-carbon economy will likely increase the cost of compliance for our assets and/or products, and may include restrictions on the use of hydrocarbons. The lack of net-zero-aligned global and national policies and frameworks increases the uncertainty around this risk.

Relevant time horizon:
short, medium and long

Potential material impacts on the organisation

Increased compliance costs

Some governments have introduced carbon pricing mechanisms, which we believe can be an effective way to reduce GHG emissions across the economy at the lowest overall cost to society.

Shell's cost of compliance with the EU Emissions Trading Scheme (ETS) and related schemes was around \$493 million in 2023, as recognised in Shell's Consolidated Statement of Income for 2023. A further \$3,133 million of costs were incurred in respect of biofuels (\$2,581 million) and renewable power (\$552 million) programmes (see Note 5 to the "Consolidated Financial Statements" on pages 270-271).

Shell's annual carbon cost exposure is expected to increase over the next decade because of evolving carbon regulations. The forecast annual cost exposure is estimated to be around \$1 billion in 2024 and around \$4 billion in 2033. This estimate is based on a forecast of Shell's equity share of emissions from operated and non-operated assets, and real-term carbon cost estimates using the mid-price scenario (see Note 4 to the "Consolidated Financial Statements" on pages 259-269 for more information). This exposure also takes into account the estimated impact of free allowances as relevant to assets based on their location.

Restrictions on use of hydrocarbons

As of June 2023, more than 90% of the global economy was signed up to net-zero commitments, according to the Net Zero Stocktake 2023 report from Net Zero Tracker. This brings an increasing risk that governments may set future regulatory frameworks that further restrict exploration and production of hydrocarbons, and introduce controls to limit the use of such products. Failure to replace proved reserves could result in an accelerated decrease of future production, which could have a material adverse effect on our earnings, cash flows and financial condition.

Lack of net-zero-aligned global and national policies and frameworks

The lack of net-zero-aligned global and national policies and frameworks increases the uncertainty around how carbon pricing and other regulatory mechanisms will be implemented in the future. This makes it harder to determine the appropriate assumptions to be taken into account in our financial planning and investment decision processes.

Climate-related societal risk (including litigation risk)

As societal expectations develop around climate change, there is a potential impact on Shell's licence to operate, reputation, brand and competitive position. This is likely to include litigation.

Relevant time horizon:
short, medium and long

Potential material impacts on the organisation

Decline in reputation and brand

Societal expectations of businesses are increasing, with a focus on business ethics, quality of products, contribution to society, safety and minimising damage to the environment. There is an increasing focus on the role of the oil and gas sector in the context of climate change and the energy transition. This could negatively affect our brand, reputation and licence to operate, which could limit our ability to deliver our strategy, reduce consumer demand for our branded and non-branded products, harm our ability to secure new resources and contracts, and restrict our ability to access capital markets or attract staff.

Deteriorating relationships with key stakeholders

Failure to decarbonise Shell's value chain in line with societal, governmental and investor expectations is a material risk to Shell's reputation as a responsible and market-leading energy company. The impact of this risk includes shareholder divestment, greater regulatory scrutiny and potential asset closure resulting from public interest groups' protests.

Litigation

There is an increasing risk to oil and gas companies from public, private and governmental lawsuits. Such action may have wide-ranging consequences, including forcing entities to hand over strategic autonomy in part to regulators, divest from hydrocarbon technologies, denial of regulatory approvals and/or paying fines/penalties or large compensation packages to the plaintiff.

Litigation continued

In some countries, governments, regulators, organisations and individuals have filed lawsuits of a wide variety, including seeking to hold oil and gas companies liable for costs associated with climate change, or seeking court-ordered reductions in emissions, challenging the regulatory approvals and operating licences, or challenging energy transition strategies and plans. While we believe these lawsuits to be without merit, losing could have a material adverse effect on our earnings, cash flows and financial condition.

For example, in May 2021, the District Court in The Hague, the Netherlands, ruled that by end 2030, Shell must reduce its aggregate net Scope 1, 2 and 3 emissions by 45%, compared with 2019 levels. The Scope 1 component is a results-based obligation and the Scope 2 and 3 components are a significant best-efforts obligation.

We have appealed the ruling but continue to implement our Powering Progress strategy to become a net-zero emissions energy business by 2050, regardless of the outcome of the appeal.

Our journey to net zero continued

Physical risks

Climate-related physical risk

The potential physical effects of climate change may impact Shell's assets, operations, supply chains, employees and markets.

Relevant time horizon:
short, medium and long

Potential material impacts on the organisation

Types of physical risk

Mitigation of physical risks, whether or not related to climate change, is considered and embedded in the design and construction of our projects, and/or operation of our assets to minimise the risk of adverse incidents to our employees and contractors, the communities where we operate, and our equipment.

The potential impact of physical changes comes from both acute and chronic physical risks. Acute risks, such as flooding and droughts, wildfires and more severe tropical storms, and chronic risks, such as rising temperatures and rising sea levels, could potentially impact some of our facilities, operations and supply chains. The frequency of these hazards and impacts is expected to increase in certain high-risk locations. Extreme weather events, whether or not related to climate change, could have a negative impact on our earnings, cash flows and financial condition.

Shell's 2023 assessment

In 2023 we carried out a detailed review to assess the impact of a range of changing climatic conditions including changes in temperature, precipitation, wind and sea levels across segments and geographies for our significant assets. We used IPCC climate modelling data covering three future climate scenarios (RCP2.6, RCP4.5 and RCP8.5 [A]) across the time horizons 2025, 2030 and 2050.

In the short to medium term, the risks were found to be related to factors that Shell is already aware of (whether or not related to climate change) and the assets are actively managing to mitigate, e.g. hurricane impacts in the US Gulf Coast, rising air temperatures in the Middle East and water scarcity in Europe and Asia. As an example, in recent years the Rhine river in Europe has seen historic lows during the summer months leading to challenges in the use of barges for transportation of our products. Dredging of harbours and investment in shallower-draft barges have helped to mitigate the risk.

In the long term, the results of the exercise indicated that while we have evaluated against current known risk factors and our current asset portfolio, the frequency and severity of the identified risk factors may increase by 2050. The level of predictability is such that the need for investment in climate adaptation measures at the assets is not immediate and the results mean we are in a position to monitor the assets and determine whether there is any need for adaptation action, e.g. the impact of potential water scarcity on various assets.

We tested over 70% of the carrying value of our physical assets as at December 31, 2022, to assess the potential impact of climate-related changes on our significant assets. 13% (based on the carrying value) of physical assets tested are considered to be exposed to climate-related physical risks in the short to medium term which the assets are already actively managing to mitigate. In addition, we reviewed significant acquisitions made in 2023 of which none are considered to be exposed to climate-related physical risks in the short to medium term.

Our plan reflects the impact of mitigating actions in the short to medium term. We will continue to monitor and assess the future exposure of our assets in the longer term to changing climatic conditions to establish the need for any further adaptation actions and related metrics.

Shell's 2023 assessment continued

Additionally, the impact of physical climate change on our operations is unlikely to be limited to the boundaries of our assets. The overall impact, including how supply chains, resource availability and markets may be affected, also needs to be considered for a holistic assessment of this risk. Our assets manage this risk as part of broad risk and threat management processes as required by our HSSE & SP Control Framework, part of the wider Shell Performance Framework.

[A] Representative Concentration Pathway (RCP) refers to the greenhouse gas concentration (not emissions) trajectory adopted by the IPCC. The pathways describe different climate change scenarios, all of which are considered possible depending on the amount of GHG emitted in the years to come.

Our journey to net zero continued

Transition opportunities

Climate-related opportunities

The transition to a low-carbon economy also brings significant opportunities for us to benefit from changing customer demands, given our position as a leading global energy provider.

Relevant time horizon:
short, medium and long

Potential material impacts on the organisation

As the global energy mix changes, our current infrastructure, know-how and global footprint put us in an ideal position to service the changing energy demands of the market. Our research and development (R&D) activities are key to achieving our net-zero emissions target.

As we work to deliver more value with less emissions we are focusing on:

1. Natural gas

Demand for liquefied natural gas (LNG) is expected to continue to grow. As one of the world's largest suppliers of LNG, with around 40 million tonnes of equity capacity, we can ship natural gas to where it is needed. LNG is critical to the energy transition and plays an important role in enabling countries to replace coal-fired power generation with a less carbon-intensive alternative, and provides grid stability alongside wind and solar power in electricity generation. Shell seeks to provide more affordable, reliable and cleaner energy to our customers.

In October 2023, we and our partners in the Oman LNG LLC (Oman LNG) venture signed an amended shareholders' agreement for Oman LNG, extending the business beyond 2024. We will remain the largest private shareholder in Oman LNG, with a 30% interest.

2. Continuing the transformation of our remaining integrated refineries into energy and chemicals parks

An important aim of our Powering Progress strategy is to continue to transform selected integrated refineries into energy and chemicals parks, which includes repurposing units to deliver more lower-carbon, high-value, sustainable products.

We are continuing to transform our refining business as part of our drive to create more value with less emissions. In early 2024, we announced our investment decision to convert the hydrocracker at our Energy and Chemicals Park Rheinland in Germany into a unit that will produce premium base oils, used to make high-quality lubricants, such as engine and transmission oils. The hydrocracker at the Wesseling site near Cologne will stop processing crude oil into petrol, diesel and jet fuel diesel by 2025. The planned changes are expected to reduce Shell's Scope 1 and 2 carbon emissions by around 620,000 tonnes a year.

3. Biofuels

Developing biofuels production is a key theme of our energy transition strategy. We are developing biofuels such as sustainable aviation fuel, biodiesel and renewable natural gas (RNG) to help our customers decarbonise without having to change their cars, trucks, planes or ships.

Shell and the non-operated joint venture Raizen (Shell interest 44%) are together one of the world's largest blenders and distributors of biofuels. Shell plans to continue to invest in and increase the production of these low-carbon fuels. Our low-carbon fuels projects and operations around the world form part of a wider commitment to provide a range of energy choices for customers. For example, we believe that sustainable aviation fuels (SAF) provide the most effective way of reducing emissions within the aviation sector, with wider adoption of SAF enabling us to provide more low-carbon fuels to our customers. Biofuels may also present opportunities in the shipping, road freight and other sectors. Together with our customers, we are working on changing energy demand and developing ways to help increase the use of low-carbon fuels and decrease carbon emissions from this sector.

Shell completed the acquisition of Nature Energy in February 2023, one of the largest producers of RNG in Europe. This acquisition supports Shell's ambitions to build an integrated RNG value chain at global scale and to profitably grow its low-carbon offerings to customers across multiple sectors.

In 2023, we announced a multi-year agreement to buy sustainable aviation fuel from Montana Renewables, the largest SAF producer in North America, and to work together on building blending and distribution capabilities to deliver SAF to customers. We also signed an agreement to supply SAF to Emirates airlines at Dubai International Airport, the first time that SAF has been used in the airport's fuelling system.

4. Downstream, Renewables and Energy Solutions

This encompasses our biofuels, charging for electric vehicles, renewable power, hydrogen and fuels of the future businesses as well as developing our carbon capture and storage business.

In March 2023, we entered into a joint venture with Eku Energy (Shell interest 45%) to deliver a utility-scale battery energy storage system in Australia. We have access to 100% of the battery system's offtake over a 20-year period. Completion of the project is expected in late 2024.

In June 2023, Hollandse Kust Noord, our offshore wind park in the Netherlands (Shell interest 79.9%), delivered its first megawatts of renewable electricity.

In 2023, Shell's spending on CCS opportunities (operating expenses and cash capital expenditure) amounted to around \$340 million, an increase of 55% from the \$220 million in 2022. Shell's equity share of captured and stored CO₂ was around 0.5 million tonnes in 2023 (0.4 million tonnes in 2022).

Impact of climate-related risks and opportunities on Shell's businesses, strategy and financial planning

The transformation of the energy system to net-zero emissions will require simultaneous action in three areas:

- an unprecedented improvement in the efficiency with which energy is used;
- a sharp reduction in the carbon intensity of the energy mix; and
- the mitigation of residual emissions using technology and natural sinks.

While it is difficult to predict the exact combination of actions that will deliver the net-zero goal, scenarios help us to consider the variables and the potential direction and pace of the transition needed.

Scenarios are not intended to be predictions of likely future events or outcomes and, therefore, are not the basis for Shell's operating plans and financial statements.

We have been developing scenarios within Shell for almost 50 years, helping Shell leaders to explore ways forward and make better decisions. Shell Scenarios are designed to stretch management's thinking when it comes to considering events that may be remotely possible. Scenarios help management make choices in times of uncertainty and transition as we grapple with tough energy and environmental issues. They are aligned to different energy transition pathways and help in decision-making by guiding the identification of risks and opportunities.

Our journey to net zero continued

Different socio-economic and technological parameters are used to construct these scenarios, such as:

- sectoral and regional energy demand;
- future trajectory of oil consumption and demand for natural gas;
- renewable electricity demand and the pace of the electrification of the global energy system;
- supply of solar and wind energy;
- pace of uptake of electric vehicles;
- demand for biofuels;
- growth of the hydrogen economy;
- level of carbon capture and storage (CCS);
- deployment of lower-carbon energy technologies; and
- global trade of oil and gas.

Management consideration of different climate change outcomes informs a range of areas, including but not limited to the setting of the long-term strategy, business planning, and investment and divestment decisions. The outcomes considered by management vary in relation to the extent and pace of the energy transition.

Impact on strategic planning

The application of scenario analysis informs our assessment of the impact of a wide range of risks and opportunities, including climate-change-related issues, on our strategy and business planning at the Group and business levels. At the Group level, the potential impacts of the energy transition on our business model are discussed and assessed by the Board and the Executive Committee as part of the annual strategic and business planning cycle. This assessment allows us to challenge accepted ways of thinking, identify material risks and opportunities, and identify key tensions and trade-offs.

Key financial and non-financial components of business planning

The Board approves our annual business plan. The plan contains operational and financial metrics, and its objective is to drive the delivery of our Powering Progress strategy.

Decarbonisation targets are key to our business planning process. Each business owner offers viable Scope 1, 2 and 3 reduction opportunities as part of this process, in line with the CMF (see page 87).

The business plan is underpinned by assumptions about internal and external parameters and includes:

- commodity prices;
- refining margins;
- production levels and product demand;
- exchange rates;
- future carbon costs;
- the schedules of capital investment programmes; and
- risks and opportunities that may have material impacts on free cash flow.

These assumptions are developed with input from our scenarios and internal estimates and outlooks. The level of uncertainty around these assumptions increases over longer time horizons.

Impact on business and financial planning

There is no single scenario that underpins Shell's business and financial planning. Scenarios are not intended to be predictions of likely future events or outcomes and, therefore, are not the basis for Shell's operating plans and financial statements. Our scenarios help in developing our future oil and gas pricing outlooks. The oil and gas pricing outlooks take account of factors relating to the energy transition, such as potential changes in supply and demand (see details

of scenario parameters above). The low-, medium- and high-pricing outlooks are prepared by a team of experts, reviewed by the EC and approved by the CEO and CFO. The mid-pricing outlook represents management's reasonable best estimate and is the basis for Shell's financial statements, operating plans and impairment testing.

Shell's operating plan reflects Shell's energy transition strategy. We will continue to update our business plan, price outlooks and assumptions as we move towards net-zero emissions by 2050.

As described in "Climate-related risks and opportunities identified by Shell over the short, medium and long term", the low-pricing outlooks could result in increased commercial, regulatory and societal risks, as well as transition opportunities. How these risks are prioritised is described in "Shell's processes for identifying and assessing climate-related risks". Given our target to become a net-zero emissions energy business by 2050, the use of low-pricing outlooks is part of our resilience testing and resulting actions.

Our strategy and national net-zero commitments

In accordance with UK Listing Rule 9.8.6FG, we have considered the extent to which country-level net-zero commitments have been considered in developing our transition plan.

Our Powering Progress strategy aims to deliver a net-zero emissions energy business by 2050. The pace of the energy transition will be heavily influenced by government policy, creating a strong country and regional dimension in seeking to deliver the aims of the Paris Agreement. Our commitment is a global one and, as such, we look to deliver our strategy through a global lens.

We seek to translate our energy transition strategy into specific targets and plans at a business segment level, ensuring we take capital deployment and portfolio decisions in the context of the globally integrated nature of our operations. However, we continue to recognise the importance of engagement and collaboration in delivering the fundamental changes to the energy system that are required. This includes supporting and advocating for policies that aim to reduce carbon emissions and working with governments and other stakeholders in the development of policy that supports the transition to a low-carbon energy system. As national transition plans develop, consideration will be given to the impact on our operations and the associated implications for our energy transition strategy.

Resilience of Shell's strategy to different climate-related scenarios

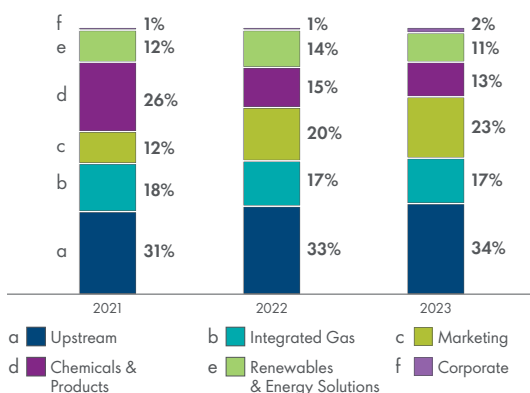
Shell's financial strength and access to capital give us the ability to reshape our portfolio as the energy system transforms. They also allow us to withstand volatility in oil and gas markets.

As we work towards net-zero emissions, we continue to exercise focus and discipline to optimise our capital allocation, balancing energy security and demand, as well as internal and external transition considerations and opportunities. We will make clear, disciplined choices about where we can create the most value for our investors and customers through the energy transition.

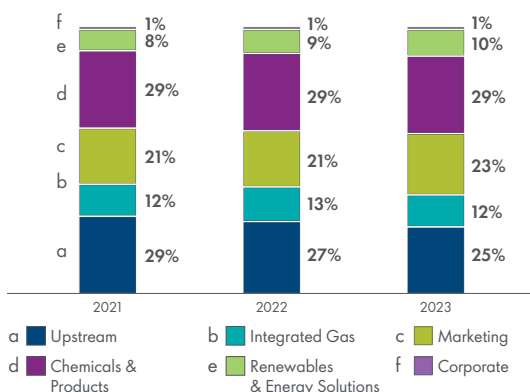
See Note 7 to the Consolidated Financial Statements "Segment information" on pages 272-277 for more information.

Our journey to net zero continued

Cash capital expenditure evolution by segment



Operational expenditure evolution by segment



Cash capital expenditure by segment for 2024 is expected to be approximately \$8 billion for Upstream, \$5 billion for Integrated Gas, \$3 billion for Marketing, \$3-4 billion for Chemicals and Products, and \$4-5 billion for Renewables and Energy Solutions.

Investing in the energy transition

Total cash capital expenditure * of \$24.4 billion in 2023

Non-energy products [A]
\$2.3 billion

Low-carbon energy solutions [B]
\$5.6 billion

LNG, gas and power marketing and trading [C]
\$4.0 billion

Oil, oil products and other [D]
\$12.5 billion

[A] Products for which usage does not cause Scope 3, Category 11 emissions: Lubricants, Chemicals, Convenience Retailing, Agriculture & Forestry, Construction & Road.

[B] E-Mobility and Electric Vehicle Charging Services, Low-Carbon Fuels, Renewable Power Generation, Environmental Solutions, Hydrogen, CCS. We define low-carbon energy products as those that have an average carbon intensity that is lower than conventional hydrocarbon products, assessed on a life-cycle basis.

[C] LNG Production & Trading, Gas & Power Trading, and Energy Marketing.

[D] Upstream segment, GTL, Refining & Trading, Marketing fuel and hydrocarbon sales, Shell Ventures, Corporate segment.

Movements in cash capital expenditure in 2023 versus 2022 were driven by:

- Non-energy products: 41% lower in 2023 than in 2022 due to the completion of Shell Polymers Monaca in 2022 and greater inorganic expansion in Lubricants and Convenience Retailing in 2022.
- Low-carbon energy solutions: increased by 30% mainly due to the acquisition of Nature Energy (nearly \$2 billion) and the roll-out of electric vehicle charging.
- LNG, gas and power marketing and trading: comparable year on year.
- Oil, oil products and other: remained at a similar level to 2022.

Energy transition: Total cash capital expenditure * by segment

				\$ billion	
Classification	Segment	2023		2022	
Non-energy products [A]	Marketing	0.9	2.3	1.5	3.9
	Chemicals and Products	1.4		2.4	
Low-carbon energy solutions [B]	Marketing	3.3	5.6	1.4	4.3
	Renewables & Energy Solutions	2.3		2.9	
LNG, gas and power marketing and trading [C]	Integrated Gas	3.7	4.0	3.8	4.2
	Renewables & Energy Solutions	0.3		0.4	
Oil, oil products and other [D]	Integrated Gas	0.5	12.5	0.5	12.5
	Upstream	8.3		8.1	
	Marketing	1.4		2.0	
	Chemicals and Products	1.8		1.4	
	Renewables & Energy Solutions	0.1		0.2	
	Corporate	0.4		0.3	
Total		24.4	24.4	24.8	24.8

[A] Products for which usage does not cause Scope 3, Category 11 emissions: Lubricants, Chemicals, Convenience Retailing, Agriculture & Forestry, Construction & Road.

[B] E-Mobility and Electric Vehicle Charging Services, Low-Carbon Fuels, Renewable Power Generation, Environmental Solutions, Hydrogen, CCS. We define low-carbon energy products as those that have an average carbon intensity that is lower than conventional hydrocarbon products, assessed on a life-cycle basis.

[C] LNG Production & Trading, Gas & Power Trading, and Energy Marketing.

[D] Upstream segment, GTL, Refining & Trading, Marketing fuel and hydrocarbon sales, Shell Ventures, Corporate segment.

* Non-GAAP measure (see page 365).

Our journey to net zero continued

Key aspects of Shell's financial resilience in the context of climate-related impacts are assessed and described in more detail in Note 4 to the "Consolidated Financial Statements". This describes how Shell has considered climate-related impacts in key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities. Shell's financial statements are based on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that may exist in the foreseeable future.

Sensitivity analysis using external, and often normative, climate scenarios has been performed for the period covering asset life cycles. If these different price outlooks were used, this would impact the recoverability of certain assets recognised in the "Consolidated Balance Sheet" as at December 31, 2023.

As there is no single scenario that underpins our plans, sensitivity analysis has been conducted using a range of key assumptions to test the resilience of our asset base. This includes sensitivity analysis on asset carrying values using commodity price outlooks from external, and often normative, climate change scenarios; shifting trends in our portfolio, particularly exploration and evaluation, Upstream production and refineries; risks related to stranded assets; resilience of investments for transformation of our refining sites into energy and chemicals parks; carbon price sensitivities; chemicals and refining margins price sensitivities; discount rate sensitivities; demand sensitivities; onerous contracts; forecast taxable profits sufficient to recover deferred tax assets; dividend resilience; and limited risk on timing of decommissioning and restoration activities for Integrated Gas and Upstream.

Commodity price sensitivities

Oil and gas prices are one of the key assumptions that underpin Shell's financial statements, with the mid-price outlook informed by Shell's scenario planning representing management's best estimate. Price outlooks reflect a broad range of factors, including but not limited to future supply and demand, and the pace of growth of low-carbon solutions. The scenarios have been selected to illustrate the resilience of the asset base under a range of possible outcomes, including the price implications arising from the IEA Net Zero Emissions scenario which provides a potential path for the global energy system to net-zero emissions by 2050. Sensitivities of asset carrying amounts to prices are under the assumption that all other factors in the models used to calculate impacts remain unchanged.

Sensitivity analysis has been performed using price outlooks from:

1. Average prices from three 1.5-2 degrees Celsius external climate change scenarios: In view of the broad range of price outlooks across the various scenarios, the average of three external price outlooks was taken from IHS Markit/ACCs 2023; Woodmac WM AET-1.5 degree; and IEA NZE50.

Applying these prices to Integrated Gas assets of \$72 billion and Upstream assets of \$84 billion as at December 31, 2023, shows recoverable amounts that are \$12-16 billion and \$3-5 billion lower, respectively, than the carrying amounts as at December 31, 2023.

2. Hybrid Shell Plan and IEA NZE50: for this Shell's mid-price outlook is applied for the next 10 years. Because of greater uncertainty, the IEA normative Net Zero Emissions scenario is applied for the period after 10 years. This gives less weight to the price-risk uncertainty in the first 10 years reflected in the Operating Plan period and applies more risk to the more uncertain subsequent periods.

Applying this priceline to Integrated Gas assets of \$72 billion and Upstream assets of \$84 billion as at December 31, 2023, shows recoverable amounts that are \$8-10 billion and \$1-3 billion lower, respectively, than the carrying amounts as at December 31, 2023.

3. A 1.5 degree scenario, derived from IEA NZE50: This priceline applies the IEA normative Net Zero Emissions scenario over the whole period under review and reflects the sensitivity to a pure net-zero emissions scenario from the IEA.

Applying this priceline to Integrated Gas assets of \$72 billion and Upstream assets of \$84 billion as at December 31, 2023, shows recoverable amounts that are \$15-20 billion and \$3-5 billion lower, respectively, than the carrying amounts as at December 31, 2023.

In addition, further sensitivities are provided of -10% or +10% to Shell's mid-price outlook, as an average percentage over the full period. A change of -10% or +10% to the mid-price outlook, as an average percentage over the full period, would result in around \$5-8 billion impairment or some \$2-5 billion impairment reversal, respectively, in Integrated Gas and Upstream as at December 31, 2023. Compared with the prior year, the higher impact of a 10% decrease in commodity prices is mainly driven by lower headroom for certain assets between carrying value and recoverable value at December 31, 2023.

Carbon pricing and discount rate sensitivities

The risk of stranded assets may increase in a higher-carbon-price scenario. Sensitivities of our asset carrying values to carbon prices have been based on an IEA NZE 2050 scenario to illustrate the resilience of asset carrying values to higher long-term carbon prices than those included in the Shell mid-price outlook.

Applying the IEA NZE 2050 carbon price scenario to Integrated Gas assets of \$72 billion and Upstream assets of \$84 billion, up to the end of life of these assets, shows recoverable amounts that are \$2-4 billion and \$1 billion lower, respectively, than the carrying amounts as at December 31, 2023.

Applying the IEA NZE 2050 carbon price scenario to Chemicals and Products assets of \$44 billion shows recoverable amounts that are \$3-4 billion lower than the carrying amounts as at December 31, 2023. For Chemicals and Products, increased carbon cost could potentially be recovered partially through increased product sale prices.

See "Carbon pricing" on page 88 for more information on our carbon price assumptions.

The discount rate applied for impairment testing is based on a nominal post-tax weighted average cost of capital (WACC) and is determined at 7.5%, except for power generation in the Renewables and Energy Solutions segment where 6% is applied. The discount rate includes systematic risk for energy transition risk. In addition, cash flow projections applied in individual assets include specific asset risks, including risk of transition. An increase in systematic climate risk could lead to a higher WACC and consequently to a higher discount rate to be applied in impairment testing. We have used a 1% shift in discount rate for sensitivity analysis purposes as an indicator of the resilience of our asset base to incremental increases in our cost of capital.

An increase of the WACC of 1% under the assumption that all other factors in the models used to calculate recoverability of carrying amounts remain unchanged would lead to a change in the carrying amount of \$2-4 billion for Integrated Gas and Upstream and up to \$1 billion in Chemicals and Products, and no significant impairment in other segments.

See Note 4 to the Consolidated Financial Statements on pages 259-269 for further information on climate-related impacts in key areas of the financial statements.

Our journey to net zero continued

Delivering our energy transition strategy

To ensure the resilience of our Powering Progress strategy, our responses to the risks and opportunities identified are:

- delivery through our integrated business model;
- decarbonisation of our energy value chains and operations; and
- a demand-driven decarbonisation approach – recognising that we need to work with our customers to identify low-carbon energy solutions for their energy demands in the sectors where we have competitive advantages.

Our net-zero target includes emissions from our operations, as well as from the end-use of all the energy products we sell. We will seek to reduce emissions from our own operations, including the production of oil and gas. More than 90% of the total emissions we include within our NCI boundary are indirect emissions associated with third-party products and end-use emissions of energy products we sell, so we are also working with our customers to support them in transitioning to low-carbon products and services. Our integrated approach allows us to withstand volatility in oil and gas markets. Our financial framework is based on continued capital discipline, capital flexibility and a strong balance sheet.

- In Integrated Gas, we are growing our world-leading liquefied natural gas (LNG) business. We see continued strong demand for LNG, especially in Asia, and plan to grow our LNG business by 20-30% by 2030 compared with 2022. LNG provides energy security and flexibility because it can be easily transported to places where it is needed most. LNG is a critical fuel in the energy transition and plays an important role as a lower-carbon alternative to coal for industry, and provides grid stability alongside wind and solar power in electricity generation.
- In Upstream, we continue to focus on more value and less emissions and expect that our oil production will remain stable through to 2030. The oil we are producing will increasingly come from our world-class deep-water business. Through innovative designs, our deep-water platforms are producing higher-margin and lower-carbon barrels. As we work towards net-zero emissions, we will continue to approach capital and carbon allocation with discipline and focus.
- In Downstream and Renewables and Energy Solutions, we are making clear choices and changes to enable this business to thrive through the energy transition. We are focusing on developing low-carbon energy and solutions where we have competitive advantages and are starting to see increasing demand. We are focusing on value over volume across all our businesses in Downstream and Renewables and Energy Solutions, while driving both our emissions and our customers' emissions lower.
- We are repurposing our refining portfolio to focus on four regional Energy and Chemicals parks, which we are transforming into the low-carbon hubs of the future producing biofuels and hydrogen. Our energy transition plans for this decade across our Downstream, Renewables and Energy Solutions business are focused on: growing our electric vehicle charging business; expanding our biofuels business; continuing to grow our integrated power positions, and developing technologies related to CCS and carbon removals.

See "Outlook" for more information on page 13.

Our research and development (R&D) activities are also key to achieving our net-zero emissions target. They are an important way to address the technology risk as mentioned in the "Transition risk and opportunities" section.

In 2023, our R&D expenditure on projects that contributed to decarbonisation was around \$628 million, representing about 49% of our total R&D spend, compared with around 41% in 2022. This includes expenditure on reducing GHG emissions:

- from our own operations, for example, by improving energy efficiency and electrification;
- from the fuels and other products we sell to our customers - for example, biofuels, synthetic fuels and products made from low-carbon electricity, and hydrogen produced using renewable sources;
- by carbon capture, utilisation and storage applied to hydrogen production from natural gas and other carbon emissions;
- by researching nature-based solutions to offset emissions; and
- for our customers through renewable power generation, storage, e-mobility and other electrification solutions.

Examples of R&D areas other than decarbonisation, include safety, performance products such as lubricants and polymers, automation and artificial intelligence.

Decarbonising our value chains and operations

We will seek to base the decarbonisation of our value chains and operations on a deep understanding of the decarbonisation strategies and plans of our customers and users of our energy products. We are focused on decarbonising our own operations by:

- making portfolio changes such as acquisitions and investments in new, low-carbon projects. We are also decommissioning plants, divesting assets, and reducing our production through the natural decline of existing oil and gas fields;
- improving the energy efficiency of our operations;
- transforming our remaining integrated refineries into low-carbon energy and chemicals parks, which involves decommissioning plants;
- using more renewable electricity to power our operations; and
- developing carbon capture and storage (CCS) for our facilities.

If required, we may choose to use high-quality carbon credits to offset any remaining emissions from our operations, in line with the mitigation hierarchy of avoid, reduce, and compensate.

In October 2021, we set an interim target to achieve a 50% reduction in absolute Scope 1 and 2 emissions under our operational control by 2030 on a net basis, when compared with 2016.

We aim to eliminate routine flaring from our upstream-operated assets by 2025 [A] and maintain methane emissions intensity for operated oil and gas assets below 0.2% and achieve near-zero methane emissions by 2030.

[A] Subject to completion of the sale of SPDC.

See "Working to reduce our absolute Scope 1 and 2 emissions" for more information on page 108.

Our journey to net zero continued

Supporting our customers in achieving net-zero emissions

Changes to the supply of energy products and decarbonising the energy system require structural changes in the end-use of energy. This requires energy users to improve, update or replace equipment so that they can use carbon-based energy more efficiently, or switch to low- and zero-carbon energy.

We aim to lead in the energy transition where we have competitive strengths, see strong customer demand, and identify clear regulatory support from governments. The transport sector is the largest market for our oil products. We are building on our customer relationships and expertise to help drive the decarbonisation of passenger cars, heavy-duty trucks, planes and ships. We want to become a world leader in charging for electric vehicles, and remain a world leader in biofuels as they become sustainable aviation fuels or renewable diesel made from waste. By transforming our refineries into four regional energy and chemicals parks, we are creating the low-carbon production hubs of the future.

For example, in the transport sector, decarbonisation includes replacing internal combustion engine vehicles with electric vehicles and converting heavy-duty transport to biofuels such as sustainable aviation fuel, renewable diesel, renewable gas and, in the future, hydrogen and its derivatives. In the industrial sector, LNG plays an important role as a lower-carbon alternative to oil- and coal-fired furnaces, and provides grid stability alongside wind and solar power in electricity generation. Such structural changes will help to trigger transitions along the supply chain of individual sectors and across sectors, including the production of energy and emissions over time. The IEA estimates that these changes in the end-use of energy will require substantial investment. Under the IEA Net Zero Emissions by 2050 scenario, for every one US dollar spent on fossil fuels, a further \$5.7 need to be spent on clean energy and a further \$5.6 spent on efficiency and end-uses.

We will seek to change the mix of energy products we sell to our customers as their needs for energy change. Emissions resulting from customer use of our energy products make up the largest percentage of Shell's carbon emissions. We believe we can make the greatest contribution to the energy transition by helping to enable our customers to switch to low-carbon energy products and services. This is reflected in Shell's strategy to develop a portfolio that seeks to:

- develop low- and zero-carbon alternatives to traditional fuel, including biofuels, hydrogen, and other low- and zero-carbon gases;
- provide more electricity to customers, while also driving a shift to renewable electricity;
- work with customers across different sectors to help them decarbonise their use of energy, for example by substituting the use of coal with LNG; and
- address any remaining emissions from conventional fuels with solutions such as CCS and carbon credits.

We have set targets to reduce the net carbon intensity (NCI) of the energy products we sell by 9-12% by 2024, 9-13% by 2025, 15-20% by 2030, and 100% by 2050.

The intended use of the NCI metric is to track progress in reducing the overall carbon intensity of the energy products sold by Shell. NCI measures emissions associated with each unit of energy we sell, compared to a 2016 baseline. It reflects changes in sales of oil and gas products, and changes in sales of low- and zero-carbon products – such as biofuels, hydrogen and renewable electricity.

Unlike Scope 1 and 2 emissions, reducing the NCI of the products we sell requires action by both Shell and our customers, with the support of governments and policymakers to create the right conditions for change.

Our focus on where we can add the most value has led to a strategic shift in our power business. We plan to build our integrated power business, including renewable power, in places such as Australia, Europe, India and the USA. We have withdrawn from the supply of energy directly to homes in Europe because we do not believe that is where our strengths lie.

In line with our shift to prioritising value over volume in power, we are concentrating on select markets and segments. One example is our focus on commercial customers more than retail customers. Given this focus on value, we expect growth in total power sales to 2030 will be lower than previously planned. This has led to an update to our NCI target. We are now targeting a 15-20% reduction by 2030 in the NCI of the energy products we sell, compared with 2016, against our previous target of a 20% reduction.

Acknowledging uncertainty in the pace of change in the energy transition, we have also chosen to retire our 2035 target of a 45% reduction in NCI.

We have set a new ambition to reduce customer emissions from the use of our oil products by 15-20% by 2030 compared with 2021 (Scope 3, Category 11). That is more than 40% compared with 2016 reported emissions. [A] This level of ambition is in line with the European Union's climate goals in the transport sector, among the most progressive in the world.

Achieving this ambition will mean reducing sales of oil products, such as petrol and diesel, as we support customers as they move to electric mobility and lower-carbon fuels, including natural gas, LNG and biofuels.

Our approach to climate change emphasises the need to work collaboratively. We aim to make strategic alliances with customers, other companies and entire sectors so we and they can make profitable progress towards net zero. As a founding member of the Oil and Gas Climate Initiative (OGCI), we are part of a group of 12 national and international energy companies. The OGCI supports the climate goals of the UN Paris Agreement and recognises that collective actions can help drive the energy transition.

[A] Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes carbon dioxide equivalent (CO₂e) in 2023, 569 million tonnes CO₂e in 2021 and 819 million tonnes CO₂e in 2016. Of the 40% reduction by 2030, around 8 percentage points are related to volumes associated with additional contracts being classified as held for trading purposes, impacting reported volumes from 2020 onwards.

Our journey to net zero continued

Energy transition in action - selection of portfolio changes and actions in 2023:

Growing sales of low-carbon products and solutions

- Shell completed the acquisition of Volta Inc. in the USA. We now operate one of the largest electric vehicle charging networks in the country, with more than 3,000 charge points across 31 states. We also acquired evpass, which owns Switzerland's largest network of electric vehicle charging stations.
- In China, we opened our largest electric vehicle charging station globally, which has 258 public fast-charging points partially powered by the station's solar photovoltaic panels.
- In Germany, we launched Hydrogen Pay-Per-Use, through which truck operators can hire hydrogen-fuelled trucks to explore transitioning their fleet from diesel to hydrogen and reduce their carbon emissions.
- The Hollandse Kust Noord (HKN) wind park, built by CrossWind, a joint venture between Shell and Eneco, became operational. It will add 759 MW of renewable energy to the Dutch electricity grid after final commissioning.
- Shell completed the acquisition of Nature Energy, one of the largest producers of RNG in Europe. This acquisition supports Shell's ambitions to build an integrated RNG value chain at global scale and to profitably grow its low-carbon offerings to customers across multiple sectors.
- Shell announced a multi-year offtake agreement for sustainable aviation fuel with Montana Renewables, one of the largest sustainable aviation fuel producers in North America.
- Our Northern Lights CCS project (Shell interest 33.3%) in Norway signed contracts in 2023 to transport and safely store 1.2 million tonnes of CO₂ a year. The CO₂ will be shipped from two of Orsted's biomass power plants in Denmark and a Yara ammonia and fertiliser plant in the Netherlands.
- Shell and Esso were jointly awarded three carbon storage appraisal licences in the UK's first-ever carbon storage licensing round. The joint venture (Shell interest 50%) will evaluate three sites in the North Sea for the potential storage of CO₂ captured and transported from industrial facilities in the UK.
- Shell continued to build a high-grade portfolio of carbon credits. In the USA, we launched Greenline Climate with the Spatial Informatics Group to provide development services for projects generating forest carbon credits. We also invested in and partnered with carbon project developer Kateri to accelerate advanced grazing management practices to improve rangeland productivity and carbon sequestration.

- We moved forward with our construction of Holland Hydrogen 1 (HH1), which will be one of Europe's largest renewable hydrogen plant once operational in 2025. The renewable power for the electrolyser will come from HKN. The renewable hydrogen produced will supply the Shell Energy and Chemicals Park Rotterdam, helping to decarbonise products like petrol, diesel and jet fuel. In the future, renewable hydrogen could also help cut emissions from commercial road transport.

Reducing emissions from our own operations

- In the US Gulf of Mexico, we are the leading operator and have one of the lowest greenhouse gas intensities in the world for producing oil, compared with those of other oil and gas producing members of the International Association of Oil & Gas Producers. Our latest Shell-operated development, Vito (Shell interest 63.1%), started production in 2023. Vito is a third the size of its original design, which will reduce its emissions by around 80% over its operating life. We are using the same design concept for our Shell-operated Whale (Shell interest 60%) and Sparta (Shell interest 51%) projects in the US Gulf of Mexico, which are expected to start production in 2024 and 2028 respectively. Sparta will also feature all-electric topside compression equipment, significantly reducing greenhouse gas intensity and emissions from our own operations.
- We delivered first gas from the Timi platform in Malaysia, which is powered by solar and wind. This unmanned platform is also more cost efficient, since it is around 60% lighter in weight than a conventional tender-assisted drilling wellhead platform that relies on oil and gas for power.
- We started to build the Rosmari-Marjoram gas project, which will be partially powered by 240 solar panels.
- We are continuing to transform our refining business as part of our drive to create more value with less emissions. In early 2024, we announced our investment decision to convert the hydrocracker at our Energy and Chemicals Park Rheinland in Germany into a unit that will produce premium base oils, used to make high-quality lubricants, such as engine and transmission oils. The hydrocracker at the Wesseling site near Cologne will stop processing crude oil into petrol, jet fuel and diesel by 2025. The planned changes are expected to reduce Shell's Scope 1 and 2 carbon emissions by around 620,000 tonnes a year.
- The final investment decision was taken to build Porthos, Europe's largest CCS facility, at the port of Rotterdam, starting in 2024. Shell will be the biggest customer, supplying 1 million tonnes of CO₂ a year.

Our journey to net zero continued

Climate risk management

Shell's processes for identifying and assessing climate-related risks

Identifying climate-related risks

Shell considers climate change and the energy transition a material risk factor. We monitor the risks related to these across four components:

- commercial risks;
- regulatory risks;
- societal risks (including litigation risk); and
- physical risks.

These components are monitored and assessed on an integrated basis, necessitated by the interdependence of the risks and the related actions. The different components pose different kinds of exposures spanning different time horizons. Similarly, the responses to the components of the risk are also planned by taking a holistic view. Our integrated approach to risk management and the resulting changes in our strategy ensure we manage our aggregate climate change risk within our overall risk appetite over different time horizons.

For example, the increasing cost of complying with emission limits in some regions is a regulatory risk that may require operational responses in the near term. The reduction in demand for legacy hydrocarbons is a commercial risk that may have a medium- to long-term impact, demanding changes to our strategic portfolio and business models. The risk of physical impacts of climate change may occur in the short, medium and long term and may require actions to mitigate adverse impacts on our assets and supply chain. As an example, the transformation of our refineries into energy and chemicals parks reduces the level of our operational emissions and medium- to long-term commercial risks, allowing us to plan for future adaptation measures.

Shell's processes for identifying and assessing risks are part of the Shell Performance Framework.

Our risk management procedures that help us identify climate-related risks and opportunities include:

- monitoring external developments, including policy changes and new regulations;
- evaluating the status of risk indicators, which illustrate how well we are managing each component of the risk related to climate change and the energy transition; and
- learning from incidents and assurance findings.

We use these procedures to identify risks and determine their significance, both individually and relative to other risks.

Assessing climate-related risks

For each identified risk, we evaluate its impact, likelihood and the level of risk we are willing to accept.

When assessing the likelihood of a risk occurring, we consider factors such as our ability to prevent the risk happening and whether the risk has materialised in the past.

We consider the financial consequences and how it might affect our reputation, our ability to comply with regulations, and possible damage to health, safety, our assets and the environment. The impact, and hence materiality, of a risk is based on how critical it could be to our business model. For example, as we operate in multiple countries, societal risks are material to our licence to operate.

The impact and likelihood assessment helps us to prioritise risks and determine their relative materiality, based on a comprehensive picture of significant risks to any relevant business objectives.

To support our risk assessments, we seek to establish the level of risk that we are willing to accept in pursuit of Shell's strategy and objectives. We consider the amount of resources – such as financial resources, people, processes, systems and controls – that we are willing and able to allocate to manage each risk in pursuit of our objectives and the impact for Shell's overall risk profile.

The impact and likelihood assessment, combined with risk appetite, determines the type of risk responses, such as controls and assurance activities, that may be required to manage each risk.

Possible responses include:

- accepting the risk without any further action;
- mitigating or reducing the risk with appropriate controls, supported by assurance activities;
- transferring the risk, for example to insurance providers where appropriate; and
- altogether stopping or forgoing the activity that gives rise to the risk.

In determining our risk responses, we always seek to comply with our Code of Conduct and other boundaries, such as our financial framework, which set the aggregate level of risk appetite that could be sustained. The Financial Framework considers boundaries such as our net debt levels and our credit rating.

Classifications of risks

We identify and define risks across the spectrum of strategic, operational, and conduct and culture risks. With strategic risks we consider current and future portfolio issues, examining parameters such as country concentration or exposure to higher-risk countries. We also consider long-range developments to test key assumptions or beliefs in relation to energy markets. When assessing operational risks, we consider material operational exposures across Shell's entire value chain which provides a more granular assessment of key risks facing the organisation. For conduct and culture risks we consider how our policies and practices align with our purpose, core values and desired mindset and behaviours.

Against the above categories, we assess the four sub-components of risk related to climate change and the energy transition – commercial, regulatory, societal (including litigation) and physical risks. This helps us maintain strategic resilience, robust operational risk responses and alignment of our responses with Shell's purpose and core values.

Shell's processes for managing climate-related risks

On an ongoing basis, our assets leverage broad risk and threat management processes to identify and respond to emerging challenges to their ongoing safe, compliant and efficient operation, including climate-related risk, as required by our HSSE & SP Control Framework. Our risk management processes are carried out at the Group, business, function and asset level, which includes projects.

We apply the Shell Performance Framework to ensure that we effectively manage our climate-related risks at all these levels.

The Framework includes:

- mandatory standards and manuals;
- project-level risk management processes;
- management and Board reviews;
- internal audits; and
- annual assurance letter process.

Our journey to net zero continued

Mandatory standards and manuals

Our climate change risk management approach is supported by standards and manuals as part of our HSSE & SP Control Framework. They provide guidance on how to monitor, communicate and report changes in the risk environment. These documents aim to:

- ensure consistent management and assessment of climate risk across Shell;
- clarify expectations for risk management and reporting, including roles and responsibilities of the risk owners;
- clarify types of assurance activities that may be applicable;
- strengthen decision-making by ensuring that businesses have better awareness and understanding of climate risks (including their likelihood and potential impact) and mitigation plans; and
- enable integration of Shell's reporting.

We periodically review and, if necessary, update our standards and manuals in light of developments in risks, including those associated with climate change. We are in the process of transitioning to new Safety, Environment & Asset Management Standards as part of the Shell Performance Framework. Our approach continues to evolve as we increase our understanding of changing policies and the differing pace of energy transition in different regions.

Project-level risk management processes

At a project level, assessing climate-related risks is an important part of making initial investment decisions. Projects of a certain size or which carry unusual risks are required to follow Shell's Opportunity Realisation Standard, which sets out the rules for managing and delivering opportunities in the organisation. Each project is assisted by experts from our global subject matter groups during its development, implementation and operation.

Projects under development that are expected to have a material GHG impact must meet our internal carbon performance standards or industry benchmarks. An exception process is in place to manage specific incidental cases. Performance standards are under development for power and hydrogen projects. Our performance standards are used for measuring a project's average lifetime GHG intensity or energy efficiency per asset type. Projects with a material GHG footprint that meet the performance standards or industry benchmarks will often set more ambitious emissions targets for themselves. GHG abatement plans help determine the nature of these targets, and we assess the effects of a project's emissions alongside economic and technical design factors. Applying these criteria ensures that our projects can compete and prosper in the energy transition.

The performance standards are approved by the Executive Vice President accountable for implementation in the relevant businesses, and by the Executive Vice President Safety, Environment and Asset Management.

We assess the future GHG emissions of projects against performance standards and by considering the GHG emissions from the use of the products that are to be manufactured. These assessments can lead to projects being stopped or designs being changed.

We expect the performance standards to evolve as our portfolio changes in the energy transition.

Management and Board reviews

Climate change matters and risks resulting from GHG emissions are reviewed and managed in line with other significant risks through the Board and EC. Management, the Board and Board committees review the risk of climate change and the energy transition to understand and assess emerging issues that may impact our strategy or our responses to this risk at an operational level. For example, as part of the annual planning cycle, the EC and the Board assess how climate change and GHG emissions may affect the pace of the energy transition, business emission reduction plans and the implications for Shell's current portfolio.

We have established several dedicated internal forums related to climate change and the energy transition. These are at different levels of the organisation and seek to address, monitor and review climate change issues.

In addition, each business and function regularly reviews its risk profile, risk responses and assurance activities throughout the year to ensure climate-related risks are managed effectively. These insights are used to provide management with updates on the operational management of climate change and the energy transition risks. During these updates, business and functions management review whether our risk responses are effective in addressing the four sub-components of the climate change and energy transition risk. These reviews help us to update Shell's plans and guide our day-to-day operational decisions such as maintenance schedules and our risk response plans.

Internal audit process

Shell's Internal Audit and Investigations (SIAI) team provides independent and objective assurance and advises management and the Board on the adequacy and effectiveness of our risk management and internal controls.

For example, SIAI conducted five audits during 2023 that included the testing of controls related to GHG emissions measurement, reporting, forecasting and abatement projects.

Annual assurance letter process

Each member of the EC must submit an annual assurance letter to the CEO that their business's or function's activities have been conducted in accordance with the requirements set out in the HSSE & SP Control Framework. This assurance includes the assessment of the effectiveness of the internal controls in managing climate- and energy-transition-related risks.

Integration of the climate-related risk management process into Shell's overall risk management

Our climate-related risk management process follows the approach set out by the Shell Performance Framework, ensuring that it is integrated into the overall risk management processes of the Group.

Climate-related risks are considered from a strategic and operational perspective to ensure we maintain a comprehensive view of the different types of climate risks we face and the different time horizons in which they may affect us. The monitoring and review of risks is a key risk management process in Shell.

The EC, the Board and Board committees review climate-related risks and their impact on the Group. This allows management to take a holistic view and optimise risk mitigation responses, to ensure that climate-related risk responses are properly integrated into the relevant activities.

Our journey to net zero continued



Project-level risk management in action: Energy and Chemicals Park Rheinland

We are continuing to transform our refining business as part of our drive to create more value with less emissions. Shell announced plans in January 2024 to convert the hydrocracker at its Energy and Chemicals Park Rheinland in Germany into a unit that will produce premium base oils, used to make high-quality lubricants, such as engine and transmission oils.

The Wesseling site near Cologne will stop processing crude oil into petrol, diesel and jet fuel by 2025, and the plant will have a high degree of electrification. These changes are expected to reduce Shell's Scope 1 and 2 carbon emissions by around 620,000 tonnes a year.

The new base oil plant is expected to start operations in the second half of this decade. It will have a production capacity of around 300,000 tonnes a year, equivalent to about 9% of current EU demand and 40% of Germany's demand for base oils.

This investment, financed by Shell's Chemicals and Products business, meets the minimum acceptable internal rate of return set out at our Capital Markets Day in 2023. It is the latest key development in the transformation of the Energy and Chemicals Park Rheinland. We are already investing in a 10-megawatt electrolyser to produce renewable hydrogen and a biomethane liquefaction plant.

Photo: Boats sitting at the Shell Energy and Chemicals Park Rheinland, Cologne-Godorf harbour leading to the Rhine.

Our journey to net zero continued

Climate-related metrics and targets

Metrics used by Shell to assess climate-related risks and opportunities in line with its strategy and risk management process

This section describes our performance and progress in respect of our climate-related targets, including those reflected in the remuneration of senior management and employees.

Shell's target is to become a net-zero emissions energy business by 2050. We have set intensity targets and absolute targets and ambitions over the short, medium and long term to track our performance over time (as summarised below). The targets are forward-looking targets based on management's current expectations and certain material assumptions and, accordingly, involve risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied herein.

We believe our total net absolute emissions peaked in 2018 at 1.73 gigatonnes of carbon dioxide equivalent (GtCO₂e).

In October 2021, in support of our 2050 net-zero emissions target, we set a target to reduce Scope 1 and 2 absolute emissions from assets and activities under our operational control (including divestments) by 50% by 2030 compared with the 2016 baseline, on a net basis. We aim to maintain methane emissions intensity for operated oil and gas assets below 0.2% and achieve near-zero methane emissions by 2030. We aim to eliminate routine flaring from our upstream-operated assets by 2025 [A].

[A] Subject to completion of the sale of SPDC.

We have set targets to reduce the net carbon intensity (NCI) of the energy products we sell by 9-12% by 2024, 9-13% by 2025, 15-20% by 2030, and 100% by 2050.

The intended use of the NCI metric is to track progress in reducing the overall carbon intensity of the energy products sold by Shell. NCI measures emissions associated with each unit of energy we sell,

compared to a 2016 baseline. It reflects changes in sales of oil and gas products, and changes in sales of low- and zero-carbon products – such as biofuels, hydrogen and renewable electricity.

Unlike Scope 1 and 2 emissions, reducing the NCI of the products we sell requires action by both Shell and our customers, with the support of governments and policymakers to create the right conditions for change.

Our focus on where we can add the most value has led to a strategic shift in our power business. We plan to build our integrated power business, including renewable power, in places such as Australia, Europe, India and the USA. We have withdrawn from the supply of energy directly to homes in Europe because we do not believe that is where our strengths lie.

In line with our shift to prioritising value over volume in power, we are concentrating on select markets and segments. One example is our focus on commercial customers more than retail customers. Given this focus on value, we expect growth in total power sales to 2030 will be lower than previously planned. This has led to an update to our NCI target. We are now targeting a 15-20% reduction by 2030 in the NCI of the energy products we sell, compared with 2016, against our previous target of a 20% reduction. Acknowledging uncertainty in the pace of change in the energy transition, we have also chosen to retire our 2035 target of a 45% reduction in NCI.

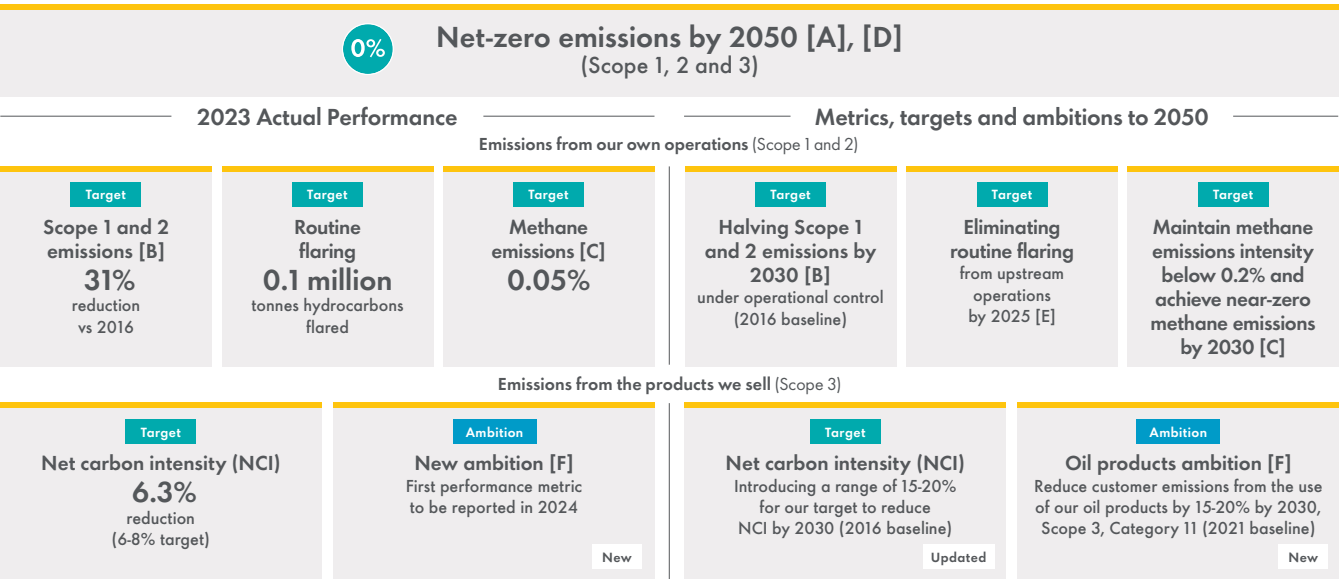
We have set a new ambition to reduce customer emissions from the use of our oil products by 15-20% by 2030 compared with 2021 (Scope 3, Category 11) [B]. This level of ambition is in line with the European Union's climate goals in the transport sector, among the most progressive in the world.

Achieving this ambition will mean reducing sales of oil products, such as petrol and diesel, as we support customers as they move to electric mobility and lower-carbon fuels, including natural gas, LNG and biofuels.

[B] Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes carbon dioxide equivalent (CO₂e) in 2023 and 569 million tonnes CO₂e in 2021.

We monitor our progress against these targets and ambitions using the key metrics described.

Climate-related targets and ambitions summary



[A] We believe our total net absolute emissions peaked in 2018 at around 1.73 gigatonnes of carbon dioxide equivalent (GtCO₂e) per annum.
[B] Operational control boundary. Our 2030 and 2050 targets are on a net basis (i.e. inclusive of any future use of carbon credits).
[C] Covers all oil and gas assets for which Shell is the operator. Measured separately for assets with marketed gas (gas, LNG and GTL available for sale) and assets without marketed gas (oil and gas assets where gas is reinjected). 2023 actual performance relates to assets with marketed gas.
[D] Our targets for 2050 are based on mitigation activities undertaken by both Shell and our customers.
[E] Subject to completion of the sale of SPDC.
[F] In our energy transition update in March 2024, we have set an ambition to reduce customer emissions from the use of our oil products (Scope 3, Category 11) by 15-20% by 2030, compared with 2021. Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes carbon dioxide equivalent (CO₂e) in 2023 and 569 million tonnes CO₂e in 2021.

Our journey to net zero continued

Key metrics we use to track progress against our energy transition strategy are the NCI of our portfolio and our absolute emissions. Additional metrics associated with the resilience of Shell's strategy to climate-related risks and opportunities are included in "Energy transition strategy" from page 89. This includes information on capital allocation between our business segments and the sensitivity of our assets to carbon pricing, discount rate and commodity price assumptions.

Scope 1, Scope 2 and Scope 3 emissions and related risks

In assessing progress against our target to be a net-zero emissions energy business by 2050, we report our performance against our Scope 1 and 2, and Scope 3 emissions.

See "Climate-related risks and opportunities identified by Shell over the short, medium and long term" on pages 90-93.

Shell's absolute emissions in 2023

In 2023, our total combined Scope 1 and 2 absolute GHG emissions (from assets and activities under our operational control) were 57 million tonnes on a carbon dioxide equivalent basis (CO₂e), a 2% reduction compared with 2022, and a 31% reduction compared with 2016, the base year for our target. Scope 3 emissions associated with our energy product sales were 1,147 million tonnes CO₂e.

Absolute emissions [D, E, F, G]

Scope	Reporting boundary	million tonnes of CO ₂ e			
		2023	2022	2021	2016
Scope 1 [A]	operational control	50	51	60	72
Scope 2 [B]	operational control	7	7	8	11
Scope 3 [C]	equity	1,147	1,174	1,299	1,545

- [A] Total direct (Scope 1) GHG emissions from assets and activities under our operational control. It includes emissions from production of energy and non-energy products.
- [B] Total indirect GHG emissions from imported energy (Scope 2) from assets and activities under our operational control using the market-based method. It includes imported energy used for production of energy and non-energy products.
- [C] Indirect GHG emissions (Scope 3, Categories 1, 3, 9 and 11) based on the energy product sales included in NCI using equity boundary. There was a decrease in reported volumes associated with additional contracts being classified as held for trading purposes with effect from January 2020. We estimate that netting of oil products sales volumes resulted in a reduction in GHG emissions of around 73 million tonnes CO₂e in 2021 compared with 2016.
- [D] Emissions are reported gross without the inclusion of carbon credits.
- [E] Oil and gas industry guidelines from IPIECA indicate that several sources of uncertainty can contribute to the overall uncertainty of a corporate emissions inventory. We have estimated the overall uncertainty for our direct GHG emissions (Scope 1) to be around 4% and for our energy indirect GHG emissions (Scope 2) to be around 8% for the market-based method and 7% for the location-based method for 2023. IPIECA also notes that due to the diversity of Scope 3 emissions, sources and the fact that these emissions occur outside the company's boundaries, the emissions estimates may be less accurate or may have a high uncertainty.
- [F] Figures disclosed are rounded. Rounding differences can occur between the total combined Scope 1 and 2 absolute GHG emissions disclosed in this Report and the sum of its components individually rounded to the nearest million tonnes.
- [G] Acquisitions and divestments have been included in the actual performance tracking with the target unchanged. Note that acquisitions and divestments could have a material impact on meeting the targets.

Drivers of Scope 1 and 2 emissions

Our direct GHG emissions (Scope 1, operational control boundary) decreased from 51 million tonnes of carbon dioxide equivalent (CO₂e) in 2022 to 50 million tonnes CO₂e in 2023, driven by several factors including:

- divestments in 2022 (e.g. Deer Park and Mobile refinery, Tunisia Miskar concession, offshore Baram Delta Operations (BDO) PSC and Block SK307 PSC in the Philippines) and handover of operations in OML 11 in Nigeria in 2022;
- unplanned downtime (e.g. Deer Park Chemicals);
- reduced flaring from assets including Shell Nigeria Exploration and Production Company (SNEPCo);
- reduction activities (see examples in the list of energy efficiency projects on page 115) and purchase of renewable electricity.

These decreases were partly offset by Shell Polymers Monaca having more units online in 2023 and higher emissions from Pearl and Prelude with increased production.

Total routine flaring [A]

	Million tonnes			
	2023	2022	2021	2016
Total hydrocarbons flared in routine flaring	0.1	0.1	0.2	1.1

[A] Routine flaring of gas occurs during normal oil production if it is not possible to use the gas or reinject it into the well.

Total routine flaring from our upstream oil and gas assets remained relatively stable in 2023 compared with 2022 at 0.1 million tonnes, having reduced from 1.1 million tonnes in 2016.

Around 50% of total routine and non-routine flaring in our Integrated Gas and Upstream facilities in 2023 occurred in assets operated by the Shell Petroleum Development Company of Nigeria Limited (SPDC) and SNEPCo.

On January 16, 2024, Shell reached an agreement to sell SPDC to Renaissance, a consortium of five companies, subject to approvals by the Federal Government of Nigeria and other conditions. SPDC will continue to operate the SPDC joint venture (SPDC JV [A]) on behalf of all the joint-venture partners, who together will continue to make decisions relating to work programmes for the SPDC JV's assets and infrastructure. This includes work programmes to eliminate routine flaring.

[A] The SPDC JV comprises SPDC Ltd (30%), the government-owned NNPC (55%), Total Exploration and Production Nigeria Ltd (10%) and Nigeria Agip Oil Company Ltd (5%).

Our journey to net zero continued

Methane emissions and methane emissions intensity

		2023	2022	2021	2016
Methane emissions intensity - assets with marketed gas [A]	%	0.05%	0.05%	0.06%	0.10%
Methane emissions intensity - assets without marketed gas [B]	%	0.001%	0.01%	0.01%	0.03%
Methane emissions [C]	thousand tonnes	41	40	55	138

[A] Methane emissions intensity from all oil and gas assets for which Shell is the operator that market their gas (incl. LNG and GTL assets), defined as the total volume of methane emissions in normal cubic metre (Nm³) per total volume of gas available for sale in Nm³.

[B] Methane emissions intensity from all oil and gas assets for which Shell is the operator that do not market their gas (e.g. where gas is reinjected) defined as the total mass of methane emissions in tonnes per total mass of oil and condensate available for sale in tonnes.

[C] Total methane emissions for all assets under Shell operational control including Integrated Gas and Upstream and Downstream and Renewables and Energy Solutions assets, quantified according to industry best practice.

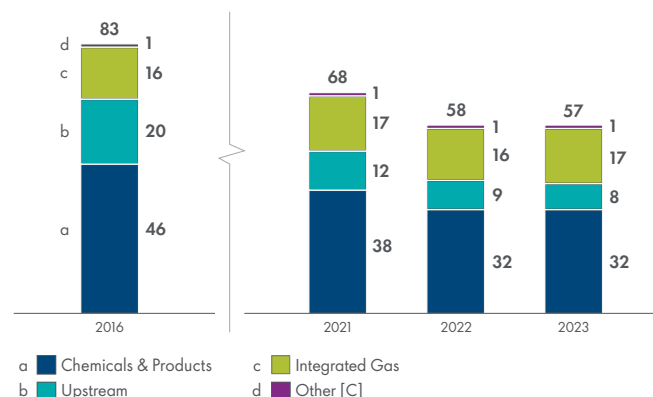
Our target to keep methane emissions intensity below 0.2% was met in 2023 with Shell's overall methane emissions intensity at 0.05% for facilities with marketed gas and 0.001% for facilities without marketed gas.

In 2023, Shell's total methane emissions were 41 thousand tonnes compared with 40 thousand tonnes in 2022. The increase was due to venting (e.g. the maintenance of our Floating LNG Prelude asset and operational issues in assets operated by Sarawak Shell Berhad) and an increase in reported emissions from integrated gas assets in Canada resulting from the adoption of enhanced source-level measurements in line with The Oil and Gas Methane Partnership (OGMP) reporting requirements.

We believe our methane emissions are quantified according to industry best practice. Methane emissions include those from unintentional leaks, venting and incomplete combustion, for example in flares and turbines.

Scope 1 & 2 – performance [A, B]

million tonnes carbon dioxide equivalent (CO₂e)



[A] Total direct (Scope 1) and energy indirect (Scope 2) GHG emissions from assets and activities under the operational control boundary. It includes emissions from production of energy and non-energy products. For Scope 2, we used the market-based method.

[B] Figures disclosed are rounded. The split between Scope 1 and 2 may not add up to the total due to rounding.

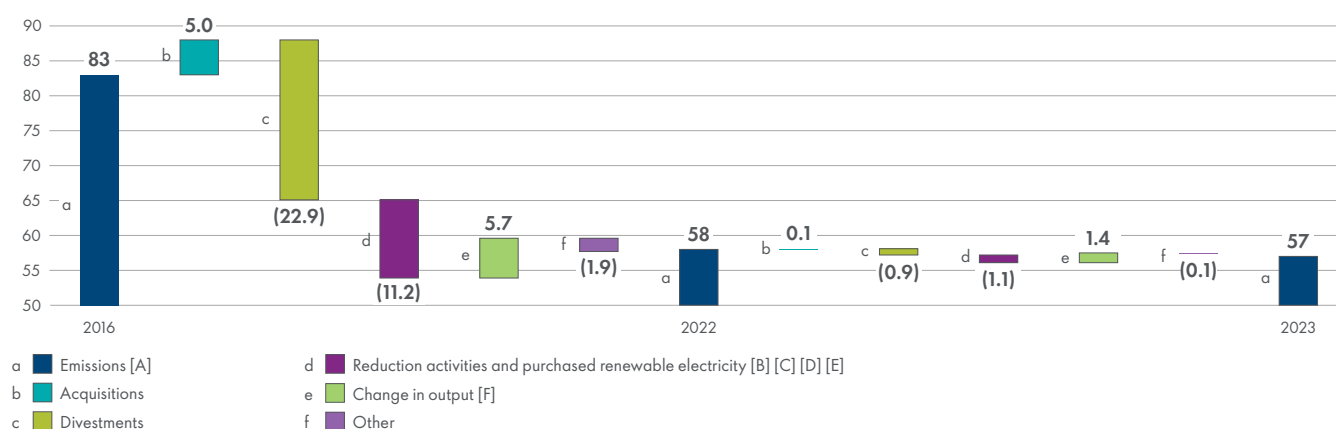
[C] Other covers Renewables and Energy Solutions, Marketing, P&T and Real Estate.

Our indirect GHG emissions associated with imported energy (Scope 2, operational control boundary) remained flat at 7 million tonnes CO₂e in 2023 (using the market-based method), compared with 2022.

Drivers of absolute Scope 1 and 2 emissions change

Scope 1 and Scope 2 GHG emissions changes from 2016 to 2022 and from 2022 to 2023

million tonnes carbon dioxide equivalent (CO₂e)



[A] Total Scope 1 and Scope 2 emissions, rounded to the nearest million tonnes. Scope 2 emissions were calculated using the market-based method.

[B] In addition to reductions from GHG abatement and energy efficiency projects, this category also includes reductions from shutdowns and conversion of existing assets.

[C] Excludes 6.8 million tonnes of CO₂ captured and sequestered by the Shell-operated Quest CCS facility in Canada in 2016-2022.

[D] Excludes 1.0 million tonnes of CO₂ captured and sequestered by the Shell-operated Quest CCS facility in Canada in 2023.

[E] Of the 1,081 thousand tonnes of reduction activities and purchased renewable electricity in 2023, around 200 thousand tonnes related to purchased renewable electricity.

[F] Change in output relates to changes in production levels, including those resulting from shutdowns and turnarounds as well as production from new facilities.

Scope 3 and net carbon intensity

NCI performance

In 2023, Shell's NCI was 74 grams of carbon dioxide equivalent per megajoule of energy (gCO₂e/MJ), a 2.6% decrease from the previous year and a 6.3% reduction compared with the 2016 baseline. The decrease in Shell's NCI in 2023 was mainly achieved through a reduction in the average intensity of power sold and the use of carbon credits. The power intensity reduction was driven mainly by progress in grid decarbonisation in key markets such as the USA and Europe and partly by increased sales of renewable power including the retirement of Renewable Energy Certificates.

Our journey to net zero continued

NCI performance

(equity boundary)		2023	2022	2021	2016
NCI [A] [B]	gCO ₂ e/MJ	74	76	77	79
Estimated total energy delivered by Shell [C]	trillion (10 ¹²) MJ	16.07	16.29	17.89	20.93
Estimated total GHG emissions included in NCI (net) [D]	million tonnes CO ₂ e	1,185	1,240	1,375	1,645
Carbon credits	million tonnes CO ₂ e	20.0	4.1	5.1	0.0
Estimated total GHG emissions (gross) [E]	million tonnes CO ₂ e	1,205	1,244	1,381	1,645

[A] All figures disclosed are rounded. In grams of carbon dioxide equivalent per megajoule.

[B] Acquisitions and divestments are included in the actual performance tracking with the target and baseline year unchanged. Acquisitions and divestments could have a material impact on meeting the targets.

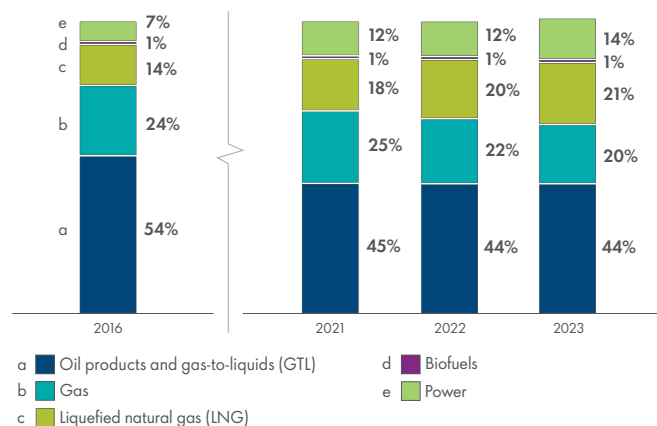
[C] Volume of energy products sold, aggregated on an energy basis, with power represented as fossil equivalent. Energy products consist of energy oil products (gasoline, diesel, kerosene, fuel oil and LPG), GTL, biofuels, liquefied natural gas, pipeline gas and power. The NCI calculation uses energy product sales volumes data, disclosed in this Report where relevant. These sales volumes exclude certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies have been applied to net volumes of oil products, pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are not included in the sales volumes reported by Shell and are therefore excluded from the scope of Shell's NCI metric.

[D] These numbers include well-to-wheel emissions associated with energy products sold, on an equity boundary basis; they also include the well-to-tank emissions associated with the manufacturing of energy products by others that are sold by Shell. Emissions associated with the manufacturing and use of non-energy products are excluded.

[E] While the NCI is an intensity measure and not an inventory of absolute emissions, a notional estimate of the amount of GHG emissions covered by the scope of the NCI calculation can be derived from the final NCI value for any year. Similarly, a fossil-equivalent estimate of the total amount of energy sold included in the calculation can also be determined.

As part of our Powering Progress strategy, we aim to increase the share of low-carbon products in our energy product sales, which is the biggest driver for reducing our NCI.

Share of estimated total energy delivered per energy product type [A]-[B]



[A] Percentage of delivered energy may not add up to 100% because of rounding.

[B] Total volume of energy products sold, aggregated on an energy basis (lower heating value) with power represented as fossil equivalents. Emissions included in the carbon intensity of power have been calculated using the market-based method. The carbon intensity of biofuels reflects the global average for biofuels sold in 2023.

Our ability to change the emissions intensity of each energy product varies depending on the product type:

- Hydrocarbon fuels - emissions from end-use by customers are by far the biggest contributors to the carbon intensity of the product. As a result, the emissions intensity of hydrocarbon fuels is expected to stay relatively unchanged over time. This is why we are focused on helping our customers decarbonise.
- Biofuels - can vary significantly in intensity depending on the feedstock and production process used.
- Power - the emissions intensity of power can be highly variable depending on how it has been generated. The proportion of our renewable power sales and the generation mix in countries where we sell power to the market both affect Shell's overall power mix and its resulting emissions intensity.

Carbon intensity of energy products

	gCO ₂ e/MJ			
	2023	2022	2021	2016
Oil products and gas-to-liquids	91	91	91	89
Gas	66	65	66	67
Liquefied natural gas (LNG)	70	70	70	71
Biofuels	39	39	41	40
Power [A]	49	58	66	59

[A] In 2021, we changed our approach to the estimation of the emissions intensity of the power we sell. This prospective change was the main driver for the intensity increase compared with 2016.

Carbon credits

	Million carbon credits [A]			
	2023	2022	2021	2016
Total carbon credits [B]				
Included in Shell's NCI metric [C]	20.0	4.1	5.1	0.0
Excluded from Shell's NCI metric [D]	1.8	1.7	1.3	0.0

[A] One carbon credit represents the avoidance or removal of one metric tonne of CO₂ equivalent.

[B] Represents credits relating to transactions occurring in the financial year irrespective of the actual retirement date. Retirements from registries may take place after the year-end. Excludes carbon credits transactions executed by Shell on behalf of/with third parties without a link to Shell activities.

[C] Carbon credits associated with the sale of energy products and carbon credits used to compensate for Shell Group emissions including operational emissions and emissions associated with the use of sold products.

[D] Carbon credits retired in relation to sales of non-energy products and Shell's internal activity like corporate travel.

In 2023, Shell's NCI accounted for 20.0 million carbon credits, of which 4.0 million were linked to the sale of energy products. Of the carbon credit retirements included in Shell's NCI metric for 2023, 85% were certified by Verra, 9% by the American Carbon registry, 6% by Gold Standard, and less than 1% via Australian Carbon Credit Units.

Our journey to net zero continued

Drivers of absolute Scope 3 emissions change in 2023

We sell more energy products than the energy products we produce ourselves, therefore, when we calculate our emissions, we include emissions from energy products that we produce ourselves as well as from the products that we purchase from others for resale. This is reflected in the scope for calculation of our emissions shown in the chart on page 111. Our strategy is based on working with our customers to address the emissions from the use of our products and to help them find ways to reduce their emissions to net zero by 2050.

Scope 3 emissions by category

GHG emissions (equity boundary), million tonnes CO ₂ e [A]	2023	2022	2021	2016
Scope 3, Category 1: purchased goods and services	154	144	147	172
Scope 3, Category 3: fuel and energy-related activities	112	115	136	89
Scope 3, Category 9: downstream transport and distribution [B]	3	5	6	—
Scope 3, Category 11: use of sold products [C]	878	910	1,010	1,284
	1,147	1,174	1,299	1,545

[A] Categorised using the definitions from the GHG Protocol's Corporate Value Chain (Scope 3) Standard.

[B] An estimate of Scope 3, Category 9 was not performed in 2016.

[C] Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes CO₂e in 2023, 569 million tonnes CO₂e in 2021 and 819 million tonnes CO₂e in 2016.

The reported Scope 3 emissions within the NCI boundary have reduced from 2022. The decrease is largely due to a reduction in sales of gas and refined oil products. Furthermore, Scope 3 emissions for our sales of power were comparable year on year as we sold more power but at a lower average intensity in 2023 compared with 2022.

Scope 3 emissions from categories 1, 3 and 11 make up the majority of Shell's Scope 3 emissions under the equity boundary. Shell reports Scope 3 emissions across all 15 categories annually.

For further details see [shell.com/ghg](https://www.shell.com/ghg)

We undertake external verification of our GHG emissions annually. Our Scope 1 and 2 GHG emissions from assets and activities under our operational control and emissions associated with the use of our energy products (Scope 3) included in our NCI have been verified to a level of limited assurance by LRQA Group Limited.

Targets used by Shell to manage climate-related risks and opportunities and performance against targets

Shell's material climate-related risks and opportunities are set out in the "Climate-related risks and opportunities identified by Shell over the short, medium and long term" section. Our response to the energy transition risk focuses on decarbonising our value chain. Our climate targets are focused on reducing our NCI and our absolute emissions, as presented on pages 103-104.

Setting targets for NCI

Shell's target is to become a net-zero emissions energy business by 2050. We also have short-, medium- and long-term targets to reduce the carbon intensity of the energy products we sell, measured using our NCI metric. We believe these targets are aligned with the more ambitious goal of the Paris Agreement, which is to limit the rise in global average temperature this century to 1.5°C above pre-industrial levels.

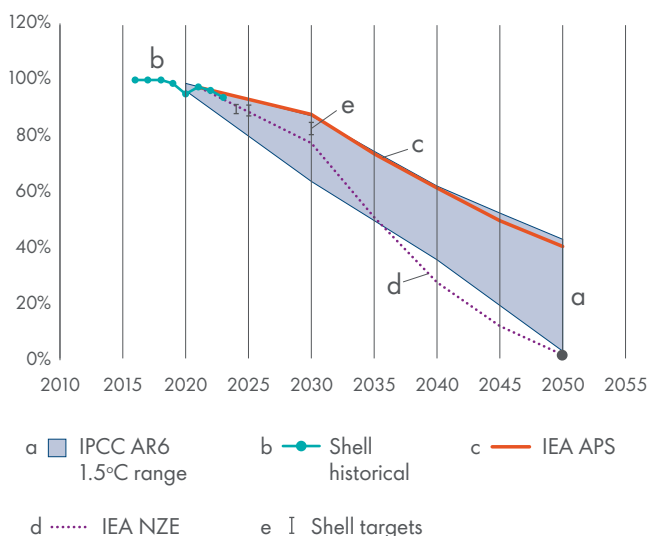
There is no established standard for aligning an energy supplier's decarbonisation targets within the 1.5°C temperature goal of the Paris Agreement. For this reason, we have defined our NCI target using 1.5°C scenarios developed for the IPCC's AR6.

We start with the complete set of 1.5°C scenarios and then exclude scenarios which are too reliant on carbon removals or use of bioenergy before removing outliers. We then calculate an emissions intensity for each scenario which is comparable to our own NCI. Finally, we produce a 1.5°C pathway based on the reductions in emissions intensity over time. We have chosen to use a range instead of any individual scenario to better reflect the uncertainty of the energy transition.

We believe that using this pathway to set our targets demonstrates that they are aligned with the more ambitious 1.5°C goal of the Paris Agreement. This is illustrated in the chart below.

We also believe that the pace of change will vary around the world by region and by sector, taking into consideration the time needed for energy users to invest in large-scale equipment and the energy infrastructure changes needed for Shell to deliver more low- and zero-carbon energy.

Shell's Paris-aligned targets



Our journey to net zero continued

Scope 1 and 2 progress towards target

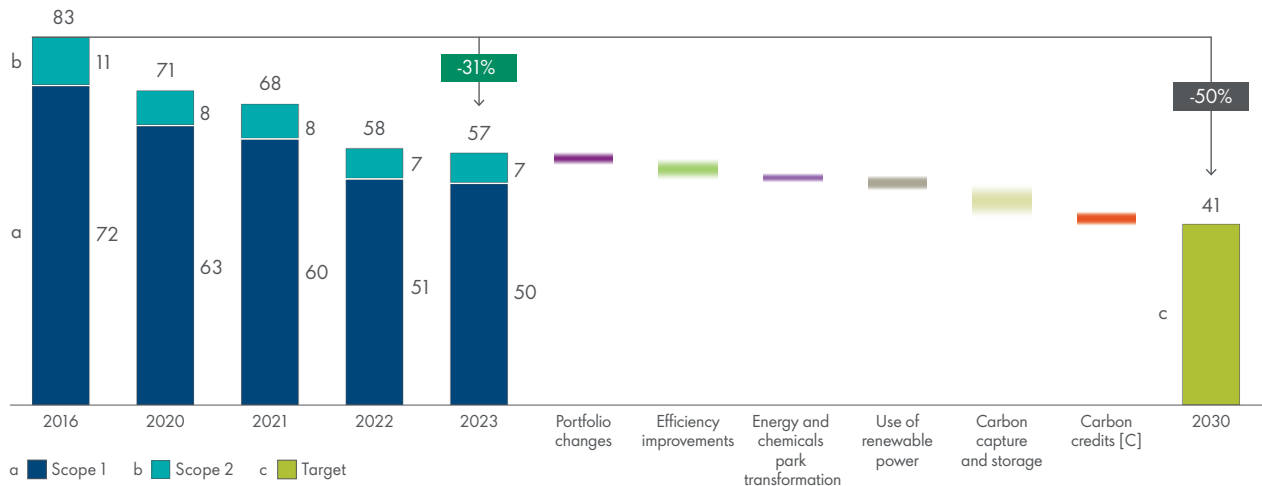
The chart below shows our progress since 2016 in reducing our Scope 1 and 2 emissions and gives an indication of how we expect to achieve our target in 2030. The actions we will take to achieve our target will depend on the evolution of our asset portfolio and the continued development of technologies which reduce carbon emissions. We expect that on a net portfolio basis, new investments across our portfolio will increase our Scope 1 and 2 emissions between 2024 and 2030, but this increase will be outweighed by reductions associated with planned divestments and natural decline. Our investments in producing low-carbon energy such as biofuels will increase our Scope 1 and 2 emissions, while reducing the NCI of the products we sell. Subsequent reductions in our emissions are reflected in the mechanisms outlined below and reflect an expected path to meeting our target in 2030. To decarbonise our operations, we are focusing on:

- making portfolio changes such as acquisitions and investments in new, low-carbon projects. We are also decommissioning plants, divesting assets, and reducing our production through the natural decline of existing oil and gas fields;
- improving the energy efficiency of our operations;
- transforming our remaining integrated refineries into low-carbon energy and chemicals parks, which involves decommissioning plants;
- using more renewable electricity to power our operations; and
- developing carbon capture and storage (CCS) for our facilities.

If required, we may choose to use high-quality carbon credits to offset any remaining emissions from our operations, in line with the mitigation hierarchy of avoid, reduce, and compensate.

Working to reduce our absolute Scope 1 and 2 emissions

Scope 1 and 2 emissions in million tonnes of CO₂e [A],[B]



[A] The 2016 baseline was not recalculated in 2023. The 2016 baseline may be recalculated in future years if an acquisition or a divestment has an impact of more than 10% on the total Scope 1 and 2 emissions.
[B] Operational control boundary.
[C] Including nature-based solutions.

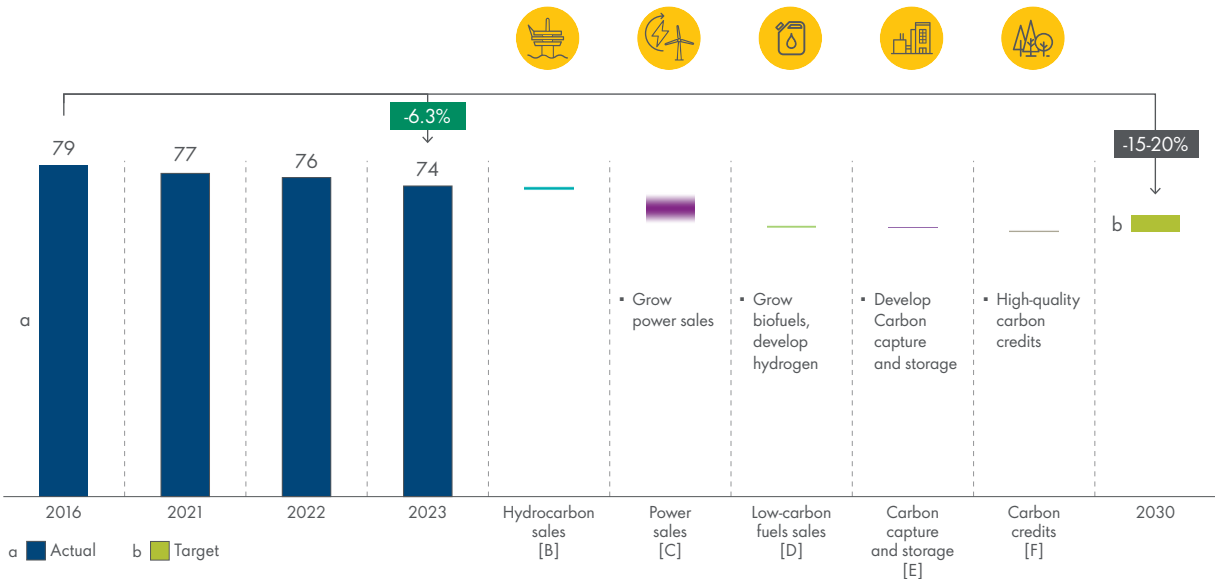
Our journey to net zero continued

NCI progress towards target

The biggest driver for reducing our NCI is increasing the sales of and demand for low-carbon energy. The chart below illustrates how changes in the volume of products and services we sell could result in NCI reductions to 2030. The change in our sales of these products and services will also reflect the development and adoption of new technologies and infrastructure, and the adoption of public policies designed to encourage the energy transition.

Working to reduce our NCI

NCI in gCO₂e/MJ [A]



[A] Grams of carbon dioxide equivalent per megajoule.
[B] Hydrocarbon sales reflect the effect of lower sales of oil products, and higher sales of natural gas. Emissions associated with gas are lower than those of oil products.
[C] Power sales show the expected growth of our integrated power business and increasing sales of renewable power.
[D] Sales of low-carbon fuels reflect higher sales of biofuels and hydrogen, which are low- and zero-carbon products.
[E] CCS reduces carbon emissions by capturing them at source.
[F] Carbon credits such as nature-based solutions can be used to offset remaining carbon emissions, particularly in hard-to-abate sectors such as aviation and industries including cement and steel.

Linking Shell's emissions targets to remuneration

We have established remuneration structures to support us in reducing our operational emissions and to support customers in reducing their emissions. Our annual bonus scorecard, Long-term Incentive Plan (LTIP) and Performance Share Plan (PSP) contain "Shell's journey in the energy transition" performance metrics designed to ensure that remuneration is clearly aligned with Shell's operating plan and longer-term strategic ambitions.

See "Directors' Remuneration Report" on pages 191-193.

Almost all employees participate in the annual bonus scheme which is linked to the Group scorecard. Executive Directors and around 130 senior executives participate in the LTIP and around 17,800 employees participate in the PSP, which is designed to retain key employees and ensure they have a greater investment in Shell's future.

The LTIP and the PSP measure performance over a three-year performance period. Executive Directors' awards are also subject to a further three-year holding period after vesting. Executive Directors and senior executives are also subject to ongoing shareholding requirements.

Energy transition performance condition and the vesting of the 2021 LTIP and PSP awards

The following performance outcomes for the energy transition performance condition were considered in the assessment of the 2021 LTIP and PSP vest, covering the performance cycle 2021-2023:

	Outcome
Net carbon intensity (NCI)	Performance indicator met
Growing the power business	Substantively met
Growing new lower-carbon product offerings	Partially met
Develop emissions sinks	Not met

In addition to the above, a number of broader indicators of Shell's progress in the energy transition were considered. Overall, it was determined that the energy transition measure (accounting for 20% of the LTIP award and 10% of the PSP award) should vest at 120%.

See "Annual Report on Remuneration" on pages 199-202.

Our journey to net zero continued

Energy transition performance condition in the 2023 LTIP and PSP awards

For LTIP and PSP awards granted in 2023, the energy transition performance condition had a weighting of 12.5% for the PSP and 25% for the LTIP. The performance condition for these awards is based on NCI reduction and the supporting strategic themes of reducing Scope 1 and 2 emissions; building a renewable power business; growing new low-carbon energy offerings; and developing emission sinks and offsets. The vesting outcome is at the discretion of the REMCO who will make a holistic assessment of progress when making the vesting decisions.

Energy transition performance condition for 2024 LTIP awards

For the 2024 LTIP and PSP awards, the "Shell's journey in the energy transition" performance condition retains the same weightings as for 2023. The REMCO's determination of the extent to which awards will vest will be based on its holistic assessment of progress towards reducing emissions from our operations and supporting our customers to reduce their emissions. This will be based on our journey to net-zero climate targets for our own operations of:

- Halving Scope 1 and 2 emissions by 2030 under operational control on a net basis (2016 baseline);
- Eliminating routine flaring from upstream operations by 2025 [A]; and
- Maintaining methane emissions intensity below 0.2% and achieving near-zero methane emissions by 2030.

The REMCO will also take into account progress in developments that support the energy transition to 2030 and beyond, such as the development of our Power business (including renewables), lower-carbon LNG, biofuels, electric vehicle charging, hydrogen and carbon capture and storage (CCS).

[A] Subject to completion of the sale of SPDC.

The REMCO will take into account progress towards achieving a 15-20% reduction in NCI by 2030 (2016 baseline) and a 15-20% reduction in customer emissions from the use of our oil products by 2030 (2021 baseline) [A] as well as Shell's wider performance in accelerating the energy transition, e.g. demonstrating leadership and advocacy in standard-setting, alongside any other factors that the REMCO considers material.

[A] Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes CO₂e in 2023 and 569 million tonnes CO₂e in 2021.

See "Annual Report on Remuneration" on page 209 for more information on the proposed performance framework.

Energy transition targets in the annual bonus scorecard

Delivering on our net-zero emissions target is a part of the annual scorecard, which helps determine annual performance bonus outcomes for senior management and almost all of Shell's employees.

The energy transition progress measures are shown in the table below.

2023 Scorecard: Shell's journey in the energy transition				
		2023 Target	2023 Performance	2023 Status
Reducing operational emissions	thousand tonnes of CO ₂	800	1,081	Outstanding
Selling lower-carbon products	% [A]	60	54	Below the target
Electric vehicle charge points	Number	180,000	195,500	Above the target

[A] Based on the percentage of Adjusted Earnings in the Marketing segment from lower-carbon energy products (on a life-cycle basis), defined as biofuels and EV charging, as well as non-energy products, defined as lubricants, bitumen, sulphur (agriculture and forestry), and earnings from convenience retail.

The 2023 full-year outcome for selling lower-carbon products was below target (but above threshold level) for a range of reasons including lower lubricants demand and higher costs for lower-carbon Mobility products.

In 2023, the outcome for operational emissions reductions was outstanding, reflecting the cumulative effects of actions across the portfolio, which support our target to halve Scope 1 and 2 operational emissions by 2030 (when compared to the 2016 baseline). This includes abatement projects, use of renewable energy, and permanent shutdowns or conversions ("right-sizing") of assets.

We are building an electric vehicle charging business to help decarbonise road transport. In 2023 we opened 60 new electric vehicle charging hubs in Belgium, China, Germany and the Netherlands, including our biggest electric vehicle charging site in the world in China, together with our joint-venture partner BYD.

In 2024, the REMCO has adjusted the energy transition measure in our annual scorecard in light of the energy transition strategy update, continuing to align to Shell's strategic objective of becoming a net-zero emissions energy business by 2050, supporting a balanced energy transition by responsibly delivering the oil and gas people need today, while helping to build the clean energy system of the future. The metric "Shell's journey in the energy transition" in the annual bonus scorecard represents:

- LNG volumes – equity liquefaction;
- Reducing operational emissions – operational actions to reduce emissions in support of our target to achieve a 50% reduction in Scope 1 and 2 emission by 2030, on a net basis; and
- Support customer decarbonisation – electric vehicle charge point roll-out.

See "Annual Report on Remuneration" on page 198.

Metrics and targets in respect of climate-related environmental risks

We have set a target to reduce the amount of fresh water consumed in our facilities, starting by reducing our consumption of fresh water by 15% by 2025, compared with 2018 levels, in areas where there is high pressure on fresh-water resources. We also monitor the level of waste disposed of from our operations and businesses are now setting local waste management targets and developing implementation plans based on waste and circularity assessments that we have conducted. In 2023, we continued to implement our biodiversity commitments in our projects and assets, with critical and forest habitats as priorities.

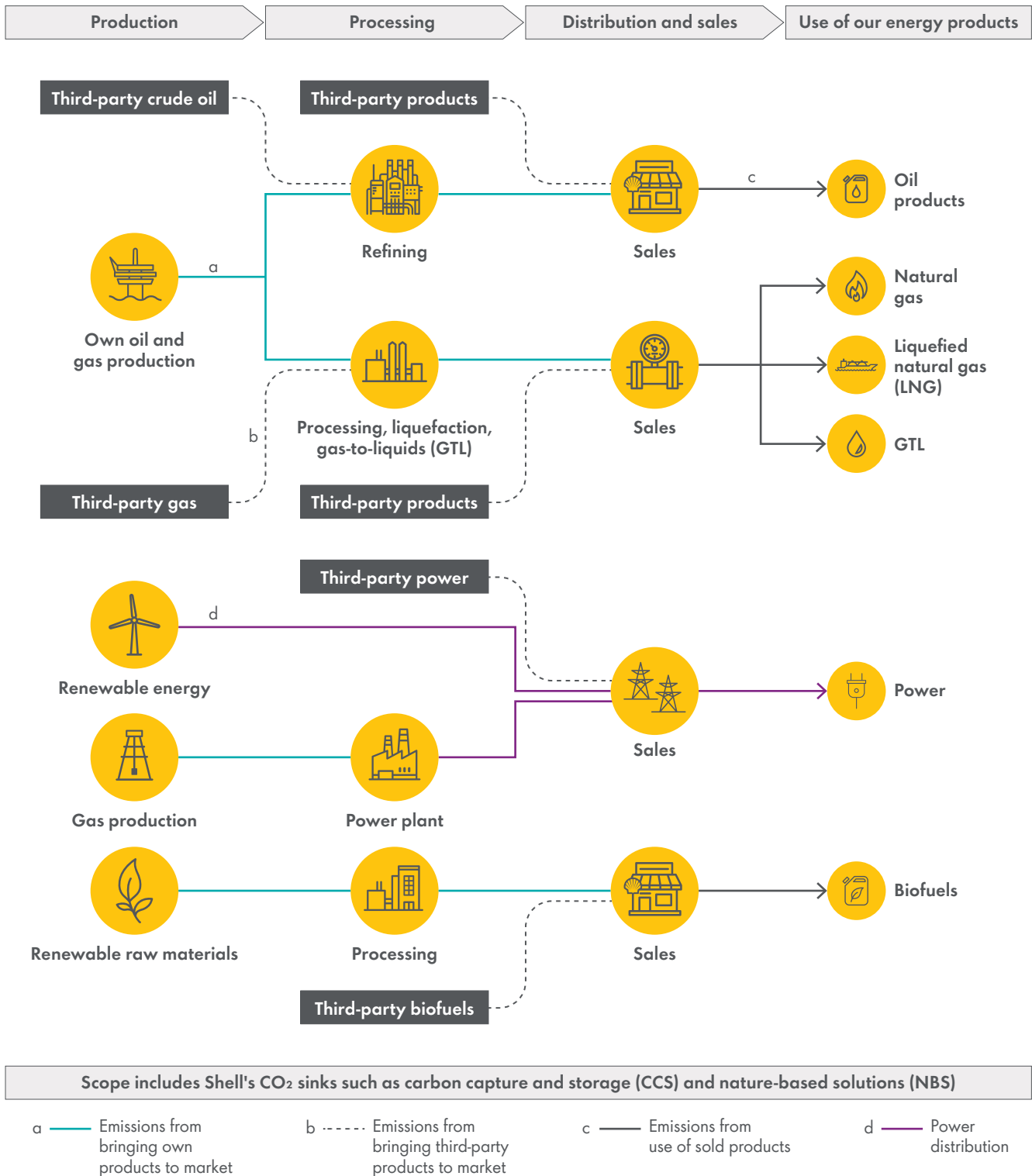
See "Respecting nature" on pages 118-119.

Our journey to net zero continued

Basis of preparation – net carbon intensity (NCI)
Shell's NCI is the average intensity, weighted by sales volumes, of the energy products sold by Shell. It is tracked, measured and reported using the Net Carbon Footprint (NCF) methodology.

We have received third-party limited assurance on our NCI for the period 2016 to 2023.

Scope of NCI



Our journey to net zero continued

Shell's NCI provides an annual measure of the life-cycle emissions intensity of the portfolio of energy products sold. The intended use of the NCI metric is to track progress in reducing the overall carbon intensity of the energy products sold by Shell. The NCI is calculated on a life-cycle basis and as such includes GHG emissions – on an equity basis – from several sources, including:

- direct GHG emissions from Shell operations;
- indirect GHG emissions from generation of energy consumed by Shell; and
- indirect GHG emissions from the use of the products we sell.

Emissions from other parts of the product life cycle are also included, such as those from the extraction, transport and processing of crude oil, gas or other feedstocks and the distribution of products to our customers. Also included are emissions from parts of this life cycle not owned by Shell, such as the extraction of oil and gas processed by Shell but not produced by Shell; or from the production of oil products and electricity marketed by Shell that have not been processed or generated at a Shell facility.

We also take into account emissions mitigated through various measures, such as by creating carbon sinks by working with nature – including through protecting forests and wetlands – and by using CCS technology.

See "Scope of NCI" on page 111 for details of the supply chains and steps in the product life cycles that are included in the Net Carbon Footprint methodology.

The following GHG emissions are not included in the NCI:

- emissions from production, processing, use and end-of-life treatment of non-energy products, such as chemicals and lubricants;
- emissions from third-party processing of sold intermediate products, such as the manufacture of plastics from feedstocks sold by Shell;
- emissions associated with the construction and decommissioning of production and manufacturing facilities;
- emissions associated with the production of fuels purchased to generate energy on site at a Shell facility;
- other indirect emissions from waste generated in operations, business travel, employee commuting, transmission and distribution losses associated with imported electricity, franchises and investments; and
- emissions from capital goods, defined by the GHG Protocol as including fixed assets or property, plant and equipment, and other goods and services not related to purchased energy feedstocks sourced from third parties or energy products manufactured by third parties and sold by Shell.

The NCI calculation uses Shell's energy product sales volumes data, as disclosed in this Report. This excludes certain sales volumes such as:

- certain contracts held for trading purposes reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded; and
- retail sales volumes from markets where Shell operates under trademark licensing agreements.

The energy products included in the NCI calculation are oil products, (gasoline, diesel, kerosene, fuel oil and LPG), GTL, biofuels, liquefied natural gas, pipeline gas and power.

The impact of acquisitions and divestments on emissions and sales volumes is included in actual NCI performance tracking with the target and baseline unchanged. Acquisitions and divestments could have a material impact on meeting the NCI targets.

The NCI is not a mathematical derivation of total emissions divided by total energy, nor is it an inventory of absolute emissions. It is a weighted average of the life-cycle CO₂ intensities of different energy products, normalising them to the same point relative to their final end-use. The use of a consistent functional unit, grams of carbon dioxide equivalent per megajoule (gCO₂e/MJ), allows like-for-like comparisons and the aggregation of individual life-cycle intensities for a range of energy products including renewables.

See our NCF methodology documentation (shell.com/ghg) for further information.

Basis of preparation – absolute Scope 1, 2 and 3 emissions

We follow the GHG Protocol's Corporate Accounting and Reporting Standard, which defines three scopes of GHG emissions:

- Scope 1: direct GHG emissions from sources under Shell's operational control.
- Scope 2: indirect GHG emissions from generation of purchased energy consumed by Shell assets under operational control.
- Scope 3: other indirect GHG emissions, including emissions associated with the use of energy products sold by Shell.

GHG emissions comprise CO₂, methane (CH₄), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride, with CO₂ and methane being the most significant contributors. Our GHG inventory was prepared in line with the requirements outlined in the ISO 14064-1:2018 Specification with Guidance at the Organisational Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals and the GHG Protocol's Corporate Accounting and Reporting Standard.

In line with external standards, Shell aggregates its GHG emissions into tonnes of CO₂ equivalent by applying global warming potential (GWP) factors to non-CO₂ GHGs. These factors are taken from the IPCC's Fifth Assessment Report (AR5) over a 100-year time period, in line with the UK Government GHG Conversion Factors for Company Reporting. GHG emissions for 2023 were calculated using AR5 GWPs, which were applied prospectively. For comparison our Scope 1 emissions would have been 49 million tonnes in 2023 if we were to have used GWPs from the IPCC's Fourth Assessment Report (AR4).

GHG emissions are aggregated using a bottom-up approach: emission source → asset → operating unit → business → Group. GHG emissions in this Report include emissions from Integrated Gas and Upstream, Renewables and Energy Solutions and Downstream (Chemicals and Products and Marketing) and Projects & Technology, plus Shell's functions. All operated assets are included in the GHG inventory in the reporting period.

Basis of preparation – Scope 1 emissions

Sources included in Scope 1 emissions comprised:

- combustion of carbon-containing fuels in stationary equipment (e.g. boilers, gas turbines) for energy generation;
- combustion of carbon-containing fuels in mobile equipment (e.g. trucks, vessels, mobile rigs);
- flares;
- venting and emissions from industrial processes (e.g. hydrogen plants, catalytic cracking units); and
- fugitive emissions, including piping and equipment leaks and non-routine events.

Our journey to net zero continued

Our Scope 1 emissions follow the GHG Protocol guidance. As a result, the following were not included in our reported Scope 1 emissions:

- CO₂ emissions from biogenic sources (for example, biofuels, biomass), whereas methane and nitrous oxide emissions from biogenic sources were included in our Scope 1 emissions.
- Captured CO₂ that was subsequently sold or otherwise transferred to third parties.
- CO₂ captured and sequestered using CCS technologies. However, the emissions from operating CCS were included in our Scope 1 and 2 emissions.
- Carbon credits.

All significant sources were included in the Scope 1 inventory.

Basis of preparation – Scope 2 emissions

Sources included in Scope 2 emissions comprised indirect emissions from purchased and consumed electricity, steam and heat. We did not identify any assets with imported cooling or compressed air used for energy purposes.

Scope 2 emissions were calculated using the market- and location-based methods separately as defined by the GHG Protocol Scope 2 Guidance.

All significant sources were included in our Scope 2 inventory.

Basis of preparation - Scope 3 emissions

This Report provides Scope 3 emissions associated with our energy product sales. They were consolidated using the equity boundary approach. Under this approach, we reported the Shell share of emissions from energy products sold, including those sourced from third parties. The calculation of Scope 3 emissions uses energy product sales volumes data, disclosed in this Report where relevant. These sales volumes exclude certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies have been applied to net volumes of oil products, pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are not included in the sales volumes reported by Shell and are therefore excluded from the Scope 3 categories described below.

Scope 3 categories included in this Report consist of the following:

Scope 3, Category 1: purchased goods and services

This category includes well-to-tank emissions from purchased third-party unfinished and finished energy products excluding electricity (which was reported separately under Category 3: fuel and energy-related activities (not included in Scope 1 or Scope 2)).

Emissions in this category were estimated using well-to-tank emission factors for crude oil, natural gas, refined oil products (such as gasoline, and diesel), LNG and biofuels. Because the emission factors include transport, we did not estimate emissions from transport of purchased third-party products separately.

Emissions from purchased non-energy products were not included in this Report.

Scope 3, Category 3: fuel and energy-related activities (not included in Scope 1 and 2)

This category includes well-to-wire emissions from purchased third-party electricity sold by Shell, calculated using the market-based method. Emissions were not adjusted for any potential double-counting of sold natural gas that may have been used for generating this electricity.

This category does not include:

- indirect emissions from generation of imported energy (steam, heat or electricity consumed by our assets). These emissions were reported separately as Scope 2 emissions; and
- well-to-tank emissions from purchased electricity, steam and heat consumed by our assets (i.e. Scope 3 emissions from extraction, refining and transport of primary fuels before their use in the generation of electricity or steam).

Scope 3, Category 9: downstream transport and distribution

This category includes estimated emissions from transport and distribution of energy products produced or refined by Shell. It does not include the emissions associated with transporting third-party products, which are included in Scope 3, Category 1. In order to avoid double-counting the emissions from transport, Scope 1 and 2 emissions from transport included in our equity emissions were subtracted from the total in this category.

Scope 3, Category 11: use of sold products

This category includes estimated emissions from the use of sold energy products, such as LNG, GTL, pipeline gas, refined oil products and biofuels. The emissions consist of two sub-categories: products manufactured and sold by Shell and third-party products sold by Shell.

This category does not include non-energy products that may have been combusted during use (for example, lubricants).

Biogenic CO₂ emissions from combustion of sold biofuels

Biogenic CO₂ emissions from the combustion of sold biofuels were estimated and reported separately outside of scopes. Methane and nitrous oxide were included in Scope 3, Category 11 in line with the ISO 14064-1:2018 and GHG Protocol requirements.

We did not estimate biogenic CO₂ emissions in other Scope 3 categories. It is assumed that the presence of biogenic emissions in other categories is negligible at present.

Other Scope 3 categories

As noted above, this Report only covers Scope 3 GHG emissions associated with our energy product sales.

See our website: [shell.com/ghg](https://www.shell.com/ghg) for other Scope 3 GHG emissions.

Our journey to net zero continued

Other regulatory disclosures

GHG emissions and energy consumption data - information provided in accordance with UK regulations

Data in this section are consolidated using the operational control approach. Under this approach, we account for 100% of the GHG emissions and energy consumption in respect of activities where we are the operator, irrespective of our ownership percentage.

Reporting on this operational control basis differs from that applied for financial reporting purposes in the "Consolidated Financial Statements". We acknowledge the strong preference of the UK's Financial Reporting Council (FRC) for companies to report the GHG emissions and energy consumption data using the financial consolidation boundary and are working on including the data and information on this boundary in our Annual Report in the future.

See "Basis of preparation - absolute scope 1, 2 and 3 emissions" on page 112.

GHG emissions in million tonnes of CO₂ equivalent

	2023	2022	2021
Total global direct (Scope 1) [A]	50	51	60
UK including offshore area [B]	1.7	1.7	1.7
Market-based			
Total global energy indirect (Scope 2) [C]	7	7	8
UK including offshore area	0	0	0
Location-based			
Total global energy indirect (Scope 2) [D]	8	8	9
UK including offshore area	0.04	0.04	0.05
Intensity ratio in tonnes per tonne			
Intensity ratio of all facilities [E]	0.27	0.27	0.27

- [A] Emissions from the combustion of fuels and the operation of our facilities globally, calculated using global warming potentials from the IPCC's Fifth Assessment Report.
- [B] Emissions from the combustion of fuels and the operation of our facilities in the UK and its offshore area, calculated using global warming potentials from the IPCC's Fifth Assessment Report.
- [C] Emissions from the purchase of electricity, heat, steam and cooling for our own use globally, calculated using a market-based method as defined by the GHG Protocol Corporate Accounting and Reporting Standard.
- [D] Emissions from the purchase of electricity, heat, steam and cooling for our own use globally, calculated using a location-based method as defined by the GHG Protocol Corporate Accounting and Reporting Standard.
- [E] In tonnes of total direct and energy indirect GHG emissions per tonne of crude oil and feedstocks processed and petrochemicals produced in downstream manufacturing, oil and gas available for sale, LNG and GTL production in Integrated Gas and Upstream. For an additional breakdown by segment, see the Scope 1 and 2 GHG intensity by segment section.

The activity data used to calculate GHG intensity ratios at a portfolio level shown in the table above are reported on an operational control basis. As a result, they are not directly comparable with the production data reported elsewhere in this Report, which are reported on a financial control basis. The table below shows the numbers used in the calculation of the intensity:

Inputs used for calculating the GHG emissions intensity ratio

		2023	2022	2021
A	8.1 Scope 1 - direct GHG emissions [A]	50	51	60
B	8.2 Scope 2 - energy indirect GHG emissions [A]	7	7	8
C=A+B	Total Scope 1 and 2 GHG emissions [A]	57	58	68
D	6.5 Total oil and gas production available for sale [B]	111	111	128
E	6.6 Refinery crude and feedstock processed [B]	62	63	84
F	6.3 Chemicals total production [B]	21	23	25
G	6.4 LNG production [B]	10	9	10
H	6.6 GTL production [B]	6	6	6
I=D+E+F+G+H	Total Upstream, Integrated Gas and Downstream activity [B]	210	212	253
J=C/I	GHG intensity ratio [C]	0.27	0.27	0.27

[A] In million tonnes CO₂ equivalent.

[B] In million metric tonnes of production.

[C] In tonnes of CO₂ equivalent per tonne of production.

Energy use in our operations

The energy consumption data provided below comprise own energy, generated and consumed by our facilities, and supplied energy (electricity, steam and heat) purchased by our facilities for our use.

Energy consumption data reflect primary (thermal) energy (e.g. the energy content of fuels used to generate electricity, steam, heat, mechanical energy, etc.). This includes energy from renewable and non-renewable sources. Own energy generated was calculated by multiplying the volumes of fuels consumed for energy purposes by their respective lower heating values. Own energy generated that was exported to third-party assets or to the power grid is excluded. Thermal energy for purchased and consumed electricity was calculated using actual electricity purchased multiplied by country-specific electricity generation efficiency factors (from IEA statistics). Thermal energy for purchased and consumed steam and heat was calculated from actual steam/heat purchased multiplied by a supplier-specific conversion efficiency, or a generic efficiency factor where supplier-specific data were not available.

Our journey to net zero continued

Our energy consumption decreased from 209 billion kilowatt-hours (kWh) in 2022 to 205 billion kWh in 2023, in line with the decrease in our Scope 1 and 2 GHG emissions. Around 1% of the energy we used in 2023 for our operations came from low-carbon and renewable sources.

Energy consumption in billion kilowatt-hours

	2023	2022	2021
Own energy generated and consumed			
Total energy generated and consumed [A]	174	177	205
UK including offshore area	6.1	6.1	6.2
Purchased and consumed energy			
Total purchased and consumed energy [A]	31	32	33
UK including offshore area	0.2	0.2	0.2
Energy consumption			
Total energy consumed [A]	205	209	238
UK including offshore area	6.3	6.3	6.4

[A] We have updated 2022 and 2021 figures following the review of data.

In 2023, we implemented a variety of measures to reduce the energy use and increase the energy efficiency of our operations.

Examples of some of the principal measures taken in 2023 to reduce energy use and improve efficiency (with estimated total savings of around 999 million kWh in 2023) are:

- At our Geismar site in the USA: idling the furnace when not required.
- At our Rheinland site in Germany: optimising the amount of steam required depending on use and load.
- At our Sarnia site in Canada: replacing an existing reaction furnace with a new high-intensity burner.
- At our Scotford complex in Canada: optimisation which enables a reduction in electricity and excess H₂ vented to flare.
- At our Prelude site in Australia: optimisation of the process and operating conditions to reduce flaring.
- At our Pearl site in Qatar: reducing steam generation requirements via steam balance optimisation.
- At our GTL asset in Malaysia: optimising fuel flows to the boiler unit.
- At our UK Upstream operations: reducing compression power requirements between our Shearwater platform and St Fergus gas terminal.
- At our Gulf of Mexico operations in the USA: optimising power generation between platform and rig and upgrading existing equipment.
- At our Sarawak Shell Berhad assets in Malaysia: optimising the usage of Gas Turbine Generators from four to three units.

Examples of some of the principal measures that were taken in 2022 are listed below (with estimated total savings of around 1,155 million kWh in 2022):

- At our GTL asset in Qatar, we completed several projects to reduce energy use and improve efficiency, for example by making improvements to catalyst performance which resulted in reduced generation of off-gas leading to lower energy consumption.
- At our Gulf of Mexico operations in the USA, we implemented a project to reduce energy use and improve efficiency by using waste heat to generate steam.
- At our Upstream operations in the UK, we completed several projects to reduce energy use and improve efficiency, for example by implementing an online model to optimise fuel gas usage at Shearwater (our North Sea oil and gas operated asset).
- At our Scotford hydrocarbon processing site in Canada, we implemented several projects to reduce energy use and improve efficiency, for example by using analysers to optimise fuel usage.
- At our Geismar chemical plant in the USA, we implemented several projects to reduce energy use and improve efficiency, for example by improving how some equipment operates.
- At our QGC operations in Australia, we implemented several projects to reduce energy use and improve efficiency, for example by introducing a CO₂/energy performance dashboard for control room operators, which allowed operators to identify potential efficiency savings based on real-time operating data.

EU Taxonomy Regulation

The EU Taxonomy Regulation is a classification system for determining when an economic activity can be considered environmentally sustainable according to European Union (EU) standards. It aims to encourage investment in a low-carbon economy by creating common definitions of sustainability and mandatory disclosures to help investors make informed decisions. As a UK company with its registered office and headquarters in London, Shell plc is not currently subject to the Taxonomy Regulation. Nevertheless, we elect to report against the taxonomy voluntarily because we recognise the importance of increasing transparency about how companies are progressing in the energy transition, even if the regulation is evolving. We expect to come into scope in 2024 via the EU's Corporate Sustainability Reporting Directive (CSRD), which extends the reporting obligations under the EU Taxonomy Regulation to third-country issuers that are listed on European exchanges.

See "Supplementary information - EU Taxonomy disclosure" on pages 336-349.

Respecting nature



Respecting nature

We seek to protect the environment, reducing waste and making a positive contribution to biodiversity.

Respecting nature continued

Introduction

Respecting nature is part of our Powering Progress strategy. We recognise there is a growing global urgency to protect and enhance biodiversity, conserve fresh water and use resources more efficiently. As a business, we use natural resources such as land, water and materials for our operations. Our activities can have an impact on nature through discharges and emissions to the environment, and through changes to the use of land and water, including oceans.

In 2003, we decided not to explore for, or develop, oil and gas resources in natural and mixed World Heritage Sites.

Since launching our Powering Progress strategy in 2021, we have:

- worked to embed respecting nature into our activities and business processes;
- enhanced our internal performance management systems to track and report on progress; and
- continued to build employees' awareness, knowledge and skills to deepen their understanding of respecting nature.

We are also updating our environmental standards and guidance used by our projects and facilities around the world.

In 2023, we reviewed our progress and performance on respecting nature. We consolidated our respecting nature ambitions announced as part of our Powering Progress strategy in 2021 into the following themes: having a positive impact on biodiversity, aiming for zero waste and using water, other resources and materials efficiently.

We have already achieved some of the respecting nature commitments we set when we launched Powering Progress. Our commitment to reduce fresh-water consumption in highly water-stressed areas by 15% was achieved ahead of the target date of 2025. We have also conducted detailed assessments to inform our approach to fresh water and waste, which will be tailored to local conditions. We are working to help develop a viable circular economy for plastics but have concluded that the scale of our ambition to use 1 million tonnes of plastic waste a year in our global chemical plants by 2025 is unfeasible due to lack of available plastic waste feedstock, slow technology development and regulatory uncertainty.

The remaining commitments announced in 2021 have either been incorporated into our new Safety, Environment and Asset Management (SEAM) Standards, which take effect from mid-2024, or are included in the relevant business objectives and processes.

See "Living by our values" on page 139 and our 2023 Sustainability Report.

Governance

Respecting the environment and local communities has been integral to the way we do business for many years, as set out in the Shell General Business Principles and the Shell Commitment and Policy on Health, Security, Safety, the Environment and Social Performance (HSSE & SP).

Our Executive Committee is accountable for the delivery of respecting nature, progress towards which is reviewed by our Board's Sustainability Committee (SUSCO).

See "Sustainability Committee" on pages 177-178 and "Living by our values" on page 137.

Environmental standards

Shell's global environmental standards are set out in our HSSE & SP Control Framework and we seek to apply them wherever we operate. Our approach draws on external standards and guidelines, such as those developed by the World Bank and the International Finance Corporation. Our environmental standards include details of how to manage emissions of greenhouse gases (GHG); consume energy more efficiently; reduce gas flaring, and monitor and improve air quality; prevent spills and leaks of hazardous materials; use less fresh water; and conserve biodiversity.

When planning new major projects, we conduct detailed environmental, social and health impact assessments. The Shell HSSE & SP Standards require that we certify our major installations against an internationally recognised independent environmental management system standard if they have significant environmental risks. Major installations are crude oil and natural gas terminals; gas plants; manned offshore and onshore production platforms or flow stations; floating production and storage vessels; refineries; chemicals manufacturing facilities; mines; or upgraders. For the purpose of this Report, we did not count each major installation in Upstream and Integrated Gas separately. They were aggregated into their respective operating unit or operating company, such as Shell Upstream UK or Nederlandse Aardolie Maatschappij (NAM), in line with the scope of their certifications. At the end of 2023, 89% of major installations within that scope and operated by Shell were certified against the ISO 14001:2015 Environmental Management System or were in compliance with equivalent environmental frameworks required by local regulations. We are pursuing certification for the remainder. In addition, many installations that are not classified as major, such as lubricant plants or supply terminals, are also certified against ISO 14001:2015 Environmental Management System but are not included in the data above.

See SP Control Framework on page 139 and "Our journey to net zero" on page 88.

Environmental costs

We are subject to a variety of environmental laws, regulations and reporting requirements in the countries where we operate. Infringing any of these laws, regulations and requirements could harm our reputation and ability to do business, and result in significant costs, including clean-up costs, fines, sanctions and third-party claims. Ongoing operating expenses include the costs of preventing unauthorised discharges into the air and water, and the safe disposal and handling of waste.

See Note 24 to the "Consolidated Financial Statements" on pages 301-302.

We place a premium on developing effective technologies that are also safe for the environment. But when operating at the forefront of technology, there is always the possibility that a new technology has environmental impacts that were not assessed or foreseen to be harmful when originally implemented. We develop new technology using a robust technology maturation process. This enables us to systematically de-risk technical and commercial risks, while ensuring portfolio alignment with Shell's strategic ambitions and deployment commitments. While we believe we take reasonable precautions to limit these risks, we could be subject to additional remedial, environmental and litigation costs as a result of unknown and unforeseen impacts of operations on the environment.

See "Risk management and controls" on page 223.

Respecting nature continued

Positive impact on biodiversity and ecosystems

Our priorities for biodiversity are critical and forest habitats.

- Forest habitats: We will replant forests, achieving net-zero deforestation from new activities, while maintaining biodiversity and conservation value, commenced in 2022.
- Critical habitats: Our new projects in areas rich in biodiversity – critical habitats – will have a net positive impact on biodiversity, commenced in 2021. We apply the same definition for measuring our net positive impact (NPI) for projects as the International Finance Corporation (IFC, 2019). The IFC states: NPI on biodiversity is a target for project outcomes in which the impacts on biodiversity (for example, the variety of ecosystems and living things) caused by the project are outweighed by the actions taken to avoid and reduce such impacts, rehabilitate affected species and / or landscapes and offset any residual impacts.

When planning a new project on land or offshore in the marine environment, we apply the mitigation hierarchy, a decision-making framework that involves a sequence of four key actions: avoid, minimise, restore and offset. We assess the potential impact of projects on biodiversity and local communities as part of our impact assessment process.

In 2023, we embedded our biodiversity commitments into our new Safety, Environment and Asset Management (SEAM) Standards, which take effect in mid-2024. We are developing guidance and sharing good practice across the organisation to support implementation.

See "Living by our values" on page 139 for more information on the SEAM Standards.

Forest habitats

Deforestation occurs when forests are converted to non-forest uses. We use the definition of forest used by the Food and Agriculture Organization of the United Nations.

Our aim is to avoid deforestation, in line with the mitigation hierarchy. Where avoidance cannot be achieved, we require our projects and assets to develop and implement reforestation plans that include measures to achieve net-zero deforestation, while maintaining biodiversity and conservation value. We work with partners and stakeholders to develop robust and credible plans unique to each reforestation project.

Between January 2022 and the end of 2023, around 292 hectares had been deforested as a result of our activities. This occurred largely in Australia, Canada and Nigeria where reforestation plans have been finalised.

Critical habitats

Potential new projects are screened to determine if they are located in a critical habitat. If we decide to proceed with a project that is in a critical habitat, we develop a biodiversity action plan. This sets out actions needed to follow the mitigation hierarchy and, where there is impact, the actions designed to achieve a net positive impact.

At the end of 2023, 43 of our new projects, which started after we launched Powering Progress in February 2021, were wholly or partly located in critical habitats. Of these, 20 already have a biodiversity action plan in place to work towards a net positive impact, compared with four in 2022.

Resource use and circular economy

As part of our overall respecting nature ambition, we aim to use water, other resources and materials efficiently, and to increase reuse and recycling. We have conducted detailed assessments across our businesses to better understand our waste streams and define our approach. Our businesses are developing local waste management implementation plans. We are exploring ways to improve the application of circular economy principles by developing circularity strategies.

Water

We are implementing water stewardship principles across our businesses and developing local improvement plans. This includes focusing on the sustainable management of fresh water, including in water-stressed areas.

Our Powering Progress strategy launched in 2021 contained the following water-related statements:

- Our ambition is to conserve fresh water by reducing consumption and increasing reuse and recycling.
- We will reduce the amount of fresh water consumed in our facilities, starting by reducing our consumption of fresh water by 15% by 2025, compared with 2018 levels, in areas where there is high pressure on fresh-water resources.

In 2023, we continued to make progress in reducing our consumption of fresh water in highly water-stressed areas.

At the end of 2023, four of our major facilities were located in areas where there is a high level of water stress based on analysis using water stress tools. These tools include the World Resources Institute's Aqueduct Water Risk Atlas and local assessments. The facilities are:

- Pearl GTL (gas-to-liquids) plant in Qatar;
- Shell Energy and Chemicals Park Singapore;
- Shell Jurong Island chemical plant in Singapore; and
- Tabangao Import Terminal in the Philippines.

In 2023, these facilities consumed 17 million cubic metres of fresh water, compared with 18 million cubic metres in 2022. With this reduction we achieved our commitment to reduce fresh-water consumption by our facilities in areas of high water stress by 15% compared with our 2018 levels with a baseline of 25 million cubic metres. The reduction was mainly the result of decreased water use at the Pearl GTL gas-to-liquids facility in Qatar, and at the Shell Energy and Chemicals Park Singapore following the decommissioning of some processing units.

In 2023, for all sites, our overall intake of fresh water increased to 162 million cubic metres, compared with 148 million cubic metres in 2022 (restated from 156 million cubic metres, following a review of the performance data). This increase was mainly the result of increased production at Shell's Monaca Polymers facility in the USA and consequences of a fire incident at our Deer Park Chemicals site, USA.

Respecting nature continued

Around 33% of our fresh-water intake in 2023 was from public utilities, such as municipal water supplies. The rest was taken from surface water, such as rivers and lakes (around 51%) and groundwater (around 16%). Around 94% of our fresh-water intake in 2023 was used for manufacturing oil products and chemicals, with the rest mainly used for oil and gas production.



Assessing further water use reduction goals

In addition to our Powering Progress commitment to reduce water consumption in water-scarce areas, we also aimed to assess options for further reduction goals. In 2021 and 2022, we conducted detailed water use assessments at six major Shell facilities:

- QGC upstream and QGC midstream, Australia;
- Shell MDS, Malaysia;
- Shell Hazira LNG Terminal, India;
- Shell Energy and Chemicals Park Rheinland, Germany; and
- Shell Chemicals Park Moerdijk, the Netherlands.

The results of these assessments, along with discussions with stakeholders, have moved us towards a more sustainable and holistic stewardship approach. This goes beyond focusing on water use and includes aspects of governance and water quality, involvement of stakeholders and consideration of catchments. We are now implementing water stewardship principles across our businesses and developing local improvement plans. By the end of 2023, we had completed detailed assessments against these principles at eight of our downstream and upstream facilities to identify opportunities for improvement. We plan to roll out this programme across other facilities and projects in 2024.

Photo: Water testing being carried out at QGC, Australia.

Waste water and produced water

We track low-level concentrations of oil, grease and other hydrocarbons in water returned to the environment from the day-to-day running of our facilities (referred to as "discharges to surface water"). We work to minimise these discharges according to local regulatory requirements and our own standards.

In 2023, the combined total of hydrocarbons discharged (oil in effluents) to surface water across all our facilities increased to 1.0 thousand tonnes compared with 0.9 thousand tonnes in 2022. The increase was partially due to discharges from the Shell Energy and Chemicals Park Singapore.

In 2023, we disposed of 58 million cubic metres of produced water, unchanged compared with 2022.

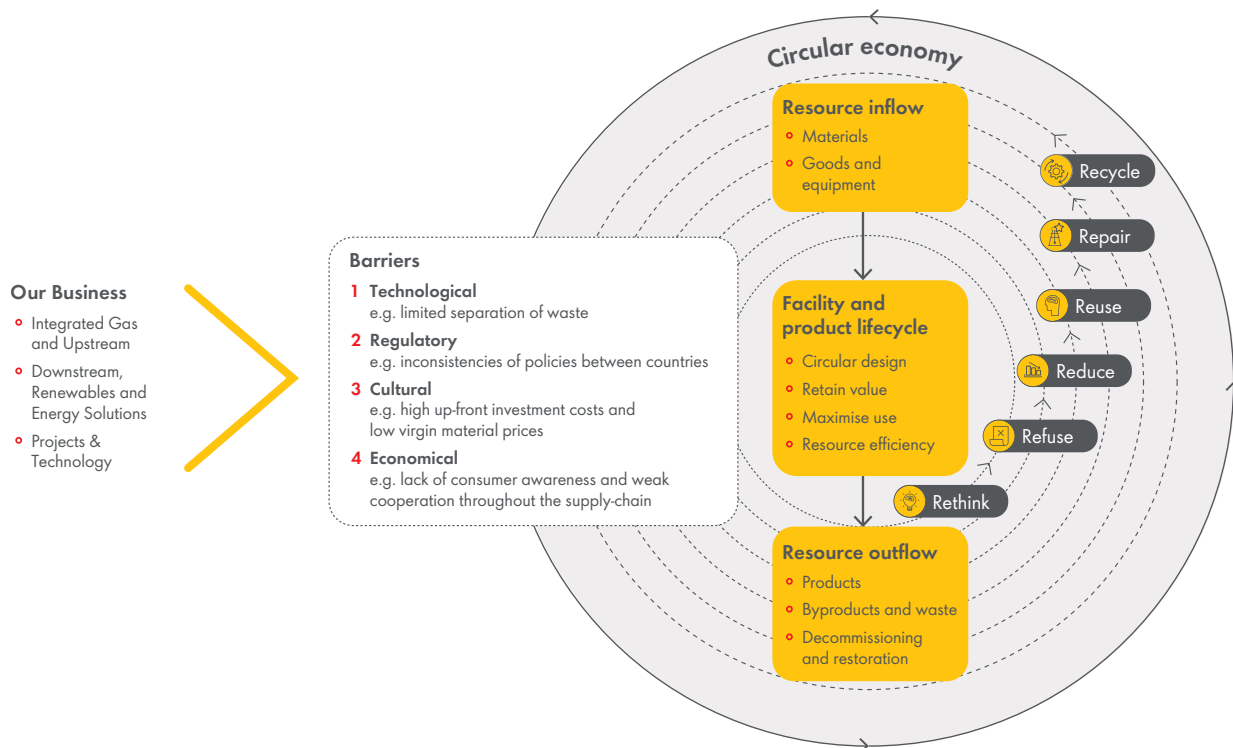
Waste

In 2023, we started to embed the findings from the 24 waste and circularity assessments we conducted in 2021 and 2022 into local performance management systems. Our businesses are developing local waste management implementation plans. We are investigating options to reduce some of the more significant of our waste streams, such as biosludge, potentially contaminated soils and drilling fluids.

We are exploring ways to improve the application of circular economy principles and to identify and integrate the risks and opportunities associated with a "rethink, refuse, reduce, reuse, repair, recycle" hierarchy. We also work with our supply chain to help our businesses progress towards our aim of zero waste.

Respecting nature continued

Mitigation hierarchy



In 2023, we disposed of 631 thousand tonnes of hazardous waste, compared with 878 thousand tonnes in 2022 (restated from 868 thousand tonnes, following a review of the performance data). The decrease was partially because of lower volumes of sour water for disposal from processing activities at the Shell Scotford Refinery in Canada. In 2023, we disposed of 1,619 thousand tonnes of non-hazardous waste, compared with 1,135 thousand tonnes in 2022. The increase was primarily caused by higher volumes of water from production and maintenance activities that required disposal at the Shell-operated Scotford Upgrader (Shell interest 10%), Canada, and the ramp up of low-carbon solutions and other project work.

In total, we disposed of 2,251 thousand tonnes of waste, compared with 2,012 thousand tonnes in 2022 (restated from 1,982 thousand tonnes, following a review of the performance data). We also sent 654 thousand tonnes of residual materials for reuse, recycling or use as a raw material in another process. For example, waste that might otherwise go to landfill can be incinerated to generate energy.

Air quality

Air quality continues to be embedded in our environmental standards. We follow our own standards and those of local regulators to manage airborne pollutants in our oil and gas production and processing, including emissions of nitrogen oxides, sulphur oxides and volatile organic compounds.

- Our sulphur oxide (SO_x) emissions in 2023 decreased to 31 thousand tonnes, compared with 37 thousand tonnes in 2022 (restated from 36 thousand tonnes, following a review of the performance data). The decrease was mainly because of less flaring at the Shell-operated Scotford Upgrader in Canada and the divestment of Shell-operated Upstream assets in Tunisia.
- Our nitrogen oxide (NO_x) emissions in 2023 decreased to 88 thousand tonnes from 93 thousand tonnes in 2022. The decrease was partially because of divestments of Shell-operated Upstream assets in Tunisia and the Philippines, and downtime of generators at Shell-operated assets in Trinidad and Tobago.
- Our emissions of volatile organic compounds (VOCs) in 2023 decreased to 36 thousand tonnes from 37 thousand tonnes in 2022 (restated from 38 thousand tonnes, following a review of the performance data). The decrease was partially because of planned and unplanned downtime of operations at Shell MDS, our GTL (gas-to-liquids) plant in Bintulu, Malaysia.

See [shell.com](https://www.shell.com) for more information about our approach to biodiversity, circular economy and plastic waste and water.

Respecting nature continued

Spills

Large spills of crude oil, oil products and chemicals associated with our operations can harm the environment, and result in major clean-up costs, fines and other damages. They can also affect our licence to operate and harm our reputation.



Working to prevent spills

We have requirements and procedures designed to prevent spills. We design, operate and maintain our facilities with the intention of avoiding spills. To minimise the risk of spills, Shell has routine programmes to reduce failures and maintain the reliability of facilities and pipelines.

Our business units are responsible for organising and executing spill responses in line with Shell guidelines and relevant legal and regulatory requirements. Our offshore installations have spill response plans for when an incident occurs. These plans set out response strategies and techniques, available equipment, and trained personnel and contracts. We can engage specialist contracted services for oil spill response, including vessels, aircraft or other equipment and resources, if required, for large spills. We conduct regular exercises that seek to ensure these plans remain effective and fit for purpose.

We have further developed our ability to respond to spills to surface water. We have a worldwide network of trained staff to help with this. We also have a global oil spill expertise centre which tests local capability and maintains our ability to respond to a significant spill into a marine environment.

Photo: Spill response deployment exercise using the AFEDO™ Nozzles, at offshore Malaysia.

Spills still occur for reasons such as operational failure, accidents, unusual corrosion or sabotage and theft. In 2023, there were 70 operational spills of more than 100 kilograms each compared with 55 in 2022 (restated from 54 operational spills, following a review of the performance data). The weight of operational spills of oil and oil products in 2023 was 0.37 thousand tonnes, compared with 0.06 thousand tonnes in 2022. In 2023, 140 spills were caused by sabotage. Of those, 139 were in Nigeria and one in Australia. The number of these spills increased to 140 in 2023 from 75 in 2022, with the volume also increasing to 1.4 thousand tonnes from 0.6 thousand tonnes in 2022.

See "Safety" section on page 134 for more information on emergency response.

Spills in Nigeria

In the Niger Delta, over the last 13 years, the total number of operational hydrocarbon spills and the volume of oil spilled from them into the environment have been significantly reduced.

Most oil spills in the Niger Delta region continue to be caused by crude oil theft, the sabotage of oil and gas production facilities, and illegal oil refining, including the distribution of illegally refined products.

In 2023, the Shell Petroleum Development Company of Nigeria Limited (SPDC) [A], as operator of the SPDC joint venture (Shell interest 30%), reported nine operational spill incidents of more than 100 kilograms of crude oil, compared with 10 reported in 2022. The volume of around 0.005 thousand tonnes was less than the 0.01 thousand tonnes reported in 2022.

[A] Unless otherwise stated, all activities reported for or as relating to The Shell Petroleum Development Company of Nigeria Limited (SPDC) in this section should be understood as SPDC acting as the operator of the SPDC joint venture (SPDC JV). SPDC, as the corporate entity, owns 30% of the JV.

SPDC has an ongoing work programme to appraise, maintain and replace key sections of pipelines and flow lines to reduce the number of operational spills. In 2023, around 54 kilometres of pipelines and flow lines were replaced. This work is organised through a proactive pipeline and flow line integrity management system. The system installs barriers where necessary, and recommends when and where pipeline sections should be replaced to prevent failures.

In January 2024, Shell announced the sale of its Nigerian onshore subsidiary, SPDC. Completion of the transaction is subject to regulatory approvals and other conditions.

See the "Upstream" section on page 48.

Spills caused by sabotage in 2023

In 2023, about 94% of the oil spills of more than 100 kilograms each from the SPDC-operated facilities were caused by the illegal activities of third parties. In 2023, the volume of crude oil spills of more than 100 kilograms caused by sabotage was around 1.4 thousand tonnes (139 incidents), compared with around 0.6 thousand tonnes (75 incidents) in 2022. The increased number of incidents in 2023 can be directly attributed to an increase in third-party illegal connections on pipelines, with 119 incidents reported in 2023 compared with 56 in 2022. SPDC continues to work with the government security agencies to maintain surveillance and address illegal activities of third parties, primarily along the SPDC JV pipeline and its operational areas.

Prevention

In 2023, SPDC continued on-ground surveillance of its areas of operation, including its pipeline network, to mitigate third-party interference and ensure that spills are detected and responded to as quickly as possible.

There are daily surveillance flights covering the most vulnerable segments of the pipeline network to identify any new spills or illegal activity. SPDC has introduced anti-theft protection mechanisms for key infrastructure such as wellheads and manifolds. The programme to protect wellheads with steel cages continues to help deter theft, and drones have been introduced to inspect pipelines and monitor security of operations.

In 2023, 60 steel cages were installed, bringing the total number to 374. This includes 52 cages that have been upgraded with CCTV and 28 with satellite communications. In 2023, out of 508 registered attempts to compromise these cages, 38 were successful.

Respecting nature continued

Response and remediation

Regardless of the cause of a spill, SPDC cleans up and remediates areas affected by spills originating from its facilities. In 2023, the time that SPDC needed to complete the recovery of free-phase oil – oil that forms a separate layer and is not mixed with water or soil – remained at around one week. This is the average time it takes to safely access a damaged site, initiate containment to prevent further spread of the spill, and start joint investigation visits with regulators, affected communities and, in some cases, with NGOs.

Clean-up activities include bio-remediation which stimulates micro-organisms that naturally break down and use carbon-rich oil as a source of food and energy, effectively removing it. Once clean-up and remediation operations are completed, the work is inspected and, if satisfactory, approved and certified by the Nigerian regulators. With operational spills, SPDC also pays compensation to affected people and communities.

SPDC has been working with the International Union for Conservation of Nature (IUCN) since 2012 to enhance remediation techniques and protect biodiversity at sites affected by oil spills in its areas of operation in the Niger Delta. Based on this collaboration, SPDC has launched further initiatives to help strengthen its remediation and restoration efforts. In 2021, SPDC, IUCN, the Nigerian Conservation Foundation, and Wetlands International began working together as the Niger Delta Biodiversity Technical Advisory Group (BTAG), which continues to monitor biodiversity recovery at remediated sites.

SPDC also works with a range of stakeholders in the Niger Delta to build greater trust in spill response and clean-up processes. For example, local communities participate in remediation work for operational spills. Various NGOs have sometimes gone on joint investigation visits with SPDC, government regulators and members of affected communities to establish the cause and volume of oil spills.

SPDC has continued to raise awareness of and counter the negative effects of crude oil theft and illegal oil refining, both causing oil spills. Examples include awareness and education programmes, community-based pipeline surveillance and promoting alternative livelihoods through Shell's flagship youth entrepreneurship programme, Shell LiveWIRE.

Ogoniland: Commitment to the United Nations Environment Programme

SPDC remains committed to the implementation of the 2011 United Nations Environment Programme (UNEP) Report on Ogoniland which assessed contamination from oil operations in the region and recommended actions to clean it up. Over the last 12 years, SPDC has acted on all and completed most of the UNEP recommendations that were specifically addressed to it as the operator of the joint venture.

The clean-up efforts are led by the Hydrocarbon Pollution and Remediation Project (HYPREP), which was established by the Nigerian government. The UNEP report had recorded 67 sites, of which two were classified as waste sites without hydrocarbon pollution. Also, for 13 sites, the National Oil Spill Detection and Response Agency (NOSDRA) certified that - in contrast to the original report - remediation was not needed.

This left 52 sites to be remediated, with all completed sites to be certified by NOSDRA. In 2021 and 2022, remediation was completed for 18 sites, and certification issued for 13 of those. In 2023, remediation of one site and certification of three sites was completed, and work on the remaining sites continues. Field work commenced on 17 sites and remediation plans are being developed for the remaining 15 sites.

The UNEP report recommended creating an Ogoni Trust Fund (OTF) with \$1 billion capital, to be co-funded by the Nigerian government, SPDC JV, SPDC (30% interest in SPDC JV) and other operators in the area. The SPDC JV is responsible for contributing \$900 million to the OTF, the Nigerian government and other operators for contributing \$100 million. By the end of 2023, SPDC had fully paid its share of the SPDC JV's commitments to the clean-up process which brought the total contribution to the OTF to \$751 million.

Although remediation works continue to make progress, challenges remain. These include re-pollution, land disputes, environmental issues such as flooding caused by excessive rainfall, and security issues in Ogoniland.

UNEP continues to monitor the progress of the clean-up through its observer status at HYPREP's Governing Council and the Ogoni Trust Fund. UN agencies, such as the United Nations Development Programme and the United Nations Institute for Training and Research, provide services to HYPREP in the areas of livelihood programmes, training and project services.



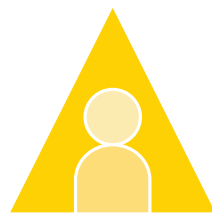
Bodo clean-up process

In 2015, SPDC and the Bodo community in Ogoniland signed a memorandum of understanding (MOU), granting SPDC access to begin cleaning up areas affected by two operational spills that occurred in 2008. The MOU also provided for the selection of two international contractors to conduct the clean-up under the oversight of an independent project director. Engagement with the Bodo community and other stakeholders began in 2015, and was managed by the Bodo Mediation Initiative. The clean-up project was delayed in 2016 and for most of 2017 because access to the sites was challenged by the local community.

In September 2017, a three-phase clean-up and remediation programme started:

- Phase 1: Removal of oil from shoreline surfaces and mud flat beds was completed in 2018.
- Phase 2: Remediation activities related to soil and sediments started in late 2019 on the around 1,000 hectares designated for clean-up. By the end of 2023, work on around 88% of that area had been completed. In late 2022, the work had to be suspended because of safety concerns and community unrest. Work resumed at the end of 2023, following a dispute resolution process and continues into 2024.
- Phase 3: The replanting of mangrove seedlings started in 2021. Around two million seedlings need to be planted and survive to 2025 to fulfil the project's goal. By the end of 2023, the number of seedlings planted remained at 340,000, the level reached at the end of 2022, because of community unrest.

Photo: A shoreline clean-up and assessment technique (SCAT) team at work.



Powering lives

We power lives through our products and activities, and by supporting an inclusive society.

Powering lives continued

Introduction

Shell is dedicated to making a positive impact on people around the world – by providing the vital energy people need, championing inclusion, respecting human rights and contributing to local communities and economies.



Around 760 million people [A] in the world have no electricity and over half the world population has insufficient energy to lead a good life [B]. We deliver energy commercially, by investing in businesses that supply energy access in emerging markets; and socially, by investing funds, expertise and resources in access to energy programmes.

[A] International Energy Agency, SDG7: Data and Projections, 2023.

[B] UN Human Development Index. Approximately 75 GJ final energy per capita is the threshold where populations reach 0.8 on UN Human Development Index which can be considered a good life.

We also want to help communities benefit from having us as their neighbour. We generate jobs, pay billions in tax each year and support start-ups, local businesses and education programmes. And we promote human rights in the communities, companies and organisations we work with. This includes activities such as advancing worker welfare and shaping an inclusive world so that everyone can be themselves.

We aim to become one of the world's most diverse and inclusive organisations, a place where everyone feels valued and respected.

Our core values of honesty, integrity and respect for people underpin our approach to diversity, equity and inclusion. Shell is committed to respecting human rights as set out in the UN Universal Declaration of Human Rights and the International Labour Organization Declaration on Fundamental Principles and Rights at Work.

The importance of respecting people also extends to our suppliers. Shell's Supplier Principles outline our expectations for business integrity, including safety, security, labour and human rights, and environmental and social performance. We expect all suppliers to understand and implement the principles in their supply chains when working with Shell.

Governance

Respecting people has been integral to the way we do business for many years. Shell's HSSE & SP Control Framework sets out how we identify, assess and manage our impacts on communities where we operate, including any impact on human rights. The Framework also defines how we should share the benefits arising from our presence, such as by providing local employment and contractual opportunities.

We are transitioning from the HSSE & SP Control Framework to our new Safety, Environment and Asset Management Standards (SEAM) as part of the Shell Performance Framework. The SEAM Standards will come into effect from mid-2024.

See "Living by our values" on page 139.

As part of our aim to become one of the most diverse and inclusive organisations in the world, our CEO and Executive Committee are accountable for our progress against our diversity, equity and inclusion goals.

Powering lives continued

Contribution to society

Shell's businesses are part of society and contribute to it by buying and selling goods and services in many countries. Our employees, suppliers and contractors are part of the local communities where we operate. Our activities generate revenues for governments through the taxes and royalties we pay and the taxes we collect on their behalf. This helps governments fund health care, education, transport and other essential services.

Payments to governments

In 2023, Shell paid and collected \$67 billion in taxes* to governments. We paid \$14 billion in corporate income taxes and \$6 billion in government royalties, and collected \$47 billion in excise duties, sales taxes and similar levies on our fuel and other products on behalf of governments.

Supply chain engagement

We continue to explore how we can source responsibly in our supply chain. In 2023, our operated and non-operated ventures spent around \$48.6 billion on goods and services from suppliers around the world*.

Shell aims to work with suppliers, including individual contractors, that behave in an economically, environmentally and socially responsible manner, as set out in our Shell General Business Principles and Shell Supplier Principles. In 2023, we worked with around 25,000 suppliers globally.

Our standard contract terms require adherence to these or equivalent principles, and require contractors and suppliers to:

- protect the environment in compliance with all applicable environmental laws and regulations;
- use energy and natural resources efficiently; and
- continually look for ways to minimise waste, emissions and discharge from their operations, products and services.

Helping our suppliers decarbonise

We continually work with our suppliers to find ways to reduce greenhouse gas emissions across our supply chains. We seek to understand their energy needs and jointly identify potential low-carbon solutions that are economically sustainable. This involves using digital technology to establish transparency in energy consumption and emissions throughout our supply chain.

See our website [shell.com](https://www.shell.com) for more information about how we engage with contractors and suppliers.

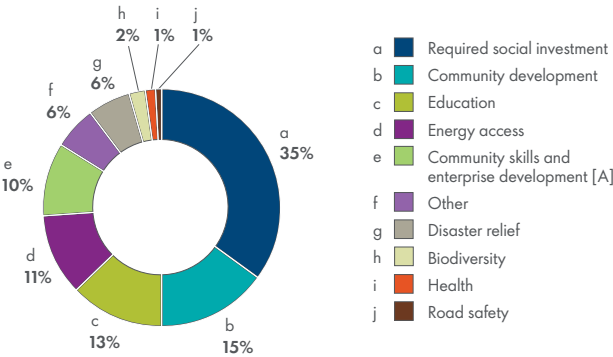
* Non-GAAP measure (see page 365).

Social investment

Our activities contribute to economies through taxes, jobs and business opportunities. We also make social investments in areas determined by local community needs and priorities. These investments are sometimes voluntary, sometimes required by governments, or part of a contractual agreement. Through voluntary initiatives, we work with partner organisations to help individuals and communities access reliable electricity. In 2023, we continued to develop programmes to improve access to energy in Nigeria, Pakistan, India and South Africa.

In 2023, we spent almost \$198 million on social investment, of which 35% was required by government regulations or contractual agreements. We spent the remaining \$128.3 million (65%) on voluntary social programmes.

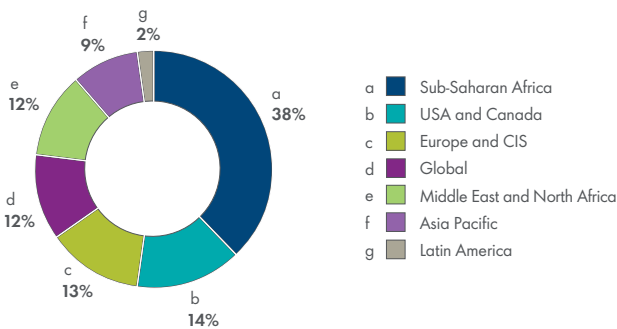
2023 Social investment spend by theme



[A] CSED – Community Skills & Enterprise Development.

Around \$84.8 million of our total social investment spend in 2023 was in countries that, according to the UN Development Programme's Human Development Index 2021, have a gross national income of less than \$15,000 a year per person.

2023 Social investment spend by region



See our website [shell.com](https://www.shell.com) for more information about our social investment.

Powering lives continued

Engaging with communities

We engage with communities as part of our approach to managing human rights and providing access to remedy. Shell's HSSE & SP Control Framework helps us to operate responsibly and avoid or minimise potentially negative social impacts of our operations. When we divest assets or exit areas, we apply well-established processes to guide our risk assessment with the aim of leaving a positive legacy.

The requirements are supplemented by guidance that helps practitioners on the ground to engage with communities around our operations. Major projects and facilities operated by Shell have a social performance plan for managing potentially negative impacts, such as noise pollution, and maximising benefits, such as using local suppliers. These plans typically begin with defining the social environment, focusing in particular on people who may be especially vulnerable to the potential impacts of our operations. In the larger of these major projects and facilities, we implement a community feedback mechanism for listening and responding to questions and resolving complaints in a timely manner.

We have specific requirements to avoid, minimise or mitigate potential impacts on the traditional lifestyles and cultural heritage of Indigenous Peoples. We also have specific requirements to avoid, minimise or mitigate their involuntary resettlement.

Since 2020, we have used our online community feedback tool to track and respond to questions, complaints and feedback that we receive. It allows our network of 148 community engagement practitioners to document feedback and outcomes. They are the face of Shell in the communities and act as a bridge between communities and our activities.

In 2023, we increased the number of sites with a community feedback mechanism aligned with the effectiveness criteria of the UN Guiding Principles on Business and Human Rights from 16 to 20. Several more sites have other procedures in place for gathering feedback. In 2023, we received feedback at 80 sites in 26 countries.

See our website [shell.com](https://www.shell.com) for more information about our work with communities.

Human rights

Human rights are fundamental to Shell's core values of honesty, integrity and respect for people. Respect for human rights is embedded in the Shell General Business Principles and our Code of Conduct. Our approach is informed by the UN Guiding Principles on Business and Human Rights. We work closely with various organisations to improve how we apply these UN guiding principles.

Salient human rights

In 2023, we continued to work on salient human rights issues (salient human rights are those that are most at risk from our operations). We prioritise four focus areas where respect for human rights is critical to how we operate: the workplace including labour rights, supply chain, communities and security.

Shell employees working in these focus areas need to complete mandatory human rights training. About 1,750 employees had completed the training between its launch in 2021 and the end of 2023, 94% of those assigned the training. We encourage all employees to complete the course, regardless of their role, to build greater understanding of human rights across Shell.

See the table below for examples of our salient human rights issues in each focus area.

Human rights focus areas

	 At the workplace	 In supply chains	 In communities	 In security
Salient issues	- Health and safety - Discrimination - Decent living conditions in worker accommodation - Access to adequate and readily available channels to voice concerns	- Labour rights in our supply chains, e.g. prevention of forced labour, access to remedy - Safe and healthy working conditions - Decent living conditions in worker accommodation	- Social impact management - Vulnerable persons/communities - Land access, livelihoods and cultural heritage - Engagement and access to remedy	- Human rights impact on communities by private security and/or government security forces we rely on - Security of employees and contract staff in high-risk environments where we work

For each of these areas, we have systems to identify potential impacts and to avoid and mitigate them.

For example, Shell's HSSE & SP Control Framework contains requirements that set out how we identify, assess and manage our impacts on communities where we operate, including any impact on human rights.

Our Shell Supplier Principles state that we expect our contractors and suppliers to respect the human rights of their workforce and to manage the social impacts of their activities on Shell's neighbouring communities.

We also continue to track emerging human rights and environmental due diligence legislation, and advance our efforts to strengthen human-rights-related controls in our supply chain.

Critical habitats and people

We assess the potential impacts of our activities to manage and reduce any adverse effects they may have on the environment and on communities. We apply stringent standards across all our projects and facilities, particularly when we operate in critical habitats that are rich in biodiversity and in areas of cultural significance or close to local communities, including Indigenous Peoples.

See our website [shell.com](https://www.shell.com) for more information about our approach to human rights.

Powering lives continued

Our people

Our people are essential to the development of energy solutions for today and tomorrow. They are key to delivering Shell's Powering Progress strategy and we believe in helping them to develop their skills. We aim to become one of the world's most diverse and inclusive organisations, a place where everyone feels valued and respected.

All metrics throughout this section exclude the employees in portfolio companies, except for the metrics reflecting total employee number by gender and region, percentage of women employees, and certain mandatory training courses.

Employee overview

We employed 103,000 people on a full- or part-time basis at the end of 2023. This compares with 93,000 at the end of 2022 and 83,000 at the end of 2021. The data include people working in Shell subsidiaries, Shell-operated joint ventures and those seconded to non-Shell-operated joint operations, or ventures and associates. The employee numbers for 2021 reflect headcount in the Shell HR system and full-time equivalent numbers for portfolio companies, which maintain their own HR systems. Additionally, Shell businesses utilise contractors on certain projects during the year. For example, in 2023 contractors worked alongside Shell employees in divisions such as Information and Digital Technology.

In 2023



Employees
103,000
employees at December 31, 2023



Countries and territories
>70
countries in which we operate



Directors
42%
women on the Board of Directors



Executive Committee
43%
women on the Executive Committee



Senior leaders
32%
women in senior leadership positions



Women employees
35%
women employees



Training
295,000
Training days for employees and joint-venture partners



Experienced hires
9,209
people joined Shell (38% women, 62% men)



Graduate hires
460
people joined Shell (40% women, 60% men)

Changes in headcount

In Shell companies, excluding portfolio companies, headcount rose to 84,000 at the end of 2023 from 79,000 at the end of 2022 due to growth in Information and Digital Technology, and Downstream, Renewables and Energy Solutions.

As we continue to implement our Powering Progress strategy, in Shell's portfolio companies which maintain their own HR systems, headcount rose to 19,000 at the end of 2023 from 14,000 at the end of 2022. This was partly driven by acquisitions and growth in Downstream, Renewables and Energy Solutions.

See Note 32 to the "Consolidated Financial Statements" on page 315 for the average number of employees by business segment.

The table below presents the total employee number by gender and region.

Number of employees by gender and region

	2023			Thousand	
	Men	Women	Total	2022	2021
Number of employees	67	36	103	93	83
Breakdown by region					
Africa	2.6	1.0	4	4	4
Asia	22.9	15.1	38	32	30
Europe	20.0	11.1	31	30	27
North America	17.8	6.4	24	23	18
Oceania	2.5	1.2	4	3	2
South America	1.4	0.8	2	1	2

The table below presents the number of employees by age group.

Number of employees by age group [A]

	Thousand		
	2023	2022	2021
Under 30 years old	12	11	10
Between 30 and 50 years old	54	51	50
Above 50 years old	18	17	17

[A] Excludes employees in portfolio companies.

The table below presents the distribution of employee contract type, by gender and region.

Employee contract type by gender and region [A]

	Permanent Contract/ Employment at-will [B]		Fixed-Term Contract	
	Men	Women	Men	Women
Number of employees	54,074	28,502	941	432
Breakdown by region				
Africa	4%	3%	9%	18%
Asia	37%	43%	33%	37%
Europe	32%	35%	51%	41%
North America	22%	15%	2%	1%
Oceania	3%	2%	5%	3%
South America	2%	2%	—	—

[A] Excludes employees in portfolio companies.

[B] Employment at-will is used in the USA to describe employment contracts.

Powering lives continued

Shell aims to be an attractive employer to its existing and prospective employees. We offer employees the opportunity to develop their careers within Shell, including rotations across different parts of the business to grow their skills and progress.

In 2023, 11.2% of Shell employees were promoted compared with 14.3% in 2022.

Shell's turnover in 2023 was 5.7%; 4,685 employees left Shell of which 2,669 resigned voluntarily. This compares with 8.5% in 2022, during which 6,630 employees left Shell of which 3,942 voluntarily.

Employee engagement

Insight into employee needs and perspectives enables Shell to continually learn and improve our policies, processes, and practices.

Management regularly engages with employees through elected employee representatives and a range of local formal and informal channels. These channels include webcasts and all-employee messages from our CEO and other senior leaders, as well as town halls, team meetings and site visits by the Board and EC.

In 2023, members of the Board and EC visited certain Shell sites in Canada where they engaged with employees on our strategy and the energy transition. Shell plc's Chair, Sir Andrew Mackenzie, also met with Shell employees on his site visits to the Netherlands, China and Germany.

See "Workforce engagement" on pages 170-171.

We seek to comply with applicable local laws and regulations, including on working hours. We aim to eliminate discrimination in employment, forced labour and child labour. We respect the right to collective bargaining and freedom of association. Where appropriate, engagements take place with union representatives at asset and country level, as well as with the Shell European Works Council.

Employees have access to senior leaders, local employee forums and employee resource groups. These engagements enable Shell to maintain a constructive employee and industrial relations environment.

Team leadership plays a key role in driving employee engagement. We seek to develop leaders through learning programmes, domestic and international assignments, and project opportunities. In 2023, 22% of team leaders in Shell received access to Shell's leadership learning programme, LEAD. Our mindset and behaviours, which emphasise psychological safety, are at the heart of our leadership programmes.

We aspire to equip our employees with skills and experience through the digital and energy transition. People development is a priority at Shell. Learning and development is part of our organisational culture and budget planning. Training courses are accessible to all employees, either online or in person. In 2023, 295,000 formal training days were delivered to employees and joint-venture partners. This compares with 266,000 training days in 2022.

We aim to equip our employees with the skills they will need for digitalisation and the energy transition, and we have increased the learning offerings available for new skills. In 2023, around 6,900 Shell employees completed courses on topics such as hydrogen production, carbon capture and storage, and energy management. This is an increase from 4,000 in 2022. Where appropriate, we recruit talent externally to add to the skills and experiences of our workforce.



The Shell People Survey

The Shell People Survey is one of the key tools we use to measure employee engagement, motivation, affiliation and commitment to Shell. We believe that increased employee engagement can result in better business performance and improve safety. In 2023, the response rate to the survey was 88% (from 87% in 2022). The average employee engagement score remain unchanged at 79% from the 2022 level, which is top quartile in comparison with external benchmarks. This score suggests that, overall, our people are engaged, enjoy their work and are loyal to Shell. This number excludes scores from our joint-venture partners who participated voluntarily in the Shell People Survey.

Employee well-being

Shell provides competitive remuneration with a range of benefits, such as global minimum maternity leave of 16 weeks and at least eight weeks' paid parental leave for non-birthing parents.

Financial well-being

Shell's remuneration is designed to be market competitive and free from bias. We aim to ensure equal pay for equal work. Through regular benchmarking, Shell's compensation is typically higher than the minimum wage level observed locally, including in countries without legislation on minimum wage. Pay adjustment at Shell is directly linked to performance management. The system is shared transparently with all employees to help them understand how their pay adjustments are made annually. We continue to engage employees transparently and openly about our pay policies to help build understanding, trust, and confidence in our approach.

Flexible work

We seek to build a sense of community and collaboration within Shell's sites where we want employees to feel welcome and valued. By enabling people to balance their work and personal lives, we can help them perform at their best. Our Future of Work guide advises employees and team leaders on hybrid working options. Shell offers to meet both business and personal needs.

Physical, social, and mental well-being

Our goal is to empower our employees to feel their best and perform at their best. We do this by promoting mindsets and behaviours that support good health, by protecting our people from illness by mitigating known risk factors. We do this by using evidence-based tools, and by providing access to timely support and care for those who are injured, ill or struggling.

Powering lives continued

Interventions to promote mental, physical, and social well-being are delivered via a mix of measures. For example, through the design of our workspaces, through benefits offerings such as gyms and health checks, and through our country-based employee networks, group activities and events. Our global campaigns, such as Care for Self and I'm Not OK, develop individual and team well-being skill sets, to create healthy and psychologically safe working environments, and to nurture a culture of care.

Mental well-being

At Shell we strive to reduce the stigma related to mental ill health through open conversations, global and country-level campaigns, senior leader communications, engagements with elected employee representatives and through our experience-sharing portal for employees. This commitment is underscored by the CEO's signing of the Global Business Collaboration for Better Workplace Mental Health Pledge in January 2023.

Global Mental Well-being Programme

In November 2023, Shell launched its Global Mental Well-being Programme following a successful pilot in 2022. The programme's interventions have a strong focus on developing a workplace culture that supports good mental health, and the voluntary survey enables employees to voice their experience of well-being in Shell. The data are anonymous and provide KPIs to report on progress and to identify opportunities to continually improve employee well-being.

Diversity, equity and inclusion

We have set clear goals for diversity, equity and inclusion (DE&I) and monitor these on a regular basis. Our CEO and EC are accountable for progress. We also continually assess our culture and staff engagement through tools such as the annual Shell People Survey. Detailed information on progress against our DE&I aspirations can be found on shell.com/DEI.

Shell employees and contractors are required to complete two mandatory training courses on DE&I: Conscious Inclusion and Respect in the Workplace. These reinforce expected behaviours for a respectful, inclusive workplace, and build our stance against discrimination and harassment, including bullying and sexual harassment. Employees and contractors are required to take these two courses every two years.

In 2023, our Shell People Survey showed a result of 83 points out of 100 for all questions relating to DE&I. This was unchanged from 2022 and suggests that overall our people feel that Shell is a workplace in which they belong and have equal opportunities to progress and grow. The result indicates that our people believe they are provided with a safe and inclusive work environment. We will continue to focus on improving our DE&I efforts as we strive to improve our result further.

As of December 31, 2023, 89% of Shell employees now have the option to voluntarily declare their gender identity, sexual orientation, race and ethnicity, and disability where relevant and legal, via Shell's HR system. Data from this self-identification initiative (self-ID) allow us to monitor progress against our DE&I aspirations.

Gender

We strive for gender equality and we have signed the World Economic Forum declaration on closing the gender gap in the oil and gas sector. We have also endorsed the Catalyst CEO Champions for Change initiative for the advancement of women, especially those from ethnic minorities, into senior leadership and board positions.

In line with the UK Listing Rules, the Board of Shell plc aims for gender balance on the Board, with at least one senior board position [A] held by a woman. To provide flexibility for periods of change, we aim to maintain the representation of both men and of women at, or above, a minimum of 40%. As of December 31, 2023, women made up 42% of the Board with one senior board position, the CFO role, held by a woman.

[A] Senior board position means Chair, CEO, Senior Independent Director, or CFO.

Over the years, Shell has progressively improved the representation of women on the Executive Committee and in senior leadership roles. The table below shows the representation of women at December 31, 2023. As of January 1, 2024, we have more women than men on our Executive Committee, at 57%.

Level	2023	2022
Women on Board	42%	55%
Women on Executive Committee	43%	22%
Women in Senior Leadership roles [A]	32%	30%

[A] Senior Leadership is a Shell measure based on compensation grade levels. Shell is working towards achieving 35% representation of women in our senior leadership positions by 2025, and 40% by 2030. This measure is distinct from "senior manager" as per statutory disclosure requirements set out in the table below.

Gender diversity data (at December 31, 2023)

Gender diversity data	Men		Women	
Directors of the Company	7	58%	5	42%
Senior managers [A]	806	66%	410	34%
Employees (thousand)	67	65%	36	35%

[A] Senior manager is defined in section 414C(9) of the Companies Act 2006 and, accordingly, the number disclosed comprises the Executive Committee members who were not Directors of the Company, and other directors of Shell subsidiaries.

Shell seeks to increase the overall representation of women in the organisation. As of December 31, 2023, 35% of Shell employees were women. Of the experienced hires who joined Shell in 2023, 38% were women compared with 40% in 2022. Of the graduate hires who joined Shell in 2023, 40% were women compared with 49% in 2022.

A crucial element of improving gender balance is addressing any gender pay gap and we continue to work towards improvements in this area. We conduct an annual global gender pay equity review using a robust statistical approach. In 2023, countries in this review included Australia, Brazil, Canada, China, France, Germany, India, Malaysia, the Netherlands, Nigeria, the Philippines, Poland, Qatar, Singapore, South Africa, Thailand, Turkey and the UK.

For example, in the UK, we continue to make progress to close the gap. In 2023, the mean gender pay gap of all men and women across all in-scope [A] Shell companies in the UK is -3.7% to 18.7%, compared with 11.7% to 20.7% in 2022.

[A] Shell companies in the UK with 250 or more employees in line with UK government requirements on gender pay gap reporting.

Powering lives continued

In parallel, the mean gender bonus gap ranged from -11.3% to 57% in 2023. This gap exists for several reasons, including fewer women in senior leadership positions and fewer women in higher-paid specialist roles. More information about the UK gender pay gap at Shell can be found on our website.

Race and ethnicity

We are working to address racial inequity and create an inclusive work environment where everyone feels valued. In 2020, we created the Shell Global Council for Race supported by a 20-member Employee Advisory Board composed of members from a diverse mix of racial and ethnic backgrounds. The council, which is sponsored by the CEO, aims to advance diversity in our workforce so that it better reflects communities where we work and from which we draw talent. The council focuses on the USA, the UK and the Netherlands.

Shell aims to maintain or exceed having at least one Board member from an ethnic minority background, acknowledging that in periods of Board change this balance may not be achieved. As of December 31, 2023, the Board had three members from an ethnic minority group. In addition, one of Shell's EC members identifies as being from an ethnic minority group. In support of the 2023 Parker Review recommendations, Shell aims to achieve 15% ethnic minority group representation in its Senior Management by 2027 [A].

[A] As per the 2023 Parker Review, "Senior Management" refers to EC and senior managers who report directly to them and "ethnic minority" refers to an individual who self-identifies as Asian, Black, Mixed/multiple, or other ethnic minority group, in line with the UK ONS classifications.

Due to local restrictions with ethnicity data collection and reporting, Shell offers employees the option to voluntarily declare their ethnicity via the Self-Identification (Self-ID) initiative [A].

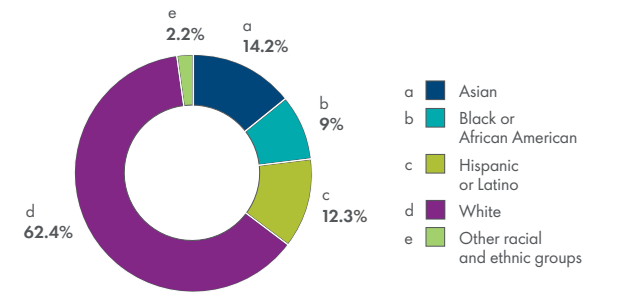
[A] Ethnicity declaration is voluntary and collection of relevant data that is aligned to the UK ONS classifications is not available in all countries.

Improving the employee declaration rate via Self-ID continues to be a priority as it contributes to building and developing a diverse talent pipeline at Shell.

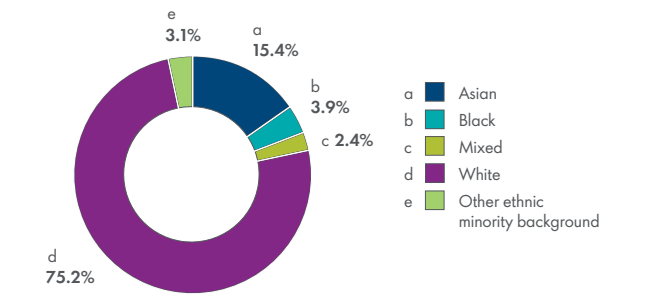
See "Nomination and Succession Committee" on pages 172-176 for our current talent management and succession process.

Shell has reported on its race and ethnicity ambitions in the USA, the UK and the Netherlands. The graphic below shows the ethnic distribution of Shell employees in the USA as reported to the US Department of Labor.

Employee ethnic diversity – USA



Employee ethnic diversity – UK



The graphic chart above shows the ethnic diversity of Shell employees in the UK based on self-identification data provided by employees. As ethnicity declaration is voluntary, our ethnicity declaration rate is not 100% and all calculations are based on a declaration rate of 83.1% in the UK. The 16.9% of our workforce who have not provided data or have chosen not to declare their ethnicity were not included in our calculations

In addition, Shell in the UK voluntarily publishes its ethnicity pay gap data and the steps it is taking to close the gap annually. This includes a recruitment ambition of 8% Black representation in graduate and experienced hires by 2025, in line with UK society.

See the Shell UK Diversity Pay Gap Report 2023 on [shell.co.uk](https://www.shell.co.uk).

In the Netherlands, we are implementing our Ethnic Inclusion Plan which includes initiatives to raise awareness and to promote voluntary disclosure of Self-ID data. In 2023, we also recruited 34 new hires via Shell's Learning Programme for refugee talent in the Netherlands.

Shell also works with key suppliers to ensure they understand our DE&I expectations.

See our website [shell.com](https://www.shell.com) for more information on our DE&I progress in the UK, the USA and the Netherlands.

LGBT+

We are working to advance lesbian, gay, bisexual and transgender plus (LGBT+) inclusion within Shell and the communities where we work. We promote equal opportunity and aim to create an environment where people feel included, regardless of sexual orientation or gender identity. Our approach reinforces respect for people and provides psychological safety for our LGBT+ employees. Most of our work around LGBT+ inclusion happens at a country level in line with local policies, laws and regulations. Our Global LGBT+ Inclusion Guidelines, published in 2022, are designed to help country teams develop their own plans. Of the 15 countries with an LGBT+ employee resource group, 13 are adopting these guidelines in their multi-year plans.

Powering lives continued



Benchmarking our LGBT+ initiatives

We benchmark our initiatives externally. In 2023, Shell was recognised as an "Advocate" in the 2023 Workplace Pride Global benchmark, which is the highest level awarded to companies that stand out as clear leaders in LGBTIQ+ workplace inclusion. In the USA, we have received a 100% score from the Human Rights Campaign Foundation's Corporate Equality 2023 Index and have achieved a top score every year since 2016.

Disability inclusion and accessibility

We aim to create an inclusive, psychologically safe and accessible environment where people with disabilities can excel. We provide support and adjustments for people with disabilities during the recruitment process and throughout their careers with Shell, including access to educational resources, training programmes, and personal and professional development. In May 2023, we launched a Disability, Accessibility and Inclusion Portal providing comprehensive guidance and tools for line managers, leaders, people with disabilities and employees to be active allies. Shell's enABLE employee resource groups provide expertise and advice to Shell leaders and our businesses on accessibility and disability inclusion. We also offer a workplace accessibility service which covers 79 locations in 37 countries. The team is supported by functions such as Shell Health, Human Resources, Real Estate and IT.

Shell is part of the Valuable500, which connects 500 of the world's most influential global businesses to help progress large-scale disability inclusion. We are also active members of the Business Disability Forum and Purple Space.

Employee share plans

We have several share plans designed to align employees' interests with our performance through share ownership.

See the "Directors' Remuneration Report", pages 191-193 for information about the share-based compensation plans for Executive Directors.

Performance Share Plan, Long-term Incentive Plan and exchanged awards under the BG Long-term Incentive Plan

The Performance Share Plan (PSP) and Long-term Incentive Plan (LTIP) are designed to ensure that remuneration is clearly aligned with Shell's operating plan and longer-term strategic ambitions. The same measures apply to Executive Directors and Senior Management and to a significantly broader employee base.

PSPs are long-term incentives, measured over a three-year performance period, designed to retain key employees and ensure they have a greater investment in Shell's future. The LTIP, also measured over a

three-year performance period, is used to make long-term share incentive awards to Executive Directors, Executive Committee members and Senior Executives.

Under the PSP, 50% of the award is linked to certain indicators described in "Performance indicators" on pages 29-30, averaged over the performance period. For 2020, 11.25% of the award is linked to the free cash flow (FCF) measure and 5% is linked to an energy transition measure. The remaining 33.75% is linked to the comparative performance condition. For 2021 and 2022, 10% of the award is linked to the FCF measure and 10% is linked to an energy transition measure. The remaining 30% is linked to the comparative performance condition. From 2023, 12.5% of the award is linked to an organic FCF measure and 12.5% is linked to an energy transition measure. The remaining 25% is linked to the comparative performance condition, which is based on two performance measures.

Under the LTIP award made in 2020, 22.5% of the award is linked to the FCF measure and 10% is linked to an energy transition measure. The remaining 67.5% is linked to the comparative performance condition mentioned above. For 2021 and 2022, 20% of the award is linked to the FCF measure and 20% is linked to an energy transition measure. The remaining 60% is linked to the comparative performance condition. From 2023, 25% of the award is linked to an organic FCF measure and 25% is linked to an energy transition measure. The remaining 50% is linked to the comparative performance condition, which is based on two performance measures.

Separately, following the BG acquisition, certain employee share awards made in 2015 under BG's Long-term Incentive Plan were automatically exchanged for equivalent awards over shares in the Company. The outstanding awards take the form of nil-cost options.

Under all plans, all shares that vest are increased by an amount equal to the notional dividends accrued on those shares during the period from the award date to the vesting date. In certain circumstances, awards may be adjusted before delivery or be subject to clawback after delivery. None of the awards results in beneficial ownership until the shares vest.

See Note 27 to the "Consolidated Financial Statements" on page 309.

Restricted share awards

Restricted Share Awards (awarded under the Shell Share Plan 2014 and Shell Share Plan 2023) are free share awards made on a highly selective basis to senior staff. All shares that vest are increased by an amount equal to the notional dividends accrued on those shares during the period from the award date to the vesting date. In certain circumstances, awards may be adjusted before delivery or be subject to clawback after delivery.

Global Employee Share Purchase Plan

Eligible employees in participating countries may participate in the Global Employee Share Purchase Plan. This plan enables them to make contributions from net pay towards the purchase of the Company's shares at a 15% discount to the market price, either at the start or at the end of an annual cycle, whichever date offers the lower market price.

UK Shell All Employee Share Ownership Plan

Eligible employees of participating Shell companies in the UK may participate in the Shell All Employee Share Ownership Plan, under which monthly contributions from gross pay are made towards the purchase of the Company's shares. For every six shares purchased by the employee, one matching share is provided at no cost to the employee.

Safety



Safety

Safety, along with our core values, underpins our Powering Progress strategy. We aim to do no harm to people and to have no leaks across our operations. We call this our Goal Zero ambition.

We seek to improve safety by focusing on the three areas where the safety risks associated with our activities are highest: personal, process and transport. We strive to reduce risks and to minimise the potential impact of any incident, with a particular emphasis on the risks with the most serious consequences if something goes wrong.

Our multi-year process of refreshing our approach to safety for all employees and contractors started in 2020. This approach is rooted in a consistent focus on human performance. We ask people at Shell to apply a learner mindset, by which we mean the belief that we can always improve, enhance individual capabilities, learn from mistakes and successes, and speak up freely without repercussions.

In practice, our refreshed approach to safety is about enhancing how we prepare for and conduct high-risk activities by, for example:

- executing frontline work: build an environment of trust and learning, strengthen team leaders' coaching and engagement skills, and embed pre-start work preparations such as those developed by the International Association of Oil & Gas Producers (IOGP);
- applying acknowledged industry safety tools: in 2022, we moved from the Shell Life-Saving Rules to industry-wide Life-Saving Rules so that Shell employees and contractors are working on the same basis to manage risks; and
- using technology and digital tools to reduce exposure, identify conditions that may lead to serious incidents and fatalities, and enhance learning.

It is also about capturing more insights from performance analysis by, for example:

- using metrics focused on serious injuries and fatalities (SIF) and the lessons that we can derive from high-potential incidents and events that could have led to SIF incidents;
- seeking to capture underlying causes and systemic patterns through incident investigations; and
- aiming to embed lessons learned from the above points in training and instructions for work preparation and execution.

In 2023, we integrated this safety approach into the plans of our facilities, projects and functions. Many of our non-operated ventures and companies that are operated by Shell, but not integrated into our systems, have also chosen to implement elements of our refreshed approach.

Technology and safety

We are establishing connected ecosystems for data gathering, analysis and reporting through the digital transformation of our equipment. Digitalisation helps to automate processes so that they can be supported remotely, for example, by quickly taking action in the event of unsafe situations.

For example, T-Pulse, an AI-automated safety monitoring solution developed by the Indian company Detect Technologies, uses CCTV feeds to detect unsafe situations, such as fall and fire hazards. It identifies and reports real-time safety issues and unsafe behaviours to enable urgent conversations, followed by coaching for improvement.

Shell started to deploy T-Pulse in 2020, and had installed it at 13 sites by the end of 2023. By then, it had created alerts for more than 10,000 situations with potential safety issues. Analysis showed that in more than 500 of those situations, an intervention helped to avoid potential significant harm to people or leaks to the environment.

Personal safety

We continue to strengthen the safety culture and leadership among our employees and contract staff. This aligns with our focus on caring for people.

When our employees and contractors perform tasks, we expect them to consider the hazards that could potentially cause serious harm and the effectiveness of the barriers in place to avoid serious harm. We run safety awareness programmes, and hold an annual global Safety Day to give employees and contractors time to discuss safety culture on the frontline, reflect on how to prevent incidents, and how to improve performance.

In 2023, the focus was on "failing safely", which means we recognise that people make mistakes and that our barriers need to be capable of managing the impact of those mistakes to prevent harm.

Safety continued

In 2023, we achieved safe construction, commissioning and start-up of a floating production unit (FPU) for the Shell-operated Vito field (Shell interest 63.1%) in the US Gulf of Mexico. The fabrication of another FPU, Seatrium, for the Shell-operated Whale field (Shell interest 60%) in the Gulf of Mexico, was completed in 2023 after 12 million hours without fatality or serious injury.

Process safety

Process safety management is about keeping hazardous substances inside pipes, tanks and vessels, and ensuring that well fluids are contained during construction, interventions (such as maintenance) and incidents. Our Asset Integrity and Process Safety Management Principles guide our actions from project design and construction throughout the life cycle of facilities to keep sites, employees and contractors safe.

Our global standards define our requirements for the identification of process safety hazards and the design of controls to prevent the release of the identified hazards. For example, offshore wells must be designed with at least two independent barriers in the direction of flow to reduce the risk of an uncontrolled release of hydrocarbons. In the event of a spill or a leak, our standards require the use of independent recovery measures to reduce the likelihood of a release becoming catastrophic. We regularly inspect, test and maintain these barriers so that they meet our standards.

Collaboration with industry stakeholders, customers and suppliers is critically important to achieve our process safety ambitions. We focus on disciplined delivery of our work processes. At the same time, we seek to make these work processes more effective through active learning, a continuous improvement mindset and striving to create a working environment where everyone feels safe to speak up.

The three core pillars to help improve our process safety performance are:

- to simplify our risk management by standardising our risk assessment tools and make more use of digitalisation;
- to embed human performance factors in frontline work execution; and
- to shift the process safety indicators from lagging to leading indicators with a greater focus on the risk potential.

Preparing for emergencies

We prepare and practise our emergency response to incidents, such as a spill or a fire. This involves working closely with local emergency services and regulatory agencies to jointly test our plans and procedures. Shell requires key operating facilities to test their emergency response preparedness every three years. In 2023, we held four large-scale emergency response exercises at certain assets we operate in Trinidad and Tobago, Singapore, the UK and the USA. We also supported one large-scale emergency response exercise at an asset in Argentina, owned and operated by Raizen, one of our joint ventures (Shell interest 44%).

We have set up three regional Emergency Response Leadership Councils for the Americas; Asia-Pacific; and Europe, the Middle East, and Africa. The councils bring together experts from different teams that need to be able to work together seamlessly in case of emergencies. In 2023, the councils' annual conferences covered a variety of topics such as business continuity, cyber security, performance under stress, battery storage emergencies, use of drones and competence development.

Transport safety

Transporting large numbers of people, products and equipment by road, rail, sea and air poses safety risks. We seek to reduce these risks by developing best-practice standards within Shell. We also work with specialist contractors, industry bodies, non-governmental organisations and governments to find ways of reducing transport safety risks.

Road safety

In 2023, Shell employees and contractors drove around 464 million kilometres on company business. Commercial road transport accounts for most of this but only two of this year's 18 severe motor vehicle incidents (SMVIs) occurred during commercial road transport. An SMVI is defined as a motor vehicle incident resulting in a fatality, serious injury or a rollover of a vehicle. Nine SMVIs occurred during business travel, two during commercial transport activities and the remaining seven during on-site operations. There were no road transport-related fatalities in 2023.

In 2023, about 30,600 Shell employees and individual contractor colleagues were identified as driving on work-related business, and therefore required defensive driver training (DDT). In 2023, we launched an internal virtual DDT course to align better with industry partners' approaches.



Addressing driver fatigue

Falling asleep behind the wheel or being distracted while driving are amongst the leading causes of road accidents worldwide. We worked with four universities to identify suitable devices and started deployment in 2020, at the Shell-operated QGC facility in Australia.

By the end of 2023, we had installed active fatigue and distraction detection (AFDD) devices in around 3,380 vehicles operated by Shell or our contractors in countries where road transport risks are highest. In 2024, we will continue to install AFDD devices in vehicles operated by Shell, including both contractor and Shell-owned vehicles. The AFDD devices have recorded and intervened in at least 130 high-risk fatigue events, preventing what could have resulted in motor vehicle incidents if the devices had not alerted the drivers.

Photo: Transportation is intrinsic to our business activities.

Safety at sea

At the end of 2023, we managed and operated a global fleet of 25 tankers, liquefied natural gas carriers and the world's first liquefied hydrogen carrier, the Suiso Frontier.

Safety continued

Air safety

In 2023, for Shell-operated ventures, our owned and contracted aircraft flew more than 38,000 hours and safely carried more than 281,000 Shell employees and contractors to destinations across the world. In addition, remotely piloted aircraft safely completed almost 3,400 flight hours on surveys, inspections, emissions surveillance, and security and incident response.

See our website [shell.com](https://www.shell.com) for more information on transport safety.

Working with others

We work with contractors and suppliers to help them understand our safety requirements. We strive to improve the energy industry's safety performance by sharing safety standards and experience with other operators, joint-venture partners, contractors and professional organisations.

In 2023, senior executives from Shell's 23 major global contractors joined Shell executives in Norway for our annual Contractor Safety Leadership workshop. Focus areas of discussion were worker welfare and human rights, mental health and technology solutions for safer work at the frontline.

Also in 2023, leadership teams from 25 Shell joint ventures and companies newly acquired by Shell met in the Netherlands to discuss topics such as worker welfare and related industry standards, and the importance of alignment on safety.

Contractor safety

Executives from Shell and our major contractor companies have collaborated on Shell's contractor safety leadership (CSL) programme since 2014. The programme seeks to identify strategies and practical ways to improve a shared safety culture and achieve our Goal Zero ambition of no harm and no leaks.

Importance of contractor safety for Shell



Safety continued

Safety performance

We are deeply saddened to report that four of our contractor colleagues in Shell-operated ventures lost their lives in 2023 during the course of their work for Shell. An additional contractor colleague who was injured in 2023, succumbed to their injuries in February 2024. One contractor colleague in Malaysia died during scaffolding work, and one in the Philippines died after a fall from height. Two contractor colleagues in Nigeria died in a security incident, along with four government security agents. In Nigeria, another contractor colleague injured in a tugboat fire incident later passed away.

These losses have a deep and far-reaching impact on families, friends and colleagues. We are determined to learn from these incidents and take steps to prevent something similar from happening again. We continue to work closely with our contractors to help build a strong safety culture at the frontline.

Several industry safety leadership groups confirm that serious and high-potential incidents often have different root causes than most lower-consequence events. The serious injury, illness and fatality frequency (SIF-F) enables us to focus our investigations on the most serious incidents. The aim is to collect and analyse relevant, high-quality data that can help us improve our efforts to prevent serious injuries and fatalities.

In 2023, the SIF-F was 2.6 injuries and illnesses per 100 million working hours compared with 2.0 in 2022. The SIF-F for 2022 was adjusted from 1.7 to 2.0 due to a classification change for one injury after publication in March 2023. The number of serious injuries and fatalities increased to 12 in 2023 (five fatalities and seven serious injury cases) from nine in 2022. Fatalities in 2023 include one contractor colleague who was injured in a 2023 incident and unfortunately died from their injuries in February 2024.

The number of Tier 1 and 2 operational process safety events in 2023 decreased compared with 2022. There were 63 incidents reported during the year compared with 66 in 2022.

For reporting on process safety, in this Report, we combine Tier 1 and 2 events. A Tier 1 process safety event is an unplanned or uncontrolled release of any material from a process, including non-toxic and non-flammable materials, with the greatest actual consequence resulting in harm to employees, contract staff or a neighbouring community, damage to equipment, or exceeding a defined threshold quantity. A Tier 2 process safety event is a release of lesser consequence.

In 2023, there were zero Level 1 or Level 2 well control incidents in Shell-operated ventures. A well control incident is defined as a well set up with less than two barriers in place to protect it against a release through any potential path.

As part of Shell's learner mindset approach, we investigate serious incidents so we can understand the underlying causes, including technical, behavioural, organisational and human factors. We share what we learn, including with contractors. We implement mitigations at the site and in the country and business where the incident occurred. We seek to turn incident findings into improved standards or better ways of working that can be applied widely across similar facilities.

See our 2023 Shell Sustainability Report for more information about our safety performance.

Security

Our operations expose us to criminality, civil unrest, activism, terrorism, cyber disruption and acts of war that could have a material adverse effect on our business (see "Risk factors" on page 20). We seek to obtain the best possible information to enable us to assess threats and risks.

We conduct detailed threat and risk assessments for our Shell-operated venture assets, facilities, business, projects and activities so that security risk mitigations achieve the principles of deter, detect, delay and respond. Further mitigations include strengthening the security of assets, reducing our exposure as appropriate and using journey management plans. We also invest in information risk management capabilities and crisis management and business continuity measures. We learn from incidents, in order to continually improve our security risk management in Shell.

To help us understand the threats, we build strong and open relationships with government, law enforcement, military forces, industry peers and specialist security information providers. On the basis of these threat assessments, we identify security risks to employees, assets, including information technology equipment, and operations. We then seek to manage the risks so they are as low as reasonably practicable. Risk mitigation includes strengthening the security of sites, reducing our exposure to threats as appropriate, journey management, information risk management and cyber defence operations, crisis management and business continuity measures.

We conduct training and awareness campaigns for employees, and provide them with travel advice and access to 24/7 assistance while travelling. We consistently verify the identity of our employees and contract staff, we control physical access to our sites and activities, and we document access with digital tools. We take steps to have clear and planned responses to security incidents, so that we are able to react quickly and effectively if they occur.

Shell is a member of the Voluntary Principles on Security and Human Rights initiative. This is a multi-stakeholder initiative of governments, extractive sector industries and NGOs that gives guidance on how to respect human rights, while providing security for business operations. Shell implements this guidance across its companies, concentrating on countries where the risks of working with state and private security forces are greatest.

In the EC, accountability for security matters sits with the Chief Human Resources and Corporate Officer.

Living by our values

Our core values of honesty, integrity, and respect for people, as well as our focus on safety and sustainability are critical to our strategy. We are committed to doing business in an ethical and transparent way.

Ethics and transparency

Our core values underpin our work with employees, customers, investors, contractors, suppliers, NGOs, the communities where we operate and others. The Shell General Business Principles, Code of Conduct and Ethics and Compliance Manual help everyone at Shell act in line with our values.

Shell General Business Principles

The Shell General Business Principles (SGBP) set out our responsibilities to shareholders, customers, employees, business partners and society. They set the standards for how we conduct business with integrity, care and respect for people. As part of these principles, we commit to contribute to sustainable development, balancing short- and long-term interests and integrating economic, environmental and social considerations into our decision-making. All Shell employees and contractors, and those at joint ventures we operate, are expected to behave in line with these business principles. The company undertakes a range of activities to help embed the SGBP within the organisation. These include training and encouraging people to discuss the dilemmas they face in their work.

Code of Conduct

The Shell Code of Conduct explains how employees, contractors and anyone else acting on behalf of Shell must behave to live up to our business principles. It covers safety, anti-bribery and corruption, fair competition, human rights and other important areas. Shell employees, contractors and third parties can report any potential breaches of the Code of Conduct confidentially through several channels, including anonymously through a global helpline operated by an independent provider. We maintain a stringent no retaliation policy to protect any person making an allegation in good faith.

In 2023, there were 2,134 reports to the Shell Global Helpline. Of those, 254 cases were confirmed breaches of the Code of Conduct, 278 employees or contractor staff were subject to disciplinary action, and 66 people were dismissed.

Data protection

Over the last decade, the Shell Group has continued to invest in and develop a mature and robust privacy compliance programme based on our Binding Corporate Rules (BCRs). These rules are perceived as

a positive mechanism by data privacy regulators for enabling lawful data sharing and demonstrating accountability within large corporate groups. The BCRs allow intra-group transfers of personal data without needing to enter into additional complex intra-group agreements. The overall objective of the programme is to enable the Shell Group of companies to collect, handle and manage personal data in a professional, ethical and lawful manner.

Shell's Chief Privacy Officer serves as the Data Protection Officer (DPO) under the EU's General Data Protection Regulation (GDPR) and other applicable data privacy laws, except where there is a requirement to have a locally based DPO, such as in China and the Philippines.

Our staff receive guidance on the requirements in Shell's Ethics and Compliance Manual, on an internal website focusing on data privacy, training modules where completion is monitored and regular messages from Shell leaders on the importance of managing data privacy risks.

We monitor new and imminent data privacy legislation and seek to ensure we have a robust impact assessment process in place for the relevant businesses. We design our operations and processes based on relevant data privacy requirements and we build controls into our processes and practices which cover the handling of personal data.

We maintain a Group-wide incident management process designed to immediately identify and remediate data privacy breaches. The process also helps us to comply with country-level requirements for reporting breaches. Some of our acquired companies are not yet in full compliance with our BCRs. Following assessments for each of those companies, specific actions are planned and put in place to achieve compliance, with regular updates made on their progress to management.

Anti-bribery and corruption

Shell has rules on anti-bribery and corruption in its Code of Conduct and Ethics and Compliance Manual.

We maintain an anti-bribery, anti-tax evasion and anti-money laundering (ABC/AML) programme, with adequate resources, a comprehensive governance structure and established reporting lines. Staff receive guidance on the requirements listed in Shell's Ethics and Compliance Manual, an ABC/AML-specific website, training modules where completion is monitored and regular messages from Shell leaders on the importance of managing ABC/AML risks.

Shell has around 25,000 suppliers worldwide. We offer free training in anti-bribery and anti-corruption practices to selected suppliers and contractors. This training is available in 14 languages. In 2023, we offered training to 131 third-party organisations in 16 countries.

Living by our values continued

Antitrust and competition laws

We maintain an antitrust compliance programme with adequate resources, a comprehensive governance structure and established reporting lines. Staff receive guidance on the requirements listed in Shell's Ethics and Compliance Manual, an internal antitrust-specific website, training modules where completion is monitored and messages from Shell leaders on the importance of managing antitrust risks. Staff must understand and comply with the Protect Shell Policy, which explains Shell's position on managing antitrust risks in engagements with parties external to Shell. In response to fast-moving external antitrust developments and trends, internal guidance is continually being monitored to ensure that it remains relevant.

Compliance in our Trading and Supply business

We maintain a Trading Compliance function managed by a Chief Compliance Officer, as regulated by the UK Financial Conduct Authority (FCA), the US Commodities Futures Trading Commission (CFTC) and the Securities Commission of the Bahamas (SCB) with adequate resources, including employees and budget; a comprehensive governance structure, including mitigating control measures; and established reporting lines. Employees in Shell's Trading organisation receive clear guidance through the Shell Code of Conduct; the organisation's Trading Compliance Manual supplemented with specific policies; a specific internal compliance website; mandatory training modules where completion is monitored and additional training sessions. Shell leaders reinforce the importance of managing compliance and conduct risk in the trading organisation. Shell's Trading Compliance function has a dedicated monitoring and surveillance team, which has systems for trade surveillance and monitoring communications.

Trade compliance and sanctions

We continue to develop and maintain a trade compliance programme with adequate resources, robust screening protocols, a comprehensive governance structure and established reporting lines. Staff receive guidance on the requirements listed in Shell's Ethics and Compliance Manual, a specific website for trade compliance, training modules where completion is monitored and messages from Shell leaders on the importance of managing trade compliance risks. The effectiveness of the programme is assessed annually (more frequently if necessary) and we are continually seeking ways to improve it.

Reputation and brand

We continually assess and monitor the external environment for potential risks to our reputation. We engage in dialogue with our key stakeholders, such as investors, industry and trade groups, academics, governments and non-governmental organisations to gain greater insights into societal expectations of the Shell Group of companies. We also take proactive steps when warranted, through legal means to protect our reputation from unwarranted accusations. We have mitigation plans for identified individual risks at the Group, country and line of business level. Our country chairs are responsible for implementing country plans which are updated annually. We continually develop and defend our brand in line with Shell's purpose and target our efforts to drive brand differentiation, relevance and preference.

Our approach to sustainability

Our commitment to contribute to sustainable development has been part of the Shell General Business Principles since 1997. These principles, together with our Code of Conduct, apply to the way we do business and to our conduct with the communities where we operate. We have embedded this sustainability commitment in our Powering Progress strategy, and our business and decision-making processes.

Sustainability reporting boundary and guidelines

Data in the Respecting nature, Powering lives, Safety and Living by our values sections are reported on a 100% basis in respect of activities where a Shell company is the operator (unless noted otherwise). Reporting on an operational control basis differs from that applied for financial reporting purposes in the "Consolidated Financial Statements" on pages 244-316. Find additional information on our environmental and social performance in our 2023 Shell Sustainability Report expected to be published in March 2024.

Our reporting on sustainability follows certain guidelines. For example:

- As a member of the World Business Council for Sustainable Development, we support its updated criteria for membership from 2022, which include requirements for corporate transparency.
- Our reporting is informed by guidelines developed by Ipieca, the global oil and gas association for advancing environmental and social performance across the energy transition.

United Nations Sustainable Development Goals

Governments are responsible for prioritising and implementing approaches that meet the UN's 17 Sustainable Development Goals (SDGs). We strive to play our part in helping governments and societies achieve the SDGs and these were one of the considerations in the development of our Powering Progress strategy. We believe the actions we take as part of our strategy can help directly contribute to 13 of the SDGs, while indirectly contributing to others.

Board oversight for sustainability

We describe Shell's overall governance framework on pages 160-161 and provide information on the roles of the Board, its committees, and the Executive Committee. The Sustainability Committee (SUSCO) is one of the four standing committees of the Board of Directors of Shell plc. The SUSCO's responsibilities are to review the progress of Shell with respect to sustainability and the non-financial elements of our Powering Progress strategy.

See pages 177-178 for information about SUSCO and its activities.

The Annual Report on Remuneration (see pages 194-210) provides details of how the Shell scorecard captures key performance indicators for safety, environment and climate.

Living by our values continued

HSSE & SP Control Framework

In Shell, health, safety, security, environment, and social performance (HSSE & SP) are vitally important to generating value. They are indispensable elements of our organisation. We have internal standards and a clear governance structure to help manage HSSE & SP risks and avoid potential adverse effects. These also help us to develop mitigation strategies aimed at ensuring that if an HSSE & SP risk materialises, we avoid the worst possible consequences and have ways to remediate any environmental damage. The Shell HSSE & SP Control Framework (CF) consists of mandatory manuals, which align with the Shell Commitment and Policy on HSSE & SP. Guidance documents, assurance protocols, and training materials support the implementation of the manuals. Our standards describe how key control processes need to be implemented, for example, to help make production safer and manage the care of equipment. The HSSE & SP CF applies to every Shell entity and Shell-operated venture. It defines requirements and accountabilities at each organisational level, setting expectations for the management of HSSE & SP risks. We aim to ensure that significant HSSE & SP risks associated with our business activities are assessed and managed to minimise them as far as reasonably practicable. Our subject matter experts provide advice and support businesses to improve HSSE & SP performance. The applicability of specific HSSE & SP CF requirements to contractors depends on the defined HSSE & SP risks of the material or services procured as determined by the contracting Shell entity in the context of the HSSE & SP CF. Contractors are required, through appropriate contract provisions, to adhere to either Shell requirements and standards, or applicable industry standards.

When planning new major projects, we conduct detailed environmental, social and health impact assessments. We routinely practice implementing our emergency response plans to potential events such as spills or fire, which pose a significant risk. The Shell Internal Audit & Investigation team provides assurance on the HSSE & SP controls to the Audit and Risk Committee.

Safety, Environment & Asset Management (SEAM) Standards

Our health, safety, security, environment, and social performance standards and governance structure are currently defined in our Health, Safety, Security, Environment and Social Performance (HSSE & SP) Control Framework and supporting guidance documents.

We will begin transitioning to our new Safety, Environment & Asset Management (SEAM) Standards, which come into effect from July 1, 2024. This is part of the Shell Performance Framework, which is the overarching framework adopted by Shell to deliver on its strategy. Implementation of migration to the SEAM Standards, pursuant to guidance on expectations and process, will continue throughout 2024 into 2025.

Health, Safety, Security, Environment & Social Performance Control Framework

The HSSE & SP Control Framework defines mandatory standards, requirements and accountabilities. The framework applies to Shell entities and Shell-operated ventures, including employees and contractors.

Mandatory manuals describe:

- Purpose of the manual
- Accountabilities and responsibilities

- Scope
- Requirements to be met

 HSSE & SP Management System	 Health	 Personal Safety
 Process Safety	 Environment	 Social Performance
 Security	 Product Stewardship	 Transport
 Contractor HSSE Management	 Projects	 Resources

 Shell Commitment and Policy on Health, Security, Safety, the Environment and Social Performance

Living by our values continued

Assurance

The Shell Internal Audit & Investigations (SIAI) team is the single independent assurance organisation within Shell. Within SIAI, the HSSE & SP and Asset Management Assurance team provides assurance to the Board's Audit and Risk Committee on the effectiveness of the HSSE & SP CF through an audit programme.

We take care to invest responsibly in the energy transition and screen investments against multiple criteria. We expect joint ventures not operated by Shell to apply standards and principles substantially equivalent to our own and support them in doing so. We offer to help them review the effectiveness of their implementation. Even if a review is not conducted, we periodically evaluate HSSE & SP risks faced by the ventures that we do not operate. If a venture does not meet our HSSE & SP expectations, we seek to improve performance by working with our partners to develop and implement remedial action plans.

Divestments

When considering divestments, we collaborate with in-house and external experts, where appropriate, to conduct checks and examine key attributes of potential buyers. These attributes may include their financial strength, operating culture, HSSE policies and approach to ethics and compliance. We also consider risk management and people management processes and standards, community liaison practices, and social performance programmes.

Applicable attributes are assessed against Shell's policies and relevant local regulations. Divestments are often subject to the approval of regulators, which may in part depend on potential buyers' HSSE capacity, compliance record and asset stewardship capabilities.

See the section "Risk management and controls" on page 223 for more information.

Decommissioning and restoration

Decommissioning is part of the normal life cycle of every oil and gas structure. We work hard to close and dispose of installations in a safe, efficient, cost-effective and environmentally responsible manner. This includes restoring the surroundings of platforms and facilities in line with relevant legislation, while taking our own standards into account. We have decommissioning and restoration activities under way in Brazil, Brunei, India, the Netherlands, the UK and the USA. We seek to reuse, repurpose and recycle materials in decommissioning. At the end of 2023, we reported \$19 billion on our balance sheet for current and non-current decommissioning and other provisions.

See Note 24 to the "Consolidated Financial Statements" on pages 301-302.

Shell invests in innovative decommissioning and restoration technologies both in-house and by funding third parties. For example, in the Netherlands, we have developed technology to deep-clean hazardous contaminants from unused pipelines. This allows us to sell the pipelines for reuse, such as piping hydrogen, or recycle them as part of our ambitions on circularity.

See the business sections on pages 41-81 for more information.

Principal decisions and stakeholders

Section 172(1) statement

The Board of Directors, having considered the matters set out in section 172(1)(a) to (f) of the Companies Act 2006 (S172), confirms, in good faith, that the Directors have acted in a way that they consider would most likely promote the success of the Company for the benefit of its members as a whole.

This S172 statement discloses how the Directors took into account the interests of Shell's wider stakeholders in the Board's decision-making process. The level of information disclosed is consistent with the size and the complexity of Shell's businesses and focuses on matters of strategic importance to Shell.

General confirmation of directors' duties

Shell's Board has a clear and robust corporate governance framework, which sets out certain financial and strategic thresholds which need to be triggered for matters to be considered and approved by the Board. The corporate governance framework sets out matters reserved for the Board, delegations to its committees and delegations to the Executive Directors. The Manual of Authority sets out the delegation and approval process across the broader business.

All Directors upon joining Shell have participated in induction training and are provided with ongoing guidance covering regulatory requirements of their role, including, but not limited to, S172.

When making decisions, each Director ensures that (s)he acts in the way (s)he considers, in good faith, would most likely promote Shell's success for the benefit of its members as a whole, and in doing so has regard (among other matters) to the issues set out below.

S172(1) (a) "The likely consequences of any decision in the long term"

The Directors understand the business and both the evolving and challenging environment in which we operate, including the challenges of the global energy transition. The Board made decisions with regard to acquisitions, investments and divestments with consideration given to key stakeholders and the likely long-term impact of any decision. During the year, the Board reiterated its commitment to Shell's energy transition strategy and reflected on the challenges to be faced by Shell in the next phase of this strategy, given the shifting macroeconomic and geopolitical context. Based on Shell's established purpose to power progress together by providing more and cleaner energy solutions, the ongoing strategy set by the Board is intended to transition Shell to a net-zero emissions energy business, purposefully and profitably. We continue to have a strong, resilient business with a focus on energy security. We put customers at the centre of our strategy, innovating the products customers need as they seek to decarbonise.

In 2023, the Board continued with its oversight of Shell's Powering Progress strategy, with four pillars: generating shareholder value, working to achieve net-zero emissions, powering lives and respecting nature. The Board focused on financial strength and discipline with a dynamic approach to our portfolio of assets and products, details of which were set out at the Capital Markets Day in June 2023 (CMD23). See pages 6-13 for more on our Powering Progress strategy.

The Directors recognise there are significant complexities in relation to Board decision-making, given differing societal and stakeholder views about our operations and the intricacies associated with the evolving energy transition. Accordingly, the Directors have considered S172 and made their decisions in good faith relating to Shell's strategy having regard for the long-term sustainable success of the Company.

S172(1) (b) "The interests of the Company's employees"

Shell employees are fundamental and core to our business model and the safe delivery of our strategic ambitions. The success of our business depends on attracting, retaining, developing and motivating talented employees. The Directors consider and assess the implications of relevant decisions on employees and the wider workforce. The Directors seek to ensure that Shell remains a responsible employer, including with respect to pay and benefits, fairness (including gender pay gap reporting, see pages 130-131), diversity (information on Shell's Diversity, Equity and Inclusion is detailed on page 130), health and safety issues, and the workplace environment. The Directors regularly engage with employees and the wider workforce (a summary of engagements is provided on pages 170-171) as well as consider the annual employee survey (the most recent is detailed on page 129).

The Directors recognise that our pensioners also remain important stakeholders.

See "Workforce engagement" on pages 170-171.

S172(1) (c) "The need to foster the Company's business relationships with suppliers, customers and others"

To deliver our strategy we require strong mutually beneficial relationships with suppliers, customers, governments, national oil companies and joint-venture partners. Shell seeks to promote and apply certain general principles in such relationships. The Board continues to review Shell's approach to suppliers, which is set out in the Shell Supplier Principles. In 2023, the Board reviewed steps taken with suppliers and supply chains to combat modern slavery and human trafficking. More detail on Shell's Modern Slavery Act statement is set out on page 220. The businesses continually assess the priorities related to customers and those with whom we do business, with the Board engaging with the businesses on these topics, for example, within the context of business strategy updates and investment proposals.

The Directors also receive updates on a variety of topics that indicate how these stakeholders have been engaged. These updates include information provided by the Projects & Technology function on suppliers and joint-venture partners, with respect to items such as project updates and supplier contract management. Businesses also provide information, as relevant, on customers and joint-venture partners in relation to business strategies, projects and investment or divestment proposals.

The CEO provides a comprehensive update to the Board on material business and external developments at each main Board meeting. This includes: i) a report on safety performance; ii) significant operational updates relating to each of the business segments, e.g. partnerships, investments, divestments, flagship projects, commercial highlights and achievements; iii) the development of new technologies and innovation via collaboration with partners, suppliers and others; and iv) political or regulatory developments. The CEO also summarises his own external and internal engagements and any changes of senior executive staff.

Section 172(1) statement continued

S172(1) (d) "The impact of the Company's operations on the community and the environment"

It continues to be integral to our strategic ambitions to reflect on our impact on the community and the environment. The Board receives information on various topics to help it make decisions. The topics can include, for example, the net carbon intensity target, proposals to invest or divest, and business strategy reviews. The information also goes into Group-level overviews, such as updates on safety and environment performance, reports from the Chief Ethics and Compliance Officer, and reports from the Chief Internal Auditor. In 2023, the Board held meetings with Shell's in-country stakeholders, which included a staff engagement during the Board's Strategy Days in Canada, as well as with the Haisla Nation in, and the Mayor of, Kitimat. This enabled the Board to maintain and strengthen its connection with Shell's businesses, staff and other local stakeholders and provided the opportunity to gain a deeper understanding of Shell's reputation, role and contributions within the communities where we operate.

See "Understanding and engaging with our stakeholders" on pages 167-169, and in the reports of each Board committee.

S172(1) (e) "The desirability of the Company maintaining a reputation for high standards of business conduct"

Shell aims to meet the world's growing need for more and cleaner energy solutions in economically, environmentally and socially responsible ways. The Board periodically reviews and approves clear frameworks – such as the Shell General Business Principles, Shell's Code of Conduct, specific Ethics and Compliance manuals, the Ethical Decision-Making Framework and the Modern Slavery Act Statement – to ensure that high standards are maintained in Shell businesses and in Shell's business relationships. Complemented by the ways the Board is informed and monitors ethics and compliance with relevant governance standards, this helps to ensure that Board decisions and the actions of Shell companies both promote and maintain high standards of business conduct.

S172(1) (f) "The need to act fairly as between members of the Company"

After weighing up all relevant factors, the Directors consider which course of action best enables delivery of our strategy in the long-term interests of the Company, taking into consideration the effect on stakeholders. In doing so, our Directors act fairly as between the Company's members but are not required to balance the Company's interests with those of other stakeholders. This can sometimes mean that certain stakeholder interests may not be fully aligned.

Culture

The Board plays an important role in establishing, assessing and monitoring our desired culture and how it is embedded in our values, attitudes and behaviours, including in our activities and stakeholder relationships. The Board has established honesty, integrity and respect for people as Shell's core values. The General Business Principles and Code of Conduct help everyone at Shell to act in line with these values and comply with relevant laws and regulations. The Shell Commitment and Policy on Health, Safety, Security, Environment & Social Performance applies across Shell and is designed to help protect people and the environment. Under the industry Life-Saving Rules, we have a simplified and standardised approach which adopts a broader risk scope focusing on potential for harm to people, creating a greater sense of individual and team responsibility to avoid fatalities and life-changing injuries. In 2023, the focus was on failing safely, which means we recognise that people make mistakes and that our barriers need to be capable of managing the impact of those mistakes without undesirable consequences. The result is a strengthened foundation with an increased and deliberate focus on human performance, the way people, work, culture, equipment, work systems and processes interact.

Our ambition remains unchanged: achieve Goal Zero, no harm and no leaks across all our operations.

To achieve our strategic goals, we need to adapt our mindset and behaviours as we navigate the increasing complexity in the world around us. At Shell we seek to have a culture that encourages the attitudes and behaviour that we believe will help us succeed.

We seek to encourage:

- **Applying a learner mindset:** everyone has the ability to grow, learn from mistakes and successes, and speak up openly in a safe environment. We encourage curiosity, humility, openness, helping each other to make better decisions and create more value;
- **Maximising our performance:** we collaborate across boundaries and speak up when we see things that can be improved. We enable people to deliver, and we work in an integrated way with discipline, clear focus on priorities, and tangible outcomes in order to reach our full potential;
- **Increasing trust in Shell:** we aim to be a valued member of the communities in which we operate, and to make a positive contribution to society. We seek to listen carefully and with humility and we have a strong desire to understand, and, where possible, adapt to the changing needs and expectations of society, especially as they relate to the environment. We build strong and trusted relationships with customers and partners which are fundamental to our collective success;
- **Living by our values and Goal Zero:** we live by our values and do the right things with respect to ethics, safety, and the environment; and
- **Inspiring and engaging:** we aspire to a situation where everyone feels connected to what we stand for. We build trusting and effective teams where everyone feels ownership and has a voice in how work gets done. We strive to maintain a diverse and inclusive culture.

The Board considers the Shell People Survey to be an important tool for measuring employee engagement, motivation, affiliation, and commitment to Shell. With consistently high response rates, it provides valuable insights into employee views. It also helps the Board understand how the survey's outcomes are being used to strengthen Shell culture and values.

Stakeholder engagement (including employee engagement)

The Board recognises the important role Shell has in many societies and is deeply committed to public collaboration and stakeholder engagement. The Board strongly believes that Shell will only succeed by working together with customers, governments, business partners, investors, and other stakeholders.

Continuing to work together with stakeholders is critical, particularly at a time when we and society, including businesses, governments, and consumers, face issues as complex and challenging as climate change, energy security and affordability.

We continue to build on our long track record of working with others, such as investors, industry and trade groups, universities, governments, non-governmental organisations (NGOs) and, in some appropriate instances, our competitors through our joint-venture operations or industry bodies. We believe that working together and sharing knowledge and experience with others offers us greater insight into our business. We also appreciate our long-term relationships with our investors and acknowledge the positive impact of ongoing engagement and dialogue.

Section 172(1) statement continued

The guidance on preparing information, proposals or discussion items for the Board asks for these materials to include considerations of the views, interests, and concerns of stakeholders and how management addressed them. This helps to strengthen the Board's knowledge of how the broader business undertakes significant levels of stakeholder engagement. Board minutes have also reflected key points on stakeholder considerations, where appropriate. The Terms of Reference for our Sustainability Committee (SUSCO) include, within the committee's remit: review and consider external stakeholder perspectives on sustainability issues of relevance to the Group's business, and review selected sustainability topics and matters of public concern, such as biodiversity and plastic waste.

The Board also engaged with certain stakeholders directly, to understand their views. The Board draws upon Shell's substantial in-house expertise by periodically receiving input from economics and policy experts on key political and economic themes, with some updates being presented to the Board each quarter.

See "Understanding and engaging with our stakeholders" on pages 167-169.

Information on how the Directors have engaged with employees can be found on pages 170-171 and in the "Powering lives" section on page 129. The tables below include examples of how Directors have considered the interests of Shell employees and the resulting outcomes.

Principal decisions

In the table below, we outline some of the principal decisions made by the Board over the year. We explain how the Directors have engaged with or in relation to key stakeholder groups and how stakeholder interests were considered in decision-making.

To remain concise, we have categorised our key stakeholders into seven groups. Where appropriate, each group is considered to include both current and potential stakeholders. The groups are:

- investor community;
- employees/workforce/pensioners;
- our customers;
- regulators/governments;
- NGOs/civil society stakeholders/academia/think tanks;
- communities; and
- suppliers/strategic partners.

Board decisions

We define principal decisions taken by the Board as decisions taken in 2023 that are of a strategic nature and significant to any of our key stakeholder groups. As outlined in the UK Financial Reporting Council (FRC) Guidance on the Strategic Report, we include decisions related to capital allocation and dividend policy.

How were stakeholders considered

We describe how regard was given to the likely long-term consequences of the decision, including how stakeholders were considered during the decision-making process.

What was the outcome

We describe which accommodations or mitigations were made, if any, and how Directors have considered different interests, and what factors they took into account.

Strategic updates

Powering Progress strategy

Shell's Powering Progress strategy was launched in 2021, and is outlined within this Annual Report. As part of the Board's continuing oversight of strategy, the Directors receive and discuss regular strategy updates including feedback from stakeholder engagements by management, investors, the media, climate activists and internal staff.

How stakeholders were considered

Energy Transition Progress and Strategy

In 2021, Shell also produced a report (the Shell Energy Transition Strategy (ETS)) with the aim of helping investors and society obtain a better understanding of how Shell is addressing the risks and opportunities of the energy transition. The ETS was put to shareholders for an advisory vote at the 2021 Annual General Meeting (AGM), and shareholders also voted on progress against this strategy at the AGMs in 2022 and 2023. In March 2024, the Board approved ETS24. ETS24 will be put to shareholders for an advisory vote at the 2024 AGM, as part of the continued dialogue on this topic. Information on our ETS is included throughout this Annual Report and the ETS24, which can be found on our website.

At the 2023 AGM, 80.1% of shareholders that voted supported our progress in this strategy. Both before and after the 2023 AGM, the Chair, CEO and some members of the Executive Committee engaged with key stakeholders to understand their views and opinions on Shell's progress on its ETS. They engaged with our largest shareholders and offered further opportunities to discuss Shell's progress on its ETS and to understand the reasons behind various voting decisions. The Chair also had an opportunity to engage directly with our large institutional shareholders during his roadshow in September 2023.

What was the outcome

Energy Transition Progress and Strategy

There are differing views about Shell's ambitions, targets and strategy to become a net-zero emissions energy business by 2050. Shell continued its dialogue with its stakeholders on the progress of its ETS, and the Board recognises the different views of each Shell stakeholder group. The Board continues to listen, learn and adapt as Shell delivers against its strategy, with consideration given to the long-term success of the organisation, as well as the interests of Shell's customers, shareholders and wider society. More information on the outcome of discussions following the 2023 shareholder advisory vote can be found on page 167.

Discussions with stakeholders and feedback from those engagements were integral to the preparation of ETS24, and the Board's approval of this strategy. In this Annual Report and ETS24, we strive to provide information on Shell's progress on its ETS, along with our ambitions, targets and the clarifications our stakeholders are seeking.

Strategic updates

Insights into Shell's Canadian operations

In June 2023, the Board held in-person strategy meetings over the course of three days in Canada, providing for a number of engaging and interactive events with both internal and external stakeholders. A summary of the event is provided on page 162. The key areas of focus related to accelerating the energy transition.

Staff engagements

As part of the Strategy Days, the Board and Executive Committee had the opportunity to engage and speak directly with staff about their experience within the Shell Canada businesses. For further information on the engagement with our workforce see "Board activities" and "Workforce engagement" on page 163 and pages 170-171.

Board Strategy Days

Through multiple engagements with stakeholders, the Board:

- gained valuable insight into the operations of Shell's Canadian businesses;
- built awareness of the local context and risks;
- considered geopolitical contexts in connection with the energy transition and engaged with Shell staff and leaders in Canada;
- considered feedback from a cross-section of Shell's staff on the energy transition;
- considered key external perspectives connected to Shell's energy transition ambitions, targets and strategy; and
- discussed core elements of the Powering Progress strategy with key customers, government officials and other stakeholders in the region.

Financial strength, cash allocation including shareholder distributions

The Board considered cash flow, the macro environment and business performance in 2023 against 2022. The Board also considered management's view of the outlook for the Group's performance, and reviewed the financial framework with specific focus on shareholder distributions. Directors approved several proposals with the aim of delivering value to shareholders and increasing shareholder distributions through a combination of progressive dividends and share buybacks.

How stakeholders were considered

A number of considerations underpinned each proposal, with proposals discussed and reviewed at certain points throughout the year. These considerations took account of the macro environment, robust business performance and outlook, the strength of the balance sheet, capital discipline, feedback from advisers and feedback from other stakeholders.

What was the outcome

In relation to the decisions to increase distributions to shareholders, the Board and management considered the views of stakeholders, the strength of the Company's balance sheet and the need to continue to invest for the future of energy. The form and timing for distributions to shareholders were announced throughout 2023, alongside the publication of the quarterly results.

The Board approved updates to the financial framework, which were announced at Capital Markets Day on June 14, 2023, including to target distributions to shareholders at 30-40% of cash flow from operations through the cycle through a combination of dividends and share buybacks. During 2023, the Board approved share buybacks of \$14.5 billion, and a further \$3.5 billion was announced on February 1, 2024.

Approval of Shell's detailed Operating Plan 2024-2026 (OP23)

The approval of OP23 followed an in-depth review by the Board of proposals on capital allocation, capital investment outlook, competitive outlook, operating expenses, return on average capital employed, shareholder distributions and alignment with Net Carbon Intensity targets. In the December 2023 Board meeting, OP23 was approved.

How stakeholders were considered

OP23 discussions included a full review against Shell's Powering Progress strategy, and the credibility of meeting and risks to delivery of the near- and long-term targets which were set out at CMD23. Meeting commitments made to investors is critical to building trust and confidence with our external stakeholders. The Directors also considered the financial strength of the organisation, the macroeconomic environment, and the continued heightened geopolitical risks as a result of the Russia-Ukraine war, and conflict in the Middle East. The Directors and Executive Committee balanced the priorities in the financial framework, including capital and operating expenditure commitments towards the energy transition alongside increased shareholder distributions, maintaining balance sheet strength, aspired credit ratings and Greenhouse Gas (GHG) target tracking. The plan was discussed extensively and reviewed thoroughly. Responses from investors and discussions with equity and debt market analysts were also presented to the Board for consideration. The Board asked questions to the management on the flexibility of OP23 in the event of various energy transition scenarios.

What was the outcome

Following extensive review and discussion, the overall outcome of this decision was an Operating Plan that the Board believes is robust against various scenarios and features strong optionality if needed. In particular, the Board assured itself that, as these decisions were taken, OP23 flexibly demonstrated pathways to enable delivery of Shell's near and long term targets.

We recognise that stakeholder opinions differ on the approach towards the energy transition. OP23 is based on society's demand for products and services. OP23 also supports Shell in maintaining a reputation for high standards on business conduct and health, safety, security, and environment issues. It maintains the approach to employee remuneration and benefits to pensioners. OP23 also seeks to reward our investors with returns, a strong balance sheet, capital discipline and maintain the long-term financial strength of the Company to invest in more and cleaner forms of energy and meet the current and future needs of society.

Section 172(1) statement continued

Investing in new business, acquisitions and divestments, and closures

Over the course of the year, the Board considered and approved new opportunities and projects and proposed divestments or closures. The Board continued to review Shell's withdrawal from Russian activities.

How stakeholders were considered

The Board considered the impact of decisions related to new business opportunities and divesting from existing opportunities in the context of sustainability, supply, regulations and carbon intensity. Critically, the Board reviewed the various proposals' alignment with Shell's strategy. Particular focus was given to potential benefits of certain divestments, including their potential to: create returns for shareholders; further strengthen the balance sheet; de-risk future cash flow; and avoid significant additional capital investment. As part of the discussions, the Board considered the strategic drivers for the intended divestments, including the Scope 1 and 2 emissions of each asset, anticipated regulatory changes expected to lead to value erosion, and any value opportunities afforded by the macro environment.

As part of each proposal, the respective business unit will undertake effective due diligence on prospective purchasers from a financial, reputational, as well as operating philosophy standpoint to ensure future obligations are met, or suitable mitigating measures are in place, to protect Shell and its people.

Within each divestment proposal, the Board considered if the Company was being a responsible seller of its assets and if the purchasers have the capability to manage our assets/people appropriately. Staff matters are explicitly considered during negotiations and the due diligence process for acquisitions and divestments. Comprehensive engagement plans are developed as appropriate in parallel to the negotiations.

As part of Shell's intercompany approval process, the following investments/divestments were discussed and supported by the Board.

Agreed sale of The Shell Petroleum Development Company of Nigeria Limited (SPDC)

The sale of the 100% equity interest in SPDC to Renaissance Africa Energy Company Limited (Renaissance). Completion of the transaction is subject to approvals by the Federal Government of Nigeria and other conditions.

Investment in deep-water Sparta project in the Gulf of Mexico

Development of Sparta, a development opportunity, with Equinor Gulf of Mexico LLC (Equinor).

What was the outcome

Agreed sale of SPDC

The Board approved the implementation of the strategic intent to exit onshore Nigerian oil exposure by agreeing to the divestment of Shell Petroleum Company Limited's 100% equity interest in SPDC to Renaissance, a consortium of five companies comprising four exploration and production companies based in Nigeria and an international energy group. During Board discussions, the impact for staff was considered and it was noted that SPDC's staff will continue to be employed by the company as it transitions to new ownership. Board discussions also covered how the divestment aligned with Group strategy, the value of the divestment, and impact for a number of stakeholders including shareholders. Furthermore, the Board considered how the divestment would contribute to reducing Shell's Scope 1 and 2 emissions and recognised the importance of this step in achieving no routine flaring, a commitment made at the CMD23.

Investment in deep-water Sparta Project

The Board approved the development of Sparta, a deep-water development in the US Gulf of Mexico, owned by Shell Offshore Inc. (51% operator) and Equinor (49%) The Board considered the investment in the deep-water project would support sustained liquids production, capital returns and free cash flow delivery through to 2030 at low GHG intensity. Additionally, the Board reviewed the assessment that the development opportunity aligned with CMD23 commitments, alongside consideration for the project-specific stakeholders and Shell's wider stakeholders.

Strategic Report signed on behalf of the Board

/s/ Caroline J. M. Omloo

Caroline J. M. Omloo

Company Secretary
March 13, 2024

Governance

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The Board of Shell plc



Sir Andrew Mackenzie Chair

Tenure

Chair - Two years and nine months
(appointed May 18, 2021)

On Board - Three years and five months
(appointed October 1, 2020)

Board committee membership

Chair of the Nomination and Succession Committee

Outside commitments on listed and large private companies

Chair of UK Research and Innovation (UKRI)

Age

67

Nationality

British

Career

Prior to joining Shell, Sir Andrew Mackenzie was CEO of BHP from 2013 to 2019 after joining BHP in 2008. As BHP CEO, he simplified and strengthened the business, and made it the first miner to pledge to tackle emissions caused when customers use its products.

From 2004 to 2007 at Rio Tinto, Sir Andrew was Head of Industrial Minerals, then Head of Industrial Minerals and Diamonds. Prior to this, Sir Andrew spent 22 years with BP, joining in 1982 in research and development, followed by international operations and technology roles across most business streams and functions – principally in exploration and production, and petrochemicals, including as Chief Reservoir Engineer and Chief Technology Officer. Sir Andrew was also Vice President for Chemicals in the Americas, then Olefins and Polymers globally.

From 2005 to 2013, Sir Andrew served as a Non-executive Director of Centrica. He has also served on many not-for-profit boards, including public policy think tanks in the UK and Australia. He was knighted in 2020 for services to business, science, technology and UK-Australia relations.

Relevant skills and experience

Sir Andrew has led international FTSE 100 businesses, and has more than 30 years' experience in the mining and energy industries. Following early academic distinction, Sir Andrew made important contributions to geochemistry, including groundbreaking methods for oil exploration and recovery. He was recognised as "one of the world's most influential earth scientists" and made a Fellow of the Royal Society in 2014.

Sir Andrew has applied his deep understanding of the energy business and geopolitical outlook to create public-private partnerships and advise governments around the world. He has consistently pursued sustainable action on climate change in the interests of access to affordable energy and global development. His expertise is helping Shell navigate the energy transition. Sir Andrew also champions gender balance, the rights of Indigenous Peoples, and the power of large companies to make a positive contribution to society – all of which align closely with Shell's purpose, strategy and values.



Dick Boer Deputy Chair and Senior Independent Director

Tenure

Three years and nine months
(appointed May 20, 2020)

Dick was appointed Deputy Chair and Senior Independent Director on May 23, 2023.

Board committee membership

Member of the Audit and Risk Committee, member of the Nomination and Succession Committee, and a member of the Remuneration Committee

Outside commitments on listed and large private companies

Non-executive Director of Nestlé and SHV Holdings; and Chair of the Supervisory Board of Just Eat Takeaway.com

Age

66

Nationality

Dutch

Career

Dick Boer was President and CEO of Ahold Delhaize from 2016 to 2018. Prior to the merger between Ahold and Delhaize, he served as President and CEO of Royal Ahold from 2011 to 2016. From 2006 to 2011 he was a member of the Executive Board of Ahold and served as Chief Operating Officer of Ahold Europe. Dick joined Ahold in 1998 as CEO of Ahold Czech Republic and was appointed President and CEO of Albert Heijn in 2000. In 2003, he also became President and CEO of Ahold's Dutch businesses. Before joining Ahold, Dick spent more than 17 years in various retail positions, for SHV Holdings N.V. in the Netherlands and abroad, and for Unigro N.V.

Relevant skills and experience

Dick has a deep understanding of brands and consumers, and extensive knowledge of the US and European markets, from his time leading one of the world's largest food retail groups. He has considerable experience at the forefront of retailing and customer service, which extended in more recent years to e-commerce and the digital arena. This experience is most timely as Shell focuses on the growth of our marketing activities and increasing consumer choices in energy products.

Dick brings sound business judgement and a proven track record in strategic delivery to Shell, evidenced by the combination of Ahold and Delhaize. He is also passionate about sustainability and is well informed on the importance of the various stakeholder interests in this area.

The Board of Shell plc continued



Wael Sawan Chief Executive Officer

Tenure

One year and two months
(appointed January 1, 2023)

Board committee membership

N/A

Outside commitments on listed and large private companies

No external appointments

Age

49

Nationality

Lebanese and Canadian

Career

Wael began his career at Shell in 1997 as an engineer with Petroleum Development Oman. By the mid-2000s, Wael was Managing Director and Chairman of Shell Qatar, where he oversaw Shell's business in Qatar, including its liquefied natural gas (LNG) and gas-to-liquids (GTL) divisions. Wael then became Executive Vice President of Deep Water, where he was responsible for driving its transformation into a leading business for Shell.

Prior to being appointed CEO at the start of 2023, Wael joined the Executive Committee in 2019 as Upstream Director, and then, in 2021, he became Shell's Director of Integrated Gas, and Renewables and Energy Solutions. Wael was a trustee of Shell Foundation from 2019 to the end of 2022.

Relevant skills and experience

Wael holds an MEng from McGill University in Montreal, Canada, and an MBA from Harvard Business School. During his Shell career, spanning more than 25 years, he has worked in Europe, Africa, Asia and the Americas, and has held roles across all of Shell's businesses. He has led several major commercial transactions, including mergers, acquisitions and divestments, as well as new business development projects.

Wael is an exceptional leader, with all the qualities needed to drive Shell safely and profitably through its next phase of transition and growth. His track record of commercial, operational and transformational success reflects not only his broad, deep experience and understanding of Shell and the energy sector, but also his strategic clarity. He combines these qualities with a passion for people, which enables him to get the best from those around him.



Sinead Gorman Chief Financial Officer

Tenure

One year and 11 months
(appointed April 1, 2022)

Board committee membership

N/A

Outside commitments on listed and large private companies

No external appointments

Age

46

Nationality

British

Career

Sinead Gorman joined Shell in 1999 and has held key leadership roles in Finance. She started her Shell career in the Shell International Trading and Shipping Company (STASCO) based in London, UK, and then moved to the Coral Energy joint venture, in Houston, Texas, USA. Sinead worked in Mergers and Acquisitions and Treasury, based in the Netherlands, before moving back to Houston as Vice President Finance for Shales.

Prior to her appointment as CFO, Sinead held the positions of Executive Vice President (EVP) Finance for Upstream; Projects & Technology, as well as Integrated Gas and New Energies.

Relevant skills and experience

Sinead has an MEng from the University of Oxford, and an MSc in Finance from London Business School.

Sinead has more than two decades' experience of working for Shell. She has built a deep understanding of finance across the industry, spanning a wide range of businesses, and possesses a breadth of experience in trading, new business development and capital projects.

Sinead has held regional and global finance leadership roles across Europe and the USA, and latterly, in Shell's Upstream, Integrated Gas and Renewables and Energy Solutions businesses, and in Projects & Technology and Corporate.

Highly regarded for her commercial abilities and external focus, Sinead has a strong track record in cost leadership, principle-based decision-making and detailed capital stewardship.

The Board of Shell plc continued



Neil Carson OBE Independent Non-executive Director

Tenure

Four years and nine months
(appointed June 1, 2019)

Board committee membership

Chair of the Remuneration Committee,
and member of the Sustainability Committee

Outside commitments on listed and large private companies

Non-executive Chair of Oxford Instruments plc

Age

66

Nationality

British

Career

Neil Carson is a former FTSE 100 CEO. He joined Johnson Matthey in 1980 where he held several senior management positions in the UK and the USA, before being appointed CEO in 2004. Since retiring from Johnson Matthey in 2014, Neil has focused on his non-executive roles. He was Chair of TT Electronics plc from 2015 until May 2020.

Relevant skills and experience

Neil has an engineering degree, considerable operational experience and a strong understanding of capital-intensive businesses. He has a broad industrial outlook and a thorough commercial approach combined with a practical perspective on businesses. He brings a first-class international perspective on driving value in complex environments. Neil was awarded an OBE for services to the chemical industry in 2016.

Neil uses his experience to bring fresh insight and industry understanding to Board discussions.



Ann Godbehere Independent Non-executive Director

Tenure

Five years and nine months
(appointed May 23, 2018)

Board committee membership

Chair of the Audit and Risk Committee, and member
of the Nomination and Succession Committee

Outside commitments on listed and large private companies

Non-executive Director and Audit Committee Chair
of Stellantis N.V.; and Non-executive Director of
HSBC Holdings plc

Age

68

Nationality

Canadian and British

Career

Ann Godbehere started her career with Sun Life of Canada in 1976 in Montreal, Canada. She joined M&G Group in 1981, where she served as Senior Vice President and Controller for both life and health, and property and casualty businesses throughout North America. She joined Swiss Re in 1996, after it acquired the M&G Group, and served as Chief Financial Officer from 2003 to 2007. From 2008 to 2009, she was interim CFO and an Executive Director of Northern Rock bank in the initial period following its nationalisation.

Ann has also held several non-executive director positions at Prudential plc, British American Tobacco plc, UBS AG, and UBS Group AG. Ann served as a Non-executive Director of Rio Tinto plc and Rio Tinto Limited until May 2019, and she was also Senior Independent Director of Rio Tinto plc. In January 2021, Ann joined the Board of Stellantis N.V., and she chairs its Audit Committee. In September 2023, Ann joined the Board of HSBC Holdings plc.

Relevant skills and experience

Ann is a former CFO and a Fellow of the Institute of Chartered Professional Accountants and a Fellow of the Certified General Accountants Association of Canada, and she has more than 25 years of experience in the financial services sector. Her extensive international business experience, including serving on boards in nine countries, enables Ann to make significant and valuable contributions and bring a global perspective to Board discussions.

Ann's long and varied international business career powered by her financial acumen is reflected in the insights and constructive challenges she brings to the boardroom. As Audit and Risk Committee Chair, Ann leverages her background to ensure robust discussions are consistently held as the Audit and Risk Committee delivers its remit.

The Board of Shell plc continued



Jane Holl Lute Independent Non-executive Director

Tenure

Two years and nine months
(appointed May 19, 2021)

Board committee membership

Member of the Sustainability Committee, and member of the Remuneration Committee

Outside commitments on listed and large private companies

Non-executive Director of Marsh & McLennan; and Non-executive Director of Union Pacific Corporation; Strategic Director of Sicpa Securink Corp.

Age
67

Nationality
American

Career

Jane Holl Lute was President and Chief Executive Officer of the North American operations of Sicpa Securelink Corporation from 2017 to 2021, when she assumed the role of Non-executive Strategic Director. From 2018 to 2021, Jane was a Non-executive Director of Atlas Air Worldwide Holdings Inc. In 2013, she established and led the Council on CyberSecurity, an independent not-for-profit organisation with a global scope, committed to the security of an open internet. From 2015 to 2016, Jane held the role of Chief Executive Officer of the Center for Internet Security, an independent not-for-profit organisation that works to improve cyber security worldwide.

Before this, from 2009 to 2013 Jane served as Deputy Secretary of the US Department of Homeland Security, functioning as the Chief Operating Officer for the third-largest US Federal department. From 2003 to 2009 she held various roles at the United Nations, including Acting Under-Secretary and Assistant Secretary-General for Peacekeeping, Field Support and Peacebuilding. She also served as Executive Vice President and Chief Operating Officer of the United Nations Foundation and Better World Fund. Jane has since returned to working with the United Nations, serving as a Special Adviser to the Secretary-General.

Jane started her career in the US Army in 1978, serving in Berlin during the Cold War, on the US Central Command Staff during Operation Desert Storm, and on the National Security Council Staff under Presidents George H.W. Bush and William J. Clinton. After retiring from the military in 1994, she joined the Carnegie Corporation as an Executive Director of its Commission on Preventing Deadly Conflict.

Relevant skills and experience

Jane is a proven and effective leader, who has held significant leadership roles in public service, the military and the private sector. She brings a wealth of expertise in matters of public policy, cyber security and risk management to our Board. She has also made significant contributions to strategic discussions and overseeing the day-to-day business and management of a significant public security department.

Jane is an experienced board director, having served on the boards of large companies since 2016. These appointments have given her business perspectives across different sectors and geographical regions. She has also served on various committees including committees which focus on audit, environmental and sustainability, nomination and governance issues.



Catherine J. Hughes Independent Non-executive Director

Tenure

Six years and nine months
(appointed June 1, 2017)

Board committee membership

Chair of the Sustainability Committee, and member of the Audit and Risk Committee

Outside commitments on listed and large private companies

Non-executive Director of Valaris Limited

Age
61

Nationality
Canadian and French

Career

Catherine Hughes was Executive Vice President International at Nexen Inc. from January 2012 until her retirement in April 2013, where she was responsible for all oil and gas activities including exploration, production, development and project activities outside Canada. She joined Nexen in 2009 as Vice President Operational Services, Technology and Human Resources.

Prior to joining Nexen Inc., she was Vice President Oil Sands at Husky Oil from 2007 to 2009 and Vice President Exploration & Production Services, from 2005 to 2007. She started her career with Schlumberger in 1986 and held key positions in various countries, including France, Italy, Nigeria, the UK and the USA, and was President of Schlumberger Canada Ltd for five years. Catherine has also held non-executive director positions at SNC-Lavalin Group Inc, Statoil ASA and Precision Drilling Inc.

Relevant skills and experience

Catherine contributes through her knowledge of industry and the ease with which she engages with other Directors and managers in the boardroom. With over 30 years of oil and gas sector experience, she brings a geopolitical outlook and deep understanding of the industry. An engineer by training, she has also spent a significant part of her career working in senior human resources roles. The Board highly regards her perspectives on our industry and our most important asset, our people.

Catherine has a strong track record of executing operational discipline with a focus on performance metrics and a continual drive for excellence. Her knowledge of the technology underpinning oil and gas operations, logistics, procurement and supply chains benefits the Board greatly as it considers various projects and investment or divestment proposals.

She also uses her industry knowledge – combined with her commitment to the highest standards of corporate governance and safety, ethics and compliance – in her role as Chair of our Sustainability Committee.

The Board of Shell plc continued



Sir Charles Roxburgh Independent Non-executive Director

Tenure

One year (appointed March 13, 2023)

Board committee membership

Member of the Audit and Risk Committee

Outside commitments on listed and large private companies

Non-executive Chair of Legal and General America (a US subsidiary of Legal and General Group plc focussing on life insurance and retirement operations); Non-executive member of Global Council, Herbert Smith Freehills

Age
64

Nationality
British

Career

Sir Charles held the position of Second Permanent Secretary, one of the most senior positions within the UK's Treasury, from July 2016 to June 2022. As Second Permanent Secretary at HMT he was responsible for policy and oversight across a range of functions within HMT including financial services, financial stability, infrastructure, energy, science/R&D, business investment, venture and growth capital, transport, and culture/creative industries. He was also Chair of the HMT Operating Committee.

Sir Charles was Director General, Financial Services at HMT from 2013 to 2016 and led the legislative process for the biggest reforms in the UK banking sector in a generation before being appointed Second Permanent Secretary.

Prior to his career at HMT, Sir Charles spent over 25 years at McKinsey & Company, and obtained an MBA from Harvard Business School. While at McKinsey, he held positions including Director of the McKinsey Global Institute, Head of the UK Financial Institutions Group and Co-Head of McKinsey's Global Investment Banking Practice. Sir Charles has worked for large banks, insurance companies, hedge funds and private-equity investors in strategy, risk management, and organisation roles. Sir Charles also led major research efforts at McKinsey and authored a number of articles on strategy and scenario planning.

Relevant skills and experience

Sir Charles' succession of roles placed him at the nexus between industry and government, and they have included his active involvement in forging and delivering energy policies. He was an influential figure within HMT in pioneering energy policy, including for COP26, and providing funding for innovative organisations to support the energy transition.

A former executive board member for one of the world's pre-eminent consultancies, Sir Charles helped drive innovation while navigating the intricate stakeholder landscape of UK government.



Abraham Schot Independent Non-executive Director

Tenure

Three years and five months
(appointed October 1, 2020)

Board committee membership

Member of the Sustainability Committee, and member of the Remuneration Committee

Outside commitments on listed and large private companies

Non-executive Director of Signify N.V.; Cognizant Technology Solutions Corporation; and Compagnie Financière Richemont SA

Age
62

Nationality
Dutch

Career

Abraham ("Bram") Schot has been on the Board of Volkswagen AG, responsible for the Premium Car Group, CEO of Audi AG, Chair of Lamborghini and Ducati, responsible for the VW group Commercial Operations and Vice-Chair of Porsche Holding Salzburg.

From 2011 to 2016, he was a member of the Board of Volkswagen Commercial Vehicles and Executive Vice President responsible for Global Marketing, Sales & Services, New Business Models. In 2017, he became a member of the Board of Audi AG. From 2006 to 2011, Bram was President & CEO of Daimler/Mercedes-Benz Italia & Holding S.p.A. From 2003 to 2006, he was President & CEO of DaimlerChrysler in the Netherlands.

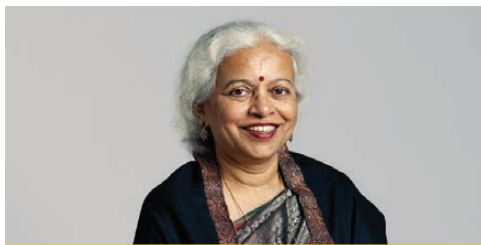
Prior to this, Bram held a number of director and senior leadership roles within Mercedes-Benz in the Netherlands, having joined the business in 1987 on an executive management programme.

Relevant skills and experience

Bram has over 30 years' experience working in the automotive industry at all levels of the business. He gained a wealth of knowledge on extensive business-wide cost optimisation programmes at Audi AG. These helped transform the car company into a provider of electric vehicles that could offer sustainable mobility and position itself to succeed in the energy transition. He is well placed to leverage this knowledge in the Shell boardroom as Shell navigates its own transformation and pathway through the energy transition.

Bram brings his high regard for integrity and compliance to board meetings. His studies have encompassed innovation and organisational effectiveness, geopolitical environments, shareholder value, corporate social responsibility and risk management, which are all highly valued management tools and are evident in the questions he raises in the boardroom.

The Board of Shell plc continued



Leena Srivastava Independent Non-executive Director

Tenure

One year (appointed March 13, 2023)

Board committee membership

Member of the Sustainability Committee

Outside commitments on listed and large private companies

Member of the Independent Council of Climate Experts of Edelman

Age

63

Nationality

Indian

Career

Leena has devoted a significant part of her career to research and policy matters in sustainability and has held positions on several boards of scale. She is currently a member of the UN Technical Advisory Group on SDG 7S, a Scientific Advisory Board Member of the European Forum for Alpbach, and an advisory Board Member of NAMTECH a Gujarat technology institute.

Leena was the Deputy Director General for Science at the International Institute for Applied Systems Analysis (IIASA). Prior to this, she was an Executive Director, then the Vice Chancellor of the School of Advanced Studies at The Energy and Resources Institute (TERI), a not-for-profit policy research organisation working in energy, environment and sustainable development. Leena previously served on the sustainability advisory boards of various multinational companies, such as The Coca-Cola Company, Caterpillar Inc and Suez Environment. She has also been a non-executive director of companies, including companies involved in manufacturing and infrastructure.

Leena has served various committees and organisations both at the international and national levels, with prior roles including energy and climate advisor for the United Nations and the Co-Chair of the Advisory Committee at Future Earth.

Relevant skills and experience

Leena recognises the challenges large organisations face in managing different stakeholder priorities and, in particular, the challenges companies face in balancing business, government and societal needs, while pursuing a sustainability agenda.

Leena was a research associate at TERI when serious discussions on climate change were emerging. Later, as a member of the Cement Sustainability Initiative of the World Business Council for Sustainable Development, she provided a pragmatic perspective on how to support the sector through its decarbonisation journey. She has a strong network of relationships in multiple global institutions focused on sustainability and an understanding of the issues the energy sector faces in pursuing decarbonisation. Leena is well positioned to make a valuable contribution to Shell during this period of transformation.



Cyrus Taraporevala Independent Non-executive Director

Tenure

One year (appointed March 2, 2023)

Board committee membership

Member of the Audit and Risk Committee

Outside commitments on listed and large private companies

Non-executive Director of Bridgepoint Group plc

Age

57

Nationality

American

Career

Cyrus Taraporevala was President and Chief Executive Officer of State Street Global Advisors from 2017 to 2022. Prior to joining State Street, Cyrus held numerous leadership roles in asset management including at Fidelity, BNY Mellon, Legg Mason, and Citigroup. Earlier in his career Cyrus was a partner at McKinsey & Company, based in New York and Copenhagen.

Cyrus was a founding member of the New York Stock Exchange Board Advisory Council, which proactively addresses the critical need for inclusive leadership on corporate boards by connecting diverse candidates with companies seeking new directors. He serves as a Board member of two non profit organisations: The Trustees of Reservations, a Massachusetts-based conservation organisation, and GBH, a public media producer, distributor, broadcaster and content creator.

Relevant skills and experience

Cyrus brings a unique mix of strategic perspectives and business skills. He has significant experience in driving organic and inorganic growth, and company transformations. He is one of the most senior professionals in the asset management industry and has successfully led and grown global businesses of scale. He played a critical role in affirming State Street's reputation as both a stalwart and a pioneer within the sector. At times, Cyrus was helping to implement change amid market uncertainty caused by geopolitical tensions and an evolving regulatory environment.

Cyrus also possesses a unique vantage point on core board-related issues impacting public companies including sustainability. He has spoken about and published multiple articles on climate risk and other aspects of sustainability. He is credited with strengthening the sustainability credentials of State Street Global Advisors and is highly credible in providing perspectives on these topics.

The Board of Shell plc continued



Caroline J.M. Omloo
Company Secretary

Tenure
One year and seven months
(appointed August 1, 2022)

Age 54 **Nationality** Dutch

Career
Caroline Omloo worked in private practice with law firm Nauta Dutilh before joining Shell in 1999. She has held various positions in Shell, including Secretary to the Audit Committee, Associate General Counsel Corporate Finance NL, Chief Privacy Officer and Head of Legal, and management team member of the Downstream Operating Company in the Netherlands. She has also been a member of the board of Stichting Shell Pensioenfonds, one of Shell's Dutch pension funds.

Prior to being appointed as Company Secretary, Caroline was Head of Legal and Compliance of Shell Asset Management Company from 2017 and was a board member of this company from 2018 to 2022. From 2009 to 2019, Caroline was on the board of Stichting Beroepsopleiding Bedrijfsjuristen, the foundation providing education for in-house lawyers in the Netherlands. She also served as a board member of Missie Verkeersmiddelen Actie, a Dutch charitable organisation, from 2007 to 2017.

Relevant skills and experience
Caroline plays an important role at Shell in overseeing the Corporate Secretariat and the Group Disclosures and Securities Team in the UK, USA and the Netherlands.

She has a strong understanding of Shell's global operations and people. Her experience of engaging with the Board in previous roles, coupled with her broad understanding and engagement across Shell's businesses, functions and her legal background, helps to ensure that the right matters come to the Board at the right time.

Retirements in 2023

Euleen Goh (Deputy Chair and Senior Independent Director)
Retired: May 23, 2023. In line with best practice, Euleen chose not to seek re-election at the 2023 AGM after serving almost nine years on the Board.

Martina Hund-Mejean (Independent Non-executive Director)
Retired: May 23, 2023. Martina chose not to seek re-election at the 2023 AGM.

The Board of Shell plc continued

Board diversity

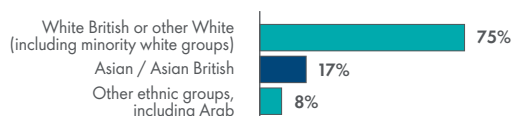
Gender diversity



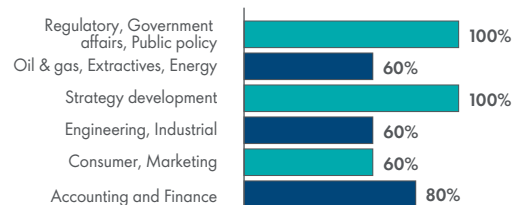
Non-executive Director tenure (years)



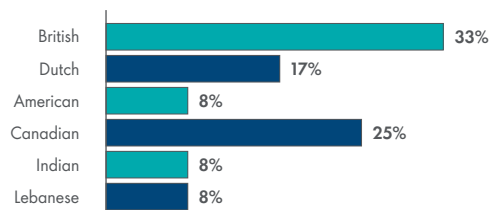
Ethnicity



Non-executive Director sector experience



Director nationality



The graphs above capture board diversity data as at the date of this report, March 13, 2024. For further information in relation to Listing Rule 9.8.6R(9 to 11) please see "Other regulatory and statutory information" on page 222.

Attendance

The Board met nine times during 2023. Six of the nine meetings were held physically, one meeting in Vancouver, Canada, and five in London, United Kingdom. Three meetings were held virtually. Attendance during 2023 for all Board meetings is given in the table [A].

- [A] For attendance at Committee meetings during the year, please refer to individual Committee Reports.
- [B] Dick Boer was absent from the May 2023 Board meeting due to personal circumstances.
- [C] Eileen Goh stepped down from her role as Deputy Chair and Senior Independent Director with effect from May 23, 2023.
- [D] Jane Hall Lute was absent from the June 2023 Board meeting due to a scheduled business commitment.
- [E] Martina Hund-Mejean stepped down from her role as Independent Non-executive Director with effect from May 23, 2023.
- [F] Sir Charles Roxburgh was appointed as Independent Non-executive Director with effect from March 13, 2023.
- [G] Wael Sawan was appointed as Chief Executive Officer (CEO) with effect from January 1, 2023.
- [H] Bram Schot was absent from the June 2023 Board meeting due to personal circumstances.
- [I] Leena Srivastava was appointed as Independent Non-executive Director with effect from March 13, 2023.
- [J] Cyrus Taraporevala was appointed as Independent Non-executive Director with effect from March 2, 2023.

Board member	Meetings attended
Dick Boer [B]	8/9
Neil Carson	9/9
Ann Godbehere	9/9
Eileen Goh [C]	3/3
Sinead Gorman	9/9
Jane Hall Lute [D]	8/9
Catherine J. Hughes	9/9
Martina Hund-Mejean [E]	3/3
Sir Andrew Mackenzie	9/9
Sir Charles Roxburgh [F]	7/7
Wael Sawan [G]	9/9
Bram Schot [H]	8/9
Leena Srivastava [I]	7/7
Cyrus Taraporevala [J]	8/8

Director independence

All Non-executive Directors are considered by the Board to be independent in character and judgement. The Chair is not subject to the Code's independence test other than on appointment.

Ethnic diversity

The Board is satisfied that it currently exceeds the Parker Review recommendation on board diversity in the UK.

Executive Committee

The Executive Committee of the Company comprises the Executive Directors, Wael Sawan and Sinead Gorman, and those listed below (see "Governance Framework" on page 160).



Philippa Bounds
Legal Director

Tenure
Eight months
(appointed July 2023)

Age
53

Nationality
British

Career
Philippa was previously General Counsel for Trading and Supply, based in London. She joined Shell in 2005 after a decade of working at English and American law firms, specialising in structured finance.

She has held legal roles across Shell's businesses, including Senior Legal Counsel in Gas and Power and in Corporate. She has also held several advisory roles, including special advisor to the EU Commission's Director General Internal Markets on securities laws. She has represented Shell on a committee that worked with the UK government on the introduction of the Companies Act 2006.



Robin Mooldijk
Projects & Technology Director

Tenure
Eight months
(appointed July 2023)

Age
57

Nationality
Dutch

Career
Robin was previously Executive Vice President of Shell Chemicals and Products. He was appointed to that role in August 2021, following the integration of Shell's chemicals and manufacturing businesses.

Robin began his career at Shell in 1991 at its Research Laboratory in Amsterdam, the Netherlands, and since then he has held critical roles, including General Manager of Shell Chemicals Europe, Managing Director South African Petroleum and Vice President of Manufacturing Americas. In 2018, he was appointed Shell's Executive Vice President for Manufacturing.



Rachel Solway
Chief Human Resources and Corporate Officer

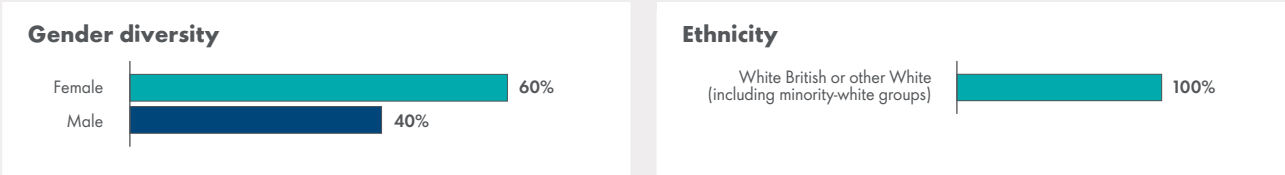
Tenure
Two months
(appointed January 2024)

Age
50

Nationality
British

Career
Rachel joined Shell in 1995 in Upstream in Aberdeen, Scotland. She has since held HR roles in manufacturing, LPG, lubricants and chemicals. In 2016, Rachel was appointed Executive Vice President HR Integrated Gas. She became the Executive Vice President HR Upstream in 2020 before being appointed interim Executive Vice President HR Organisation Development & Learning in May 2023.

Executive Committee diversity



Executive Committee continued


Huibert Vigeveno

Downstream, Renewables and Energy Solutions Director

Tenure

Four years and two months
(appointed January 2020)

Age

54

Nationality

Dutch

Career

Huibert was previously Executive Vice President Global Commercial. He joined Shell in 1995 as a business analyst and led Downstream businesses across Shell in Europe, Africa, North and South America as well as Asia. In 2009, Huibert was appointed Vice President Supply & Distribution, Europe and Africa. In 2012, he became Executive Chair of Shell in China, and in 2016 led the integration of BG Group.


Zoë Yujnovich

Integrated Gas and Upstream Director

Tenure

Two years and five months
(appointed October 2021)

Age

48

Nationality

Australian

Career

Zoë has held various management positions in Downstream, Integrated Gas and Upstream. She served as Executive Vice President Conventional Oil & Gas and was previously Chair and Executive Vice President Shell Australia Pty Ltd. She joined Shell from Rio Tinto in 2014 to lead Shell's Oil Sands business in Canada.

Leavers

- Harry Brekelmans (Projects & Technology Director) on June 30, 2023.
- Donny Ching (Legal Director) on June 30, 2023.
- Ed Daniels (Strategy, Sustainability and Corporate Relations Director) on July 1, 2023.
- Ronan Cassidy (Chief Human Resources and Corporate Officer) on December 31, 2023.

Joiners

- Robin Mooldijk (Projects & Technology Director) on July 1, 2023.
- Philippa Bounds (Legal Director) on July 1, 2023.
- Rachel Solway (Chief Human Resources and Corporate Officer) on January 1, 2024.

Changes to the Executive Committee (Senior Management) in 2023

As announced on January 30, 2023, Shell reduced the size of its Executive Committee (EC) from nine to seven members in a move designed to simplify the organisation further and improve performance as we continue to deliver our Powering Progress strategy.

Under the changes, which took effect on July 1, 2023, Shell's Integrated Gas and Upstream businesses were combined to form a new Integrated Gas and Upstream Directorate, led by Zoe Yujnovich. The Downstream business was combined with Renewables and Energy Solutions to form a new Downstream, Renewables and Energy Solutions Directorate, led by Huibert Vigeveno.

Separately, the Strategy, Sustainability and Corporate Relations Directorate was discontinued and its Director, Ed Daniels, stepped down from the EC and left Group service. Strategy was brought together with New Business Development and, alongside Sustainability, now reports directly to CFO Sinead Gorman, enabling more streamlined planning and better capital allocation decisions.

Harry Brekelmans, previously Projects & Technology Director, and Donny Ching, previously Legal Director, stepped down from their roles and left Group service. Robin Mooldijk succeeded Harry as Projects & Technology Director, and Philippa Bounds became Legal Director.

Ronan Cassidy stepped down as Chief Human Resources and Corporate Officer and left Group service. Ronan was succeeded by Rachel Solway.

Introduction from the Chair

In 1834, Marcus Samuel Sr began importing seashells to the UK, laying foundations for a global import-export business. By the 1880s, the energy industry offered great opportunities. The "Shell" Transport and Trading Company seized these opportunities, with Marcus Samuel Jr commissioning the construction of safer and more efficient steam tankers for oil transportation. His tankers were the first permitted to navigate the Suez Canal in 1892, opening global oil markets to greater competition. Joining forces with the Royal Dutch Petroleum Company in 1907, what is now Shell, one of the world's leading energy companies, was established.

Since those early beginnings, Shell has pioneered ways of providing energy to people. In addition, the use of the oil and gas has revolutionised other industries, from fertilisers to preservatives, textiles to beauty products, and medical supplies to road materials. Now, Shell is at another turning point in its history. We are working to profitably transform our portfolio to meet our target of becoming a net-zero emissions energy business by 2050.

Shell has a vision and a strategy to transform, and the implementation of this strategy, although under way, will take time. This transformation is not just about the use of oil and gas, but goes to the root of how people live – the products we use and the foods that we eat. This journey of transformation is also not the same for everyone, there are still many in the world without access to affordable energy. The energy transition must be balanced and consider all parts of society.

At our 2024 Annual General Meeting (AGM), Shell's updated energy transition strategy will be put to shareholders for an advisory vote. This vote will indicate if our shareholders believe we are on the right track and that Shell is transforming fast enough.

The Board engaged in discussions with the Executive Committee throughout 2023 and into 2024 as the Shell energy transition strategy was reviewed, refined and aligned with the commitments made to stakeholders at Capital Markets Day in June 2023. Specific time was allocated to the topic at the Board's annual strategy days in June, and the Board discussed the energy transition at each of its Board meetings throughout 2023. In addition, when considering the appointments for new Non-executive directors, each appointment was considered alongside Shell's Principles for the Strategic Composition of the Board, which includes, amongst other criteria, specific consideration of the skills and strengths needed for the energy transition.

Board leadership and Shell's purpose

Shell's purpose is set out in the early pages of this Annual Report. Throughout this Governance report we focus on how Shell's governance operates in practice, and why we believe this is the best approach for us.

The Governance report is structured around the key themes of the UK Corporate Governance Code. Our narrative seeks to explain how governance supports and protects Shell and our stakeholders.

Shell applies the principles and the spirit of the Code. There is one instance where we adopt an approach slightly different from that suggested by one of the Code's provisions, namely Provision 5 which concerns workforce engagement. We explain this on page 159. We consider our governance processes are appropriate, given the specific circumstances and range of factors particular to Shell, such as its global nature, size, complexity and history.

Our AGM continues to reach a wider audience through its hybrid format, allowing our global shareholder base to easily participate in proceedings. However, disruptive and unsafe behaviour from some attendees requires us to assess how we conduct this meeting in a way that provides a safe environment and meaningful engagement with those in attendance.

Information on how the Board discharges its duty in relation to key stakeholder interests, including those of our workforce, and an explanation of how it considered these when making principal decisions are set out on pages 141-145. On pages 162-165 we provide information about our Board activities and highlight which stakeholders we considered.

Our workforce engagement methods can be found on pages 170-171. We continue to believe that constructive relationships built on mutual respect and transparency help Shell attract and retain employees, while supporting greater productivity and operational safety and efficiency. Ensuring that the employee voice is heard on relevant matters in the boardroom in practical ways is key to understanding the broader impact of business decisions, including with respect to organisational culture.

The Board recognises the importance of culture in delivering Shell's purpose and strategy. In December 2023 and January 2024, the Board received updates on the annual employee survey and the conduct and culture within the organisation, along with the associated risk areas (see pages 25-27 for more information on this risk), and how the management team is seeking to evolve the Shell culture, placing people at the heart of transforming Shell's performance. Shell's culture reflects the long-held values of the organisation – honesty, integrity and respect for people. These underpin all the work we do and are embedded in our strategy and purpose. The Board will continue to increase its focus on Shell's culture to make sure it continues to align with the business strategy.

Introduction from the Chair continued

Division of responsibilities

More information on how the Board and its Committees support business operations is provided on pages 160-161. In 2023, in line with the outcome of the 2022 Board evaluation, the Terms of Reference for the Board committees were reviewed and updated. Further detail on this is contained on page 166 and the full Terms of Reference for each committee, and the Matters Reserved for the Board are provided on our website.

Composition, succession and evaluation

In 2023, the following changes to the Board were implemented:

The appointment of Wael Sawan as CEO was effective January 1, 2023.

Cyrus Taraporevala joined the Board as a Non-executive Director of the Company, effective March 2, 2023, and Sir Charles Roxburgh and Leena Srivastava were appointed as Non-executive Directors of the Company, with effect from March 13, 2023.

Euleen Goh stood down from her role as Deputy Chair and Senior Independent Director at the 2023 AGM after nearly nine years' service. Following the departure of Euleen, Dick Boer became Deputy Chair and Senior Independent Director with effect from the conclusion of the 2023 AGM.

Martina Hund-Mejean stood down from her role as Non-executive Director from the conclusion of the 2023 AGM.

Changes were made to the membership of our Board committees. These changes are reflected in the biographies of the respective Directors.

Audit, Risk management and Internal control

Throughout the year the Audit and Risk Committee (ARC) assisted the Board to implement sound systems of risk management and internal control, oversight over Shell's financial reporting and consideration of ethics and compliance matters. A variety of standing matters and more specific topics are discussed by the ARC throughout the year, more on this can be found on pages 179-190.

Looking ahead

Shell is an evolving business and the vote on our energy transition strategy at the 2024 AGM, our performance against the commitments from Capital Markets Day 2023, and our acquisitions and divestments or investment in new business operations are some of the more visible steps that we have taken. Less visible steps, like internal organisational changes or policy change are also being implemented.

We are cognisant, yet accept, that not all of our stakeholders will be fully supportive of the decisions that we take, and some stakeholders will choose different methods of communicating their views and their concerns. We will continue to engage with stakeholders, and we will continue to have the humility to listen, learn and adapt as we focus and frame our strategy on the long-term success of the Company.

Like Marcus Samuel Jr did close to 150 years ago, I, and my fellow Directors on the Board, and our colleagues across the business, are working to transform Shell to meet the needs of society today and for the future while delivering strong financial returns. Your Board remain confident that Shell is up to the task ahead.



Sir Andrew Mackenzie
Chair

March 13, 2024

Statement of compliance with the UK Corporate Governance Code

The Board confirms that, throughout the year, the Company has applied the principles, both in spirit and in form, and complied with the provisions set out in the UK Corporate Governance Code issued by the Financial Reporting Council (FRC) in July 2018 (the "Code"), with the exception of Provision 5 noted below. A copy of the Code can be found on the FRC's website: [frc.org.uk](https://www.frc.org.uk).

Shell's governance arrangements have been considered alongside the Code. The information set out in the Directors' Report, including the Board committee reports on (pages 172-210), is intended to provide an explanation of how the Code's principles were applied practically throughout the year. We also provide clear and meaningful explanation below where we believe stakeholders may benefit from more specific information on a particular Code provision.

Workforce engagement (Provision 5)

The size and diversity of our employee base and wider workforce have complicated the feasibility of implementing any of the three specific workforce engagement methods recommended in the Code. The Board believes that its current approach to workforce engagement continues to be pragmatic and effective, particularly when considered against the required coverage needed for a global organisation, such as Shell. Elsewhere in this Annual Report, we explain how our people are essential to the successful delivery of the Shell strategy, and how the Board recognises the importance of understanding their views through engagement. During the year, the Board, committees and individual Directors were able to visit our sites across the world, which helped the Board engage with parts of the workforce and gain insight into the work, culture and impact of Shell in communities. While some engagements could be held physically, others were held virtually, and there were opportunities for the Board to speak with our stakeholders and obtain feedback. The Board also intends to keep the effectiveness of the engagements under review. Stakeholder engagement also continues to be enhanced in management reporting.

More information on the current approach and a description of the channels used by the Board, its Committees, and the Executive Committee are outlined in "Workforce engagement" on pages 170-171.

AGM voting (Provision 4)

At the 2023 AGM, 20% of shareholders supported a resolution which the Board had recommended voting against. Shareholders also voted 20% against a resolution proposed by the Board. Both resolutions related to the approach Shell was taking with regard to its energy transition strategy. Provision 4 of the Code requires certain actions to be undertaken if 20% or more of shareholders vote in a way which is different to what the Board recommended. There are three stages to these actions. First, explain when announcing the voting results what actions the Company intends to take to consult shareholders to understand the reasons behind the voting result. Shell included this explanation with its voting results, published on May 23, 2023. Second, an update on the engagement with shareholders should be published no later than six months after the shareholder meeting. This statement was added to the Shell website on October 30, 2023. Third, a final summary of the engagement and the actions taken should be included within the Annual Report. This information is provided on page 167.

Corporate governance requirements outside the UK

In addition to complying with applicable corporate governance requirements in the UK, the Company complies with the rules of Euronext Amsterdam and Dutch securities laws because of its listing on that exchange. The Company, likewise, adheres to US securities laws and the New York Stock Exchange (NYSE) rules and regulations because its securities are registered in the USA and listed on the NYSE.

Governance framework

Board of Directors

The Company has a single-tier Board of Directors headed by a Chair, with executive management led by the Chief Executive Officer. The names of the Directors who held office during the year can be found on pages 147-154. Information on the Directors who are seeking appointment or reappointment is included in the Notice of Annual General Meeting.

There is no fixed number of times that the Board may meet in one year. During 2023, the Board met nine times (eight times during 2022) and, as detailed throughout our Strategic Report, including the Section 172 statement and activities undertaken throughout the year, worked hard to promote the long-term sustainable success of the Company, generating value for shareholders and contributing to wider society. Board members also engaged in several deep dive sessions as part of their energy transition strategy update work. Further information on the Board's work and assessments in relation to strategy, culture, engagement with stakeholders, and its workforce can be found in this section.

The Board's responsibilities are governed by a formal schedule of matters reserved to it and include:

- Approval of overall strategy and oversight of management;
- Changes to the corporate and capital structure;
- Approval of financial reporting and controls (including approval of the Annual Report and Accounts, approval of the Annual Report on Form 20-F, and interim dividends);
- Oversight of risk management and internal control;
- Approval of significant contracts;
- Determining succession planning and new Board appointments;
- Remuneration for the Chair and Executive Directors; and
- Corporate governance matters.

Board Committees

Audit and Risk Committee ("ARC"), with the purpose to:

- Review and monitor the effectiveness of the Shell Group of Companies' (the "Group") risk management and internal controls;
- Review and make recommendations to the Board on the integrity of the Company's financial reporting;
- Oversee the internal audit and external audit functions and make recommendations to the Board; and
- Carry out other oversight activities on behalf of the Board.

Sustainability Committee ("SUSCO"), with the purpose to:

- Review the progress of Shell with respect to sustainability; and
- Review the non-financial elements of the Powering Progress strategy.

Nomination and Succession Committee ("NOMCO"), with the purpose to:

- Lead the process for appointments to the Board and to Senior Management positions;
- Make recommendations to the Board on all Board and Senior Management appointments and re-appointments;
- Review and make recommendations to the Board on succession planning for the Board and Senior Management, ensuring plans are in place for an orderly succession and overseeing the development of a diverse succession pipeline;
- Review and make recommendations to the Board on corporate governance guidelines; and
- Review the Company's policy, targets and strategies on diversity, equity and inclusion, and monitor their effectiveness.

Remuneration Committee ("REMCO"), with the purpose to:

- Determine and agree with the Board on the remuneration policy for the Company Chair, Executive Directors and the Executive Committee of the Company;
- Within the terms of such agreed policy, and any other relevant policy, determine the individual remuneration packages for the Company Chair, Executive Directors and Senior Management; and
- Monitor the structures and levels of remuneration for other senior executives and make recommendations if appropriate.

More information on the composition of each of the Board committees, their roles and activities during the year is provided on the following pages:

Audit and Risk Committee	179-190	Sustainability Committee	177-178
Nomination and Succession Committee	172-176	Remuneration Committee	191-193

Governance framework continued

Board of Directors continued

Division of responsibilities

The roles of the Chair, a non-executive role, and the CEO are separate and clearly defined. The Board has agreed on their respective responsibilities and set these out in writing. These documents are available on request from the Company Secretary.

Chair

- Responsible for ensuring that the Board and its committees function effectively. One way in which this is achieved is by ensuring Directors receive accurate, timely and clear information; and
- Responsible for making sure that there is an adequate induction and training programme followed by all Directors (see page 165), with assistance from the Company Secretary.

Deputy Chair/Senior Independent Director

- Sounding board for the Chair;
- Serves as an intermediary for the other Directors and shareholders; and
- Leads the annual appraisal of the Chair's performance.

Non-executive Directors

- Appointed by the Board or by shareholders at general meetings and, in accordance with the Code, seek re-election by shareholders on an annual basis;
- Letters of appointment refer to a specific term of office in accordance with the provisions of the Code and the Company's Articles of Association;
- Upon appointment, Non-executive Directors confirm they are able to allocate sufficient time to meet the expectations of the role. Appointments are subject to a minimum of three months' notice of termination, and there is no compensation provision for early termination;
- The Non-executive Directors bring a wide range and balance of skills and international business experience. Through their contribution to the Board and Board committee meetings, respectively, they are expected to challenge and help develop proposals on strategy and bring independent judgement on issues of performance and risk; and
- At every Board meeting, time is set aside for the Chair and Non-executive Directors to meet without the Executive Directors being present. The Non-executive Directors discuss, among other matters, the performance of individual Executive Directors. A number of Non-executive Directors also meet major shareholders over the course of the year.

Executive Management

Chief Executive Officer (CEO)

- Has overall responsibility for the implementation of the strategy approved by the Board, the operational management of the Company and the business enterprise connected with it; and
- Is supported in this by the EC that he chairs.

Executive Committee (EC)

- Operates under the direction of the CEO in support of his responsibility for the overall management of Shell's business. The CEO has final authority in all matters of management that are not within the duties and authorities of the Board or of the shareholders' general meeting;
- EC members are listed in the Executive Committee biographies on pages 155-156.

Governance documents available on [shell.com/investor](https://www.shell.com/investor):

- Articles of Association
- Matters Reserved for the Board
- Board Committee Terms of Reference
- Modern Slavery Act Statement
- Shell General Business Principles
- Shell Code of Conduct
- Code of Ethics for Executive Directors and Senior Financial Officers

Board activities

Board activities

The Board works to a yearly meeting plan with corresponding agendas and reading materials, provided digitally in advance of meetings, to support the Board in its oversight of the Group's operations and management. Standing agenda items include reports from the CEO, the CFO and the Chair of each Board committee. Other updates throughout the year come from various businesses and key functions, including Investor Relations; Health and Safety, Security and Environment; Information Technology; Human Resources; and Legal, as well as the Company Secretary. The Board also considers and approves the quarterly, half-year and full-year financial results, shareholder distributions and the associated announcements, and, at most meetings, considers investment, divestment and/or financing proposals. It also conducts post-investment reviews and performance tracking, as and when required. Additionally, the Board reviews the Group's annual operating plan, including activities undertaken designed to meet the Group's carbon reduction targets. To enable purposeful debates and focus on particular aspects of agenda topics, including the impact on key stakeholders, Directors have an opportunity to specify information they require to be provided in advance of Board meetings.

During the year, where possible, certain Non-executive Directors conduct site visits. The visits are designed to provide them with a deeper insight into certain business operations.

More detail on these can be found in the table below and on pages 162-165.

Some of the activities and areas of Board focus over the year are summarised in the table below. The information below is not exhaustive. Information on other topics discussed by the Board and details of the resulting decisions are covered elsewhere, primarily in the Section 172 statement provided earlier in this report on pages 141-145. In some cases, a brief outline has been provided below, and page references are provided for additional and more comprehensive information.

Board Strategy Days

The Board held its Strategy Days during June 2023. These were held in person in Canada over three days. The programme for the event aimed at having engaging and interactive sessions with both internal and external stakeholders. These included employees, customers, suppliers, regional country chairs and other key stakeholders.

The event focused on Shell's energy transition strategy in Canada. The Board and EC members conducted a deep dive on the strategic elements that would inform Shell's Energy Transition Strategy 2024 (ETS24). Around this theme, the event provided for the following key discussion and engagement opportunities:

- An in-depth discussion on strategy and business implementation, with an emphasis on the growth potential and dilemmas of Shell's businesses in Canada;
- Engagements with experts shaping the energy and climate policy in Canada;
- Discussions of the opportunities and challenges inherent in ETS24;
- Discussions on Canada's perspective on the energy transition and its geopolitical context, including engagement with Shell leaders from across the country;
- A review of growing our sustainable future safely and competitively where presenters included a cross section of business and site staff;
- A site visit to LNG Canada (under construction on the west coast of Canada), which included engagements with the leaders of the Haisla Nation in their community of Kitimat and Mayor Phil Germuth of Kitimat;
- Engagements with a cross section of Shell's workforce in Canada who work across a range of key businesses and functions;
- Discussions with key customers and stakeholders in the region; and
- Discussion of core elements of the Powering Progress strategy.

Topic	Discussion/activity/updates included	Examples of outcome/progress	Stakeholders considered
Board leadership and company purpose			
External business environment	◦ Received updates on and discussed regional geopolitical issues and market outlook.	◦ Considered feedback from investor community on quarterly financial performance, including business segment results.	A, B, C, D, E, F, G
Strategy	◦ Reviewed and discussed progress of strategy including management recommendations. ◦ Reviewed and discussed the materials and proposed communication for Capital Markets Day 2023 (CMD23). ◦ Directors participated in Board Strategy Days. ◦ Reviewed and discussed the Group's Annual Operating Plan for 2023 (OP23).	◦ Alignment on outcomes from Board Strategy Days. ◦ Received an overview of the business, divestments, projected investments and opportunities. ◦ Received an assessment on how OP23 credibly meets all CMD23 targets.	A, B, C, D, E, F, G

A – investor community B – employees/workforce/pensioners C – regulators/governments D – NGOs/civil society stakeholders/academia/think tanks
E – communities F – customers G – suppliers/strategic partners

Board activities continued

Topic	Discussion/activity/updates included	Examples of outcome/progress	Stakeholders considered
Board leadership and company purpose continued			
Climate	- Reviewed the Group's Powering Progress strategy and targets for achieving net-zero emissions by 2050. - Considered key parameters in delivering carbon reduction targets.	- Discussed and engaged with various stakeholders on the development of ETS24 and approved for ETS24 to be presented to shareholders for an advisory vote at the 2024 AGM. - Recommendation to shareholders to approve the Board appointment of Leena Srivastava, who has a strong background in sustainability. - Received the carbon briefing ahead of the deeper conversation on the topic at the Strategy Days in June 2023. - Reviewed the strategy to deliver more and cleaner energy solutions, and continued implementation of the strategy, across Shell's businesses. - Considered how divestment and potential investment opportunities contributed to meeting Shell's carbon reduction targets. - Considered the nature and extent of the broader climate change and energy transition risk across Board proposals and further considered the potential influence on the delivery of Shell's carbon reduction targets.	A, B, C, D, E, F, G
Country exits	- Considered exits from certain countries, based on an examination of proposals from management and businesses. - Considered the continued impact of Shell's withdrawal from Russian activities.	- Approved proposals, after a review of the following in each relevant country: business situation; legal risks; reputation and investor considerations; country, regional and geopolitical landscape; and security situation. - Received updates on the divestments in Russia, alongside the impact for Shell staff in the region.	A, B, C, D, E, F, G
Culture			
Shell People Survey (2023 results)	In December 2023, the Board reviewed the results of the 2023 Shell People Survey.	Having recognised that the 2023 Shell People Survey results were an indicator of the organisation's health, in its January 2024 meeting, the Board reflected further on the pace at which Shell's strong organisational culture could evolve to increase accountability for delivery of business outcomes, supported by the Shell Performance Framework.	B
Staff updates	- Received updates from management and Board Committees on senior executive staff movements. - Engagement through various sources such as Shell People Survey results, talent information, conduct and culture risk dashboard, Chief Ethics and Compliance Officer Report, cultural information embedded in investment proposals.	- The Board was provided with regular updates on topics such as health, safety and the environment. - The Board received updates on the Senior Management changes during the year.	B
Board staff engagements	- Directors participated in in-person staff engagements on site visits. - Received updates from management on staff achievements and outstanding contributions made by our people supporting communities, promoting social justice or intervening in challenging circumstances to uphold ethics and compliance standards.	- Gained first-hand insight into the development and culture of operations and maintenance teams, as well as staff perspectives on other matters of interest to our people. - Received practical examples of ways in which staff members were exhibiting Shell's core values and contributing to society. - Some Board members visited Shell's businesses in Qatar and Oman at the beginning of 2024. They engaged with members of staff and got to observe the Powering Progress strategy in action. - Members of the ARC visited a number of operations in the USA (more information provided on page 182).	B

A – investor community B – employees/workforce/pensioners C – regulators/governments D – NGOs/civil society stakeholders/academia/think tanks
E – communities F – customers G – suppliers/strategic partners

Board activities continued

Topic	Discussion/activity/updates included	Examples of outcome/progress	Stakeholders considered
Audit, risk and internal control			
Safety and Environment	- Received regular updates from management on safety and environment performance. - Throughout the year, Directors shared reflections and insights on topics related to core values and safety. - Received regular updates from the SUSCO, including site visit reports and engagement with stakeholders.	- Provided with commentary and examples of how safety continues to be upheld as important by staff. - Gained perspective and brought diversity of thought to Board discussions by using learnings and insight gained outside Shell. - Provided with insights into the views and priorities of NGOs, communities and other stakeholders. - Two members of the SUSCO visited the Olympus offshore platform in the Gulf of Mexico in April 2023. The visit included a review of safety performance, production operations, the offshore business, and Shell's approach to sustainability.	B, D, E, F, G
Risk management and internal control	- Reviewed reports on Shell's top risks, external and internal trends and emerging risks. - Received update from the ARC relating to site visits. - Received the proposal to adopt the Shell Performance Framework. - Received recommendation on reappointment of external auditors.	- Considered the effectiveness of the risk management and internal control system. - Received a deep dive on Shell's top risks and continued discussions on the risk appetite for these risks. - Provided input into the formalisation of emerging risks around artificial intelligence and discussed the increasing geopolitical risks in the Middle East. - Received reports on the performance and benchmarking of the Group's cyber defences. - Approved the adoption of the Shell Performance Framework and retired the Shell Control Framework. - Reflected on progress regarding risk management and controls, pace and inherent risks to the digital transformation strategy, and enhancements to management of climate risk and disclosures. - Reappointment of external auditors submitted to shareholders for approval.	A, E, F
Composition, succession and evaluation			
Succession planning	Received recommendations from the NOMCO regarding succession plans and Board and committee composition.	- Kept regularly informed about succession planning arrangements. - Received a recommendation from NOMCO that each Non-executive Director continues to be considered independent. - Please see the "Nomination and Succession Committee" section for further details.	A, B, D, E
Board and committee effectiveness reviews	In January 2024, examined the Evaluation Report following a survey based on the requirements of the UK Corporate Governance Code facilitated digitally by the Company Secretary, on the effectiveness and performance of the Board, its Committees and the Chair.	- Concluded that throughout the year, the Board, its committees and the Chair continued to operate effectively. - In December 2023, conducted the annual Board effectiveness review. - Please refer to "Board evaluation" section for further details.	A, B, D, E, F, G
Board membership, other appointments	Reviewed Directors' tenure, external commitments, conflicts of interests, composition/membership of Board committees and appointments.	- Approved committee membership changes, approach to conflicts of interest and appointments to the Board, following recommendations made by the NOMCO. - Approved a renewal of the Directors' terms and tenure, where relevant. - Please see "Nomination and Succession Committee" section for further details.	A, B, D, E
Talent overview and senior succession review	Received updates on senior succession strategy.	Enhanced insight into Shell talent and future leaders, assurance of robust succession and contingency plans.	B

A – investor community B – employees/workforce/pensioners C – regulators/governments D – NGOs/civil society stakeholders/academia/think tanks
E – communities F – customers G – suppliers/strategic partners

Board activities continued

Topic	Discussion/activity/updates included	Examples of outcome/progress	Stakeholders considered
Remuneration			
Remuneration and reward matters	Oversight of matters reviewed and considered by the REMCO.	Received regulatory, political and investor insights and updates relating to reward matters.	A, B, C
Governance matters			
Governance	- Provided with emerging corporate governance developments and updates relating to ethics and compliance matters. - Reviewed the Modern Slavery Act Statement and assurance, and considered other regulatory and legislative requirements. - Reviewed Matters Reserved for the Board, Board Committee Terms of Reference and the renaming of the Safety, Environment and Sustainability Committee.	- Provided with insight on Shell's participation in the consultation on the UK Corporate Governance Code, as well as the outcome of the consultation. - The Board was informed on projects relating to Shell's legislative requirements. - Approved a single Group Modern Slavery Act Statement for the Group. - Approved the reallocation of duties outlined within certain Committee Terms of Reference and agreed the renaming of what is now known as the Audit and Risk Committee and the Sustainability Committee.	A, B, C, D, E, F
Ethics & Compliance	Reviewed the Chief Ethics and Compliance Officer's annual report.	Received insight and observations that Shell's ethical processes were robust. Also received confirmation that interaction with Shell staff was positive and reflective of Shell's values.	A, B, C, D, E, F

A – investor community B – employees/workforce/pensioners C – regulators/governments D – NGOs/civil society stakeholders/academia/think tanks
E – communities F – customers G – suppliers/strategic partners

Director induction and training

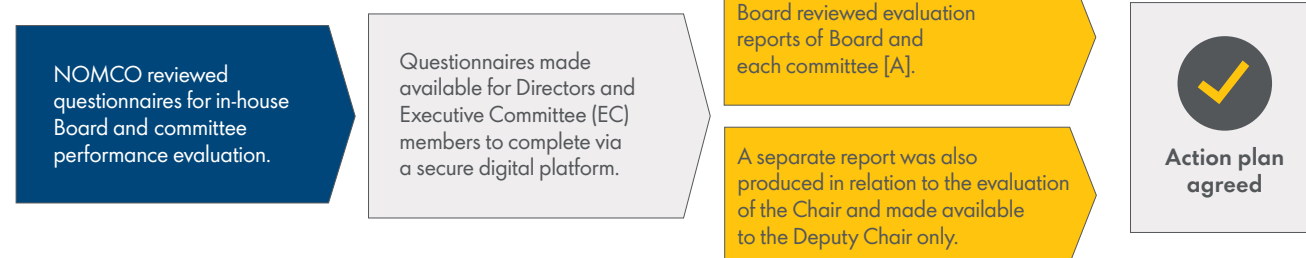
After being appointed to the Board, Directors receive a comprehensive induction tailored to their individual needs. This normally includes site visits and meetings with Senior Management to enable them to build up a detailed understanding of Shell's business and strategy, and the key risks and issues that Shell faces. Existing Directors are also able to join these visits to keep abreast of business developments and progress. In 2023, we continued with a hybrid format, making the best use of the Directors' time through digital and physical engagements. Onboarding will continue to be phased and prioritised based on forthcoming Board agenda items to ensure new Non-executive Directors hit the ground running.

A digital onboarding book is provided to each new Non-executive Director. These onboarding books complement the existing digital Directors' Handbook and feature:

- Overviews of scheduled briefing meetings customised to the Non-executive Directors' needs and linked to upcoming Board agenda items;
- Hyperlinks to key Shell publications (external and internal);
- Lists of common Shell acronyms;
- Key current materials on:
 - Shell's safety and core values;
 - Board governance;
 - Group strategy and portfolio;
 - Key businesses and functions; and
 - Climate change and energy transition.
- Biographies of key executives;
- Other elements of the onboarding programme for Non-executive Directors include:
 - Briefing meetings with key executives (both business and functional) customised to Non-executive Directors' needs and phased based on forthcoming Board agenda items;
 - Pairing up new Non-executive Directors in onboarding briefings to optimise learning while also providing opportunities for collegial relationship-building and increasing efficiencies for the executives; and
 - Virtual and physical site visits (either specifically for onboarding or by inviting the new Directors to committees' site visits).

Board evaluation

The 2023 Board evaluation was facilitated internally, led by the NOMCO and managed by the Company Secretary.



[A] Separate reports were provided for the responses from the Board and the Executive Committee. The reports in relation to the ARC, NOMCO, SUSCO and REMCO were sent to the respective committee chairs.

Board review process

For 2023, it was recommended that the NOMCO conduct an internally facilitated questionnaire-based Board and committee evaluation. This was because of several Board effectiveness initiatives under way and an in-depth Board dynamics exercise, to be conducted in 2024.

Board members responded to questionnaires shared at the end of 2023, with the results being discussed at the January 2024 Board and committee meetings. Separate questionnaires were produced for the evaluation of the Chair, and the Board committees. In addition, the Chair held separate one-to-one discussions with each of the Directors to assess their individual performance during the year. To broaden the inputs into the evaluation process, members of the EC participated in the evaluation process, also completing questionnaires relating to their attendance at Board meetings.

The Company Secretary produced a feedback summary providing recommendations to the Directors. This report was shared with the Chair and committee Chairs and subsequently all Board members.

Insight

The feedback from the Board Directors was positive throughout their responses to the evaluation. Views were provided on: composition and dynamics; skills, capabilities and competencies; support and challenge; atmosphere in the room; the support the Board and Board committees receive; strategic focus; risk management and oversight; stakeholder engagement; and any priorities for change.

Board dynamics

In 2024, the Board plans to undertake a Board dynamics review. The review will be structured to identify the current state of Board practices, focusing on what works well and any factors which could be improved to accelerate effectiveness. Our Chief Human Resources and Corporate Officer and the Company Secretary will lead the review. The approach will be structured to provide ongoing maintenance and improvement of Board dynamics with continued support and input from the Directors.

Management and focus of meetings

The output from the 2023 Board evaluation highlighted the need for the Board's collective continued focus on the implementation of ETS24, and the continued delivery of plans outlined at Capital Markets Day (CMD) in June 2023. The continued optimisation and integration of the work of both the Board and the ARC on risk-related matters were also noted as continued areas of focus for 2024.

Overall, the Board was found to be functioning well, with a high level of commitment from both the Non-executive and Executive Directors. Improvements identified were to fine-tune an already effective Board. There are good personal relationships, amid a collegial spirit, with a

high degree of mutual respect. Directors are able to share opinions and guidance and feel that they are heard. The agenda has been broad and the committees have complemented the Board agenda to ensure that the Board has covered the areas viewed to be key.

Feedback themes for the committees

The committees were considered to be well-chaired and well-operated and received excellent input from Senior Management. All committee reviews provided focus on the meeting management and effectiveness, oversight, and performance improvement. Each individual committee analysed topics specific to the forum. The committees also provided feedback on the implementation of recommendations from the 2022 evaluation process.

Chair evaluation

The Chair was considered to have built and maintained strong relationships with the CEO, CFO and the Non-executive Directors. He was also thought to be very good at drawing out individual views in the room and keen to listen to views from all Directors. References to his knowledge, accessibility and support were made and these are valued across the Board.

Delivery against the 2023 ambitions

Several Board effectiveness initiatives were implemented and undertaken in 2023. The Board continued to focus on being a well-functioning Board and spent additional time on strategic matters. It placed an even greater focus on Shell's key stakeholders around the world. In line with this, the Board refreshed its agendas. It also implemented an initiative to enhance the quality of Board pre-reading materials to better support its priorities on strategy and enable it to use its time as effectively as possible.

Leadership changes to both the composition and structure of the EC were implemented, which has simplified the organisation structure.

The Board undertook a more strategic review of the committees' agendas and remit to ensure alignment with the Board's priorities and longer-term aspirations. The composition and the terms of reference of each committee were updated as a result of this work with the Audit Committee being redesignated the Audit and Risk Committee, and the Safety, Environment and Sustainability Committee being redesignated the Sustainability Committee. In addition, the Board reviewed the general information provided to Directors during their onboarding and throughout the year to ensure that all Directors achieve sufficient knowledge and understanding of the organisation, while balancing this against the volume of the materials provided.

Further, the NOMCO reviewed its Principles for the Strategic Composition of the Board to ensure these continue to reflect the strategic and diversity requirements of the Board.

Understanding and engaging with our stakeholders

The Board continues to value and recognise the importance of engagement and cooperation with our stakeholders. Time is dedicated to listening to different stakeholder views and our commitment to stakeholder engagement is built upon the understanding that knowledge-sharing, widening of experiences and adopting a learner mindset will help us achieve our commercial, environmental and social objectives.

The Board remains grateful for the engagement opportunities it has had, including the 2023 AGM.

The Directors have continued to consider stakeholders' views in Board discussions and decision-making, as described on pages 141-145.

Engagement with our stakeholders also goes beyond the Board and is continuous. Our broader businesses regularly engage with stakeholders throughout the year, and in the build-up to or during many Shell projects, activities, acquisitions and divestments. This engagement is often governed by formulated policies, control frameworks, regulation and legislation. It may differ by region.

Site visits

The Chair, certain Board committees and Non-executive Directors traditionally visit several Shell operations and overseas offices in a given calendar year. The objective of these visits is to provide the Directors with local context and deepen their understanding in the following ways, where relevant:

- provide insights into asset operations and portfolio positions;
- opportunity to engage directly with stakeholders, including staff, business partners, communities;
- improve the Board's oversight of top risks; and
- assess the Company's culture first-hand.

Visits provide a good opportunity for Board members to engage with each other and, in 2023 in particular, with three new Board members, the visits formed an important part of their induction.

Shareholders

The Chair, the Deputy Chair, the CEO, the CFO and the Executive Vice President Investor Relations each meet regularly with major shareholders and report the views of such shareholders to the Board. Committee chairs also seek engagement with shareholders on significant matters related to their areas of responsibility. During the year, Sir Andrew Mackenzie, in his capacity as Chair, met with more than 50 major shareholders, including during four days of roadshows. A variety of topics were discussed with the Chair, including performance, capital discipline and simplification of Shell; governance and Board priorities; and the Company's role in the energy transition. In the early part of the year, the REMCO Chair met with over 25 shareholders and discussed 2022 pay outcomes and remuneration policy changes ahead of the 2023 AGM.

Shareholders can contact Shell directly via the "Contact us" section of the Shell website. This allows investors' questions to be directed to the appropriate Shell team that can assist. Shareholders are also able to make use of our automated question response tool. Investors can also access information via the frequently asked questions section of the Shell website.

The Shell website also provides contact details for our Registrar, Equiniti, shareholder queries, our media team, requests for copies of the Annual Report, and general customer enquiries.

The Company's Registrar operates an internet access facility for registered shareholders, providing details of their shareholdings. Facilities are also provided for shareholders to lodge proxy appointments electronically. The Corporate Nominee service, facilitated by Equiniti, provides a facility for investors to hold their shares in the Company in paperless form.

Shareholder engagement on AGM resolutions

At the 2023 AGM, shareholders voted on two climate-related resolutions: (i) Resolution 25, which was an advisory vote on Shell's Energy Transition Progress – shareholders showed strong endorsement, with 80% of shareholders who voted casting votes in favour of our progress; and (ii) Resolution 26, a shareholder resolution, submitted by an organisation called Follow This on behalf of a small group of shareholders. The resolution from Follow This was broadly unchanged from their 2022 submission, which was also rejected by shareholders, as its variations have been every year since first being submitted in 2016. The resolution urged Shell to align its medium-term carbon emissions reduction targets with the Paris Climate Agreement, including emissions from fuels burnt by consumers, known as Scope 3 emissions. We remain committed to constructive engagement with our shareholders, and we believe our climate targets are aligned with the more ambitious goal of the Paris Agreement. The Board believed the proposal from Follow This was not in the best interest of the Company and its shareholders as a whole. Resolution 26 received support from 20% of shareholders who voted. Shell is aware that some shareholders voted in support of both Resolutions 25 and 26, despite their conflicting content.

In 2023, the Chair, CEO and CFO hosted meetings with some of our large shareholders. These meetings covered many topics. We recognise and value the importance of stakeholder engagement when considering our energy transition progress. The Board is grateful for the time and contribution of all those stakeholders who provided feedback, and for the overall indications of support for Shell's strategy.

Following the AGM, we engaged with our largest shareholders offering further opportunities to discuss the progress made against Shell's energy transition strategy and to understand the reasons behind various voting decisions. The Chair subsequently had an opportunity to engage directly with our large institutional shareholders during his roadshow in September 2023.

These discussions showed that our large shareholders that did not vote in line with the Board recommendation on Resolution 25 and Resolution 26 were predominantly focused on Shell's energy transition strategy and not the 2022 progress, to which Resolution 25 related. Some shareholders continue to outline societal pressure influencing media coverage and expectations from beneficial owners as reasons for not aligning with the Board recommendation. Others raised questions related to medium-term targets, including a desire for a Scope 3 absolute emissions target.

This feedback was added to the ongoing internal considerations of the Company's climate targets, along with the outcome of the Dutch court case, the Powering Progress strategy, Capital Markets Day, and the commitments that Shell had made within its energy transition strategy.

Understanding and engaging with our stakeholders continued

Engagements in 2023

Information on engagements the Board has held during the year is summarised below. Information on engagement with other stakeholders including the workforce is provided on pages 170-171. The way in which stakeholder interests were considered in principal decision-making by the Board in 2023 (Section 172 statement) can be found on pages 141-145. Further insight into our engagement with stakeholders can be found within our Sustainability Report, scheduled for publication in March 2024.

Engagement before event	Event/activity	Director attendance	Outcome/insight
Remuneration Roadshow – Q1 2023 Engagement			
Engagement was undertaken before the meetings so that the Directors were provided with understanding and insight on particular topics of interest.	In March 2023, Neil Carson, Chair of the REMCO, presented the 2022 remuneration outcome and 2023 remuneration plans to investors. The presentation included summaries on: - reflections on the Company's financial performance, portfolio and launch of the Powering Progress strategy; 2023 Remuneration Policy changes; - changes of Directors and appointment terms of the new CEO; - remuneration for 2023; and - forward-looking agenda.	REMCO Chair	Shareholders were provided with context and an explanation of the REMCO deliberations in arriving at the 2022 pay outcomes and setting the pay framework for 2023 and had the opportunity to ask questions and provide feedback.
Annual ESG Update 2023			
Discussion with the Chair of the Board to ensure that key topics would be covered.	This annual engagement took place in March 2023 in London with investors. It included an update on ESG matters of significance, including Shell's 2022 Energy Transition Progress Report outlining the progress towards Shell's targets to become a net-zero emissions energy business by 2050.	CEO and CFO	Any questions requiring follow-up were addressed outside the presentations. In some cases, follow-up meetings were held with stakeholders and the Chair of the Board.
Sustainability Committee visit to Energy & Chemicals Park Rheinland in Germany			
Discussion with the Chair of the SUSCO on key topics for inclusion in the visit agenda.	The SUSCO and the Chair of the Board visited the Rheinland Energy and Chemicals Park in Germany in November 2023. The visit included a review of energy transition projects that are part of the site transformation, a review of operational safety and process safety performance, a tour of the facility, meetings with site staff, and an engagement with the Director General at the Ministry for Economic Affairs, Innovation, Digitalization and Energy of the state of North Rhine-Westphalia.	SUSCO and Chair	Greater insights into the ongoing operations and transformation under way at the Rheinland Energy and Chemicals Park.
2023 AGM			
Directors engaged with investors ahead of the event on a number of matters, including those being voted on at the AGM.	As well as the Company giving a balanced report of results and progress at the AGM, shareholders had an opportunity to ask questions in person, via the digital AGM platform, telephone, or submit questions via the Q&A desk outside of the auditorium.	Board	A number of additional engagements including follow-up meetings and answering of queries.
Chair Roadshow			
The Chair of the Board engaged with over 50 large institutional investors during roadshows in April and September 2023.	The Chair of the Board provided an update on the governance of Shell and gave key investors opportunities to ask questions. Key topics included governance, remuneration, energy transition and business outlook.	Chair	Provided the Chair with an opportunity to listen to key institutional shareholders and to provide Board perspective on topics such as governance, energy transition, business and management performance.

Understanding and engaging with our stakeholders continued

Engagement before event	Event/activity	Director attendance	Outcome/insight
Audit and Risk Committee visits			
Engagement prior to the visits helped to formulate the agenda and refine the areas of focus for the respective visits.	During 2023, the ARC conducted a site visit to the USA where it visited a number of operations, including Shell Polymers Monaca, the Shell Norco facility, the Shell-operated Vito floating production facility in the Gulf of Mexico (virtual visit from New Orleans) and the Houston trading floor.	ARC	These site visits deepen the ARC's understanding of the risks and opportunities arising as well as its understanding of how the Company's Powering Progress strategy is implemented.
Director visits			
Discussions were held with the respective Directors ahead of the visit to formulate the agenda and encourage a natural, open dialogue in the group sessions.	In February 2023, the Chair of the Board visited the Shell Business Operations offices in Bangalore, to deepen his understanding of operations and meet staff. In March 2023, one Director visited Nature Energy and met with operators of the plant, and also visited the office in Odesund meeting with the Nature Energy's CEO and CFO for an overview of the company. In June 2023, the Chair of the Board visited NAM, Shell Energy and Chemicals Park Rotterdam and Shell Chemicals Park Moerdijk. The visit entailed staff engagement sessions in all three locations, and with the NL leadership team in The Hague. Additionally in June 2023, the Directors held their Strategy Days off site in Vancouver and visited LNG Canada, in Kitimat, where they saw the asset under construction, met with staff and engaged with local communities and authorities. In October 2023, the Chair of the Board visited China and attended the Tsinghua University School of Economics and Management Advisory Board, the Shell Eco-marathon in Beijing, meetings with external stakeholders including a senior Chinese government delegation, and a staff engagement session. At the start of January 2024, several Directors visited Oman and Qatar.	Directors	The Board gained an insight into the development and culture of the operations and maintenance teams. The use and impact of digitalisation tools were highlighted, and the future environmental capabilities of the site were discussed.

Workforce engagement

As with all the Code's provisions, boards must consider the size and structure of their business, including its international scope, and select an approach to engaging with the workforce that most practically delivers the underlying spirit and ambition of the Code.

The Code states that its use of the term "workforce" is not meant to align with legal definitions of workforce, employee, worker or similar terms. But for a global organisation bound by the laws of more than 70 countries, blurring the clearly prescribed legal definitions that affect complex issues (such as local health, safety, security and environment (HSSE) requirements, work contract terms, legal accountability, employment rights) or merging two definitions of the same term could have a notable impact on the business, its operations and its stakeholder relationships (including with suppliers). As a result, Shell considers its workforce to be employees of companies in the Shell Group. The Board also engages with others outside this group (for example, on site visits), and some of this engagement is shared on page 167.

Although our reporting and formal engagement focuses predominantly on our employees, all individuals working on Shell sites (including Shell offices) are required to undertake certain Shell training (for example, on matters relating to HSSE and the Code of Conduct). Adhering to the Life-Saving Rules and the Code of Conduct compliance obligations is included within our contracts with suppliers. The Shell Global Helpline is available for all workers to report matters of concern.

For many years, Shell has recognised the importance of engaging with its workforce. Engagement is especially important in maintaining strong business delivery in volatile times of change. We strive to maintain a dialogue between management and our workforce – both directly and, where appropriate, through employee representative bodies. Management regularly engages with the workforce through a range of formal and informal channels, including via webcasts and emails from the Chief Executive Officer (CEO) and other senior executives, webcasts, town halls, team meetings, face-to-face gatherings, interviews with Senior Management, internal social platforms and online publications via our intranet.

The Board considers effective engagement a key element of its understanding of the Company's ability to create value, because it recognises that our people are our greatest asset. Workforce views can help inform the Board on matters such as operational effectiveness, Shell culture, diversity, equity and inclusion, identifying risk and opportunity, and developing and delivering strategy.

The Board considers the current workforce engagement approach effective, and feedback from employees indicates that they too find the interactions valuable and worthwhile. The information provided in the following table gives examples of various methods of Board engagement.

Board's direct engagements with the workforce
Informal engagement – Board
NOMCO members met with various senior leaders and high-potential individuals throughout the year.
Off-site visits
Workforce engagements during Board and/or meetings off site.
Meeting talent/leadership teams.
The Chair undertaking staff engagement sessions.
Through these more formal engagements, the Chair and other Non-executive Directors (either individually or in groups) have deepened their understanding of how the Company's purpose, strategy and values are embedded in particular businesses, sites and countries. This continues to give insight into progress made, risks and opportunities. The benefits are mutual. The Board obtains direct insight into local business operations and projects, and local strengths and challenges. Our people have a chance to better understand the Board and to provide direct feedback on topics of importance to them, their business or function and their location.
Shell Netherlands
In June 2023, the Chair met with a cross section of employees representing different businesses, locations, tenure, and job groups at Shell sites in the Netherlands (NAM, Pernis, and Moerdijk). The purpose of the meetings was to see and hear about operations and their perspectives, including the implementation of Powering Progress in the Netherlands.
The two-way dialogue offered participants the opportunity to ask questions and provide feedback. The Chair also had dinner with approximately 20 members of the leadership of Shell Netherlands to hear their views on the longer-term opportunities for the Company strategy in the country.
Shell Canada
The Board and Executive Committee (EC) visited Canada in June for their annual off-site visit and Board meeting. The visit provided significant opportunities for workforce engagement over three days.
On the first day, the Board and EC met several Shell Canada leaders and staff during business-focused discussions covering each of the core businesses in Shell Canada. On the second day, the Board and EC visited LNG Canada in Kitimat BC where they met with a cross section of 50 Shell staff during a site tour and a lunch. The site tour provided opportunity to engage frontline employees in the field. Feedback received after the event suggested that employees enjoyed the opportunity to engage informally with the Board and EC members. On the third day, over lunch, the Board and EC met a cross section of 50 Shell Canada leaders representing different businesses, locations, tenure, and job groups.
Shell China
In September 2023, the Chair undertook his first visit to China in his capacity as Chair of the Board of Shell. This presented an opportunity for employees to meet him, and he took part in a panel-style staff engagement session with 100 Shell China staff.
On the same day, he presented the awards to the finalists of the Shell Eco-marathon in Beijing, and attended a dinner with Shell employees involved in the Shell Eco-marathon.
Shell Energy and Chemicals Park Rheinland, Germany
In November 2023, the Chair and members of the SUSCO visited Shell Energy and Chemicals Park Rheinland in Germany. They reviewed progress against the sustainability and non-financial aspects of the Company's strategy and engaged with employees.

Workforce engagement continued

Formal reports and information updates to the Board

Shell People Survey (anonymous survey facilitated externally)

Through the results of the Shell People Survey, the Board was provided with an update on employee engagement levels, and the quality and resilience of leadership across Shell's workforce. The Board was informed of a broad range of subjects, including principal metrics, with particular focus on rewards, working conditions/workload and reputation.

The Board considers the Shell People Survey to be one of its principal tools for measuring employee engagement, motivation, affiliation and commitment to Shell. It provides insights into employee views and has a consistently high response rate. In 2023, the response rate reached an all-time high of 88%, (up 1% from 2022). The Board also considers this engagement to understand, for example, how Shell is using the survey outcomes in: i) data analytics, for example, to identify potential correlative relationships between employee engagement and safety or ethics and compliance incidents; and ii) strengthening Company culture and values.

Senior Succession and Resourcing Review

The annual Senior Succession and Resourcing Review focused on the strength of senior leadership and plans for its development and succession, while highlighting the breadth, depth and diversity of its pipeline, the developing profile of the leadership cadre, and recruitment and attrition levels.

The Senior Succession and Resourcing Review also highlighted the effectiveness of succession planning, the impact of its associated execution, and the data-driven, integrated approach to leadership and leadership development. The review continues to focus on proactive management of Shell's talent pipeline, and on advancing Shell's diversity agenda with increased attention on gender, race and ethnicity, LGBT+ and disabilities.

Assessment of key trends and material incidents

Presented by Chief Ethics and Compliance Officer. This is based on the established channels for staff and others to file complaints or report on suspected breaches in relation to the Shell General Business Principles (SGBP), the Code of Conduct and any breaches of laws or regulations, including accounting control and auditing concerns.

The update covers Shell employees and our wider stakeholder base. The Board (also via the ARC and the SUSCO) obtains insight into incidents and reporting levels and remediation. These provide indicators of conduct risks and, together with the related Board reports noted below, suggest the strength of embedding and awareness of the Code of Conduct and SGBP obligations and employees' comfort levels in raising incidents.

Risks

The Board reviewed reports on Shell's top risks, external and internal trends and emerging risks.

Organisational culture

The Board has continued its discussion on the Powering Progress strategy, including powering lives. The Board also focused on diversity, equity and inclusion commitments.

Chief Ethics and Compliance Officer Report

Data and insights include information from the Global Helpline, the Shell Ethics and Compliance organisation and the Shell People Survey. The SUSCO continues to strongly support the work of the Chief Ethics and Compliance Officer, including the efforts to ensure a safe working environment where staff feel confident to raise any concerns in good faith.

The ARC is kept updated when matters highlighted through the Global Helpline are investigated. The ARC is also informed about the associated remediation. For more information see "Audit and Risk Committee Report".

Assurance activities

Assurance activities, including items raised by businesses and functions (through the Group Assurance Letters process) and assurance (from Internal Audit, HSSE, Ethics and Compliance, Reserves Assurance and Reporting), provide additional evidence to the Board of the commitment to high standards of risk management and internal control. The assurance activities ensure that work can be done safely, within regulatory frameworks.

The information provided within these reports further supports the Board's annual review of the effectiveness of the Group's system of risk management and internal control, and feeds into the Group scorecard, against which staff bonuses are calculated.

The Shell Performance Framework

In 2023, the Shell Performance Framework replaced the Shell Control Framework. More information on this can be found on pages 223-224.

Significant HSSE, Ethics and Compliance, and more broadly, business control incidents are brought to the attention of Senior Management and the Board through regular reporting.

During these discussions, the Board seeks to learn more from incidents and ensure that the business continues to drive safety performance.

Nomination and Succession Committee

Focus areas for 2023

- Support the changes proposed from the 2022 Board/ NOMCO evaluation;
- Non-executive Director and Executive Committee succession; and
- Support an increased level of disclosure with regard to Shell's diversity targets and maintain proactive oversight over Shell's ambition to become one of the most diverse and inclusive organisations in the world.

Priorities for 2024

- Non-executive Director and Executive Committee succession;
- Undertake an in-depth assessment in respect of Board dynamics to continue to enhance Board performance; and
- Continued talent engagements with key staff and succession candidates.



Sir Andrew Mackenzie

Chair of the Nomination and Succession Committee

Committee membership and attendance for 2023



Sir Andrew Mackenzie



Dick Boer



Ann Godbehere

Committee member	Member since	Meetings attended	% of meetings attended
Sir Andrew Mackenzie (Chair of the Committee)	October 1, 2020	4/4	100%
Dick Boer	May 19, 2021	4/4	100%
Ann Godbehere	October 27, 2021	4/4	100%
Euleen Goh	July 1, 2019 Retired May 23, 2023	2/2	100%

Purpose

The Nomination and Succession Committee (the "NOMCO") leads the process for appointments to the Board and Senior Management [A] positions, ensures plans are in place for orderly, well-planned succession, and oversees the development of a diverse succession pipeline of candidates. It also reviews the Company's policy, targets and strategy on diversity, equity and inclusion (DE&I), and monitors the effectiveness of these initiatives. It makes recommendations to the Board on corporate governance guidelines, as referred to in the Chair's introduction.

[A] In this section of the report, "Senior Management" refers to the Executive Committee and the Company Secretary, as defined by the UK Corporate Governance Code.

Talent management and succession

The NOMCO is fully engaged with the end-to-end talent management and senior succession planning approach that is deployed within Shell. It plays a key role in senior succession and resourcing. Retaining in-depth knowledge of the individuals within the talent pipeline is a NOMCO priority. The NOMCO makes time to personally meet and engage with numerous individuals within the pipeline. The NOMCO's oversight and input extend from recruitment to leadership identification and from leadership development to leadership appointment, all of which are underpinned by clearly articulated talent priorities and a commitment to advancing DE&I across Shell.

The NOMCO manages Board and supports Senior Management succession under a structured, proactive methodology. The processes have clear and agreed selection principles for short-, medium- and long-term succession and are aligned with Shell's strategic priorities.

For Non-executive Director succession, the NOMCO continues to follow its Principles for the Strategic Composition of the Board, adding factors as they evolve. These principles include both quantitative and qualitative principles, considering:

- the overall aspired Board composition and diversity of age; gender; race; ethnicity; educational, social, geographical and professional backgrounds; skills; knowledge; and experience that align with the Company's strategy including amongst other criteria consideration of the skills and strengths needed for the energy transition; and
- the values, attitudes, and behaviours expected of Directors.

Nomination and Succession Committee continued

During the year, the Principles for the Strategic Composition of the Board were reviewed and updated. The NOMCO also focused on the future needs for the Board's composition, including size and tenure, skills and experience, and the DE&I requirements of the UK Listing Rules, FTSE Women Leaders and the Parker Review. The current size of the Board was considered to be appropriate, also taking account of Committee memberships. Greater flexibility around Non-Executive tenure was also discussed. Although Shell does not publish its Principles for the Strategic Composition of the Board, it has published its updated Board and Senior Management Diversity Policy on the Company's website. This Policy highlights that Shell aims for a gender balance on the Board, with at least one senior Board position (Chair, CEO or CFO) held by a woman. In addition, Shell's target is to maintain the representation of both men and women at, or above, a minimum of 40%. We believe that this allows Shell to be truly representative of all genders and gender identities and provides flexibility during periods of change. Further, Shell aims to maintain or exceed having at least one Board member from an ethnic minority background.

See "Other regulatory and statutory information" on page 222.

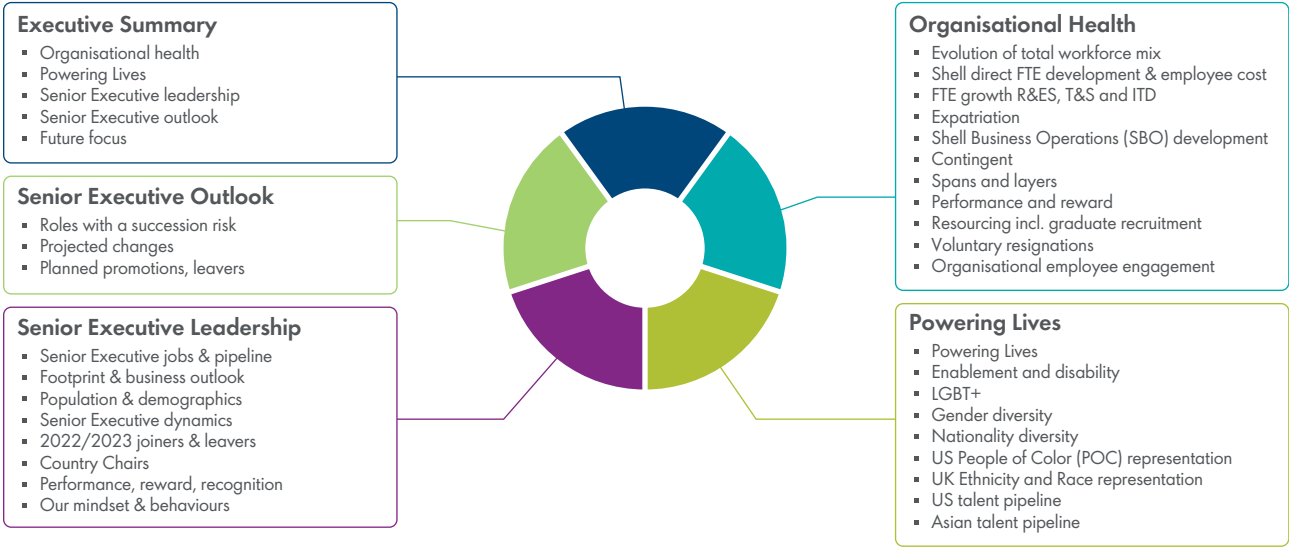
For Senior Management succession, the selection principles include process-specific elements, such as a clear and proactive approach to identifying and developing succession candidates. The principles also outline the long-term structured nature of the succession planning

process. There is also strong focus on ensuring that the principles reflect the leadership qualities required for future business success and that they advance the progress of diversity in all its forms.

Senior Management principles feature in the NOMCO's review of the succession plans which occurs in every Committee meeting. Using the principles, the NOMCO implements any changes through a well-defined and diligent process with overall Board engagement. The NOMCO agrees on candidate profiles and meets prospective candidates well ahead of any selection decision being necessary. It also engages the Board early in the process to ensure all Directors have an opportunity to meet and assess prospective candidates. Consequently, some of the leaders whom the NOMCO and Board engaged with extensively in the past became members of the Board (Wael Sawan and Sinead Gorman) or the Executive Committee (Philippa Bounds and Robin Mooldijk, and with Rachel Solway's appointment effective January 1, 2024, announced during the year).

During 2023, the NOMCO's annual in-depth look at the status and succession plans for Senior Management within Shell, along with the review of the talent pipeline in line with the business, was undertaken by the full Board. The Board reflected on the simplification of the senior leadership structure with clear accountabilities achieved in 2023 with a view to the further evolution of the composition of the total workforce and of the organisation's culture as an enabler for performance.

Senior Succession and Resourcing Review



Diversity of leadership

The NOMCO recognises that continuing to improve all types of diversity at each level of the Shell Group is crucial. Shell aims to be an inclusive workplace where everyone feels valued and respected and has a strong sense of belonging. The NOMCO's review of diversity objectives and strategies for the Shell Group as a whole also monitors the impact of diversity and inclusion initiatives.

In February 2021, Shell published its aspirations for diversity, equity and inclusion (DE&I) under the powering lives goal, with a focus on four areas of gender, race and ethnicity, LGBT+ and disability inclusion. When looking at our progress against our ambitions, women

representation has steadily improved in recent years, with a two percentage point increase over the last year. Among experienced recruitment in 2023, Shell companies recruited 38% women, and among graduates 40%. Women representation in the top 1,200 roles ("Senior Leadership" positions) has strengthened by 2% during 2023 to 32%, and we continue to progress towards our aim of achieving 35% women senior leadership representation by 2025.

"Senior Leadership" is a Shell-specific measure and different from that which we are required to report under the Code, being female representation in Senior Management and their direct reports, where the percentage is 27%.

Nomination and Succession Committee continued

Nationality diversity, such as Asian and American talent, continues to be managed in accordance with the business outlook and we have a strong focus on progressing race and ethnic minority representation, beginning in the UK and the USA and followed by the Netherlands. The representation of people of colour among Shell's senior leaders in the USA has been actively tracked for many years. It stood at 26.9% at the end of 2023, compared with 17.3% in 2016. In the UK, race and ethnic minority representation among senior leaders was 18.3% [A].

[A] UK specific: the ethnicity declaration is voluntary, our ethnicity declaration rate is not 100% and all calculations are based on declaration rate of 76.6%. The 23.4% of our workforce who have not provided data or chosen not to declare their ethnicity were not included in our calculations.

In line with the recommendations from the 2023 Parker Review, Shell has reviewed its ambitions for ethnic minority representation at the senior management level and aims for 15% senior management positions [B] to be occupied by ethnic minority executives by December 2027.

[B] The 2023 Parker review defines Senior Management as the Executive Committee and the senior managers who report directly to them.

Although the NOMCO monitors Shell's organisational DE&I strategies and initiatives, it also holds itself accountable for the Board's own diversity and inclusion. Back in 2020, the Board's diverse composition met the Hampton Alexander requirements (now FTSE Women Leaders) and, in 2023, it met the Parker Reviews' objectives by reflecting 42% women representation with one ethnic minority director. Shell's Board diversity is aligned with the targets set by UK Listing Rules. The position of CFO is held by a woman and three Directors are from an ethnic minority group.

More information on DE&I in Shell is provided in the "Powering lives" section on page 130.

The People Strategy and diversity, equity and inclusion

Diversity continued to be a key area of focus during the year and is encompassed in the powering lives pillar of our Powering Progress strategy. The Board has developed and approved a new board DE&I policy further to a recommendation by the NOMCO. The policy is aligned to the requirements of the UK Corporate Governance Code and includes our targets for Board diversity, as well as complementing Shell's wider diversity policies and embracing Shell's values, code of conduct and sustainability goals. Currently, this policy is not applied to the individual Committees, although we strive to apply diverse representation across the Committees. DE&I across Committee membership remains an ongoing consideration. A copy of the DE&I policy is available on our website, [shell.com/investors/environmental-social-and-governance/board-of-directors](https://www.shell.com/investors/environmental-social-and-governance/board-of-directors).

In relation to Board director appointments and diversity, the NOMCO oversees the development of a diverse pipeline for succession to the Board and monitors that all board appointments are subject to a formal, rigorous, and transparent procedure and that such appointments are based on merit and objective criteria taking into account (among other things) factors such as diversity of gender, age, educational and professional background, social, ethnic and geographical background and cognitive and personal strengths.

To this end, the NOMCO is responsible for engaging an independent executive search consultant, who assists in preparing shortlists of candidates, coordinating interviews and seeking references. In accordance with the Board DE&I policy, the NOMCO only engages with external search firms who are able to align with Shell's approach to DE&I in identifying suitable individuals from diverse pools of candidates.

Under the DE&I policy, the Board commits to:

- Ensuring an inclusive environment: Through inclusive behaviours and practices, we aim to create a board environment where every Board member feels valued, respected, and empowered to contribute fully;
- Ensuring support for External Best Practices: The Board endorses and supports external best practices, such as the FTSE Women Leaders Review, Parker Review, and others, to maintain and enhance diversity within the Board;
- Ensuring that Board appointments are managed with rigour and transparency: Candidates are evaluated based on merit, skills, experience, qualifications, performance, and business considerations, with due regard for diversity factors;
- Ensuring regular Board composition reviews: The Board regularly assesses the composition of the Board, including age, gender, race, ethnicity, educational, social, geographical, and professional backgrounds, skills, knowledge, and experience, making recommendations for necessary adjustments.

Shell has an inclusive Board environment, comprising individuals that are suitably qualified. They have the required skills, industry expertise, breadth of perspective and high-quality decision-making capabilities to support the strategy and overall direction of Shell.

See "The Board of Shell plc" on pages 147-154 for details about the skills and backgrounds of individual members.

From a gender perspective, the Board is comprised of five female directors and seven male directors, representing 42% female representation (2022: 55%, 2021: 50%). Two of the four main Board committees are chaired by a female director.

While the Board aspires to achieve gender parity, progress against diversity targets is sensitive to the size of the Board. In respect of other forms of diversity, three members of the Board self-identify as being from an ethnic minority background. In accordance with the Board's DE&I policy, the Board firmly believes that diversity fosters a broader range of perspectives, resulting in improved Board effectiveness, decision-making, and outcomes.

Nomination and Succession Committee continued

Committee activity

In addition to its considerations regarding succession (some of which were in the early part of 2023), the NOMCO made recommendations on corporate governance guidelines, monitored compliance with corporate governance requirements and made recommendations on corporate-governance-related disclosures.

The NOMCO continues to monitor and review this area, considering whether and how current Company governance matters should be strengthened. Further insight on some of the NOMCO's areas of consideration in 2023 is provided below.

Topic of discussion/example of Committee activity	
Succession [A]	
Recommendation	- Appointment of Cyrus Taraporevala (NED), Sir Charles Roxburgh (NED) and Leena Srivastava (NED). - Appointment of Dick Boer as Deputy Chair/Senior Independent Director. - Changes to the composition of the Board Committees.
Review and oversight	Supported the appointment of Philippa Bounds, Robin Mooldijk and Rachel Solway to the Executive Committee to succeed Ed Daniels, Harry Brekelmans, Donny Ching and Ronan Cassidy, who have left Shell service.
Oversight	Shell diversity, equity and inclusion and the Board Diversity Policy.
Engagement	Talent engagements.

Topic of discussion/example of Committee activity	
Talent overview and senior succession review	
Shell Senior Succession and Resourcing Review covering Executive Director and EC succession, EC direct reports, the senior executive group and the overall talent pipeline	- Enhanced insight on Shell talent and future leaders. - Assurance of robust succession and contingency plans.

Topic of discussion/example of Committee activity	
Board membership and other appointments	
Directors' tenure, external commitments, conflicts of interests and succession planning	Non-executive Director appointments and changes to Committee membership.

Topic of discussion/example of Committee activity	
Governance	
Governing the Board and its committees	Reviewed the future Board schedule, including the dates and format (physical or virtual) for future Board and Committee meetings. Reviewed and updated the Principles for the Strategic Composition of the Board.
Regulation, legislation and other governance-related guidance	- Reviewed its Terms of Reference, and the Terms of Reference for other Board committees and the Matters Reserved for the Board. - Reviewed a number of Board delegations and policies. - Received an update on the implementation of the Shell Performance Framework.
Shell plc matters	- Considered any potential conflicts of interest and the independence of the Non-executive Directors. - Reviewed additional external appointments requested by Directors, with specific focus on the time allocated to all commitments. - Determined the process for the 2023 internal Board Evaluation (see page 166 for an overview of the process and the outcome of the evaluation). - Reviewed the proposed changes to Shell's Articles of Association (subsequently approved by shareholders at the 2023 AGM).

[A] The NOMCO was assisted during the year by Russell Reynolds Associates ("Russell Reynolds"), an external global search company whose main role was to propose suitable candidates. Russell Reynolds does not have any connection with the Company other than that of search consultants. The Chair does not participate in discussions regarding his own succession. Russell Reynolds is a signatory to The Voluntary Code of Conduct for Executive Search Firms, which aims to improve board diversity.

Nomination and Succession Committee continued

Executive Committee succession

During the year, robust and effective succession planning supported the appointment of a number of new members to the Executive Committee. Some of the NOMCO activities in supporting these appointments are outlined below.

The NOMCO undertakes comprehensive engagement to understand who the candidates are for senior roles, what personally drives them and how they will ensure Shell achieves its strategic ambitions.

Succession for senior roles is planned well in advance and reviewed regularly. Succession planning is a crucial, ongoing consideration and not just an area of focus when an Executive Committee (EC) member is nearing the end of their tenure. The Board oversees Shell's succession planning process in which selection is the final step of a rigorous, sophisticated and well-planned process.

For Executive Director and EC appointments, the NOMCO has set a structured process:

- Before any potential decision on resourcing, it explicitly describes the requirements of the role and the candidate profile.
- By working in a planned, consistent manner, last-minute surprises are avoided and well-considered decisions are made in line with evolving business requirements.
- It also plans for the unexpected and maintains a list of candidates capable of stepping into senior roles to provide cover if necessary.

The NOMCO spends time getting to know the candidates to ensure that the pipeline is robust, diverse and adaptive. The NOMCO ensures it has visibility of today's and tomorrow's leaders. Over the last few years, the NOMCO has met many leaders and had extensive engagements with each of them. Some of these leaders now sit on the EC, others were appointed to the Board (Wael Sawan and Sinead Gorman).

The NOMCO engages across the Executive talent pipeline to ensure it interacts with and becomes familiar with talent at different levels of the organisation; for example, on a regular basis informal engagements are held with employees from a range of businesses, functions and backgrounds prior to a Board meeting. Not only does this engagement support senior succession, it also provides a helpful element of the NOMCO's workforce engagement.

The Board is proud that candidates for the most senior leadership roles have primarily come from within the business, proving that the leadership development and succession process remains effective.

Sustainability Committee

Focus areas for 2023

- Shell's sustainability performance;
- Strategic sustainability themes;
- Selected sustainability topics; and
- Non-financial elements of Shell's strategy.

Priorities for 2024

- Shell's sustainability performance;
- Respecting nature;
- Powering lives; and
- Emerging non-financial risks.

“The SUSCO focused on Shell's sustainability performance in 2023, with particular attention given to the sustainability elements of Shell's strategy.”



Catherine J. Hughes
Chair of the Sustainability Committee

Committee membership and attendance for 2023



Catherine J. Hughes



Neil Carson OBE



Bram Schot



Jane Holl Lute



Leena Srivastava

Committee member	Member since	Meetings attended	% of meetings attended
Catherine J. Hughes (Chair)	November 1, 2017	4/4	100%
Neil Carson OBE	June 1, 2019	4/4	100%
Bram Schot	October 1, 2020	4/4	100%
Jane Holl Lute	May 24, 2022	4/4	100%
Leena Srivastava	March 13, 2023	2/2	100%

Purpose

The Sustainability Committee [A] ("SUSCO") assists the Board of Directors in fulfilling its responsibilities by reviewing the progress of Shell with respect to sustainability and reviewing the non-financial elements of Shell's Powering Progress strategy.

[A] The Sustainability Committee was previously the Safety, Environment and Sustainability Committee.

Overview

The SUSCO meets regularly to review and discuss a wide range of topics, which include progress on Shell's Powering Progress strategic themes of net zero emissions, respecting nature and powering lives.

The SUSCO also reviews selected sustainability topics and matters of public concern, such as biodiversity and plastic waste.

As directed by the Board, the SUSCO provides input to Shell's annual reporting and disclosures on energy transition and sustainability.

Sustainability Committee continued

The SUSCO also reviews and considers external stakeholder perspectives on sustainability issues of relevance to the Group's businesses.

In line with the strategic importance of the SUSCO's agenda, the Chair of the Board and the CFO attend committee meetings.

Shell's CEO and the EC hold overall accountability for sustainability within Shell. In February 2023, Shell announced the new role of Executive Vice President of Carbon and Sustainability, reporting to the CFO.

Activities

During 2023, the SUSCO refocused its agenda on the areas of greatest strategic importance to Shell, in line with its updated terms of reference. This allowed the SUSCO to more effectively oversee Shell's progress with respect to sustainability.

The SUSCO reviewed the progress made against the non-financial elements of Shell's Powering Progress strategy, including progress against the ambitions and targets under the goals of achieving net-zero emissions, respecting nature and powering lives.

The sustainability topics and matters of public concern discussed in particular depth by the committee included biodiversity, plastic waste and methane emissions.

The SUSCO provided input to Shell's annual reporting and disclosures on energy transition and sustainability. The SUSCO Chair held meetings during the year with senior leaders to discuss specific topics.

See our website [shell.com](https://www.shell.com) for details on SUSCO and how Shell manages sustainability.

Site visits

The SUSCO visited the Energy and Chemicals Park Rheinland in Germany, in November 2023. The visit included a review of energy transition projects that are part of the site's transformation, a review of operational safety and process safety performance, a tour of the facility, meetings with site staff, and an engagement with the Director General at the Ministry for Economic Affairs, Innovation, Digitalization and Energy of the state of North Rhine-Westphalia.

Two members of the SUSCO visited the Olympus offshore platform in the Gulf of Mexico in April 2023. The visit included a review of safety performance, production operations, the offshore business and Shell's approach to sustainability.



1. The SUSCO visit to the Shell Energy and Chemicals Park Rheinland, Germany, in November 2023. From left to right: Sir Andrew Mackenzie, Catherine J. Hughes, Jane Holl Lute and Bram Schot.



2. The Refthyne 1 hydrogen electrolyser at the Shell Energy and Chemicals Park Rheinland.



3. The SUSCO visit to Rheinland, Germany in November 2023.

Audit and Risk Committee Report

Dear Shareholders,

I am pleased to present our Audit and Risk Committee (the "ARC") Report for 2023.

I was delighted to welcome new ARC members, Cyrus Taraporevala, Sir Charles Roxburgh and Catherine Hughes. They joined the ARC on March 2, 2023, March 13, 2023 and May 23, 2023 respectively and bring valuable insight and experience. I would also like to thank Martina Hund-Mejean for her contribution as a committee member since May, 2020.

The ARC assists the Board in fulfilling its oversight responsibilities in areas such as the integrity of financial reporting, the effectiveness of risk management and internal controls, as well as the consideration of ethics and compliance matters. We are responsible for assessing the quality of the audit performed by, and the independence and objectivity of, the external auditor. The ARC also makes a recommendation to the Board on the appointment or reappointment of the external auditor. In addition, we oversee the work and quality of the internal audit function. During the year, the ARC's core duties remained largely unchanged and our usual cadence of activities remained in place. However, in recognition of the ARC's increased focus on risk management, we refreshed our Terms of Reference, formalising our role in assisting the Board in this area and revised our committee name to include "Risk". Detail on our oversight activities in relation to risk management can be found on page 183.

Our work programme over the course of a year focuses on a variety of matters that involve a high degree of judgement and/or are significant to Shell's consolidated financial statements. We review with management the sources of estimation uncertainty and other key assumptions against the backdrop of economic and market uncertainty and volatility, climate risk and the energy transition and evolving stakeholder expectations. In addition, we consider the robustness of the risk and internal control framework, results of internal control testing performed throughout the year, and remediation activities.

Topics addressed in 2023 included: updates on Shell's announced withdrawal from Russian oil and gas activities; deferred taxes and tax exposures; the impact on tax balances and disclosures as a result of windfall and minimum taxes around the world; significant portfolio developments; litigation; impairment trigger assessments; impairment charges and reversals; accounting for complex contracts; dividend distribution capacity; and mark-to-market derivatives accounting, including the impact of volatile gas and power markets.

We received briefings from the Chief Internal Auditor on the effectiveness of Shell's risk management and internal control system and on the outcomes of significant audits and notable control matters.

The impacts of climate change and the energy transition continue to touch on many aspects of the ARC's work, including the financial statement impacts as well as data assurance challenges of meeting expanded climate-related disclosures. In order to obtain feedback to continuously improve carbon-related disclosures, management engaged with Sarasin & Partners and Carbon Tracker during 2023.

The ARC, recognising the evolving nature of climate change risks and responses, concluded that climate change has been appropriately considered by management in key judgements and estimates and agreed with the disclosure made by management.

"The primary role of the ARC is to assist the Board in fulfilling its oversight responsibilities in areas such as the integrity of financial reporting, the effectiveness of risk management and internal controls, as well as the consideration of ethics and compliance matters."



Ann Godbehere

Chair of the Audit and Risk Committee

Audit and Risk Committee Report continued

During 2023, the ARC was briefed on the implementation of the Shell Performance Framework which replaced the former Shell Control Framework with effect from July 1, 2023. Other focus topics for 2023 included Trading and Supply; regulatory developments, for example audit reform and corporate governance proposals and new sustainability reporting regulations; and new business ventures and controls.

As part of its oversight of compliance with applicable legal and regulatory requirements, including monitoring ethics and compliance risks, the ARC discussed with the Group Chief Privacy Officer activities undertaken in the ethics and compliance programme related to compliance with data privacy laws and regulations, and steps taken to manage those risks.

In 2023, the ARC conducted a site visit to the USA where it visited a number of operations and more recently, some members of the ARC visited Oman and Qatar. These site visits deepen the ARC's understanding of risks and opportunities, as well as its understanding of how the Company's Powering Progress strategy is being implemented.

The external audit tender process also commenced in 2023 and will continue in 2024 as set out later in this report.

On a final note, the ARC recognises the strong commitment and dedication of the financial reporting team and would like to thank them for all their efforts during 2023.

Ann Godbehere

Chair of the Audit and Risk Committee
March 13, 2024

Focus areas for 2023

- Trading and Supply;
- Shell Performance Framework;
- Regulatory developments, including audit reform and corporate governance proposals, and new sustainability reporting regulations;
- New business ventures and controls; and
- External audit tender.

Priorities for 2024

- Information risk management, including cyber security;
- Regulatory developments, mainly those in relation to climate change and energy transition, including non-financial reporting requirements and preparation for reporting under the EU Corporate Sustainability Reporting Directive ("CSRD") and International Sustainability Standards Board ("ISSB") disclosure requirements;
- Trading and Supply;
- Shell Performance Framework; and
- External audit tender.

Committee membership and attendance for 2023



Ann Godbehere



Dick Boer



Cyrus Taraporevala



Sir Charles Roxburgh



Catherine J. Hughes

During 2023, the members and meeting attendance of the ARC were as follows:

Committee member	Member since	Meetings attended	% of meetings attended
Ann Godbehere (Chair)	May 23, 2018	6/6	100%
Dick Boer	May 20, 2020	6/6	100%
Martina Hund-Mejean [B]	May 20, 2020	3/3	100%
Cyrus Taraporevala [C]	March 2, 2023	5/5	100%
Sir Charles Roxburgh [D]	March 13, 2023	4/4	100%
Catherine Hughes [E]	May 23, 2023	3/3	100%

[A] In addition to the six meetings, as part of its activities in 2023, the ARC conducted a site visit to the USA.

[B] Martina Hund-Mejean retired from the Board and the ARC with effect from May 23, 2023.

[C] Cyrus Taraporevala was appointed to the Board and the ARC with effect from March 2, 2023.

[D] Sir Charles Roxburgh was appointed to the Board and the ARC with effect from March 13, 2023. He attended an additional ARC meeting in an observer capacity.

[E] Catherine Hughes was appointed to the ARC with effect from May 23, 2023. She attended two additional ARC meetings prior to becoming an ARC member.

Audit and Risk Committee Report continued

All ARC members are financially literate, independent Non-executive Directors. In respect of the year ended December 31, 2023, for the purposes of the UK Corporate Governance Code, Ann Godbehere qualifies as: a person with "recent and relevant financial experience" and competence in accounting, and, for the purposes of US securities laws, an "audit committee financial expert".

The experience of the ARC members outlined on pages 147-154 demonstrates that the ARC as a whole has competence relevant to the sector in which Shell operates, and the necessary commercial, regulatory, financial and audit expertise required to fulfil its responsibilities. The ARC members have gained further knowledge and experience of the sector as a result of their Board membership and through various in-person and virtual site visits since their respective appointments.

The ARC invites the CFO, the Legal Director, the Chief Internal Auditor, the Executive Vice President (EVP) Controller, the Vice President Group Appraisal and Reporting and Deputy Controller and the external auditor to attend each meeting. The CEO, the Chair of the Board and the Company Secretary may also attend ARC meetings. Other members of management attend when requested on specific topics or to provide input on more detailed technical matters that may arise. The ARC regularly holds private sessions separately with the Chief Internal Auditor and the external auditor without members of management, except for the Legal Director, being present. Outside of the formal ARC meetings, the Chair of the ARC meets regularly with each of the following: the CFO, EVP Tax, EVP Controller, the Chief Internal Auditor, the external auditor, and the Chief Information Officer.

Committee remit

The roles and responsibilities of the ARC, as set out in its Terms of Reference, are reviewed annually (last reviewed in July 2023 and a copy of which can be found at [shell.com](https://www.shell.com)) taking into account relevant regulatory changes and recommended best practice. The key responsibilities of the ARC include, but are not limited to:

Risk Management and Internal Control

- assisting the Board in reviewing the emerging, principal, and other significant risks facing the Group;
- monitoring the effectiveness of the system of risk management and internal control;

Financial Reporting

- reviewing the integrity of the financial statements, including annual reports, half-year reports, and quarterly financial statements;
- reviewing the potential impacts on the consolidated financial statements of the implementation of the Company's strategy, climate change and the energy transition;
- advising the Board whether, in the ARC's view, the Annual Report taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's position and performance, business model and strategy;
- reviewing and discussing with management the appropriateness of judgements involving the application of accounting principles and disclosure rules;

Compliance and Governance

- reviewing the functioning of the Shell Global Helpline and reports arising from its operation;
- overseeing compliance with applicable legal and regulatory requirements, including monitoring ethics and compliance risks;

Internal Audit

- monitoring the qualifications, expertise, resources and independence of the internal audit function;

- approving the internal audit function's charter and the annual internal audit plan to ensure alignment with the key risks of the business;
- reviewing any significant matters arising from internal audits with the Chief Internal Auditor, and the Company's management and assessing management's response to internal audit findings and control weaknesses as appropriate, including potential improvements and agreed actions;
- assessing internal audit's performance and effectiveness each year;

External Audit

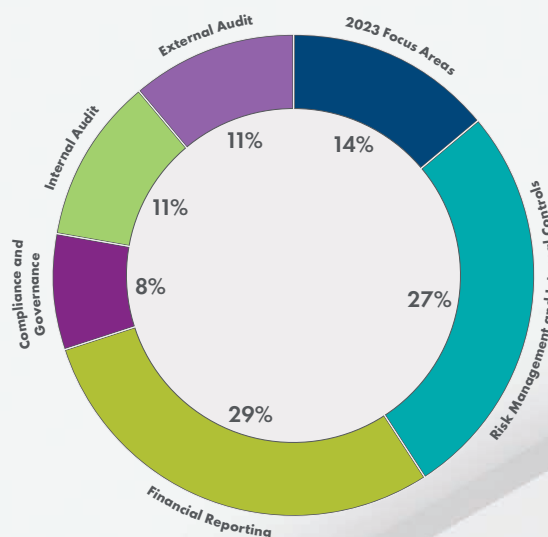
- reviewing and monitoring the independence and objectivity of the external auditor;
- considering the annual external audit plan and approving related remuneration, including fees for audit and non-audit services;
- assessing the performance and effectiveness of the external auditor and the audit process, including an assessment of the quality of the audit; and
- recommending to the Board for it to put to the Company's shareholders for approval at the Annual General Meeting ("AGM") a resolution to appoint, reappoint, or remove the external auditor.

These responsibilities form the basis of the ARC's annual work plan, which is adjusted as necessary throughout the year. In addition, the ARC annually identifies certain business and function areas to focus on during that year. The focus areas generally encompass aspects of risk management and internal control, financial reporting and compliance. The ARC is authorised to seek any information it requires from management and external parties and to investigate issues or concerns as it deems appropriate. The ARC may also obtain independent professional advice at the Company's expense. No such independent advice was requested in 2023.

The ARC keeps the Board informed of its activities and recommendations, and the Chair of the ARC provides an update to the Board after every ARC meeting. The ARC discusses with the Board if it is not satisfied with or believes that action or improvement is required concerning any aspect of financial reporting, risk management and internal control, compliance or audit-related activities.

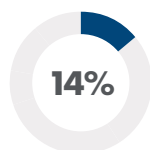
ARC topic coverage in 2023

The pie chart below shows the percentage of time the ARC spent on various activities during 2023.



Audit and Risk Committee Report continued

Focus areas for 2023



of ARC time and activities

The ARC met with senior leaders from various business and function areas to discuss the adequacy, design and operational effectiveness of risk management and controls related to the critical activities carried out by their respective business or function. The discussions included information on any enhancements to strengthen controls and how areas identified for improvement had been addressed; the monitoring of activities around key risks; and the steps being taken to identify new or emerging areas of risk.

In addition to the significant accounting and reporting considerations discussed on pages 185-186, the business and function areas reviewed by the ARC in 2023 included the following:

- Trading and Supply – the ARC was provided with updates on Trading and Supply activities, particularly in the light of market volatility. Topics included transformation programmes, and management of credit and market risk. The ARC also visited the trading floor in Houston where ARC members received various briefings, including in relation to the trading and IT platforms used by the Shell Energy Americas Gas & Power Trading team.
- Shell Performance Framework – the ARC reviewed the introduction of the Shell Performance Framework which replaced the existing Shell Control Framework with effect from July 1, 2023. The new framework retains the core strengths of the previous Shell Control Framework, while placing greater focus on achieving the right commercial outcomes by emphasising the value of using a "whole systems" approach to business activities including the role that performance culture plays in achieving Shell's objectives. The ARC discussed with management how the framework is being applied in practice.
- Regulatory developments – the ARC was regularly updated with respect to regulatory developments and their potential implications for Shell, including in relation to the draft Audit Regulation (which was subsequently withdrawn) and the Corporate Governance Code consultation. The ARC was briefed in relation to UK, US and EU sustainability reporting developments, including the CSRD, and their implications for Shell, in particular potential assurance requirements.
- New business ventures and controls – the ARC met with the management of Sprng Energy (which Shell acquired in August 2022) and discussed the integration process.

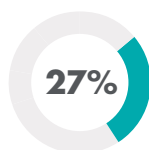
Site visits

During the year, the ARC conducted a site visit to the USA where ARC members visited a number of operations including Shell Polymers Monaca, the Shell Norco facility, the Shell-operated Vito floating production facility in the Gulf of Mexico (virtual visit from New Orleans) and the Houston trading floor. Recently, some members of the ARC also visited Oman and Qatar.

Site visits are an important part of the ARC's annual work plan, as they provide the opportunity for the ARC to gain a deeper understanding of the various businesses and functions at each location, the local external and risk environment within which those activities take place and how they contribute to Shell achieving its strategic ambitions. In addition to in-depth examinations of specific business areas, site visits enable the ARC members to interact with a diverse group of employees and learn about their experiences, challenges they face and their opportunities for career development. The ARC is also briefed on the impact of the energy transition at a local level, how risks associated with climate change are managed, and the results of the Shell People Survey.

Audit and Risk Committee Report continued

Risk Management and Internal Control



of ARC time and activities

The ARC assists the Board in reviewing the emerging, principal, and other significant risks facing the Group and in fulfilling its responsibilities in relation to risk management and internal control. In order to monitor the effectiveness of the procedures for internal control over financial reporting, compliance and operational matters, the ARC reviews reports on risks, controls and assurance, including the annual assessment of the system of risk management and internal control. The ARC also reviews the Company's evaluation of the internal control over financial reporting as required under Section 404 of the Sarbanes-Oxley Act (SOX 404). The ARC updated the Board on compliance with internal controls across the Shell Group and on any major matters for which action or improvement was recommended.

Activities performed	Frequency
Risk Management and Internal Control	
Review the emerging, principal, and other significant risks facing the Group	P
Review the policies and practices and monitor the effectiveness relating to Shell's risk management and internal control system.	P
Receive briefings on regulatory developments.	P
Review management's SOX 404 assessment.	A
Discuss significant matters arising from completed internal audits with the Chief Internal Auditor, management and the external auditors.	Q
Assess management's responses to significant audit findings, recommendations and notable control weaknesses, including potential improvements and agreed actions.	P
Review significant legal matters with Shell's Legal Director.	P
Review the oil and gas reserves control framework.	A
Review Shell's information risk management.	P
Review Shell's tax function, key tax risks and Shell's approach to the evolving area of tax transparency.	P

A = Annually Q = Quarterly P = Periodically

Throughout the year, the ARC and management discuss Shell's overall approach to risk management and internal control, including compliance, tax, and information risk management matters and the adequacy of disclosure controls and procedures. The ARC receives regular reports from the EVP Controller on the status of actions to address control weaknesses identified via business control incidents and the trends in other measures used to monitor the robustness of the risk management framework and internal control systems.

The ARC is also briefed on litigation and other matters (see Note 31 to the "Consolidated Financial Statements" on pages 312-314 and "Other regulatory and statutory information" on page 226).

The ARC regularly reviews the status of management's SOX 404 testing of controls and remediation actions to address any identified weaknesses. For 2023, these reviews included consideration of how the volatile external environment affected the controls and assurance landscape, including the financial reporting process. The ARC and management discussed the steps taken to maintain an effective control environment and to demonstrate "management in control" during the year.

It is important that the ARC monitors and learns about evolving external developments in a timely fashion. Accordingly, the ARC is regularly briefed on developments in the legal, regulatory and financial reporting landscape that could affect the Company.

In 2023, the ARC dedicated time to the following topics:

- Tax risks – In addition to the regular review of Shell's tax provisions, management also briefed the ARC regarding developments in the external tax landscape, including windfall and minimum taxes and how different jurisdictions are seeking to incentivise investment when entering new markets and businesses. Management outlined for the ARC the steps being taken to manage tax risks and exposures arising from differing viewpoints on complex tax laws.
- Information risk management, including cyber security – The ARC was briefed in relation to Shell's Information and Risk management framework, particularly in the light of the deterioration of the external threat environment and evolving global regulatory landscape (including SEC cybersecurity disclosure rules).
- Oil and gas reserves control framework – The ARC annually reviews the framework that supports Shell's internal reporting and external disclosures of oil and gas reserves. The ARC also reviews the processes and controls that prevent and/or mitigate the risks of non-compliance with regulatory reporting requirements. This annual review of Shell's oil and gas reserves control framework supports the ARC's review of Shell's reported proved oil and gas reserves discussed later in this report.

In addition to the above, the ARC also had quarterly discussions with the Chief Internal Auditor regarding the Company's risk management and internal control system, significant matters arising from the internal audit assurance programme and management's response to internal audit findings and control weaknesses, including potential improvements and agreed actions.

The ARC similarly holds discussions with EY, the external auditor, on a quarterly basis regarding how risks to audit quality are addressed, key accounting and audit judgements, results from audit procedures and management's response to any significant audit findings and any material communications between EY and management.

Financial Reporting



of ARC time and activities

The ARC receives comprehensive reports from management and the external auditor on quarterly financial reporting, accounting policies and significant judgements and reporting matters.

Activities performed	Frequency
Financial Reporting	
Review Shell's accounting policies and practices, including compliance with accounting and reporting standards.	Q
Assess the appropriateness of key judgements and the interpretation and application of accounting principles.	Q
Review the potential impact on the consolidated financial statements of the implementation of the Company's strategy, climate change and the energy transition.	P
Consider the integrity of the year-end financial statements and recommend to the Board whether the audited financial statements should be included in the annual and statutory reports.	A
Consider the integrity of the half-year report and quarterly financial statements.	Q
Review management's assessment of going concern and longer-term viability.	Q
Review Shell's policies with respect to earnings releases; financial and non-financial performance information and earnings guidance; and significant financial reporting matters.	Q
Review Shell's policies with respect to oil and gas reserves accounting and reporting including the outcome of the oil and gas reserves booking/debooking process.	A
Review the internal controls for financial reporting.	P
Advise the Board of the ARC's view on whether, taken as a whole, the Annual Report is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy.	A

A = Annually Q = Quarterly P = Periodically

Shell's Annual Report and Accounts for the year ended December 31, 2022 was selected by the Financial Reporting Council (FRC) for review [A] in accordance with Part 2 of the FRC's Corporate Reporting Review Operating Procedures. The FRC raised some queries in relation to determination of discount rates used in impairment testing and provided some observations to take into account when considering whether any improvements can be made to future financial reporting. Following correspondence, the review was closed on January 19, 2024 and some disclosure enhancements have been made to the Consolidated Financial Statements for the year ended December 31, 2023. The ARC reviewed Shell's correspondence with the FRC and discussed with management the disclosures incorporated in the Consolidated Financial Statements in response to the FRC review.

[A] The FRC noted that their review is based solely on the annual report and accounts and does not benefit from detailed knowledge of Shell's business or an understanding of the underlying transactions entered into, but that it is, however, conducted by staff of the FRC who have an understanding of the relevant legal and accounting framework. The FRC correspondence provides no assurance that Shell's annual report and accounts for the year ended December 31, 2022 are correct in all material respects; the FRC's role is not to verify the information provided but to consider compliance with reporting requirements.

The ARC reviewed the Company's 2023 quarterly unaudited interim financial statements, half-year report, Annual Report and Form 20-F with management and the external auditor.

Shell uses alternative performance measures (APMs) to provide greater insights into its financial and operating results. The ARC regularly considers the APMs used in Shell's reporting, the reconciliations to IFRS financial statements and explanations for changes from the previous quarter and year. The ARC reviews the overall presentation of APMs with management to ensure they are not given undue prominence. The ARC discusses adjusting items with management including any changes to methodology.

The APMs disclosed by Shell are subject to the same internal control process as applied for other financial reporting.

Fair, balanced and understandable assessment

The ARC advised the Board that in its view the 2023 Annual Report including the financial statements for the year ended December 31, 2023, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy (see "Other regulatory and statutory information" on page 227). To arrive at this conclusion, the ARC critically assessed drafts of the 2023 Annual Report including the financial statements and discussed with management the process undertaken to ensure that the relevant requirements were met. This process included: verifying that the contents of the 2023 Annual Report are consistent with the information shared with the Board during the year to support their assessment of Shell's position and performance; ensuring that consistent materiality thresholds are applied for favourable and unfavourable items; considering observations from the external auditor; and receiving assurance from the Executive Committee (EC).

Going concern and viability statement

The ARC reviewed the Directors' half-year and full-year statements with respect to the going concern basis of accounting. As noted in the viability statement, the Board reviews the strategic plan which takes account of longer-term forecasts and a wide range of outlooks. Key assumptions included: the impact of commodity prices; exchange rates; future carbon costs; agreements such as liquid natural gas contract renewals; production levels, product demand and schedules of growth programmes; the financial framework; Shell's business portfolio developments including consideration of the impacts of various possible energy pathways and scenarios for changes in societal expectations in relation to climate change and Shell's commitment to the Paris Agreement goals; the project funnel to support future growth; and using severe but possible scenarios to run models of the financial impact if certain of Shell's principal risks materialised. The ARC considered the mitigating measures and sensitivities that management had applied to the modelling of scenarios when evaluating the viability statement. The ARC also considered the merits of extending the viability statement beyond a period of three years and concluded that the three-year period selected by the Board for the review of Shell's prospects, in line with the operating plan, remained appropriate. Particularly noting that assumptions do go well beyond the three-year period and do take into account climate change and energy transition, the ARC supported the going concern basis of accounting and the inclusion of Shell's viability statement in "Other regulatory and statutory information" on page 220 and considered such statement to be in line with best practice guidance issued by the FRC.

Audit and Risk Committee Report continued

Financial Reporting continued

Significant accounting and reporting considerations

The ARC assessed the following significant accounting and reporting areas, including those related to Shell's 2023 Consolidated Financial Statements. The ARC was satisfied with how each of the areas below was addressed. As part of this assessment, the ARC received reports, requested and received clarifications from management, and sought assurance and received input from the internal and external auditors.

Issue

Committee activity and outcome

Climate change and energy transition

Risks related to climate change and the energy transition are continually monitored to ensure impacts are reflected within Shell's financial statements.

The external landscape related to non-financial disclosures continues to evolve. In the absence of one global standard for climate-related reporting there are growing demands from various regulatory and voluntary bodies all with their own expectations for disclosures.

The ARC discussed with management key regulatory requirements including (but not limited to) the FRC, ISSB, SEC and EU disclosure requirements and their implications for Shell's external disclosures. The ARC also received an update on the outcome of management's engagement with Sarasin & Partners and Carbon Tracker.

The ARC reviewed Note 4 to the "Consolidated Financial Statements" summarising the key climate risk impacts on the Consolidated Financial Statements as well as the impairment sensitivity disclosures using price outlooks based on different climate change scenarios, including external scenarios.

See Note 4 to the "Consolidated Financial Statements" on pages 259-269.

The ARC was briefed on the non-financial reporting external landscape developments and regulatory requirements. In this connection, the ARC considered the potential implications required for Shell's external disclosures going forward. The ARC reviewed the TCFD disclosure in the "Our journey to net zero" section, including covering aspects of ETS24, and other non-financial disclosures as part of the Annual Report review and was briefed on the EU Taxonomy voluntary disclosures included as supplementary information to the Annual Report.

Updates regarding climate change and energy transition have been included in the risk factors section on page 15.

Impairment and impairment reversals

The carrying amount of an asset should be tested for impairment or impairment reversal whenever events or changes in circumstances indicate that the recoverable amount for that asset may have changed, for example if there is a change in the outlook for commodity prices or refining margin assumptions, or in the event of revisions to future activity plans and developments. On classification as held for sale, the carrying amounts of property, plant and equipment (PP&E) and intangible assets must also be reviewed.

The ARC reviewed the impairment assessments that were performed each quarter, and the methodology applied in conducting impairment assessments.

The ARC considered increases in global risk-free interest rates, alongside other input assumptions, in assessing market expectations of the expected rate of return on various assets. As a result, weighted average cost of capital ("WACC") assumptions have been updated with effect from June 2023, reflecting management's conclusion that a structural increase in expected rates of return could be observed. This resulted in an increase in the discount rate applied for impairment testing purposes and a trigger for impairment assessment. The ARC reviewed the outcome of this assessment and the resulting impairment which has been recognised in the 2023 Consolidated Financial Statements. The ARC also reviewed the outcomes of periodic reassessments of the WACC during the remainder of the year, including management's conclusion on the reasonability of the discount rate applied as at December 31, 2023.

The ARC considered the updated oil and gas price outlooks against market developments and benchmarks. The 2023 commodity price outlook was reassessed to determine whether revised price premises would result in a trigger for impairment or impairment reversal. Based on the analysis performed, no triggers were identified.

The ARC also reviewed other circumstances that may indicate that the recoverable amount of assets have changed, such as those related to revision of future plans and developments, exploration and evaluation assets, held-for-sale classification for asset disposals and margin assumptions. The ARC also reviewed the outcomes of goodwill testing, including for new acquisitions.

See Notes 2, 10, 11 and 12 to the "Consolidated Financial Statements" on pages 249-259, 278, 279-280 and 281-283.

Gas & Power markets and derivatives accounting

External events during the year, such as the Russia-Ukraine war and uncertainties over Russian gas supplies, affected trading activities. The impacts on financial outcomes of Integrated Gas and Renewable and Energy Solutions included, for example, significant derivatives movements.

The ARC reviewed Trading and Supply activities and developments, including detailed analysis of the trading strategies employed, their impact on financial metrics, and the associated accounting treatment applied.

The ARC reviewed the impacts of volatile gas and power markets including the impact on mark-to-market valuation of derivatives, income for the period and adjusted earnings, as well as the resulting cash flow movements.

The ARC received updates on the enhancement of reporting processes within Trading and Supply, with a focus on the accuracy and efficacy of these processes.

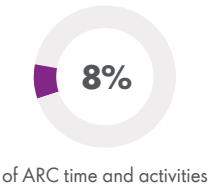
See Note 25 to the "Consolidated Financial Statements" on pages 302-308.

Audit and Risk Committee Report continued

Financial Reporting continued

Issue	Committee activity and outcome
Taxation	
The determination of tax assets and liabilities requires the application of judgement as to the ultimate outcome, which can change over time. In particular, uncertain tax treatments require management to assess the more-likely-than-not outcome, and the recognition of deferred tax assets requires management to make assumptions regarding future profitability. As a result, they are inherently uncertain.	The ARC considered the uncertain tax positions and discussed management's assumptions of future taxable profits. The ARC also evaluated the appropriateness of the recognition of deferred tax assets and tax liabilities. The ARC recognises that assumptions regarding future taxable profits are inherently uncertain because they involve assessing factors such as the potential impacts of climate change and the energy transition. The ARC deemed the assessments of uncertain tax exposures and the recognition of deferred tax assets and tax liabilities to be reasonable. The ARC also reviewed the impact of IAS 12 amendments that required a change to the Group's deferred tax treatment of decommissioning and restoration (D&R) obligations.
	See Notes 2 and 22 to the "Consolidated Financial Statements" on pages 249-259 and 292-294.
Portfolio activities	
In implementing the Powering Progress strategy, several portfolio developments occurred in 2023.	The ARC discussed the accounting implications of these developments and the recognition of: (i) decommissioning and restoration provisions; (ii) deferred tax balances; (iii) impairment; and (iv) assets held for sale. The ARC also considered complex accounting treatments arising from acquisitions and divestments, including the acquisition of Nature Energy Biogas.
	See Notes 2 and 24 to the "Consolidated Financial Statements" on pages 249-259 and 301-302.
Provisions	
Provisions, including decommissioning and restoration provisions, are one of the main components of the balance sheet liabilities. The quantification of these provisions requires judgements on input parameters which include, but are not limited to, discount rates and estimated future decommissioning and restoration costs.	The ARC reviewed provisions, including onerous contracts and litigation. The ARC also reviewed the input parameter assumptions and judgements used in arriving at the decommissioning and restoration provisions. The discount rate is reviewed regularly and the ARC considered the change in discount rate to be applied prospectively from the fourth quarter 2023, following an observable increase in US Treasury yields. The impact of the change in discount rate on non-current decommissioning and other provisions was disclosed in the fourth quarter 2023 quarterly results announcement.
	The ARC has continued to receive updates on the withdrawal from Russian oil and gas activities throughout 2023 including implications for the financial statements.
Retirement benefit obligations	
Retirement benefits are an important component of both assets and liabilities on the balance sheet. The quantification of these assets and liabilities requires judgements on input parameters which include, but are not limited to, actuarial assumptions and discount rates.	The ARC reviewed the management of risks in relation to retirement benefits in 2023, including financial, operational, and regulatory developments. The ARC reviewed the key assumptions (including discount rates and inflation) and sensitivities as part of the Annual Report review and the enhanced disclosures made in this Report.
	See Note 23 to the "Consolidated Financial Statements" on pages 294-300.
Other matters	
The ARC reviewed: the year-end reported proved oil and gas reserves, including management judgements and adjustments made to reflect changes in geological, technical, contractual and economic information (including yearly average price assumptions) and the effectiveness of financial controls. An explanation of the Group's accounting policies is provided on pages 249-259.	

Compliance and Governance



Activities performed	Frequency
Compliance and Governance	
Monitor the receipt, retention, investigation and follow-up actions of complaints received, including those from the Shell Global Helpline.	P
Review with the Chief Ethics and Compliance Officer the implementation and effectiveness of the ethics and compliance programme and function.	A
Consider compliance with applicable external legal and regulatory requirements.	P
Perform an evaluation of the ARC's performance and effectiveness and report the results to the Board.	A
Review and, if required, update the ARC's Terms of Reference.	A
Review the Chief Financial Officer's significant business and investment transactions for potential conflicts or related party transactions.	A
Assess the Chief Financial Officer's performance.	A

A = Annually Q = Quarterly P = Periodically

Ethics and compliance

In 2023, the ARC received an update from the Chief Ethics and Compliance Officer on how a range of macro factors and external trends and developments were affecting conduct risk at Shell. The Chief Ethics and Compliance Officer summarised the specific emerging ethics and compliance risks, with a particular focus on trade compliance and data privacy, and management's actions to manage and mitigate them. The Chief Ethics and Compliance Officer briefed the ARC on communications to staff from both senior leaders and mid-level management reinforcing the importance of adherence to and affirming Shell's commitment to the Ethics and Compliance framework and Code of Conduct throughout the year.

As part of the annual assessment of the system of risk management and internal control, the ARC discussed with the Chief Ethics and Compliance Officer their annual report on compliance matters. The report included an overview of the effectiveness of the Shell ethics and compliance programme in managing ethics and compliance risk in Shell's business activities, regulatory developments and compliance activities. The ARC also reviewed investigations of cases involving ethics and compliance concerns. The ARC discussed management's findings in such cases to satisfy itself that a rigorous process had been followed, with appropriate disciplinary action being taken where necessary, and that management had embedded learnings into Shell's systems and controls.

Whistleblowing investigations

The ARC is responsible for establishing and monitoring the implementation of procedures for the receipt, retention, investigation and follow-up actions of complaints received, including those from the Shell Global Helpline. The ARC reviewed whistleblowing reports and internal audit reports and considered management's responses to the findings in these reports. In 2023, 2,134 allegations and inquiries were

made through the Shell Global Helpline (2022: 1,790), of which approximately 41% were submitted anonymously (2022: 41%). In 2023, a total of 470 investigations were closed (2022: 412), of which 54% were found to have some level of substantiation (2022: 44%) and were primarily in the areas involving harassment, conflicts of interest and protection of assets.

Regulatory developments

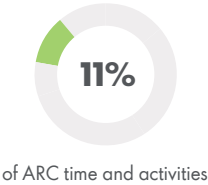
The ARC was briefed on regulatory developments in areas including: (i) sustainability and climate-related disclosures (in particular management's responses to proposals from the International Sustainability Standards Board and FRC/EU disclosure requirements); (ii) the Audit Committees and the External Audit: Minimum Standard and the proposed new Audit Regulation (which was subsequently withdrawn); (iii) accounting and reporting developments; (iv) environmental liabilities; and (v) treasury activities. In May 2023, the FRC launched a consultation in relation to the UK Corporate Governance Code and subsequently issued a revised version in January 2024. The ARC and management discussed the consultation proposals, including potential implications for the Company, the Board and the ARC. The ARC reviewed management's proposed response to the consultation and supported the response.

ARC annual evaluation

The ARC undertakes an annual evaluation of its performance and effectiveness. This year the ARC's performance evaluation was facilitated by the Company Secretary. Each ARC member responded to a confidential anonymised questionnaire about the ARC's performance covering questions on: the management of the ARC in areas such as the annual cycle of work and the agenda for meetings; the quality of the information provided to the ARC; the effectiveness of the ARC's oversight in areas such as financial reporting, risk management policies and practices and internal controls, and the work of internal and external audit; rating the ARC's performance in reviewing and assessing significant accounting/reporting issues; and how to improve the ARC's performance. Progress against the ambitions identified during the 2022 evaluation is provided in the Board evaluation section on page 166. Three themes from the 2023 evaluation process were identified as areas of focus for 2024, including risk management and presentation; structure of internal audit updates and further enhancement of pre-read for ARC meetings. The ARC concluded that its performance in 2023 had been effective and that it had fulfilled its role in accordance with its Terms of Reference.

In preparing its work plan for 2024, the ARC has included the following focus areas in addition to the standing items: information risk management, including cyber security; regulatory developments, mainly those in relation to climate change and the energy transition, including non-financial reporting requirements and preparation for reporting under the CSRD and ISSB disclosure requirements; Trading and Supply; Shell Performance Framework; and external audit tender.

Internal Audit



Activities performed	Frequency
Internal Audit	
Evaluate the quality, efficiency and effectiveness of the internal audit function including the competence, qualifications, expertise, compensation and budget.	A
Review and approve the internal audit function's remit, charter and audit plan.	A
Assess the performance of the Chief Internal Auditor.	A

A = Annually Q = Quarterly P = Periodically

Each quarter, the ARC discusses with the Chief Internal Auditor the Company's risk management and internal control system, any significant matters arising from the internal audit assurance programme and management's response to significant audit findings and notable control weaknesses, including planned improvements and agreed actions. The ARC also holds private sessions separately with the Chief Internal Auditor without members of management, except for the Legal Director, being present. The ARC's time for these activities is included in Risk Management and Internal Control described earlier in this report. Outside of the formal ARC meetings, the Chair of the ARC meets regularly with the Chief Internal Auditor.

Internal audit remit

The internal audit function is an independent assurance function which supports Shell's continuous efforts to improve its overall control framework. The internal audit function contributes to the maintenance of a systematic and disciplined approach to evaluate and improve the design and effectiveness of Shell's risk management, and control and governance processes. The primary role of the internal audit function's assurance and investigation activities is to safeguard value by protecting Shell's assets, reputation and sustainability in relation to the organisation's defined goals and objectives.

The ARC defines the responsibility and scope of the internal audit function and approves its annual plan. The Chief Internal Auditor reports functionally to the Chair of the ARC and administratively to the Chief Financial Officer. The Chair of the ARC approves, in consultation with the Chief Financial Officer, all decisions regarding the performance evaluation, appointment or removal of the Chief Internal Auditor. A new Chief Internal Auditor was appointed with effect from August 2023.

Annual internal audit plan and assessment of internal audit's effectiveness

The ARC considered and approved the internal audit function's annual audit plan, including focus areas for 2023 consisting of:

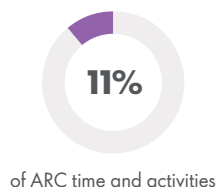
- talent and capability (professional audit development and technical capabilities);
- quality (developing first-line staff competence and clarity on self-verification and supervisory controls);
- alignment (improved integration of risk management and alignment of assurance processes across Shell); and
- engagement (mainly in the area of keeping staff and Shell stakeholders engaged and informed on effective risk management and internal control).

The Chief Internal Auditor updated the ARC quarterly on the approved 2023 internal audit plan and discussed whether the plan remained fit for purpose in addressing the most critical areas of risk. The ARC assessed the performance of the internal audit function as effective. The ARC also assessed the performance of the Chief Internal Auditor as effective.

The Chief Internal Auditor periodically assesses whether the purpose, authority and responsibilities of the internal audit function continue to enable it to accomplish its objectives. The results of this periodic assessment are communicated to the EC and the ARC. The Chief Internal Auditor also confirms to the ARC the continued validity of the charter of the internal audit function or puts forward proposals for updates to it. The Chief Internal Auditor maintains an internal quality assurance and improvement programme, including an annual assessment of the effectiveness and efficiency of the internal audit function's activities and evaluations of conformance with the standards of the Chartered Institute of Internal Auditors (CIIA). The Chief Internal Auditor discusses the results of this annual assessment with the EC and the ARC. At least every five years, the effectiveness and quality of the internal audit function are independently assessed externally, and the Chief Internal Auditor reviews the report with the EC and the ARC. An independent assessment of the internal audit was conducted at the end of 2022, following up on the previous review in 2018. The 2022 assessment confirmed that the internal audit conformed with the CIIA standards and the 2020 Internal Audit code of practice and identified some opportunities for further improvement. The next external assessment is planned to take place in 2027.

Audit and Risk Committee Report continued

External Auditor



Activities performed	Frequency
External Audit	
Review and approve the engagement letter for the external auditor's annual audit of the Company's consolidated and parent company financial statements.	A
Approve the remuneration for audit and non-audit services, including pre-approval of permissible non-audit services.	Q
Consider the annual external audit plan and monitor the execution and results of the audit.	P
Monitor the qualifications, expertise, resources and independence of the external auditor.	A
Review the Company's representation letter prior to signing by management.	P
Assess the performance, objectivity and effectiveness of the external auditor, the audit process, the quality of the audit, the external auditor's handling of key judgements and the external auditor's response to questions from the ARC.	P
Recommend to the Board that the reappointment of the external auditor be put to the Company's shareholders for approval at the AGM.	A

A = Annually Q = Quarterly P = Periodically

Annual external audit plan and assessment of external audit's effectiveness

EY reviewed with the ARC its audit strategy, scope and plan for the 2023 audit, highlighting areas which would receive special consideration. In particular, the ARC and EY discussed how the audit would take into consideration risks associated with:

- Trading and Supply deal complexity;
- Revenue recognition fraud risk (unauthorised trading and management override);
- Climate change and the energy transition;
- Oil and gas reserves;
- Impairment assessments;
- Decommissioning and restoration obligations;
- Exploration assets;
- Goodwill recoverability;
- Pensions; and
- Taxation, specifically deferred tax assets and uncertain tax treatments.

EY defines significant audit risks as those areas where there is a higher likelihood of a material error and which therefore require special audit attention. In EY's view, the significant audit risks are Trading and Supply deal complexity and the risk of unauthorised trading or management override.

The ARC considered the annual audit plan, which included assessing whether the planned materiality levels and proposed resources to execute the audit plan were consistent with the scope of the audit.

EY regularly updated the ARC on the status of its procedures and preliminary findings, providing an opportunity for the ARC to monitor the execution and results of the audit. The ARC and EY discussed how risks to audit quality were addressed, key accounting and audit judgements, material communications between EY and management and any issues arising from them. At least quarterly, the ARC met privately with EY representatives without management (except for the Legal Director) being

present in order to encourage open and transparent feedback from both parties. In addition, the Chair of the ARC meets separately with the external auditor on a regular basis.

As part of its oversight of the external auditor, the ARC annually assesses the performance and effectiveness of the external auditor and the audit process. This includes assessing the quality of the audit, how the auditor handled key judgements, and the auditor's response to the ARC's questions. The assessment also involves the ARC evaluating the objectivity and independence of EY and the quality and effectiveness of the external audit process.

The ARC's evaluation of the performance and effectiveness of the external auditor and the audit process includes the following key criteria:

- professionalism, competence, integrity and objectivity during the audit, including handling of areas involving judgement and estimates;
- EY's quality assurance procedures and internal quality control procedures;
- audit quality priorities and actions taken as part of maintaining a sustainable audit quality programme;
- constructive challenge of management and key judgements;
- efficiency, covering aspects such as service level and innovation in the audit process, use of data analytical and digital audit tools, and opportunities for improvement;
- quality of the audit team's leadership;
- the most recent EY Transparency Report;
- thought leadership and actions, especially in the areas of climate change; and
- compliance with relevant legislative, regulatory and professional requirements.

In addition to reflecting on its own experiences, including interactions with the external auditor throughout the year, the ARC considered and discussed the results of management's internal survey relating to EY's performance over the financial year 2023, which reflected a broadly comparable performance to 2022 and the views and recommendations from management and the Chief Internal Auditor. The ARC also considered the FRC Audit Quality Review ("AQR") team's inspection of EY's audit of the financial statements for the year ended December 31, 2022.

As part of the current assessment of effectiveness, the ARC has taken into consideration the guidance issued by the FRC, including the guidance on oversight of the external audit set out in "Audit Committees and the External Auditor: Minimum Standard".

Taking into account the above, the ARC is satisfied that EY continued to provide a high-quality and effective audit in its eighth year as auditor and maintained its objectivity, integrity and impartiality. As required under UK and US auditing standards, the ARC received a letter on independence-related matters from EY. EY also informed the ARC in writing of any significant relationships and matters that may reasonably be thought to affect its objectivity and independence. The ARC and EY discussed such relationships and matters and determined that they did not impair EY's objectivity, integrity and impartiality.

Audit and Risk Committee Report continued

External Auditor continued

During 2023, EY's audit of Shell's Consolidated Financial Statements for the financial year ended December 31, 2022 was selected for inspection by the AQR team of the FRC. Following the AQR team's inspection of EY's audit of the financial statements for the year ended December 31, 2022, the FRC wrote to the Chair of the ARC setting out the scope of its inspection, its audit quality assessment, good practice, and other findings. The inspection report was shared with all ARC members and discussed at an ARC meeting in December 2023. The ARC noted the inspection did not raise any key findings and highlighted five audit areas of good practice.

Audit Committees and the External Audit: Minimum Standard

In May 2023, the FRC published the Audit Committees and the External Audit: Minimum Standard. This Audit and Risk Committee Report describes how the ARC has complied, to the extent applicable, with the provisions of the Minimum Standard during the year (in particular the "External Auditor" section of this report).

Reappointment and external audit tender

The ARC is responsible for considering whether there should be a rotation of the independent registered public accounting firm in order to ensure continuing auditor quality and/or independence, including consideration of the advisability and potential impact of conducting a tender process for the appointment of a different independent public accounting firm. The ARC is also responsible for making a recommendation to the Board, for it to put to the Company's shareholders for approval in the General Meeting, on the appointment, reappointment, or removal of the external auditor.

At the AGM in May 2023, the shareholders approved a resolution to reappoint EY as external auditor until the conclusion of the next AGM. EY was first appointed at the AGM in May 2016 after a competitive tender process. The lead audit partner, Gary Donald, has been in post since the start of the 2021 audit. Under UK legal requirements, the Company may retain EY as its external auditor for 20 years. For the 2023 financial year, the Company has complied with The Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014.

In its oversight of the external audit, the ARC considered whether it would be appropriate to conduct an audit tender in respect of the 2024 audit.

The ARC reflected on:

- its continued satisfaction with the quality and independence of EY's audit;
- any new external auditor would need a transition period to develop sufficient understanding of the business given Shell's size and complexity;
- frequent changes of external auditor would be inefficient and could lead to increased risk and the loss of cumulative knowledge;
- a change in auditor would be expected to have a significant impact on Shell, including on the Finance function; and
- any change in auditor should be scheduled to limit operational disruption.

The ARC also considered EY's leadership and activities in the area of climate change.

After due consideration the ARC determined that it would not be appropriate to re-tender for the external audit at this time. The ARC has recommended to the Board that at the 2024 AGM the Board should propose that EY be reappointed as the external auditor of the Company for the year ending December 31, 2024. The ARC's recommendation is free from third-party influence and there are no contractual obligations that restrict the ARC's ability to make such a recommendation.

The ARC acknowledges the UK legal requirements relating to mandatory audit rotation (maximum 20-year engagement) and audit tendering (with a requirement to undertake a formal process after ten years). As EY was appointed in 2016 after a competitive tender process, the Company is required to tender for the audit no later than the financial year commencing January 1, 2026. During 2023, the ARC considered the proposed approach to the Group audit tender and the tender process was commenced, with a view to reaching a conclusion before the end of 2024. The ARC believes that this timeline for the re-tender is in the best interests of shareholders in order to prepare for orderly transition in the event that a new audit firm is selected. In conducting the tender process, the ARC will consider insofar as practical the guidance on tendering set out in the FRC's "Audit Committees and the External Auditor: Minimum Standard".

Non-audit services

The ARC maintains an auditor independence policy (AIP) in respect of the provision of services by the external auditor. Under the AIP, the ARC will only approve services to be carried out by the external auditor or its affiliates where such services do not present a conflict of interest risk in fact or in appearance. The ARC regularly reviews this policy for necessary changes in response to changes in related standards and regulatory requirements.

This policy is designed to safeguard auditor objectivity and independence. It addresses the provision of audit services, audit-related services and other non-audit services and stipulates which services require specific prior approval by the ARC.

The policy also defines prohibited services in line with applicable rules and regulations. Our external auditors are not allowed to provide prohibited services due to independence concerns. For certain non-prohibited services, because of the knowledge and experience of the external auditor and/or for reasons of confidentiality, it may be more efficient or prudent for the external auditor to provide such services.

The ARC reviews quarterly reports from management on the audit and non-audit services reported in accordance with the policy or for which specific prior approval from the ARC is being sought. Under the AIP, no prior approval by the ARC is required for any additional audit service contract not individually exceeding \$500,000. All non-audit services where the fee for an individual contract exceeds \$100,000, including audit-related services, require individual prior approval by the ARC. For audit or non-audit service contracts that do not exceed the relevant threshold, the matter is approved by management by delegated authority from the ARC and is subsequently presented for approval by the ARC. The ARC is mindful of the overall proportion of fees for audit and non-audit services in determining whether to approve such services.

The scope of the non-audit services contracted with the external auditor in 2023 consisted mainly of interim reviews and other audit-related assurance services. The associated compensation for these audit-related services and other non-audit services amounted to 5% and 3%, respectively, of the external auditor's audit and audit-related remuneration.

Fees

After due consideration, the ARC approved the auditor's remuneration, satisfying itself that the level of fees payable in respect of the audit and non-audit services provided was appropriate and that an effective, high-quality audit could be conducted for such fees.

see Note 34 to the "Consolidated Financial Statements" on page 316 provides details of the auditor's remuneration.

Directors' Remuneration Report

"2023 was again a year of strong leadership, with a renewed focus on performance, discipline, and simplification."

This Report

The Directors' Remuneration Report for 2023 has been prepared in accordance with relevant UK corporate governance and legal requirements, in particular Schedule 8 of The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 (as amended). The Board has approved this report.

As in previous years, this report is split into three sections: this Chair's letter, the Annual Report on Remuneration, and the Directors' Remuneration Policy (Policy). The Policy was last approved by shareholders at the 2023 AGM with 94.6% support. No changes are being proposed to the Policy this year, though it is reproduced in full on pages 211-218 for ease of reference and in order to provide context to the decisions taken by the Remuneration Committee (REMCO) during the year.



Neil Carson
Chair of the Remuneration Committee

Dear Shareholders,

As always, the remuneration decisions by the Remuneration Committee (REMCO) for 2023 have been framed by the Group's broader performance context.

Wael Sawan became Chief Executive Officer (CEO) on January 1, 2023. Very soon after, he streamlined the EC to further simplify the organisation as we seek to create more value with less emissions, and deliver increased shareholder returns through a balanced energy transition.

Shell delivered another set of strong financial results in 2023, despite lower commodity prices, with income of \$19.6 billion, cash flow from operations (CFFO) of \$54.2 billion, and free cash flow* of \$36.5 billion. We delivered our second-highest Adjusted Earnings in a decade, after a record last year. This shows strong management performance, improved operational delivery and the resilience of our portfolio, despite external uncertainty and volatility. We were guided by our principles of performance, discipline and simplification as we reduced our net debt* to \$43.5 billion, around half of what it was in 2019, and as we continued to demonstrate prudence in our capital expenditure and reduction in structural costs.

Our financial results in 2023 were underpinned by strong operational performance across our portfolio. In the Gulf of Mexico, turnaround operations at Appomattox, Perdido and Olympus were safely completed ahead of schedule and below budget. In the second quarter, Prelude delivered its highest quarterly production since its start-up in 2018. In December 2023, Shell and Eneco's CrossWind joint venture completed construction of the Hollandse Kust (Noord) wind farm. Capacity is anticipated to increase in the coming months to eventually reach 3.3 TWh a year, which is around 3% of the Netherlands' total demand for electricity. In Shenzhen, China, together with BYD, we have opened Shell's largest global charging site for electric vehicles, serving more than 3,300 customers a day. We are also making good progress across the targets outlined at Capital Markets Day (CMD) in June. Our strong performance in 2023 has allowed us to deliver shareholder distributions* of \$23 billion for the year, exceeding the 30-40% of CFFO range set out at CMD 2023.

During the year, we reviewed our approach to considering fatalities, in order to support consistent and fair judgment of safety performance over time. I am saddened that we experienced three tragic incidents in 2023 at Shell-operated ventures, which resulted in four recordable fatalities that year. We reflected on these and Shell's broader safety performance, as we always do, when we determined the final pay outcomes for 2023, and we applied downward discretion to the annual bonus outcome. A fourth incident in late 2023 resulted in a further fatality in 2024. This will be assessed as part of the REMCO's considerations of safety performance outcomes for 2024. Further information is on page 197.

* Non-GAAP measure (see page 365).

Directors' Remuneration Report continued

2023 remuneration outcomes

2023 annual bonus

The overall mathematical outcome of the annual bonus scorecard was above target at 1.58. The REMCO carefully considered the tragic incidents which resulted in fatalities in 2023. One contractor colleague in Malaysia died during scaffolding work and one in the Philippines died after a fall from height. In Nigeria, an armed ambush resulted in the death of two contractor colleagues, as well as four government agents. After careful consideration of the factors leading to the events and reflection on Shell's overall performance in 2023, including overall safety performance and the record performance in process safety, the REMCO used downward discretion to determine a final bonus outcome for Executive Directors of 1.55.

See page 198 for the complete scorecard with all targets, ranges and weightings, and a detailed discussion of performance against targets.

Vesting of the 2021 LTIP awards

Overall, the mathematical outcome of the Long-term Incentive Plan (LTIP) was 94% of target. The REMCO was satisfied that no windfall gain had arisen. The REMCO also believes the vesting outcome to be representative of Shell's performance over the period.

See page 199 for full details of LTIP targets and weightings, and a discussion of performance against targets.

Finalising the 2023 pay outcomes

In finalising pay outcomes, the REMCO considered Shell's wider performance and context during 2023 and over the LTIP performance period, paying particular attention to:

- The strong financial performance in 2023, with CFFO of \$54.2 billion and free cash flow* (FCF) of \$36.5 billion, which has enabled Shell to invest in our businesses, reduce debt and enhance shareholder distributions;
- The shareholder experience, including total shareholder distributions* of \$23 billion in 2023 and \$58 billion over the LTIP performance period, and absolute and relative total shareholder return (TSR) performance over the same periods;
- Shell's performance beyond the formulaic outcomes of the variable pay structures, including safety (and fatalities), reputation, ethics and compliance, and feedback from the Audit and Risk Committee (ARC) and the Sustainability Committee (SUSCO);
- Shareholders' views on remuneration matters, as shared with the REMCO during engagements in March 2023;
- The employee experience, where the REMCO noted the above-target vesting outcome for 2023 under the Performance Share Plan (PSP), used to make discretionary share awards below Senior Executive level, and the average employee salary increases;
- Comparisons between the 2023 outcomes and historical remuneration levels; and
- The alignment of the 10-year average outcomes of the annual bonus scorecard (1.11) and LTIP (91% of target) to the target level, demonstrating the effective design of the structures and the integrity of the target-setting process.

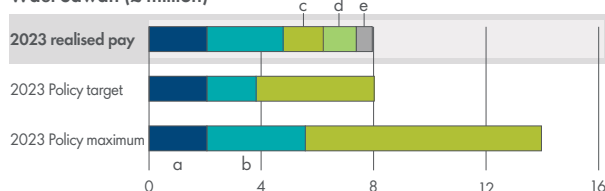
This resulted in a single figure outcome of £7.9 million for the CEO and £3.9 million for the CFO, noting that both individuals' 2021 LTIP awards were made prior to their appointment to the Board. The REMCO was satisfied that the shareholder-approved Remuneration Policy had operated as intended, and these outcomes were appropriate in the context of Company performance and the target pay opportunity.

2023 pay outcomes summary

2023 pay compared with Policy [A]

a Fixed pay b Bonus c LTIP d LTIP: accrued dividends and share price change e Other [B]

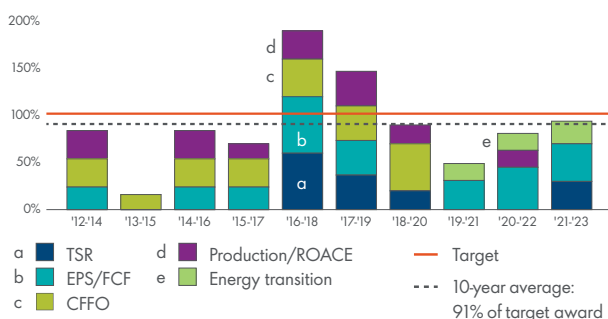
Wael Sawan (£ million)



Sinead Gorman (£ million)



10-year LTIP vesting



10-year CEO single figure outcomes



[A] Policy target and maximum based on the shareholder-approved 2023 Remuneration Policy in respect of the annual bonus and the LTIP. Salary, pension and benefits are based on 2023 data.
[B] Incremental remuneration in respect of 2022 for services as CEO Designate, in anticipation of becoming CEO in 2023.

* Non-GAAP measure (see page 365).

Directors' Remuneration Report continued

2024 remuneration

The 2023 Remuneration Policy was submitted to shareholders at the 2023 AGM, and received strong support. I would like to thank shareholders for their valued input and engagement prior to the AGM. The REMCO has appreciated the diverse range of views from our shareholders and they were invaluable in shaping our Remuneration Policy and design.

2024 salaries

Effective January 1, 2024, Wael Sawan and Sinead Gorman received a salary increase of 3.9% and their salaries for 2024 are £1,455,000 and £961,000, respectively. In reviewing their salaries, the REMCO considered carefully the external environment, including the increases provided to the Shell workforce in the key markets of the UK (4.5%), the USA (3.1%), and the Netherlands (4.3%). The Executive Directors' increases for 2024 were positioned below the average UK increase and in line with the average increases across the key markets. The REMCO also recognised the multiplier effect on total remuneration.

2024 annual bonus

The REMCO is satisfied that the current mix of financial and non-financial measures remains well-aligned with our strategic and operational priorities. The "Shell's journey in the energy transition" measure has been updated for Energy Transition Strategy 2024 (ETS24). See section below for further details.

In the interest of simplification and alignment of the two Executive Directors in delivering the operating plan (which is the primary focus of the annual bonus), the CFO's target bonus will be aligned to that of the CEO from 2024, at 125% of salary. This is within the confines of the existing shareholder-approved Remuneration Policy.

2024 LTIP performance conditions

The performance conditions and weightings will be unchanged for the 2024 LTIP awards. The measures will be cash generation, TSR, organic free cash flow* (OFCF) and "Shell's journey in the energy transition", and they will be weighted equally. Cash generation and TSR performance will be measured against the energy majors as before, and OFCF will be measured on an absolute basis against annual operating plans. The "Shell's journey in the energy transition" performance condition has been updated for ETS24. See section below for further details.

* Non-GAAP measure (see page 365).

"Shell's journey in the energy transition" in variable remuneration

The achievement of Shell's plans for the energy transition has been linked to the annual bonus and LTIP for a number of years with "Shell's journey in the energy transition" currently forming 15% of the annual bonus scorecard and 25% of the LTIP. These weightings will continue in 2024 and the REMCO has adjusted the performance metrics in light of ETS24, continuing to align to Shell's strategic objective of becoming a net-zero emissions business by 2050, supporting a balanced energy transition by responsibly delivering the oil and gas people need today, while helping to build the clean energy system of the future.

Shell's strategy sets out its objectives for reducing operational emissions while supporting our customers to reduce their emissions. Shell's plans cover all its businesses: growing its world-leading LNG business; reducing emissions from oil and gas production; and growing sales of low-carbon products. These objectives are reflected in the scorecard, where a measure of LNG volumes, focussing on the operational performance of the LNG business, will be introduced for 2024. LNG is a critical fuel for the energy transition. It provides energy security and flexibility, and is the lowest-carbon fossil fuel, producing around 50% less carbon emissions than coal when used to generate electricity. Shell's intent is to grow LNG and the REMCO will reflect this by measuring LNG liquefaction volumes. The existing GHG abatement metric, targeting the operational actions Shell can take to reduce emissions in support of our target to halve Scope 1 and 2 emissions under our operational control by 2030 on a net basis (compared with 2016 baseline), is retained. Our ambitions to develop new lower-carbon offerings for our customers is represented by the existing electric vehicle charge point rollout measure, aligning to Shell's plan to become a global leader in public charging for electric vehicles.

In the LTIP, the REMCO's determination of the extent to which awards will vest will be based on the REMCO's holistic assessment of progress towards reducing Shell's operational emissions and supporting our customers to reduce their emissions. This will be based on our journey to net-zero climate targets for our own operations, progress in developments that support the energy transition to 2030 and beyond, such as the development of our Power business (including renewables), lower-carbon LNG, biofuels, advanced biofuels, electric vehicle charging, hydrogen, and carbon, capture and storage (CCS). We will also take into account progress towards achieving a 15-20% reduction in net carbon intensity (NCI) by 2030 (compared with 2016 baseline) and a 15-20% reduction in customer emissions from the use of our oil products by 2030 (compared with 2021 baseline), as well as any other factors the REMCO may consider relevant.

Looking ahead

I hope that you find this report presents a clear account of the REMCO's decisions for the year. I look forward to continuing to engage with our shareholders in the coming months.

Neil Carson

Chair of the Remuneration Committee
March 13, 2024

Remuneration at a glance

2023

Fixed pay and shareholding		Annual bonus	Long-term Incentive Plan
Base salary		2023 annual bonus	2021 – 2023 LTIP vesting outcome
Wael Sawan (CEO)	Sinead Gorman (CFO)	Wael Sawan	Wael Sawan
£1,400,000	£925,000	£2,710,000	£2,600,667
Pension		2023 bonus scorecard outcome	Vesting outcome
The Executive Directors are eligible to participate in the defined contribution UK Shell Pension Plan with an employer contribution rate of 20% of salary or take this as a pension cash alternative, consistent with other new employees.		Mathematical outcome 1.58	Performance condition Outcome Vesting
Benefits		Given the fatalities in 2023, this was reduced to: 1.55	CFFO ① ② ③ ④ ⑤ 0%
Typically include car allowance, home-to-office transport, and medical insurance. Following their relocation to the UK, the Executive Directors received relocation support for their families' move to the UK and a temporary housing allowance that ended in 2023.		No individual performance factor used in bonus calculation	TSR ① ② ③ ④ ⑤ 30%
Shareholding		Bonus delivery	ROACE ① ② ③ ④ ⑤ 0%
		50% delivered in cash	FCF 40%
		50% delivered in shares	Energy transition 24%
			94% (out of a 200% maximum)
		Shares are subject to a three-year holding period which extends beyond an Executive Director's tenure.	Shares are subject to a three-year holding period which extends beyond an Executive Director's tenure.
		Malus and clawback provisions apply.	Malus and clawback provisions apply.

2024

Fixed pay and shareholding		Annual bonus	Long-term Incentive Plan
Base salary		Target % of base salary	Target awards % of base salary
Wael Sawan (CEO)	Sinead Gorman (CFO)	Wael Sawan	Wael Sawan
£1,455,000	£961,000	125%	300%
↑ 3.9%	↑ 3.9%	Maximum 250%	Maximum 600%
Pension		Scorecard architecture	Performance conditions
No change for 2024.			
Benefits		a Cash flow from operations (weighted 35%)	a Relative cash generation (CFFO/average capital employed) (weighted 25%)
No change for 2024.		b Operational excellence (Asset management excellence 15%, project delivery excellence 10%, customer excellence 10%)	b Relative TSR (25%)
Shareholding		c Shell's journey in the energy transition (LNG volumes [A] 5%, Reducing operational emissions 5%, Supporting customer decarbonisation 5%)	c Absolute OFCF (25%)
		d Safety (SIF-F 7.5%, Tier 1 and 2 process safety 7.5%)	d Shell's journey in the energy transition (25%)
		[A] Equity liquefaction	Performance against the relative performance conditions is assessed against other energy majors (BP, Chevron, ExxonMobil and TotalEnergies).

Annual Report on Remuneration continued

The Annual Report on Remuneration sets out:

- remuneration at a glance, page 194;
- the REMCO's responsibilities and activities, page 195;
- Directors' remuneration for 2023, pages 196 and 203; and
- the statement of the planned implementation of Policy in 2024, page 208.

The REMCO is not proposing any changes to the Policy this year. It is reproduced in full [A] over pages 211-218 for ease of reference and to provide context to the decisions taken by the REMCO.

[A] The Non-executive Directors' letters of appointment table has been updated.

The base currency in the Directors' Remuneration Report is British pound sterling (GBP), which is the base salary currency for the Executive Directors. Where amounts are shown in other currencies, an average exchange rate for the relevant year is used, unless a specific date is stated, in which case the exchange rate for the specific date is used.

REMCO membership and attendance for 2023



Neil Carson
OBE



Jane Holl Lute



Dick Boer



Bram Schot

Biographies are given on pages 147-154; and the REMCO meeting attendance is set out below:

REMCO member	Member since	Meetings attended	% of meetings attended
Neil Carson (Chair)	June 1, 2019	4/4	100%
Dick Boer	May 23, 2023	2/2	100%
Euleen Goh [A]	May 20, 2020	2/2	100%
Jane Holl Lute	May 23, 2023	2/2	100%
Catherine Hughes [B]	July 26, 2017	2/2	100%
Bram Schot [C]	May 24, 2022	3/4	75%

[A] Euleen Goh stepped down from the REMCO and from the Board with effect from May 23, 2023.

[B] Catherine Hughes stepped down from the REMCO with effect from May 23, 2023.

[C] Bram Schot was unable to attend the December 2023 meeting due to another scheduled business commitment.

The REMCO is also responsible for determining the Chair of the Board's remuneration. The REMCO monitors the level and structure of remuneration for senior executives below Senior Management. When setting the Policy for Executive Director remuneration, the REMCO reviews and considers workforce remuneration and related policies, and how pay and benefits align with culture. In exercising its responsibilities, the REMCO takes into account a variety of stakeholder considerations.

The REMCO operates within its Terms of Reference, which are reviewed annually (last reviewed in July 2023), and are available on shell.com.

Advice from within Shell was provided by:

- Chief Executive Officer (CEO);
- Chief Human Resources and Corporate Officer and Secretary to the REMCO; and
- Executive Vice President Performance and Reward.

The Chair of the Board was consulted on remuneration proposals affecting the CEO. The CEO was consulted on proposals relating to the Chief Financial Officer (CFO) and Senior Management.

The REMCO met four times in 2023 and its activities included:

- determining vesting of the 2020 LTIP award for Senior Management;
- determining 2023 target bonus opportunities and 2023 LTIP awards for Senior Management;
- setting 2023 annual bonus and LTIP performance measures and targets;
- approving the 2022 Directors' Remuneration Report, including the 2023 Remuneration Policy;
- reviewing its approach to considering fatalities to support consistent and fair judgment of safety performance over time;
- reviewing 2024 bonus and LTIP performance measures and targets;
- engaging with major shareholders and proxy bodies on remuneration matters;
- formalising the Executive Director and Executive Committee malus and clawback policy in compliance with new US SEC rules;
- setting exit and appointment remuneration in relation to changes in the Executive Committee; and
- monitoring external developments and assessing the impact on remuneration decisions.

The REMCO did not seek advice in 2023 from external remuneration advisers. The REMCO reviewed market benchmarking data and analysis prepared by Shell's internal HR function on market developments in executive pay.

The REMCO's key responsibilities include determining:

	Senior Management [A]		
	Executive Directors	Executive Committee	Company Secretary and EVP Controller
Performance framework	✓	✗	✗
Remuneration Policy	✓	✓	✗
Actual remuneration and benefits	✓	✓	✓
Annual bonus and long-term incentive measures and targets	✓	✓	✓

[A] In the Directors' Remuneration Report, Senior Management is defined as Executive Directors, other EC members, Company Secretary, and EVP Controller.

Annual Report on Remuneration continued

Directors' Remuneration for 2023

Single figure of total remuneration for Executive Directors (audited)

	Wael Sawan [A]		Sinead Gorman	
	2023	2022	2023	2022 [B]
Salaries [C]	1,400	—	925	675
Taxable benefits [D]	378	—	197	327
Pension [E]	280	—	185	135
Total fixed remuneration	2,058	—	1,307	1,137
Annual bonus [F]	2,710	—	1,720	1,180
LTIP [G]	2,601	—	834	552
Total variable remuneration	5,311	—	2,554	1,732
Other [H]	571	—	—	—
Total remuneration	7,940	—	3,861	2,869
in US Dollars	9,873	—	4,801	3,549
in Euros	9,128	—	4,439	3,366

[A] Wael Sawan was appointed CEO and a Board Director effective January 1, 2023.

[B] Sinead Gorman was appointed CFO and a Board Director effective April 1, 2022. Accordingly, her remuneration for 2022 relates to the period April 1 to December 31, 2022. See 2022 Directors' Remuneration Report for further details.

[C] Base salary: Wael Sawan's base salary was set at £1,400,000 on his appointment to the Board. Sinead Gorman's base salary for 2023 was set at £925,000 (+2.8% from 2022).

[D] Benefits: in respect of 2023, Wael Sawan's benefits included time-limited relocation-related costs (£334,778), car allowance (£29,890), and gross-up costs (£9,829). Sinead Gorman's benefits included time-limited relocation-related costs (£128,319), car allowance (£29,890), and gross-up costs (£36,082).

[E] Pension: Wael Sawan and Sinead Gorman received cash in lieu of pension contributions equal to 20% of base salary in 2023.

[F] Annual bonus: the full value of the bonus in respect of performance in 2023, comprising both the 50% delivered in cash and 50% bonus delivered in shares. For 2024, the market price of shares on February 26, 2024 for London-listed shares (£24.94) was used to determine the number of shares delivered, resulting in 28,796 ordinary shares for Wael Sawan and 18,276 ordinary shares for Sinead Gorman, net of tax.

[G] LTIP: the amounts reported for 2023 relate to the 2021 LTIP award, which vested on March 7, 2024, at the market price of €29.27 and £24.75 for Amsterdam-listed and London-listed ordinary shares, respectively. The value in respect of the LTIP is calculated as the product of: (i) the number of shares of the original award multiplied by the vesting percentage, plus accrued dividend shares, and (ii) the market price of ordinary shares at the vesting date. The market price of the Amsterdam-listed shares is converted into GBP using the exchange rate on the vesting date. Share price appreciation accounted for €1,026,217 for Wael Sawan and £324,230 for Sinead Gorman. The amounts shown for Wael Sawan and Sinead Gorman both relate to awards made prior to their appointment to the Board, and are shown here for transparency. The performance measures are the same as those applying to LTIP awards made to Executive Directors.

[H] Incremental remuneration in respect of 2022 for services as CEO Designate, in anticipation of becoming CEO in 2023. Wael Sawan did not perform the role of CEO during the CEO Designate time period. Amount includes pro rata salary and performance bonus, plus time-limited relocation-related costs.

Notes to the table: Single figure of total remuneration for Executive Directors (audited)

Pension

During the year, Wael Sawan and Sinead Gorman were eligible to participate in the defined contribution UK Shell Pension Plan with an employer contribution rate of up to 20% of salary, or take this as a pension cash alternative. The UK Shell Pension Plan or associated pension cash alternative is available to new Shell employees in the UK at the same contribution levels and currently around half of UK employees participate in these arrangements. The majority of the remainder participate in a legacy defined benefit plan, which closed to new members in March 2013.

Annual bonus

The annual bonus is intended to reward the delivery of short-term targets derived from the operating plan. The REMCO reviews the bonus measures, weightings and targets annually to evolve with Shell's strategy and circumstances, and to ensure that the targets remain stretching but realistic. For 2023, the mathematical bonus outcome was 1.58. The REMCO reviewed performance against the scorecard, as below.

Financial delivery (35% weighting): we delivered \$54.2 billion of CFFO against our target of \$44 billion, helped by a robust macro and operational performance as well as working capital inflows. This exceeded our outstanding performance threshold of \$54 billion, leading to a maximum outcome on this measure. As a reminder, the REMCO has a long-standing policy of not adjusting remuneration measures to take account of changes in energy prices and currency fluctuations, which supports alignment between pay outcomes and the shareholder experience.

Operational excellence (35%): a key underpin of our performance, operational excellence ensures we deliver for our customers and drive financial performance:

- Asset management excellence: Upstream controllable availability was outstanding with excellent performance in Gulf of Mexico (GOM), Kashagan, Petroleum Development Oman (PDO) and Bonga. Midstream availability was below target. Chemicals and Refining availability was also below target as a result of challenges at Shell Polymers Monaca (USA) as well as the recovery after a fire in Deer Park (USA) earlier in the year.
- Project delivery excellence: project delivery was above target. Highlights for the year include the successful start-ups of Vito (USA) and Oman Gas (Block 10) Phase 1 in the first quarter, with Timi (Malaysia) coming on stream in the second half of the year. The year ended on a high note with Mero-2 (Brazil) coming on stream in late December.
- Customer excellence: Customer Satisfaction Index was above target. This was driven by continued improvements in our customer platform and coordinated efforts to proactively communicate with our customers and manage demand during supply chain challenges, as well as dynamic pricing changes. Our Brand Share Preference was also above target.

Overall the outcome for operational excellence was above target.

Annual Report on Remuneration continued

"Shell's journey in the energy transition" (15%):

- Selling lower-carbon products: performance is measured based on the proportion of earnings in the Marketing segment coming from lower-carbon energy products, as well as non-energy products (see page 198 for the list of products included in this metric). We are below target for a range of reasons including lower lubricants demand and higher costs for lower-carbon Mobility products.
- Reducing operational emissions: performance is assessed based on GHG abatement projects that result in ongoing Scope 1 and 2 GHG reductions such as flare reduction and energy efficiency projects, site closures, decommissioning and transformations, and increasing the use of renewable electricity in our operations. This metric does not include the impact of divestments and acquisitions. The 2023 outcome was outstanding, reflecting the cumulative effects of actions across the portfolio, which support our target to halve Scope 1 and 2 operational emissions by 2030 on a net basis (2016 baseline). This includes abatement projects, use of renewable energy, and permanent shutdowns or conversions ("right-sizing") of assets.
- Partnering to decarbonise: we are building an electric vehicle charging business to help decarbonise road transport. In 2023 we opened 60 new electric vehicle hubs in China, Belgium, the Netherlands, and Germany, including our biggest electric vehicle site in the world in China, together with our joint-venture partner BYD.

Overall the score on the "Shell's journey in the energy transition" measure was above target.

Safety (15%): it remains our priority to run our day-to-day operations safely and ensure the well-being of all our people.

- Process safety continues to be measured through the number of Tier 1 and 2 operational safety incidents and was above maximum, with 63 events recorded compared with 66 in 2022, setting a new record for Shell, confirming our top-tier performance in the industry.
- Personal safety SIF-F performance is assessed based on the number of serious incidents which might occur in Shell's businesses based on the work plan for the year and our knowledge of industry incident rates. Our ultimate goal is zero harm to people working for Shell. Overall, 2023 SIF-F performance was of a similar magnitude to 2022 (which was itself a marked improvement from prior years), which is testament to the ongoing focus of our employees in keeping colleagues safe.

Overall, the score on the safety measure was at maximum. While underlying safety performance was strong, we tragically lost contractor colleagues during 2023. The REMCO reflected carefully on these events and Shell's broader safety performance and determined that the bonus outcome should be adjusted downwards to 1.55 (see "The REMCO's reflections on safety" below).

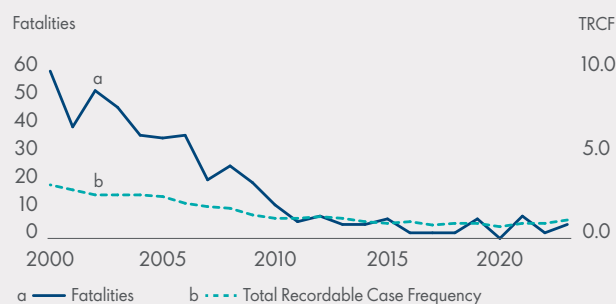
The REMCO's reflections on safety

Safety is Shell's first priority and our Powering Progress strategy is underpinned by this. It is critical that our operations run safely every day and that we strive to ensure the well-being of all of our people.

Shell uses Serious Injury and Fatality Frequency (SIF-F) as our scorecard measure for personal safety performance. SIF-F tracks the frequency at which injuries with life-changing consequences occur under Shell operational control. This allows us to focus management and organisation attention on the most serious incidents. We assess process safety using the number of Tier 1 and 2 events. This tracks the frequency of unplanned or uncontrolled releases of materials from Shell's operations.

Some shareholders have asked how we approach target-setting for the SIF-F metric. To be clear, our ultimate target is zero harm to people. We have made good progress in reducing the number of personal safety events over a long period of time, with reductions in the number of fatalities and injuries (see chart below).

Personal safety performance 2000-2023



SIF-F is an important tool to drive further improvement in safety and take us closer to our goal of zero harm. The metric focuses management and organisational attention on those incidents with the potential to cause most damage. To assess performance, the REMCO sets clear performance ranges based on historical outcomes, industry benchmarks, and taking account of our planned activities for the year.

Following discussions with shareholders in 2023, the REMCO reviewed its approach to considering fatalities. It determined to retain SIF-F and to avoid formulaic mechanisms. The REMCO chose to adopt a discretionary framework which takes account of multiple reflection points, including the circumstances of the fatalities, consideration of systemic issues, the wider safety context, and any safety events outside of the reporting framework. This framework supports holistic and detailed consideration of the circumstances arising, and consistent and fair judgement of safety performance over time.

In 2023, four contractors under Shell operational control lost their lives in tragic incidents. Four government security agents also died in one of those incidents. With two of the incidents, the root causes have been identified as design and human factors during the operation of physical assets: one contractor colleague in Malaysia tragically died during scaffolding work and one contractor colleague in the Philippines died after a fall from height. The other incident in Nigeria, where a contractor convoy which included the government agents was ambushed by unknown gunmen in late December 2023, remains under investigation.

In 2023, aside from fatalities, the outstanding personal and process safety performance achieved in 2022 was sustained. The portion of incidents where barriers and controls were effective in avoiding tragic outcomes (i.e. "failed safe") was higher than in the prior year. Process safety performance as measured by API Tier 1 & 2 events was the lowest on record and at top quartile of the industry benchmark.

After careful consideration of Shell's holistic safety performance in 2023 including the outcome of the formal metrics, the four recordable fatalities that occurred during 2023, and Shell's long-term progress on safety using the discretionary framework, the REMCO has determined that the scorecard outcome for Executive Directors should be adjusted downwards from 1.58 to 1.55. The reduction in the bonus outcome as a result of the adjustment is equal to c.4% of salary for both Executive Directors.

In February 2024, a contractor injured in a December 2023 tugboat fire incident in Nigeria sadly died. While this is reflected in the 2023 SIF-F outcome, it will be assessed as part of the REMCO's considerations of safety performance outcomes for 2024.

Annual Report on Remuneration continued

The table below summarises the 2023 annual bonus scorecard measures including their weightings, targets and outcomes.

2023 annual bonus scorecard measures and weightings

Performance Measures		Weighting	Unit	Threshold (score of 0 out of 2)	Target (score of 1 out of 2)	Outstanding (score of 2 out of 2)	Outcome	Score (out of 2)
Financial delivery (35%)	Cash flow from operations	35%	\$bn	34	44	54	54.2	2.00
Operational excellence (35%)	Asset management excellence [A]	15%	%		See note A			0.78
	Project delivery excellence [B]	10%	%		See note B			1.12
	Customer excellence [C]	10%	Index		See note C			1.55
'Shell's journey in the energy transition' (15%)	Selling lower-carbon products [D]	5%	%	50%	60%	70%	54%	0.40
	Reducing operational emissions	5%	Thousand tonnes CO ₂	600	800	1,000	1,081	2.00
	Partnering to decarbonise	5%	Number of EV charge points	144,000	180,000	216,000	195,500	1.43
Safety (15%)	Personal safety	7.5%	SIF-F cases per 100 million working hours	6.8	5.4	4.1	2.6	2.00
	Process safety	7.5%	Number of events	120	96	72	63	2.00
Mathematical performance outcome								1.58
Adjusted outcome								1.55

[A] Upstream controllable availability: 87.3% (Threshold 82.2%, Target 84.2%, Outstanding 86.2%); Midstream availability: 89.1% (Threshold 88.4%, Target 90.4%, Outstanding 92.4%); Chemicals and Refinery availability: 91.2% (Threshold 93.1%, Target 94.1%, Outstanding 95.1%). Performance assessment is equally weighted between Upstream, Midstream, and Chemicals and Refining.

[B] Projects delivered on schedule: 82% (Threshold 30%, Target 65%, Outstanding 100%); project delivery on budget: 104.8% (Threshold 110%, Target 103%, Outstanding 96%). Performance assessment is equally weighted between projects delivered on schedule and on budget.

[C] Customer Satisfaction Index: 8.4 (Threshold 7.6, Target 8.1, Outstanding 8.6); Brand Share Preference: 14.2% (Threshold 13.0%, Target 13.7-13.8%, Outstanding 14.5%). Performance assessment is equally weighted between Customer Satisfaction Index and Brand Share Preference.

[D] Based on the percentage of Adjusted Earnings in the Marketing segment from lower-carbon energy products (on a life-cycle basis), defined as biofuels and electric vehicle charging, as well as non-energy products, defined as lubricants, bitumen, sulphur (agriculture and forestry), and earnings from convenience retail.

Accordingly, the REMCO decided the final bonus outcome should be 155% of target and 77.5% of maximum. This results in a bonus of £2,710,000 for Wael Sawan and £1,720,000 for Sinead Gorman.

2023 bonus outcome calculation

Wael Sawan

Target bonus:
£1,400,000 (base salary)
x 125% = **£1,750,000**



2023 scorecard
result 1.55



£2,710,000 [A]

Sinead Gorman

Target bonus:
£925,000 (base salary)
x 120% = **£1,110,000**



2023 scorecard
result 1.55



£1,720,000 [A]

[A] Rounded down to the nearest £5,000. Half was delivered in shares subject to a three-year holding period which extends beyond the Executive Director's tenure.

Annual Report on Remuneration continued

Long-term Incentive Plan vesting: 2021 LTIP

In 2021, Ben van Beurden and Jessica Uhl, at the time Executive Directors, were granted conditional share awards under the LTIP. The vesting of these awards is discussed in the "Payments to past Directors" section on page 205.

Wael Sawan and Sinead Gorman's 2021 LTIP awards are also disclosed for transparency, although they were not Executive Directors at the time of the award.

In determining the vesting outcome, the REMCO considered Shell's performance over the three-year period January 1, 2021 to December 31, 2023:

- Relative CFFO: on a relative basis as compared against the 2020 base year, Shell ranked fifth, resulting in 0% vesting for this performance condition.
- Relative TSR: over the performance period, Shell returned around \$58 billion to shareholders in the form of dividends and share buybacks, whilst TSR was 92%. Relative to the other energy majors, Shell's TSR ranked second, resulting in 150% vesting for this performance condition.
- Relative ROACE: Shell's absolute 2023 ROACE for LTIP purposes was 7.2% (note that ROACE for the LTIP calculation is based on disclosed net income and is not adjusted for the after-tax interest expense and therefore differs from ROACE as calculated for purposes other than remuneration). On a relative growth basis compared with the 2020 base year, Shell ranked fourth, resulting in 0% of vesting for this performance condition.
- Absolute FCF: strong performance in all three years resulted in total FCF of \$122.8 billion, above our maximum threshold of \$71 billion. This resulted in a 200% of target vesting outcome on this performance condition.
- Absolute energy transition: the outcome of this performance condition is determined holistically by the REMCO, taking account of Shell's performance against defined performance indicators and also Shell's wider performance as it transitions to a net-zero emissions energy business. Overall, the REMCO determined the vesting outcome as 120% of target. Commentary on energy transition performance is provided below.

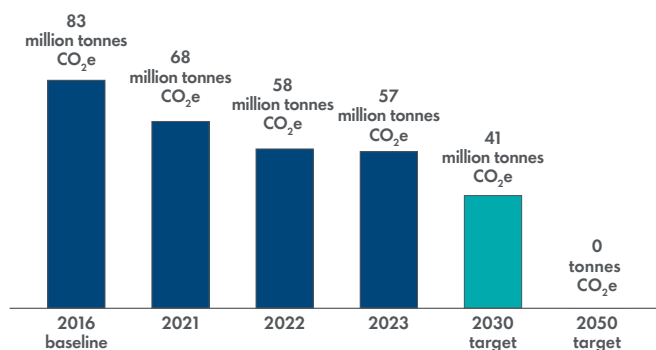
2021 LTIP vesting outcomes – performance measures

Performance conditions		Weighting	Threshold	Target	Maximum	Outcome (out of the maximum 200%)	Vesting outcome (% of target award)
Relative Performance ranked against the other energy majors: BP, Chevron, ExxonMobil and TotalEnergies	CFFO	20%	Third		First	① ② ③ ④ ⑤	0%
	TSR	20%	Third		First	① ② ③ ④ ⑤	150%
	ROACE	20%	Third		First	① ② ③ ④ ⑤	0%
Absolute Performance assessed against internal financial and strategic targets	FCF	20%	\$39bn	\$51bn	\$71bn	\$122.8bn	200%
	Energy transition	20%		See below			120%
							94%

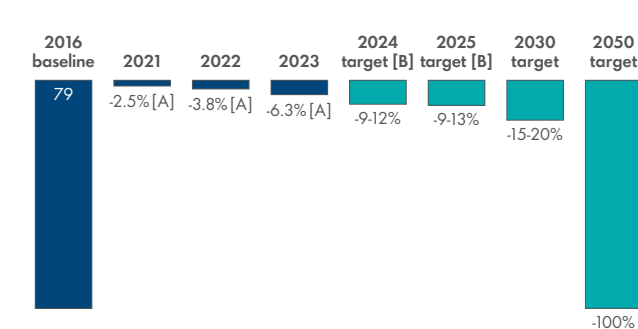
Our carbon targets

In 2023 we continued our progress on our path to become a net-zero emissions energy business by 2050. At the end of 2023, we had reduced our Scope 1 and 2 emissions by 31%, and the NCI of our energy products by 6.3% from our 2016 baseline.

Net carbon emissions – Scope 1 & 2 operational emissions



Net carbon intensity (NCI) (gCO₂e/MJ)



[A] 2021 target 2-3% reduction, 2022 target 3-4% reduction, and 2023 target 6-8% reduction; all achieved.

[B] Targets set by the REMCO. Shell continuously evaluates and updates its energy transition strategy, including its interim targets.

Annual Report on Remuneration continued

2021 LTIP energy transition performance condition: outcome

Outcomes for the energy transition performance condition are determined by the REMCO based on quantitative performance and a qualitative assessment focused on Shell's short-term NCI reduction target and those elements that we understood at the time would make the most impact on achieving our goals over the three-year performance period relating to NCI: the growth of our power business, the growth of lower-carbon products, and the development of systems to absorb, capture and store carbon. This approach to the LTIP is intended to support experimentation and learning as to what actions will help deliver net-zero emissions in a profitable way. Accordingly, the REMCO uses the performance indicators as guidance, rather than applying a formulaic vesting outcome, when making its decisions.



Net carbon intensity (NCI) - performance indicator met

We achieved our short-term target for the 2021-23 LTIP cycle to reduce our NCI by 6-8% compared with the 2016 baseline, with a 6.3% reduction by 2023. In making its decision, the REMCO reviewed how the target was met including changing product sales, the use of emission offsets, such as carbon credits, and the retirement of Renewable Energy Certificates, recognising the importance of these in the energy transition.



Growing the power business - performance indicator substantively met

A key element of the purpose of the early cycles of the LTIP was to encourage learning about how to profitably decarbonise and the REMCO paid close attention to management's work to refine the strategic direction for the Power business over the performance cycle. This has changed from an emphasis on growth in the customer base to a more selective focus on those areas where Shell has competitive advantages in the optimisation and marketing of molecules, enabling Shell to generate returns and create shareholder value. For example, in 2023 Shell undertook a strategic review of its consumer power retail business in Europe, which was determined not fitting for that revised strategy and hence was divested with a connected reduction in sales volumes. Stretching targets around growing Shell's power sales were set (original target 340 TWh/year with 279 TWh/year achieved in 2023), with attention also on decarbonising those power sales, with targets for creating a pipeline of renewable power generation capacity options (target of 5-10 GW well exceeded with 41.4 GW at the close of 2023) and generating renewable power sales (offtake volumes target of 3 GW also exceeded with 4.9 GW). A target was also set for a 16-22% reduction in carbon intensity for the Power Portfolio against the 2020 base year. Changes in reporting methodology mean it is not possible to compare 2023 intensities against 2020 on a like-for-like basis. However, the REMCO noted the steady decrease in carbon intensity for the Power Portfolio over the cycle (2021: 66 gCO₂e/MJ; 2022: 58 gCO₂e/MJ; 2023: 49 gCO₂e/MJ). In assessing the outcome, the REMCO also noted the strong wider progress made over the performance period, and in particular the strategic acquisitions of Spring in 2022 and Savion in 2021 which provide important platforms for growing future low-carbon offerings in solar. Meanwhile in wind, 2023 saw the significant milestone of our CrossWind offshore wind joint venture in the Netherlands becoming operational.



Growing new lower-carbon product offerings - performance indicator partially met

Shell is investing in low- and zero-carbon products such as renewable electricity, hydrogen and biofuels, working closely with customers to help identify the products they need to decarbonise. Metrics for the performance cycle were designed to encourage development across this range of offerings, against which the REMCO noted a number of successes. Shell is one of the world's largest traders of biofuels and our Brazilian joint venture Raizen (Shell interest 44%) is one of the world's largest producers and blenders of biofuels. This is a position that has been further developed over the performance period with the acquisition of Nature Energy, making Shell Europe's largest producer of renewable natural gas (RNG), and with commencing construction of the Shell Rotterdam Biofuels hydro-processed esters and fatty acids (HEFA) facility, which will be amongst the largest in Europe when on stream. The REMCO also set a target for 8,000 out-of-home electric vehicle charge points which was well exceeded with more than 54,000 as Shell looks to leverage its global network of service stations and existing strengths of the marketing business to generate returns. Balancing this, the REMCO also reflected on the fact that many of the commercial pathways for these offerings are emerging more slowly than anticipated. Holland Hydrogen 1 provides 200 MW of production capacity and is an important platform for future hydrogen development. This is below the ambitious target of 500 MW originally set for this LTIP cycle. However, on balance, the REMCO considered this a strong outcome as customer demand, technology de-risking and proven business models for hydrogen continue to develop. A target of 6 mtpa of carbon abated through the deployment of low-carbon fuels was also narrowly missed (5.3 mtpa achieved). Finally, a target was set for three investments in commercial-scale advanced biofuels projects. While two were achieved (LanzaJet and Enkern Varennes), technology platforms and commercially viable pathways proved slower to develop than anticipated and CAPEX was redeployed.



Develop emissions sinks - performance indicator not met

The development of systems that capture and store or absorb carbon is required as part of the global response to climate change to reduce and compensate for emissions where there are not currently scalable low-carbon alternatives. The REMCO originally set a target of 25 mtpa CO₂ offset by carbon credits through carbon-neutral customer offerings. 4 mtpa was achieved as customer demand and willingness to pay for these types of offering failed to materialise at the rate anticipated. Targets were also set for maturing carbon, capture, utilisation, and storage projects to final investment decision. Against the original target of three projects, two were achieved, highlighting the high degree of stretch in the original targets. The REMCO was comfortable that the outcome reflected commercial decision-making by the business in support of appropriate value creation.

Overall, the REMCO determined that the energy transition measure (accounting for 20% of the award) should vest at 120% of target.

The REMCO considered the Company's share price at the time of the awards, and determined to reduce the 2021 LTIP awards by 11.8% and 8.0% from the usual target award levels for Ben van Beurden and Jessica Uhl, respectively. The REMCO was cognisant of possible windfall gains arising from share price volatility in 2020, and took decisive action upfront to reduce awards at the start of the cycle to moderate the potential impact on LTIP award values. Notwithstanding the REMCO's proactive approach at the time of award, following the conclusion of the performance period, the REMCO further reflected on the share price at award and on vesting, noting that share price appreciation accounted for 34% of the total value of Wael Sawan's LTIP at vest. Taking this and the reduction to the initial awards into account, the REMCO was satisfied that the potential for windfall gains had been appropriately addressed.

The REMCO decided that the LTIP outcome was consistent with the target opportunity and intended operation of the plan under the Policy and appropriate, and therefore no adjustment to the vesting outcome was required. Accordingly, the REMCO decided that the LTIP should vest at 94% of target (equivalent to 47% of maximum).

The overall LTIP vesting outcomes for Wael Sawan and Sinead Gorman, including an illustration of the impact of share price movements and accrued dividends, are set out below. Wael Sawan was an Executive Committee member during 2021, and therefore his vested 2021 award is subject to a further three-year holding period which extends beyond his tenure as Executive Director, in line with the policy for Executive Committee members (and Executive Directors). Sinead Gorman was a Senior Executive during 2021, and therefore her vested 2021 award is not subject to further holding, though the shareholding guideline policy is applicable.

Annual Report on Remuneration continued

2021 LTIP vesting outcome

Wael Sawan

Vesting outcome: [A]

98,000 x 94% =
92,120 ordinary shares
€1,670,136


Change in share price: [B]

92,120 x €11.14
€1,026,217


Accrued dividends: [C]

11,729 ordinary shares
€343,307


Total LTIP Vesting:

103,849 ordinary shares
€3,039,660
£2,600,667 [D]

Sinead Gorman

Vesting outcome: [A]

31,500 x 94% =
29,610 ordinary shares
£408,618


Change in share price: [B]

29,610 x £10.95
£324,230


Accrued dividends: [C]

4,089 ordinary shares
£101,214


Total LTIP Vesting:

33,699 ordinary shares
£834,061

[A] Based on the share price at award of €18.13 for Wael Sawan and £13.80 for Sinead Gorman. For details of Ben van Beurden and Jessica Uhl's 2021 LTIP awards, see the "Payments to past Directors" section.

[B] Calculated based on the opening share price on March 7, 2024 (being the 2021 LTIP vesting date) minus the share price at the date of award. For Wael Sawan: €29.27 - €18.13 = €11.14; for Sinead Gorman: £24.75 - £13.80 = £10.95.

[C] Based on the opening share price on March 7, 2024 of €29.27 for Wael Sawan and £24.75 for Sinead Gorman.

[D] Converted from EUR to GBP using a spot exchange rate on March 7, 2024.

Consideration of 2023 single figure outcomes

In determining the final single figure outcomes for 2023, the REMCO also considered the personal performance of the Executive Directors.

Personal performance

The Executive Directors have demonstrated strong leadership in 2023. CEO Wael Sawan has made changes early in his tenure to simplify the Executive Committee for greater alignment, focus and accountability, enabling faster and better decision-making. Together with CFO Sinead Gorman, he has brought organisational focus on performance, discipline and simplification, driving an approach of creating more value while reducing emissions.

Key successes are noted throughout this report, particularly on page 196 on the 2023 annual bonus and page 199 on the 2021 LTIP vesting outcome, and additional comments are provided below.

The sector faces many challenges. Critical to a successful 2023 has been Wael's leadership of the organisation, setting out an agenda to deliver increased shareholder returns through a balanced energy transition, helping to provide the secure energy the world needs whilst making progress towards our net-zero emissions targets. Demonstrating this focus, Capital Markets Day (CMD) in June 2023 set out a plan to operationalise the Powering Progress strategy with a clear and concise set of targets presented to the market. The Energy Transition Strategy 2024 (ETS24), worked on extensively by the leadership team in 2023, is another example of clear focus and effective collaboration (see the Shell Energy Transition Strategy 2024 on shell.com). By the end of 2023, key achievements also included:

- Delivery of strong financial results with net income of \$19.6 billion and Adjusted Earnings* of \$28.3 billion, and CFFO of \$54.2 billion against plan target of \$44 billion, reflecting continuous high-grading of our upstream assets and the strength of our trading businesses;
- Delivery of \$23 billion of shareholder distributions* in 2023, 2% above the 30-40% of CFFO promised at CMD 2023;
- Reduction of net debt* to \$43.5 billion;

- Continued refining of the portfolio, agreeing to sell home energy businesses in the UK and Germany, as well as the Shell Pakistan business;
- Delivery of improved operational performance, including Pearl GTL reaching 97% availability in the second quarter of 2023, one of its highest to date; and new production coming on line at the Timi platform in Malaysia which is powered by wind and solar energy, and lighter than a conventional platform, reducing both costs and emissions;
- Continued delivery of a range of lower-carbon projects including our CrossWind joint venture designed to produce the equivalent of around 3% of Dutch electricity demand; the opening of Shell's largest global charging site for electric vehicles in Shenzhen, China; and producing biofuel from sugar cane waste at the new second-generation ethanol plant, the world's largest, in our joint venture Raízen in Brazil;
- Setting out a clear framework in CMD for a simplified set of financial and carbon targets for the coming three years and in doing so, building Shell's investment case through the energy transition. Over the period between CMD and December 31, 2023, total returns have been 13.4% (compared with 8.5% for a global oil and gas index);
- Preparing for ETS24, published on March 14, 2024;
- Continuing Shell's role in shaping the broader energy conversation through engagements at CERAWWeek, ADIPEC, and Energy Intelligence Forum and Shell's publication of new Energy Security scenarios (Archipelagos and Sky 2050);
- Maintaining a strong tone of care and safety ethos; and
- Maintaining Group-wide top quartile 2023 people survey scores for employee engagement and team leadership, alongside improvements in other areas that are key to our success such as collaboration and learner mindset.

* Non-GAAP measure (see page 365).

Annual Report on Remuneration continued

During 2023, Sinead Gorman assumed responsibilities for strategy and sustainability in addition to finance. Working closely with the CEO, Sinead Gorman has played a pivotal role in delivering a year characterised by strong financial results, improved financial resilience and capital discipline. She has steered the finance function's disciplined capital stewardship and effective management of Shell's financial framework, allowing Shell to meet its organisational objectives and commitments to shareholders. By the end of 2023, Sinead Gorman's key achievements included:

- Playing a critical role in coordinating and driving the review that led to CMD 2023;
- Leading the team preparing for ETS24, taking stock of our progress, seeing what we have learnt, and supporting the team and the Board to consider the strategic choices as we transform Shell;
- Bringing significant focus to lease management as well as working capital management;
- Expanding the Tax Contribution Report to disclose not only the corporate income tax we paid across 97 countries but also our total tax contribution in more than half of these; and
- Driving healthy challenge on capital expenditure, allowing tightening of the range from \$23-27 billion to \$23-25 billion earlier than expected and allowing Shell to make shareholder distributions at the higher end of our guided range.

The REMCO also considered a range of other factors in finalising its remuneration decisions for 2023, including:

- Shell's performance in 2023 and over the LTIP performance period 2021-2023, and the formulaic outcomes of the bonus and the LTIP performance conditions;
- The impact of fatalities on the formulaic scorecard outcome;
- Absolute and relative TSR performance over the period;
- A range of factors that take account of Shell's performance beyond the formulaic outcomes of the variable pay structures, including safety, reputation, ethics and compliance, and feedback from the Audit and Risk Committee and the Sustainability Committee;
- The external environment and wider stakeholder experience, including shareholders' expectations with regard to executive pay decision-making and the employee experience;
- The Executive Directors' remuneration compared with the variable pay outcomes for the general workforce;
- The alignment of the Executive Directors with the shareholder experience through their high shareholding requirements; and
- The Executive Directors' remuneration compared with historical outcomes.

After reflecting on the above factors, the REMCO was satisfied that the Policy had operated as intended, and that the single figure outcomes for the CEO and the CFO represented a fair level of remuneration.

2023 LTIP

Scheme interests awarded to Executive Directors in 2023 (audited)

In 2023, the Executive Directors were awarded conditional share awards under the LTIP as set out in the table below. In approving the awards, the REMCO considered Shell's historical share price, including the share price over the prior year, and noted that the share price at award was around 20% higher than in 2022, and higher than average historical levels. The REMCO determined that the risk of windfall gain was limited, and therefore no adjustment was made to the award size.

Scheme interest type	Type of interest awarded	End of performance period	Target award [A]	Potential amount vesting	
				Minimum performance (% of shares awarded) [B]	Maximum performance (% of shares of the target award)
LTIP	Performance shares	December 31, 2025	Wael Sawan: 173,985 London-listed ordinary shares, equivalent to 3.0x base salary or £4,200,000 Sinead Gorman: 103,458 London-listed ordinary shares, equivalent to 2.7x base salary or £2,497,500	0	Maximum number of shares vesting is 200% of the shares awarded, before dividends.

[A] The awards for both Executive Directors were made based on the closing market price on the date of grant, February 3, 2023, for ordinary shares of £24.14.

[B] Minimum performance relates to the lowest level of achievement, for which no reward is given.

The performance conditions and weightings applying to LTIP awards made in 2023 were: relative cash generation (25% weighting), relative TSR (25%), absolute OFCF (25%), and energy transition (25%).

Relative performance conditions

The relative performance conditions are based on our performance on key financial and external measures against our closest comparators. For each measure, we rank point-to-point growth based on the data points at the end of the performance period compared with those at the beginning of the period.

Cash generation is defined as CFFO divided by average capital employed, and measures Shell's ability to generate the top-line cash flow to finance investment in our business and shareholder distributions.

TSR measures actual value created for shareholders (i.e. change in share price plus dividends), and as in prior years, is calculated in US dollars using a 90-day averaging period.

Vesting under each relative performance condition is assessed independently, with the vesting outcome ranging from 0% to 200% of the target award in respect of the measure, in accordance with the following vesting schedule:

- Ranking first equals 200% vesting;
- Ranking second equals 150% vesting;
- Ranking third equals 80% vesting; and
- Ranking fourth or fifth equals 0% vesting.

Outperforming Shell's closest competitors on key financial metrics is challenging. The REMCO is aware that vesting for median performance is generally set at a limit of 25% of maximum for other UK companies, but notes that this is typically applied against a larger comparator group. A vesting outcome of 80% for median performance (40% of maximum) in a small comparator group is considered appropriate by the REMCO.

Annual Report on Remuneration continued

Absolute measures

Organic free cash flow (OFCF)

The OFCF performance condition supports the delivery of our cash flow priorities, which are to service and reduce debt, pay dividends, buy back shares, and make future capital investments.

The performance targets for OFCF are set by reference to Shell's annual operating plans, based on the sum of plan OFCF targets over the three-year performance period, and updating the plan each year to reflect a changing price premise. The REMCO has a long-standing no-adjustments policy, and believes it is more appropriate to set the target based on the aggregation of the annual operating plans rather than setting a three-year target at the outset and making necessary adjustments at the end. OFCF targets are disclosed retrospectively and in aggregate, following the conclusion of the three-year period.

Under the OFCF performance condition, achievement of threshold performance will result in 40% of the target award (20% of maximum) in respect of the OFCF vesting, increasing to full vesting for achievement of outstanding performance. A straight-line vesting schedule will apply for performance between threshold and outstanding. In 2023, the performance condition moved from FCF to OFCF to place greater emphasis on the operational outcomes.

Energy transition

For the 2023 award, the energy transition performance condition is based on NCI reduction and the supporting strategic themes of reducing Scope 1 and 2 emissions; building a renewable power business; growing new low-carbon energy offerings; and developing emission sinks and offsets with the REMCO making a holistic assessment of progress when making the vesting decision. The key factors in the REMCO's decision will be disclosed at the end of the performance period (unless commercially sensitive).

Under CMD, a number of long-term performance indicators were retired, and therefore the REMCO's determination of the extent to which awards will vest will be based on:

- Shell's related climate targets of short-term NCI reduction target of 9-13% by 2025 and halving Scope 1 and 2 emissions under operational control by 2030 on a net basis (2016 baselines);
- A qualitative assessment of the strategic context and business environment for the strategic themes; and
- A quantitative assessment of delivery of the operating plans for those businesses with most responsibility for the strategic themes.

For an update on Shell's energy transition, see the 2024 Shell Energy Transition Strategy from [shell.com](https://www.shell.com).

TSR underpin

If Shell's TSR ranking is fourth or fifth, the level of the 2023 award that can vest on the basis of the other measures will be capped at 50% of the maximum.

Performance update on FCF/OFCF

2022 LTIP award

At December 31, 2023, FCF* performance was above target, with a strong outcome of \$46 billion for 2022 (target \$18 billion), and \$36.5 billion for 2023 (target \$24 billion). As one year of FCF performance remains, and 80% of the award is subject to relative and energy transition performance conditions, this does not reflect the potential vesting of the award.

2023 LTIP award

At December 31, 2023, OFCF* performance was above target, based on \$35.9 billion for 2023 (target \$22 billion). As two years of OFCF performance remain, and 75% of the award is subject to relative and energy transition performance conditions, this does not reflect the potential vesting of the award.

Single figure of total remuneration for Non-executive Directors (audited)

	Fees		Taxable benefits [A]		Total	
	2023	2022	2023	2022	2023	2022
	£ thousand					
Dick Boer	192	153	20	4	212	157
Neil Carson	171	171	11	2	182	173
Ann Godbehere	184	184	68	7	252	191
Eileen Goh [B]	89	211	29	6	118	217
Jane Holl Lute	164	154	35	14	199	168
Catherine Hughes	190	182	50	9	240	191
Martina Hund-Mejean [B]	64	154	56	3	120	157
Sir Andrew Mackenzie	785	785	2	4	787	789
Sir Charles Roxburgh [C]	126	—	2	—	128	—
Bram Schot	150	144	15	2	165	146
Leena Srivastava [C]	120	—	—	—	120	—
Cyrus Taraporevala [D]	134	—	1	—	135	—

[A] UK regulations require the inclusion of benefits where these would be taxable in the UK, on the assumption that Directors are tax residents in the UK. On this premise, the taxable benefits include the cost of a Non-executive Director's occasional business-required partner travel. Shell also pays for travel between home and the head office, where Board and Committee meetings are typically held, and related hotel and subsistence costs. For consistency, business expenses for travel between home and the head office are not reported as taxable benefits because for most Non-executive Directors this is international travel and hence would not be taxable in the UK.

[B] Stepped down as a Director with effect from May 23, 2023.

[C] Appointed as a Director with effect from March 13, 2023.

[D] Appointed as a Director with effect from March 2, 2023.

* Non-GAAP measure (see page 365). The most comparable GAAP financial measure for organic free cash flow is cash flow from operating activities of \$54 billion for 2023.

Annual Report on Remuneration continued

Statement of Directors' shareholding and share interests (audited)

Shareholding guidelines

The REMCO believes that Executive Directors should align their interests with those of shareholders by holding shares in Shell plc.

Only unfettered shares count towards an Executive Director's shareholding. Shares delivered that are subject to holding requirements also count towards the guidelines. The CEO and the CFO have five years from their respective appointment to the Board to achieve their respective shareholding requirements.

There is a Company-sponsored nominee account for each employee which allows for restrictions to be applied on the sale or transfer of shares that are subject to holding periods. The restrictions remain in force beyond the Executive Director's employment.

Further details of the shareholding guidelines can be found on page 213.

Directors' share interests

The interests, in shares of the Company or calculated equivalents, of the Directors in office during 2023, including any interests of their connected persons, are set out in the table below.

Directors' share and scheme interests (audited)

	Ordinary shares held at January 1, 2023	Ordinary shares held at December 31, 2023	Unvested and subject to performance conditions [A]	Shareholding guideline as % of salary	Current shareholding as % of salary [B]
Executive Directors					
Wael Sawan	166,592	179,406	396,355	700%	330%
Sinead Gorman	39,660	65,519	256,369	500%	182%
Non-executive Directors					
Dick Boer	10,000	10,000			
Neil Carson	16,000	16,000			
Ann Godbehere	10,000 [C]	10,000			
Euleen Goh	12,895	n/a [D]			
Jane Holl Lute	7,046 [E]	7,332 [F]			
Catherine Hughes	55,984 [G]	55,984			
Martina Hund-Mejean	20,000 [H]	n/a [I]			
Sir Andrew Mackenzie	27,623	35,858			
Sir Charles Roxburgh	– [J]	2,000			
Bram Schot [K]	–	–			
Leena Srivastava	– [L]	–			
Cyrus Taraporevala	250 [M]	10,000 [N]			

[A] Includes unvested long-term incentive awards and notional dividend shares accrued at December 31, 2023. Interests are shown on the basis of the original awards, which can vest at between 0% and 200% based on performance. Dividend shares accumulate each year on an assumed notional LTIP award. Such dividend shares are disclosed and recorded on the basis of the number of shares conditionally awarded but, when an award vests, dividend shares will be awarded only in relation to vested shares as if the vested shares were held from the award date.

[B] Calculated using the £25.72 per share closing price on December 29, 2023, the last market day of 2023.

[C] Held as 5,000 ADS. Each ADS represents two ordinary shares.

[D] 12,895 ordinary shares as at May 23, 2023, when she stepped down as a Director.

[E] Held as 3,523 ADS. Revised to include purchases pursuant to a Dividend Reinvestment Scheme.

[F] Held as 3,666 ADS. Includes purchases pursuant to a Dividend Reinvestment Scheme.

[G] Held as 50,984 ordinary shares and 2,500 ADS.

[H] Held as 10,000 ADS.

[I] 10,000 ADS as at May 23, 2023, when she stepped down as a Director.

[J] As at March 13, 2023, when he was appointed as a Director.

[K] On February 6, 2023, he disposed of 150 Leonteq Express Euro Denominated Certificates on ING, Shell, Unilever (ISIN: CH0470808913), with a nominal value of €1,000 each at a price of €1,007.70 per certificate. These certificates are cash settlement instruments of which payment of a conditional coupon depends for 1/3 on the development of the price of the Shell shares on Euronext Amsterdam and, as such, are a financial instrument linked to the Shell shares.

On August 9, 2023, he disposed of 8,000 certificates Shell Turbo Long 6,5 BNP Paribas Markets (ISIN: NL0009558519) at a price of €22.345 (5,000 certificates) and a price of €22.342 (3,000 certificates). These certificates are cash settlement instruments the value of which is linked to the share price of the Company's ordinary shares with a nominal value of €0.07 each. In this case, the ratio is 1:1 and accordingly 8,000 certificates represent 8,000 Shell shares.

[L] As at March 13, 2023, when she was appointed as a Director.

[M] As at March 2, 2023, when he was appointed as a Director. Held as 125 ADS.

[N] Held as 5,000 ADS.

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The changes to Directors' shareholdings as at March 8, 2024 are as follows:

- Wael Sawan's share interest increased by 82,797 ordinary shares after the delivery of the 2023 annual bonus shares and the vesting of the 2021 LTIP award; and
- Sinead Gorman's share interest increased by 36,137 ordinary shares after the delivery of the 2023 annual bonus shares and the vesting of the 2021 LTIP award.

At March 8, 2024, the Directors and Senior Management (pages 147 and 155) of the Company beneficially owned, individually and in aggregate (including shares under option), less than 1% of Company shares. These shareholdings are not considered sufficient to affect the independence of the Directors.

Dilution

In any 10-year period, no more than 5% of the issued ordinary share capital of the Company may be issued or issuable under executive (discretionary) share plans adopted by the Company, or 10% when aggregated with awards under any other employee share plan operated by the Company. To date, no shareholder dilution has resulted from these plans, although it is permitted under the rules of the plans, subject to these limits.

Payments for loss of office (audited)

There were no payments for loss of office to Executive Directors in 2023.

Payments to past Directors (audited)

Ben van Beurden stepped down from the Board and his role as CEO on December 31, 2022, and continued working as a full-time adviser to the Board until June 30, 2023. See the 2022 Directors' Remuneration Report for details of his role during 2023. As disclosed in last year's report, Ben van Beurden did not receive an LTIP award in 2023.

His remuneration in respect of 2023 is set out below:

- Base salary: £710,000.
- Pension: pension cash allowance of 20% of salary.
- Annual bonus: £1,210,000 (determined based on Shell's performance as at Q2 2023).

- LTIP: Ben van Beurden received an LTIP award of 231,679 ordinary shares in 2021 (worth around 265% of salary), which has been pro-rated. The pro-rated award vested at 94% of target based on performance to December 31, 2023. Therefore, 204,589 ordinary shares (including accrued dividends) vested on March 7, 2024, with a value at vesting of €5,988,311 (equivalent to £5,123,469). A three-year holding period applies, which remains in force after termination.
- Benefits: £270,681, including relocation-related costs (£200,051), car allowance (£14,945), and grossing costs (£51,031).
- Loss of office: £1,420,000, equivalent to one times base salary. This was paid in six equal monthly instalments between July 1, 2023 and December 31, 2023, which would have been subject to mitigation in the event that he resumed a paid position in that time.

Former CFO Jessica Uhl received an LTIP award of 69,972 ADS in 2021 (worth around 248% of salary), which has been pro-rated. The pro-rated award vested at 94% of target based on performance to December 31, 2023. Therefore, 37,069 ADS (including accrued dividends) vested on March 7, 2024, with a value at vesting of \$2,369,792. A three-year holding period applies, which remains in force after termination.

Payments below £5,000 are not reported as they are considered de minimis.

TSR performance and CEO pay

Performance graph

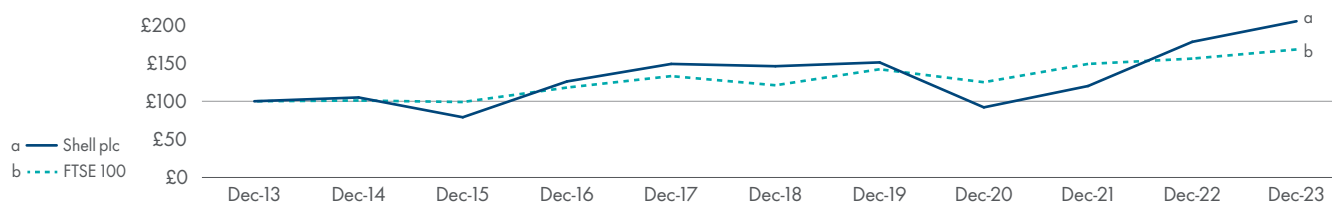
The graph below compares the TSR performance of Shell plc over the past 10 financial years with that of the FTSE 100 Index. The Board regards this index as the most appropriate broad market equity index for comparison, following the move of Shell's headquarters to the UK. Data shown is for the performance of RDS B shares prior to the assimilation of Shell's shares into a single line of ordinary shares on January 29, 2022.

CEO pay outcomes

The table below the graphs sets out (i) the single figure of total remuneration, (ii) the annual bonus outcome, and (iii) the LTIP vesting outcome for the CEO for the past 10 years.

Historical TSR performance

Value of hypothetical £100 holding



Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CEO	Ben van Beurden									Wael Sawan
Single figure of total remuneration (£000) [A]	19,510 [B]	4,049	7,046	7,811	17,817	8,746	5,197	6,344	9,698	7,940
Annual bonus award (% of maximum opportunity)	94%	98%	66%	81%	79%	21%	—	64%	73%	78%
LTIP vesting (% of maximum opportunity)	49%	8%	42%	35%	95%	74%	45%	25%	41%	47%

[A] Prior to 2022, the CEO's remuneration was denominated in EUR. Each year's single figure of total remuneration has been converted to GBP using the 12-month average exchange rates for the year.

[B] Ben van Beurden's single figure for 2014 was impacted by the increase in pension accrual calculated under the UK reporting regulations and tax equalisation as a result of his promotion and prior assignment to the UK.

Annual Report on Remuneration continued

Percentage change in remuneration of the Directors and employees

The table below compares the remuneration of the Executive and Non-executive Directors of Shell plc with an employee comparator group consisting of local employees in the UK, the USA, and the Netherlands. The local employee population of these countries is considered to be a suitable employee comparator group because: these are countries with a significant Shell employee base; a large proportion of senior managers come from these countries; and the REMCO considers remuneration levels in these countries when setting base salaries for Executive Directors. For the purposes of comparison, the change in employee remuneration is calculated by reference to the change in salary scale, benefits and annual bonus for a notional employee in each of the base countries, not by reference to the actual change in pay for a group of employees.

Taxable benefits are those that align with the definition of taxable benefits applying in the respective country. In line with the "Single figure of total remuneration for Executive Directors" table, the annual bonus is included in the year in which it was earned (rather than paid).

Percentage change in remuneration of Directors and employees [A]

	Salary/fees (% change)				Benefits (% change)				Annual bonus (% change)			
	2022-23	2021-22	2020-21	2019-20	2022-23	2021-22	2020-21	2019-20	2022-23	2021-22	2020-21	2019-20
Employees [B]	5.7%	2.4%	0.6%	3.0%	(10.2%)	(8.4%)	0%	0%	14.3%	(0.4%)	–	(100.0%)
Executive Directors												
Wael Sawan	–	–	–	–	–	–	–	–	–	–	–	–
Sinead Gorman [C]	37.0%	–	–	–	(39.7%)	–	–	–	45.8%	–	–	–
Non-executive Directors [D]												
Dick Boer	25.4%	6.3%	70.4%	–	389.8%	–	–	–	–	–	–	–
Neil Carson	–	3.6%	4.3%	85.6%	593.0%	–	–	–	–	–	–	–
Ann Godbehere	–	0.8%	2.9%	15.8%	829.4%	1286.7%	–	–	–	–	–	–
Eileen Goh	(57.8%)	9.4%	11.4%	0.2%	360.1%	520.3%	–	–	–	–	–	–
Jane Holl Lute	6.7%	80.4%	–	–	155.0%	1893.8%	–	–	–	–	–	–
Catherine Hughes	4.6%	14.1%	2.8%	(10.0%)	435.0%	868.8%	–	–	–	–	–	–
Martina Hund-Mejean	(58.4%)	8.6%	68.4%	–	2085.4%	358.2%	–	–	–	–	–	–
Sir Andrew Mackenzie	–	57.0%	1473.0%	–	(57.5%)	(69.3%)	–	–	–	–	–	–
Sir Charles Roxburgh	–	–	–	–	–	–	–	–	–	–	–	–
Bram Schot	4.1%	10.1%	300.0%	–	702.6%	–	–	–	–	–	–	–
Leena Srivastava	–	–	–	–	–	–	–	–	–	–	–	–
Cyrus Taraporevala	–	–	–	–	–	–	–	–	–	–	–	–

[A] Where the value for the preceding year was zero or the individual was not in post and therefore no comparison data is available, '–' is recorded.

[B] Relates to change in pay for local employees in the UK, the USA and the Netherlands.

[C] Sinead Gorman was appointed as CFO effective April 1, 2022. The changes in remuneration shown for 2022-23 are based on the period April 1, 2022 to December 31, 2022 for 2022, and a full year for 2023.

[D] Non-executive Directors do not receive any short-term incentives. The increases shown reflect the individuals' appointment to the Board part-way through the prior year, or additional fees payable for joining Board Committees. For details of Board appointment and departure dates, see "Single figure of total remuneration for Non-executive Directors" on page 203.

Relative importance of spend on pay

The table below sets out distributions to shareholders by way of dividends and share buybacks, and remuneration paid to or receivable by employees for the last five years, together with annual percentage changes.

Year	Dividends and share buybacks [A]		Spend on pay (all employees) [B]	
	\$ billion	Annual change	\$ billion	Annual change
2023	23.0	(11%)	13.6	(2%)
2022	25.8	183%	14.0	16%
2021	9.1	–	12.1	–
2020	9.1	(64%)	12.1	(8%)
2019	25.4	26%	13.2	(1%)

[A] Dividends paid and repurchases of shares as reported in the "Consolidated Statement of Changes in Equity".

[B] Employee costs, excluding redundancy costs, as reported in Note 32 to the "Consolidated Financial Statements".

Spend on pay can be compared with the major costs associated with generating income by referring to the "Consolidated Statement of Income". Over the last five years, the average spend on pay was around 5% of the major costs of generating income. These costs are considered to be the sum of: purchases; production and manufacturing expenses; selling, distribution and administrative expenses; research and development; exploration; and depreciation, depletion and amortisation.

External appointments

Neither Wael Sawan nor Sinead Gorman held any external Non-executive Director positions during 2023.

Annual Report on Remuneration continued

Statement of voting at 2023 AGM

Shell's 2023 AGM was held on May 23, 2023. The result of the poll in respect of 2022 Annual Report on Remuneration was as follows:

Approval of 2022 Annual Report on Remuneration

Votes	Number	Percentage
For	3,932,918,278	94.67%
Against	221,306,985	5.33%
Total cast	4,154,225,263 [A]	100.00%
Withheld [B]	30,948,299	

[A] Representing 60.95% of issued share capital.

[B] A vote withheld is not a vote under UK law and is not counted in the calculation of the proportion of the votes for and against a resolution.

The result of the poll in respect of the 2023 Directors' Remuneration Policy at the 2023 AGM was as follows:

Approval of 2023 Directors' Remuneration Policy

Votes	Number	Percentage
For	3,931,530,222	94.60%
Against	224,454,202	5.40%
Total cast	4,155,984,424 [A]	100.00%
Withheld [B]	29,173,157	

[A] Representing 60.97% of issued share capital.

[B] A vote withheld is not a vote under UK law and is not counted in the calculation of the proportion of the votes for and against a resolution.

CEO pay ratio

	Option	25 th percentile pay ratio	Median pay ratio	75 th percentile pay ratio
2023	A	80:1	58:1	39:1
Total pay and benefits:		£99,599	£136,066	£205,115
Salary:		£70,000	£76,444	£102,634
2022	A	134:1	80:1	50:1
Total pay and benefits:		£72,632	£121,847	£192,995
Salary:		£45,904	£56,302	£96,790
2021	A	97:1	57:1	37:1
Total pay and benefits:		£65,123	£111,912	£170,289
Salary:		£43,550	£68,238	£101,000
2020	A	93:1	57:1	38:1
Total pay and benefits:		£55,584	£90,972	£136,007
Salary:		£49,117	£75,365	£118,291
2019	A	147:1	87:1	54:1
Total pay and benefits:		£59,419	£100,755	£161,717
Salary:		£40,417	£56,721	£79,991
2018	A	202:1	143:1	92:1
Total pay and benefits:		£88,112	£124,459	£193,027
Salary:		£53,528	£80,407	£96,074

Shell has chosen to use option A (as defined in UK reporting regulations) to calculate the CEO pay ratio in accordance with guidance from the UK government that this is the preferred approach and the most statistically accurate method for identifying the ratios. Under option A, a comparable single figure for all UK employees has been calculated in order to identify the employees whose pay and benefits are at the 25th, 50th (median) and 75th percentiles for comparison with the CEO. Employee pay has been calculated based on the total pay and benefits paid in respect of 2023 for all employees who were employed on December 31, 2023. For part-time workers and joiners in the year, pay and benefits have been annualised based on the proportion of their working time in the UK during the year. This is

calculated with an approach consistent with the methodology for determining annual bonuses. The REMCO believes that this provides a fair and reasonable calculation of the pay ratios for Shell employees in the UK.

The ratio of the CEO's pay to the median UK employee is 58. The global pay ratio, calculated by comparing the CEO's single figure with the average employee headcount cost, is 78. The ratio at median for 2023 is lower than for 2022, reflecting a lower aggregate variable pay outcome for the new CEO in 2023 as compared with the previous CEO in 2022, and specifically, reflecting that his LTIP was granted prior to his appointment to the CEO role. Overall, the pay ratios are lower than in 2018 (the first year of reporting), reflecting reductions in the CEO bonus and LTIP opportunities over time, as well as changes in variable pay outcomes. The REMCO believes the CEO pay ratio for 2023 is appropriate and consistent with Shell's philosophy of pay for performance.

Directors' employment arrangements and letters of appointment

Executive Directors are employed for an indefinite period. Non-executive Directors, including the Chair, have letters of appointment. Details of Executive Directors' employment arrangements can be found in the Policy on page 216.

Further details of Non-executive Directors' terms of appointment can be found in the "Other regulatory and statutory information" on page 227 and the "Governance framework" report on page 160.

Compensation of Directors and Senior Management

During the year ended December 31, 2023, Shell paid and/or accrued compensation totalling \$57 million (2022: \$53 million) to Directors and Senior Management for services in all capacities while serving as a Director or member of Senior Management, including \$2 million (2022: \$2 million) accrued to provide pension, retirement and similar benefits. The amounts stated are those recognised in Shell's income attributable to Shell plc shareholders on an IFRS basis. See Note 33 to the "Consolidated Financial Statements". Personal loans or guarantees were not provided to Directors or Senior Management.

Workforce engagement on remuneration matters

Workforce engagement

Our employees are fundamental to our success. Fostering a collaborative culture and reinforcing a learner mindset is central to delivering Powering Progress. The Board's view is that all Directors have a collective responsibility for workforce engagement, ensuring that employees' voices are heard on all business matters, including pay, and that the Company communicates effectively to employees on our remuneration policies and practices.

The Board and management regularly engage with the workforce through a range of formal and informal channels. These include webcasts and all-employee messages from our CEO and other senior leaders; town halls and team meetings; virtual coffee connects; interviews with senior management; internal social platforms; and focused engagements. During interactive sessions, employees have the opportunity to ask about any topic, including pay. The Board's preference is to build on existing, long-standing channels of engagement for discussions around remuneration. During the year, management engaged with the workforce on what the 2023 performance metrics meant for each of us, giving employees the opportunity to ask any questions on this topic.

We conduct annual employee surveys, which receive high levels of response (88% in 2023, an all-time high). The Board was pleased to note strong results for the 2023 Shell People Survey, maintaining the outcomes for 2022 in a number of engagement-related categories.

Annual Report on Remuneration continued

These are very encouraging results and are testament to Shell's strength, maturity, and resilience.

Wider employee context

The REMCO receives annual updates on workforce remuneration topics, including employees' views on pay matters; CEO pay ratio; workforce reward philosophy and principles; alignment of Shell values and behaviours with remuneration practices; and general employee salary planning and variable pay outcomes, taking account of the cost of living environment and the impact of this on our colleagues. The REMCO is also periodically updated on wider employee matters such

as the UK gender and ethnicity pay gap analyses. In this way, the REMCO is able to satisfy itself that reward across Shell is aligned to our strategy, culture, and long-term sustainable success.

Shell adheres to its fair pay principles in all remuneration-related matters. Pay in Shell is market-competitive, free from bias, and provides security to our employees. Shell sets clear performance expectations, gives employees the opportunity to share in Shell's success through a variety of variable pay schemes, and is transparent and clear in its communication of remuneration. For more information, visit the "Human Rights" section of shell.com.

How executive remuneration aligns with wider Company pay policy

Executive remuneration structures in Shell are strongly aligned with the structures for the broader workforce, as set out in the table below.

Element	Comparison of Executive Director and wider workforce arrangements
Salary	The Executive Directors' salaries are reviewed with reference to the factors set out in the Policy, against defined comparator groups. The market-competitiveness of wider workforce salaries is assessed at a base country level.
Pension and benefits	The Executive Directors' pension benefits are aligned with those offered to employees who joined Shell from 2013 onwards in the UK. Shell does not operate separate executive pension arrangements. All Group employees participate in the relevant pension plan for their base country based on their date of joining. The Executive Directors are eligible to receive the same benefits available to the broader workforce.
Annual bonus	The Group scorecard applicable to Group employees is identical to that applicable to Executive Directors in terms of performance measures, weightings, and targets. For the wider workforce, an additional multiplier applies based on individual performance during the year. No individual multiplier applies to Executive Directors, and further, 50% of the bonus is paid in shares, and the bonus is subject to malus and clawback provisions.
Long-term incentives	Executive Directors and around 130 senior executives participate in the LTIP on the same terms. Executive Directors' LTIP awards are subject to a three-year holding period. A further c.17,800 employees participate in the PSP; 50% of the performance conditions are the same as those for the LTIP.
Shareholding guidelines	The Executive Directors have the highest shareholding guidelines in the Company, which are set at 700% and 500% of salary for the CEO and the CFO, respectively. These guidelines continue post termination for a period of two years. Shareholding guidelines extend into the organisation to senior manager level. Employees are required to achieve their individual guideline within a specified timeframe, as is the case for Executive Directors.

Statement of planned implementation of Policy in 2024

A summary of how the shareholder-approved Policy will be applied to Directors' remuneration for 2024 is set out below.

Executive Directors

Comparator group

The benchmarking comparator group for 2024 remains consistent with that used in prior years, and consists of other oil majors (BP, Chevron, ExxonMobil, and TotalEnergies) and a selection of major Europe-based companies. The oil majors are included in the comparator group as these represent our closest direct competitors operating in similar market conditions. The Europe-based companies are selected based on their size, complexity and global reach. The REMCO retains the right to alter the comparator group as it sees fit to ensure it remains an appropriate and relevant benchmark.

The REMCO uses benchmark data from these companies only as a guide to the competitiveness of the remuneration packages. The REMCO does not seek to position remuneration at any defined point against the comparator data.

European comparator group

Allianz	Glencore	Rio Tinto
AstraZeneca	GSK	Roche
BAT	Mercedes-Benz	Siemens
Bayer	Nestle	Unilever
Diageo	Novartis	Vodafone

Salaries

Effective January 1, 2024, Wael Sawan and Sinead Gorman received an increase of 3.9%, and salaries for 2024 are £1,455,000 and £961,000, respectively.

In reviewing the Executive Directors' salaries, the REMCO carefully considered the external environment, and the increases provided to the Shell workforce in the key markets of the UK (4.5%), the USA (3.1%), and the Netherlands (4.3%). The Executive Directors' increases for 2024 were positioned below other UK employees and in line with the average across the key markets and the REMCO recognised the "multiplier effect on total remuneration".

Annual bonus

The REMCO reviewed the bonus scorecard during the year and considered that it remained well aligned with our strategic and operational priorities. Shell's energy transition plans cover all its businesses, and the REMCO updated the annual bonus scorecard accordingly. It determined to introduce a measure focussing on the operational performance of the LNG business, alongside existing metrics of operational emissions reduction and electric vehicle charge points. The 2023 scorecard had two Downstream metrics, being electric vehicle charge points and "selling lower-carbon products". Electric vehicle charge points has been retained as the Downstream metric, aligning to become a global leader in public charging for electric vehicles. The performance measures, weightings and link to strategy for the 2024 performance year are set out overleaf. See the Chair's Statement for further details of changes in light of ETS24.

In the interest of simplification and alignment of the two Executive Directors in delivering the operating plan (the primary focus of the annual bonus), the CFO's target bonus will be aligned to that of the CEO from 2024, and will be 125% of salary (and maximum bonus will be 250% of salary). There is no change to the shareholder-approved Policy.

Annual Report on Remuneration continued

2024 annual bonus measures, weightings, and link to strategy

Performance measure	Weighting		
Financial delivery	35%		
Operational excellence		35%	
Shell's journey in the energy transition			15%
Safety			15%

Link to strategy	
Financial delivery Cash flow from operating activities (35%)	Supports our financial priority to generate cash to fund shareholder distributions and capital investment.
Operational excellence - Asset management excellence (15%) - Project delivery excellence (10%) - Customer excellence (10%)	Underpins delivery of our financial framework and ambitions to progress in the energy transition.
Shell's journey in the energy transition - LNG volumes [A] (5%) - Reducing operational emissions (5%) - Supporting customer decarbonisation (5%)	Drives a direct focus on Shell's plans for the energy transition.
Safety (15%) - Serious Injury and Fatality Frequency (7.5%) - Tier 1 and 2 process safety (7.5%)	Drives an ongoing focus on personal and process safety.

[A] Equity liquefaction

Scorecard targets will be disclosed in the subsequent Directors' Remuneration Report when they are no longer deemed to be commercially sensitive.

Long-term Incentive Plan

On February 2, 2024, a conditional award of performance shares under the LTIP was made to the Executive Directors resulting in 169,937 Shell plc shares being awarded to Wael Sawan and 101,051 to Sinead Gorman. The awards had a face value of 300% (maximum performance outcome 600%) of salary for Wael Sawan and 270% (maximum performance outcome 540%) of salary for Sinead Gorman, excluding potential share price appreciation and dividends. 2024 LTIP awards to Executive Directors are based on salaries as at December 31 the prior year, consistent with the rest of the organisation.

The REMCO reviewed the award levels in the context of share price movement over the year prior to award, and determined that the risk of windfall gain was limited and therefore no adjustment was made.

Performance is measured over the three-year period January 1, 2024 to December 31, 2026. The performance measures, weightings and link to strategy for the 2024 award are set out below. The REMCO reviewed the LTIP performance conditions and adjusted the metrics under the "Shell's journey in the energy transition" performance condition in light of ETS24.

2024 LTIP performance conditions, weightings, and link to strategy

Performance condition	Weighting		
Cash generation [A]	25%		
TSR [A]		25%	
Organic free cash flow [B]			25%
Shell's journey in the energy transition [B]			25%

[A] ☐ Relative measures [B] ☐ Absolute measures

Link to strategy	Vesting schedule (% of initial LTIP award)
Cash generation (defined as CFFO/average capital employed) Measurement of Shell's ability to generate the top-line cashflows to finance investment in our business and shareholder distributions.	1st – 200% 2nd – 150% 3rd – 80% 4th or 5th – 0%
TSR Assessment of actual value created for shareholders.	Performance ranked against the other energy majors: BP, Chevron, ExxonMobil and TotalEnergies.
Organic free cash flow Recognition of the importance of generating cash after net capital expenditure to service and reduce debt, pay dividends, buy back shares and make future capital investments.	Maximum – 200% Target – 100% Threshold – 40% Below threshold – 0% OCF targets are set annually for each annual operating plan.
Shell's journey in the energy transition Measures focused on Shell's plans for the energy transition.	Performance assessment will be based on the REMCO's holistic assessment of progress towards reducing Shell's operational emissions and supporting our customers to reduce emissions.
Holding period Three-year holding period, which remains in force post tenure.	

Performance framework for 2024 LTIP "Shell's journey in the energy transition" performance condition

Shell was the first major energy company to introduce a dedicated energy transition performance condition to its LTIP in 2019. One of the REMCO's key learnings since then has been the need for agility and the importance of a holistic assessment of the achievement of strategic intent. This approach will continue in 2024, and the REMCO will provide a full disclosure of all material factors, both quantitative and qualitative, that it took into account in reaching the vesting decision.

The REMCO's determination of the extent to which awards will vest will be based on its holistic assessment of progress towards reducing emissions from our operations and supporting our customers to reduce their emissions. This will be based on our journey to net-zero climate targets for our own operations of:

- Halving Scope 1 and 2 emissions by 2030 under operational control on a net basis (2016 baseline);
- Eliminating routine flaring from upstream operations by 2025 [A]; and
- Maintaining methane emissions intensity below 0.2% and achieving near-zero methane emissions by 2030.

[A] Subject to completion of the sale of SPDC.

Annual Report on Remuneration continued

The REMCO will also take account of progress in developments that support the energy transition to 2030 and beyond, such as the development of our Power business (including renewables), lower-carbon LNG, biofuels, electric vehicle charging, hydrogen and CCS.

We will take into account progress towards achieving a 15-20% reduction in NCI by 2030 (2016 baseline), a 15-20% reduction in customer emissions from the use of our oil products by 2030 (2021 baseline) [A], as well as Shell's wider performance in accelerating the energy transition, e.g. demonstrating leadership and advocacy in standard setting, alongside any other factors that the REMCO considers relevant.

[A] Customer emissions from the use of our oil products (Scope 3, Category 11) were 517 million tonnes CO₂e in 2023 and 569 million tonnes CO₂e in 2021.

Pension

Wael Sawan and Sinead Gorman are eligible to participate in the defined contribution UK Shell Pension Plan with an employer contribution rate of up to 20% of salary, or take this as a pension cash alternative. The UK Shell Pension Plan or associated pension cash alternative is available to Shell employees in the UK who joined Shell from 2013 onwards at the same contribution levels.

Benefits

Executive Directors are provided with a chauffeured car for business travel, including home-to-office commuting. Other benefits, such as medical and other risk benefits are in line with those provided to the general workforce.

Non-executive Directors' fees

Non-executive Directors' fees 2024

	£	Other fees
Chair of the Board	850,000	Non-executive Directors receive an additional fee of £4,000 for any Board meeting involving intercontinental travel – except for one meeting a year held in a location other than London.
Non-executive Director	120,000	
Senior Independent Director	49,000	
Audit and Risk Committee		
Chair [A]	55,000	
Member	25,000	
Sustainability Committee		
Chair [A]	31,000	
Member	15,000	
Nomination and Succession Committee		
Chair [A]	22,000	
Member	11,000	
Remuneration Committee		
Chair [A]	42,000	
Member	15,000	

[A] The chair of a Committee does not receive an additional fee for membership of that Committee.

The Company Chair fee is determined by the REMCO, and for 2024 increases to £850,000 (from £785,000), taking into account fee levels at other major listed companies. The Chair of the Board does not receive any additional fee for chairing the Nomination and Succession Committee or attending any other Board Committee meeting.

The Non-executive Directors receive a basic fee. There are additional fees for the Senior Independent Director, a Board Committee chair or a Board Committee member, and for most Board meetings involving intercontinental travel. Business expenses (including transport between home and office and occasional business-required partner travel) and associated tax are paid or reimbursed by Shell.

The Board reviews Non-executive Directors' fees periodically to ensure that they are aligned with those of other major listed companies. During these reviews the Board considers fees in the top 30 companies within the FTSE100 Index and the European comparator group as its primary points of reference. For 2024, fees for the Audit and Risk Committee Chair and Members increase to £55,000 (from £53,000) and £25,000 (from £22,000), respectively, and the REMCO Chair fee increases to £42,000 (from £36,000). These fee increases take into account market fee levels. All other fees remain unchanged.

Directors' Remuneration Policy

The Directors' Remuneration Policy sets out:

- A summary of shareholder-approved changes to the Directors' Remuneration Policy, page 211;
- Executive Directors' Remuneration Policy, page 212; and
- Non-executive Directors' Remuneration Policy, page 217.

This section describes the Directors' Remuneration Policy (the Policy) which, following shareholder approval at the 2023 Annual General Meeting (AGM), came into effect from May 23, 2023, and will be effective until the 2026 AGM, unless a revised Policy is proposed by the Company and approved by shareholders in the meantime.

The principles underpinning the REMCO's approach to executive remuneration are the foundation for everything we do and are:

- Alignment with Shell's strategy and sustainability: the Executive Directors' compensation package should promote the long-term, sustainable success of Shell, and be strongly linked to the achievement of stretching targets that are indicators of the execution of Shell's strategy;
- Pay for performance: the majority of the Executive Directors' compensation, (excluding benefits and pensions), should be linked directly to Shell's performance through variable pay instruments;
- Competitiveness: remuneration levels should be determined by reference internally against Shell's Senior Management and externally against companies of comparable size, complexity and global scope;
- Long-term creation of shareholder value: Executive Directors should align their interests with those of shareholders by holding shares in Shell;
- Consistency: the remuneration structure for Executive Directors should generally be consistent with the remuneration structure for Shell's Senior Management. This consistency builds a culture of alignment with Shell's purpose and a common approach to sharing in Shell's success; and

- Risk assessment: decisions should be made in the context of the Shell General Business Principles and Code of Conduct. The remuneration structures and rewards should meet risk assessment tests to ensure that shareholders' interests are safeguarded and that inappropriate actions are avoided.

The Executive Directors' remuneration structure is made up of a fixed element of basic pay and two variable elements: the annual bonus (50% delivered in shares) and the Long-term Incentive Plan (LTIP). Variable pay outcomes are conditional on the successful execution of the operating plan in the short term, and the delivery of strategic goals and financial and share price outperformance over the longer term. The award of shares under the bonus and LTIP, along with significant shareholding requirements, are intended to ensure executives have a sizeable shareholding in the Company and experience the same outcomes as our shareholders.

During 2022, the REMCO reviewed the Policy to ensure that it continued to support Shell's strategy. The REMCO determined that the 2020 Policy remained appropriate in most respects, and required changes only to reflect the transition of our Executive Directors to the UK to align with market practice and for simplification. For each area of the Policy, the REMCO reviewed the alignment with strategy, market practice, the corporate governance environment, and feedback from shareholders, and additionally spent time updating the selection and calibration of performance metrics in variable pay schemes. Any potential conflict of interest was mitigated by the independence of the REMCO members and the REMCO Terms of Reference. The REMCO also considered the provisions of the UK Corporate Governance Code when reviewing the Policy, and sought to reflect the principles of clarity, simplicity, risk management, predictability, proportionality and alignment with culture.

A comparison of the 2023 and 2020 Policies is set out below.

Remuneration element	Changes to 2020 Policy	Rationale for the change
Executive Directors		
Base salary	◦ Salary cap amended from €2 million to £2 million.	◦ To reflect the transition of the Executive Directors to the UK.
Pension	◦ Move from base country arrangements to defined contribution pension arrangements applicable to the wider Shell workforce in the UK.	
Severance policy	◦ New service contracts under which both the employee and the employer can terminate employment by giving 12 months' written notice, replacing the previous provision which reflected Dutch statutory provisions.	
Annual bonus and LTIP rules	◦ REMCO discretion to suspend annual bonus or share award vesting pending the outcome of an investigation in exceptional circumstances.	◦ To allow sufficient time for investigation, as required.
Leaver treatment	◦ REMCO discretion to waive remaining bonus/LTIP holding period in exceptional circumstances (primarily death).	◦ To align with market practice.
TSR underpin in LTIP	◦ TSR underpin to be removed from the LTIP.	◦ To simplify the plan and align with market practice.
Non-executive Directors		
Retirement gift	◦ Maximum value amended from €300 to £300.	◦ To reflect the transition to the UK.

Directors' Remuneration Policy continued

Executive Directors' Remuneration Policy table

Purpose and link to strategy	Maximum opportunity	Operation and performance measurement
Base salary		
Provides a fixed level of earnings to attract and retain Executive Directors.	£2,000,000	Reviewed annually with adjustments effective from January 1. In making salary determinations, the REMCO will consider: - the market positioning of the compensation packages; - comparison with Senior Management salaries; - the employee context, and planned average salary increase for other employees across the UK, the Netherlands, and the USA; - the experience, skills and performance of the Executive Director, or any change in the scope and responsibility of their role; - general economic conditions, Shell's financial performance, and governance trends; and - the impact of salary increases on pension benefits and other elements of the package.
Benefits		
Provides benefits, typically in line with those applicable to the wider workforce, in order to attract and retain Executive Directors.	Determined by the nature of the benefit itself and costs of provision, and may depend on external factors, e.g. insurance costs.	Typical benefits include car allowances, home-to-office transport, risk benefits (for example ill health, disability or death-in-service), security provision, and employer contributions to insurance plans (such as medical) including Directors' liability insurance. In the event an international relocation is required either prior to appointment or while appointed, Shell's mobility policies may apply and the REMCO may offer appropriate provisions in respect of items including, but not limited to, relocation, assistance with visa/immigration/tax issues, and tax return support. It may also provide housing and education assistance for a specified period of time, expected to be no more than two years. Tax equalisation related to expatriate employment prior to Board appointment, or in other limited circumstances to offset double taxation, may also be provided. Precise benefits will depend on the Executive Director's specific circumstances and may include any tax liabilities relating to business-related benefits such as in the case of security or relocation provisions. The REMCO may adjust the range and scope of the benefits offered in the context of developments for other employees in the country which the Executive Director is based. Personal loans or guarantees are not provided to Executive Directors.
Pension		
Provides a competitive defined contribution pension provision applicable to the wider workforce in the UK to attract and retain Executive Directors.	Determined by the rules of the defined contribution UK pension arrangements.	Executive Directors' retirement benefits are maintained in line with those of the wider Shell workforce in the UK. Only base salary is pensionable, unless plan regulations specify otherwise and cannot legally be disappplied. The rules of the relevant plan detail the pension benefits which members can receive. The REMCO retains the right to amend the form of any Executive Director's pension arrangements where appropriate, for example in response to changes in legislation to ensure the original objective of this element of remuneration is preserved. New Executive Directors based in the UK, whether internal appointees or external hires, will be provided with the defined contribution arrangement, applicable to the wider Shell workforce in the UK, which currently includes the flexibility to take this as a pension cash alternative.
Annual bonus		
Rewards the delivery of short-term operational targets as derived from Shell's operating plan. Aligns the interests of Executive Directors and shareholders, and supports retention, through long-term holding in shares.	Target bonus: 125% of base salary. Maximum bonus: 200% of target.	- The bonus is determined by reference to performance from January 1 to December 31 each year. - Annual bonus = base salary x target bonus % x scorecard result (0-2). - The scorecard is reviewed each year, taking account of Shell's operating plan, to ensure that the performance measures, targets and weightings are appropriate. Performance measures typically relate to financial delivery, operational excellence, progress in the energy transition, and safety, with indicative weightings of 35%, 35%, 15% and 15% respectively. This helps to balance short-term financial performance with the achievement of a broader set of strategic and operational objectives to support long-term shareholder value creation. The REMCO retains the flexibility to adjust performance measures, weightings and targets on a year-by-year basis, within the terms of the Policy. - Scorecard targets are disclosed on a retrospective basis in a subsequent Annual Report on Remuneration, when they are no longer deemed commercially sensitive. - To reinforce alignment with shareholder interests, 50% of any bonus earned is delivered in cash and 50% is delivered in net-of-tax shares. The shares are subject to a three-year holding period from the end of the performance period the award relates to, which applies beyond an Executive Director's tenure. The REMCO retains discretion to waive any part of this holding period in exceptional circumstances (primarily death). - The bonus is subject to malus provisions before it is delivered, and to clawback thereafter for a period of three years.

Directors' Remuneration Policy continued

Executive Directors' Remuneration Policy table continued

Purpose and link to strategy	Maximum opportunity	Operation and performance management
Long-term Incentive Plan (LTIP)		
Rewards longer-term value creation linked to Shell's strategy. The measures focus on financial performance, capital discipline and the achievement of Shell's ambitions in the energy transition. Aligns the interests of Executive Directors and shareholders, and supports retention through long-term holding in shares.	Target award: 300% of base salary. Awards may vest at up to 200% of the shares originally awarded, plus dividends.	◦ Award levels are determined in respect of any financial year by the REMCO within the Policy maximum. ◦ Awards may vest at between 0% and 200% of the initial award, depending on Shell's performance, assessed over a three-year performance period, on an absolute basis and/or on a relative basis against an appropriate comparator group. ◦ Performance measures and weightings are reviewed and set by the REMCO at the beginning of each three-year performance period, taking account of Shell's strategic priorities. ◦ Notional dividends accrue over the vesting period in respect of awards that vest. ◦ To reinforce alignment with shareholder interests, net of tax shares delivered from vested awards are subject to a three-year holding period from the end of the performance period the award relates to, which applies beyond an Executive Director's tenure. The REMCO retains discretion to waive any part of this holding period in exceptional circumstances (primarily death). ◦ Dividends accrue over the vesting period in respect of awards that vest. ◦ The award is subject to malus provisions before vesting, and to clawback provisions thereafter for a period of three years.
Discretion, malus and clawback		
Enables the management of risks from behaviour-based incentive schemes and the REMCO to manage the range of pay outcomes.	Adjustment events exist for the purposes of applying malus and clawback. The REMCO retains discretion to adjust pay outcomes.	◦ The REMCO retains the discretion to adjust mathematical outcomes of the annual bonus scorecard and/or LTIP vesting for any Executive Director if and to the extent that it considers this appropriate at their sole discretion. ◦ The REMCO may adjust pay outcomes for the purposes of managing quantum. This would be done at the REMCO's discretion after considering single figure outcome for the year, taking into account Shell's performance, the operation of the remuneration structures and any other relevant considerations. ◦ In exceptional circumstances, the REMCO may determine that the vesting of an annual bonus or a share award should be suspended pending the outcome of an investigation. The suspension may be for such period as the REMCO considers sufficient to permit the investigation to be concluded. ◦ The use of any discretion will be disclosed and explained.
Shareholding requirements		
Aligns interests of Executive Directors with those of shareholders by creating a connection between individual wealth and Shell's long-term performance.	Shareholding (% of base salary): ◦ CEO: 700% ◦ CFO: 500%	◦ Executive Directors are expected to build up their shareholding to the required level over a period of five years from appointment and, once reached, to maintain this level for the full period of their appointment. The intention is for the shareholding guideline to be reached through retention of vested shares from share plans. The REMCO will monitor progress and retains the ability to adjust the guideline in special circumstances on an individual basis. ◦ In the event of an increase to the guideline, this timeframe is increased by one year for every additional multiple of salary required, subject to a maximum of five years from the date of the change. ◦ The Executive Director will be required to maintain their shareholding requirement (or existing shareholding if lower) for a period of two years from the date they cease to be an employee. Post-termination holding is enforced through the arrangements put in place with the employee on termination. ◦ In the event that another Executive Director joins the Board, the REMCO will determine their shareholding requirement level, which will not be less than 200% of salary, in line with corporate governance best practice. ◦ Vested shares from incentive plans (including bonus and LTIP shares subject to holding period) count towards the requirement. The REMCO monitors individual progress and retains the ability to adjust the guideline in special circumstances on an individual basis.

Directors' Remuneration Policy continued

Notes to the Policy table

Executive Directors outside of the UK

In respect of salary, benefits and pension, in the event that an Executive Director is based outside of the UK, the REMCO reserves the right to determine the individual's remuneration arrangements in line with their base or host country, within the spirit of the Policy.

Payments from previously agreed remuneration arrangements

The REMCO reserves the right to make any remuneration payments where the terms of the payment were agreed (i) before the Policy came into effect, or (ii) at a time when the relevant individual was not a Director of the Company and, in the opinion of the REMCO, the payment was not in consideration for the individual becoming a Director of the Company. The REMCO also reserves the right to honour pre-existing contractual obligations in accordance with the terms of the service contract and relevant incentive plan. Details of any such payments will be set out in the Annual Report on Remuneration as they arise.

Selection of performance measures

For the 2023 performance year, the annual bonus scorecard will consist of financial delivery (35%), operational excellence (35%), progress in the energy transition (15%), and safety (15%). Targets are derived from the annual business plan. These measures are designed to drive focus on the financial and operational performance critical to our success in delivering our Powering Progress strategy. The REMCO believes it is important for annual variable pay to remain balanced, with short-term operational components complementing the LTIP's focus on longer-term financial and strategic outcomes. The same annual bonus scorecard applies to the majority of Group employees, supporting consistency of remuneration and alignment of objectives across employees and senior management.

For 2023 LTIP awards, performance will be assessed based on 75% financial metrics (relative CFFO divided by average capital employed, relative TSR, absolute OFCF, equally weighted) and 25% on a strategic measure focused on Shell's journey in the energy transition. These metrics are designed to support our strategic ambition of accelerating our transition to be a net-zero emissions business while creating value for our shareholders.

For the relative measures, 200% vests for first position, 150% for second, 80% for third, and 0% for ranking fourth or fifth. The comparator group consists of four of the strongest companies in our industry (BP, Chevron, ExxonMobil and TotalEnergies). Outperforming Shell's closest competitors on key financial metrics is challenging. A vesting outcome of 80% of target (40% of maximum) for median performance in a small comparator group is considered appropriate by the REMCO. The REMCO is aware that vesting for median performance is generally set at a limit of 25% of maximum for other UK companies. However, these are typically applied against a larger comparator group.

To simplify the plan and align with market practice, the TSR underpin has been removed from the plan effective from 2024 awards.

Discretion

There are a number of specific areas in which the REMCO may exercise discretion, including:

- To review the specific measures, weightings and targets for the annual bonus scorecard and LTIP award annually and adjust accordingly to evolve with Shell's strategy and circumstances to ensure that the targets remain stretching but realistic. If the REMCO were to propose any material changes to the LTIP performance metrics, it would consult with major shareholders; and
- To adjust mathematical variable pay outcomes if and to the extent that it considers this appropriate. This power to adjust the outcomes is broad and includes adjusting the outcomes to zero. For example, an adjustment might be made if the REMCO considers:
 - The mathematical outcomes do not reflect the wider financial or non-financial performance of the Company or the participant over the performance period;
 - The LTIP vesting percentage is not appropriate in the context of circumstances that were unexpected or unforeseen at award; and
 - There is any other reason why an adjustment is appropriate.

It is not anticipated that discretion would be used for upwards adjustment. If, in exceptional circumstances, it was considered, this would be done only after consultation with major shareholders.

Performance outcomes and/or share price movements make it difficult to predict the final amounts delivered under the LTIP at the time of award. Each year, the REMCO reviews the LTIP vesting values and single figure outcomes for the Executive Directors to ensure that they are appropriate. The REMCO will review the formulaic single figure outcomes relative to the quality of performance outcomes and adjust these, taking into account Shell's performance, shareholder experience, the operation of the remuneration structures and any other relevant factors to ensure that the highest variable pay outcomes are only achieved in years with the highest quality performance. In years where the vesting outcome makes the total remuneration inappropriate for any Executive Director, the REMCO will consider an adjustment to the annual bonus outcome and/or the LTIP vesting outcome for the purposes of managing remuneration quantum. In making any adjustment to the annual bonus and/or LTIP vesting outcome for this purpose, REMCO will consider the overall level of remuneration for the Executive Director, the operation of the annual bonus, the operation of the LTIP, the wider performance of Shell over the performance periods, as well as the internal context for other employees. An explanation of any discretionary adjustment would be set out in the relevant year's Directors' Remuneration Report.

Malus and clawback

Variable pay awards may be made subject to adjustment events. At the discretion of the REMCO, such an award may be adjusted before delivery (malus) or reclaimed after delivery (clawback) if an adjustment event occurs.

Adjustment events will be specified in award documentation and it is intended that they will, for example, relate to restatement of financial statements due to material non-compliance with a financial reporting requirement; misconduct by an Executive Director or misconduct through their direction or non-direction; any material breach of health and safety or environment regulations; serious reputational damage to Shell; material failure of risk management; corporate failure; or other exceptional events as determined at the discretion of the REMCO. The REMCO retains the right to alter the list of adjustment events in respect of future awards.

Directors' Remuneration Policy continued

Differences in Remuneration Policy for Executive Directors from that for other employees

The remuneration policies, structure, and approach to setting remuneration levels are consistent across organisational levels at Shell, with consideration given to location, seniority and responsibilities. A higher proportion of total remuneration is tied to variable pay for Executive Directors and members of Senior Management, to reflect these individuals' positions of influence and accountability.

Detailed discussion of how executive remuneration aligns with wider Company pay policy may be found in the "Workforce engagement on remuneration matters" section of the Annual Report on Remuneration on page 207.

Illustration of potential remuneration outcomes

The charts on this page illustrate the potential future value and composition of the Executive Directors' total remuneration opportunities under four performance scenarios ("Minimum", "On-target", "Maximum" and "Maximum +50% share price appreciation between award and vest"). The remuneration opportunities are based on those set out in the Policy table, applied to 2023 base salaries. The majority of the Executive Directors' remuneration is delivered through variable pay elements, which are conditional on the achievement of stretching performance targets.

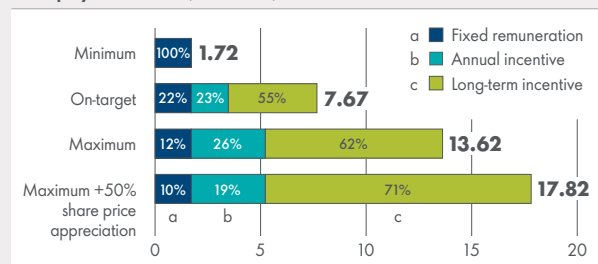
For simplicity, the charts exclude dividend accrual, and exclude the effect of any Company share price movement except in the "Maximum +50%" scenario.

Performance scenarios

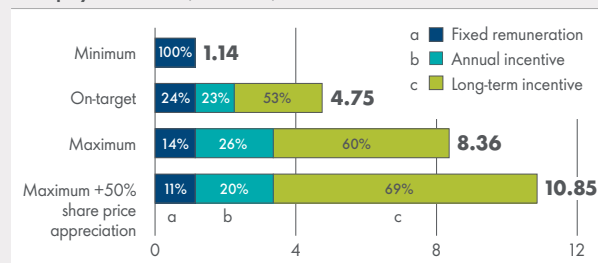
	Minimum	Target	Maximum
Base salary (2023)	✓	✓	✓
Benefits (2022 actual) [A]	✓	✓	✓
Pension (2023)	✓	✓	✓
Bonus (2023)	NIL	125% CEO 120% CFO	250% CEO 240% CFO
LTIP (2023)	NIL	300% CEO 270% CFO	600% CEO 540% CFO

[A] Excluding one-off benefits related to the move to the UK.

CEO pay scenarios (£ million)



CFO pay scenarios (£ million)



Recruitment

The REMCO determines the remuneration package for new Executive Director appointments. These appointments may involve external or internal recruitment, or reflect a change in role of a current Executive Director.

When determining remuneration packages for new Executive Directors, the REMCO will seek a balanced outcome which allows Shell to:

- Attract and motivate candidates of the right quality;
- Take into account the individual's current remuneration package and other contractual entitlements;
- Seek a competitive pay position relative to our comparator group, without overpaying;
- Encourage relocation if required; and
- Honour entitlements (for example, variable remuneration) of internal candidates before their promotion to the Board, with the exception of any previous pension arrangements.

The REMCO will follow the approach set out below when determining the remuneration package for a new Executive Director.

Component	Approach	Maximum
Ongoing remuneration	The salary, benefits, annual bonus, long-term incentives and pension benefits will be positioned and delivered within the framework of the Policy.	As stated in the Executive Directors' Remuneration Policy table, and notes to the table.
Compensation for the forfeiture of any awards under variable remuneration arrangements	To facilitate external recruitment, one-off compensation in consideration for forfeited awards under variable remuneration arrangements entered into with a previous employer may be required. The REMCO will use its judgement to determine the appropriate level of compensation by matching the value of any lost awards under variable remuneration arrangements with the candidate's previous employer. This compensation may take the form of a one-off cash payment or an additional award under the LTIP. The compensation can alternatively be based on a newly created long-term incentive plan arrangement where the only participant is the new Director. The intention is that any such compensation would, as far as possible, align to the duration and structure of the award being forfeited. Where appropriate, performance conditions, holding periods, and malus and clawback provisions will apply.	An amount equal to the value of the forfeited variable remuneration awards, as assessed by the REMCO. Consideration will be given to appropriate performance conditions, performance periods and clawback arrangements.

Directors' Remuneration Policy continued

Component	Approach	Maximum
Replacement of forfeited entitlements other than any awards under variable remuneration arrangements	There may also be a need to compensate a new Executive Director in respect of forfeited entitlements other than any awards under variable remuneration arrangements. This could include, for example, contractual entitlements or other benefits. On recruitment, these entitlements may be replicated within the Executive Director's remuneration package or valued by the REMCO and compensated in cash. In cases of internal promotion to the Board, any commitments made which cannot be effectively replaced within the Executive Director's remuneration package may, at the REMCO's discretion, continue to be honoured.	An amount equal to the value of the forfeited entitlements, as assessed by the REMCO.
Exceptional recruitment incentive	Apart from the ongoing annual remuneration package and any compensation in respect of the replacement of forfeited entitlements, there may be circumstances in which the REMCO needs to offer a one-off recruitment incentive in the form of cash or shares to ensure the right external candidate is attracted (e.g. to the industry). The REMCO recognises the importance of internal succession planning but it must also have the ability to compete for talent with other global companies. The necessity and level of this incentive will depend on the individual's circumstances. The intention will be that this is only used in genuinely exceptional circumstances.	A one-off amount up to the limits set out in the Executive Directors' Remuneration Policy table, in addition to the ongoing package.
Relocation	In the event that an internal or external candidate were required to relocate internationally to take up the Executive Director position, the REMCO may offer appropriate relocation provisions in respect of items including, but not limited to, relocation, assistance with visa/immigration issues, housing, and education assistance. If provided, these will be for a specified period of time, expected to be no more than two years.	The level of such benefits would be set at an appropriate level by the REMCO, taking into account the circumstances, provisions applicable to the wider internationally mobile workforce, and typical market practice.

Executive Directors' service contracts and end of employment arrangements (including change of control provisions)

Provision	Policy
Service contracts	Executive Directors are employed for an indefinite period. Executive Directors based in the UK will be employed on service contracts governed by the laws of England and Wales.
Notice period	The Executive Director or the Company may terminate employment by giving 12 months' written notice. The Company may require the Executive Director to be on garden leave during all or any of the notice period (whether notice is given by the Company or the Executive Director).
Payment in lieu of notice (PILON)	The Company may terminate an Executive Director's service contract at any time with immediate effect and pay a sum in lieu of the unexpired portion of any notice period to the value of no more than 12 months' fixed pay (salary and regular allowances) and other benefits (unless statutory requirements to pay additional sums apply). The Company has the contractual right to make any PILON in monthly instalments in its discretion. Once the right to make a PILON is exercised, its delivery in instalments is mitigated by a contractual obligation on the Executive Director to seek alternative employment.
Compensation for loss of office	Executive Directors will not usually receive additional payments for loss of office, other than, as appropriate, payments in lieu of notice as described above or payments in respect of damages if the Company terminates an Executive Director's employment in breach of contract (taking into account, as appropriate, the Executive Director's responsibility to mitigate any losses). The REMCO reserves the right to make payments it considers reasonable in settlement of potential legal claims taking into account contractual provisions, applicable law, corporate governance provisions, the applicability of any statutory compensation and the best interests of Shell and shareholders as a whole.
Dismissal	The Company may terminate employment immediately in particular defined circumstances such as gross misconduct, with no further payment or PILON.
Annual bonus accrued prior to termination	The following provisions will normally apply: ◦ In the event of death, disability, injury or ill health, retirement, redundancy, completion of a fixed-term contract, and other circumstances at the REMCO's discretion, any annual bonus in the year of departure is pro-rated based on service. Depending on the timing of the departure, the REMCO may consider the latest scorecard position or defer payment until the full-year scorecard result is known. ◦ In the event of a change of control, the REMCO will assess the most appropriate treatment for the outstanding bonus period according to the circumstances. ◦ Bonuses delivered in shares represent the bonus which a participant has already earned, and carry no further performance conditions. Therefore, these shares will normally be unrestricted at the conclusion of the normal holding period otherwise, and no pro-rata will apply. ◦ In other circumstances (including resignation), no award will be made unless statutory requirements apply. ◦ The REMCO retains discretion to waive any part of a bonus holding period in exceptional circumstances (primarily death).

Directors' Remuneration Policy continued

Provision	Policy
LTIP awards	Share awards will be treated in accordance with the relevant plan rules. The following provisions will normally apply: ◦ In the event of disability, injury or ill health, retirement, redundancy, completion of a fixed-term contract, and other circumstances at the REMCO's discretion: outstanding awards are reduced pro-rata (on a monthly basis) for time elapsed during the performance period. They will generally survive the end of employment and remain subject to the same vesting performance conditions, holding period and malus and clawback provisions, as if the Executive Director had remained in employment. The extent to which awards vest will be determined by the REMCO, taking into account the extent to which the performance conditions have been satisfied. ◦ In the event of death: the award will vest in full on the date of death or, if there is a target level set out in the performance condition, then at that target level, unless the REMCO determines otherwise. ◦ Change of control: awards will be exchanged for equivalent new awards issued by the acquirer, if agreed to by the acquirer and the Board. If there is no agreement to exchange awards, awards will (i) vest immediately in full if there is no performance condition, or (ii) vest immediately to the extent that any performance condition has been satisfied to the date of vesting. Such awards will be reduced pro-rata for time elapsed during the performance period unless agreed otherwise. ◦ Other circumstances (including resignation): awards will lapse on cessation of employment unless statutory requirements apply. ◦ The REMCO retains discretion to waive any part of a holding period in exceptional circumstances (primarily death).
Other	The provision of end-of-employment benefits such as a contribution to the Executive Director's legal fees for the review of any settlement agreement, repatriation costs, and outplacement support may also be included, as deemed reasonable by the REMCO. The Executive Director may also remain eligible for other benefits, such as security provision or tax return preparation, in line with policies for the wider workforce. The Company may pay the Executive Director's tax on such benefits. REMCO may adjust the range and scope of the benefits offered in the context of developments for other employees in relevant countries.

In the event an Executive Director is based outside of the UK, the REMCO will determine the appropriate service contract and end of employment arrangements.

The table below sets out the effective dates of the Executive Directors' service contract.

Executive Director	Date of contract
Wael Sawan	January 1, 2023
Sinead Gorman	April 1, 2022

Executive Directors' employment arrangements are available for inspection at the AGM or on request. For further details on appointment and re-appointment of Directors, see the "Governance Framework" on page 160 and "Other regulatory and statutory information" on page 227.

Non-executive Directors' Remuneration Policy table

Fee structure	Approach to setting fees	Other remuneration
Non-executive Directors (NEDs) receive a fixed annual fee for their Directorship. The Chair receives a Chair of the Board fee, and other NEDs receive a base fee for membership of the Board. Additional annual fees are payable to any NED (other than the Chair of the Board) who serves as Senior Independent Director, a Board Committee Chair, or a Board Committee member. Any individual receives either a Chair or member fee in respect of each Committee they sit on. The Chair of a Committee does not receive both fees. NEDs receive an additional fee for any Board meeting involving intercontinental travel, with the exception of one meeting a year held in a location other than London.	The Chair of the Board fee is determined by the REMCO. The Board determines the fees payable to NEDs. The maximum aggregate annual fees will be within the limit specified by the Articles of Association and in accordance with the NEDs' responsibilities and time commitments. The Board reviews NED fees periodically to ensure that they are appropriate in the context of fee levels at other major listed companies.	Business expenses incurred in respect of the performance of their duties as a NED will be paid or reimbursed by Shell. Such expenses could include transport between home and office, and occasional business-required partner travel. NEDs may receive a token of recognition on retirement from the Board. The maximum value for this is £300. The REMCO has the discretion to offer other benefits as appropriate to the circumstances. Where business expenses or benefits create a personal tax liability to the NED, Shell may cover the associated tax. The Chair and other NEDs are not eligible to receive awards under any incentive or performance-based remuneration plans, and personal loans or guarantees are not granted to them. NEDs do not accrue any retirement benefits as a result of their Non-executive Directorships with Shell. NEDs are encouraged to hold Shell shares with a value equivalent to 100% of their annual base fee and maintain that holding during their tenure.

Directors' Remuneration Policy continued

Non-executive Directors' letters of appointment

NEDs, including the Chair of the Board, have letters of appointment. NEDs' letters of appointment are available for inspection at the AGM or on request. The table below shows the effective dates for the NEDs' appointments:

Non-executive Director	Effective date of appointment
Sir Andrew Mackenzie	October 1, 2020
Dick Boer	May 20, 2020
Neil Carson	May 21, 2019
Ann Godbehere	May 23, 2018
Jane Holl Lute	May 19, 2021
Catherine J. Hughes	June 1, 2017
Sir Charles Roxburgh	March 13, 2023
Bram Schot	October 1, 2020
Leena Srivastava	March 13, 2023
Cyrus Taraporevala	March 2, 2023

For further details on appointment and re-appointment of NEDs, see "Governance framework" on page 160 and "Other regulatory and statutory information" on page 227.

Non-executive Director recruitment

The remuneration package for new NEDs is determined within the confines of the Policy table for NED fees, and subject to the Articles of Association. NEDs are not offered variable remuneration or retention awards.

When determining the benefits for a new Chair of the Board, the individual circumstances of the future Chair will be taken into account.

Non-executive Director termination of office

No payments for loss of office will be made to NEDs.

Consideration of wider employee views

The REMCO takes account of the pay and employment conditions of the broader workforce when setting the Policy for Executive Directors.

Whilst no specific employee groups were consulted as part of the 2023 Policy review, Shell promotes and maintains good relations with employee representative bodies as part of its employee engagement programme, and operates multiple forums through which employees can engage on various business matters, including pay.

When determining Executive Directors' remuneration structure and outcomes, the REMCO reviews a set of information, including relevant reference points and trends, which includes internal data on employee remuneration (for example, employee relations matters in respect of remuneration, and average salary increases applying in the Netherlands, UK and the USA). During the Policy review, pay and employment conditions of the wider Shell employee population were taken into account by adhering to the same performance, rewards and benefits philosophy for the Executive Directors, as well as overall benchmarking principles. Furthermore, any potential differences from other employees (see "Differences in Remuneration Policy for Executive Directors from that for other employees") were taken into account when providing the REMCO with advice in the formation of the Policy.

The REMCO is kept informed by the CEO, the Chief Human Resources & Corporate Officer, and the Executive Vice President Performance and Reward on the bonus scorecard and any relevant remuneration matters extending below the Board and Executive Committee.

See the "Workforce engagement on remuneration matters" section in the Annual Report on Remuneration, on page 207, for more information on how Shell considers and engages with the broader workforce on remuneration matters.

Consideration of shareholder views

The REMCO engages with major shareholders regularly throughout the year. Such engagement allows the REMCO to hear shareholders' views on Shell's approach to executive remuneration, and test proposals when developing or evolving the Policy. In recent years, the REMCO has responded to shareholder views, including the approach to energy transition metrics in the LTIP, the quantum of executive pay and the broader use of discretion to manage remuneration outcomes. In developing the proposed Policy, the REMCO again consulted with shareholders and received a diverse range of views that have helped to determine which proposals to refine and which to discard. For example, as a result of shareholder feedback in the fourth quarter of 2022, the REMCO determined not to proceed with seeking support for recruitment provision that would permit an extended notice period on hiring. Shareholders have been helpful in emphasising the need for balanced metrics in the LTIP to help avoid unintended consequences as Shell progresses through the energy transition. In 2022, the continued interest in the energy transition LTIP measure directly influenced increased transparency in Shell's reporting on the progress of its energy transition journey.

It was clear to the REMCO that whilst there were inevitably contrasting views around the different aspects of the Policy, shareholders are supportive of Shell's overall approach to remuneration and the REMCO's careful deliberations in decision-making. The REMCO will continue to review the Policy regularly to ensure it continues to reinforce Shell's long-term strategy and closely aligns with shareholders' interests.

Additional Policy statement

The REMCO reserves the right to make payments outside of the Policy in limited, exceptional circumstances, such as for regulatory, tax or administrative purposes, or to take account of a change in legislation or exchange controls, and only where the REMCO considers such payments are necessary to give effect to the intent of the Policy.

Signed on behalf of the Board

/s/ Caroline J. M. Omloo

Caroline J.M. Omloo

Company Secretary
March 13, 2024

Other regulatory and statutory information

The Directors' Report comprises pages 146-227 and 361-364 of this report, together with the sections of the Annual Report incorporated by cross reference. This section of the Directors' Report contains the remaining information which the Directors are required to report on each year and for the year ended December 31, 2023. There are other matters that are required to be reported on and that have been disclosed in other sections of the Annual Report, as summarised below. This includes certain disclosures which are required to be contained in the Directors' Report which have, as permitted by legislation, been included in the Strategic Report, and are incorporated by cross reference.

Management Report	This Directors' Report, together with the Strategic Report, serves as the Management Report for the purpose of Disclosure Guidance and Transparency Rule 4.1.8R. Both the Directors' Report and Strategic Report have been presented in accordance with and reliance on English law, and the liabilities of the Directors in connection with those reports shall be subject to the limitations and restrictions provided by such law.	Directors' Report: pages 146-227 and 361-364 Strategic Report: pages 1-145
Corporate governance	The Company's statement on corporate governance, as required by DTR7.2.3R.	Directors' Report: pages 146-227 and 361-364
Business relationships	A statement, summarising the Directors' business relationships with suppliers, customers and others.	Strategic Report: pages 1-145
Employee engagement	Information on how Directors have engaged with employees.	Workforce engagement: pages 170-171
Directors' interests [A]	The interests (in shares of the Company or calculated equivalents) of the Directors in office at the end of the year, including any interests of a "connected person". Changes in Directors' share interests during the period from December 31, 2023, to March 13, 2024.	Annual Report on Remuneration: pages 194-210
Likely future developments	Information relating to likely future developments.	Provided throughout the Strategic Report: pages 1-145
Research and development	Information relating to Shell's research and development, including expenditure.	Powering Progress strategy: pages 6-13
Diversity, equity and inclusion	Information concerning diversity, equity and inclusion. This includes information on the equal opportunities in recruitment, career development, promotion, training and rewards for all our people, including those with disabilities.	Powering lives: pages 124-132
Employee communication and involvement	Information concerning employee communication and involvement.	Powering lives: pages 124-132
Corporate social responsibility	A summary of Shell's approach to corporate social responsibility. Further details are available on shell.com and in the Shell Sustainability Report 2023.	Powering lives: pages 124-132
Branches	A list of our subsidiaries, joint ventures and associates. Our activities and interests are operated through subsidiaries, branches of subsidiaries, joint ventures and associates which are subject to the laws and regulations of many different jurisdictions.	Additional Information, Appendix 1: pages 372-395
Greenhouse gas emissions	Information relating to greenhouse gas emissions.	Our journey to net zero: pages 82-115
Risk management	Detail on risk factors. Information on emerging risks.	Risk factors: pages 14-28 Other regulatory and statutory information: pages 219-227
Financial risk management, objectives and policies	Descriptions of the use of financial instruments and Shell's financial risk management objectives and policies, and exposure to market risk (including price risk), credit risk and liquidity risk.	Consolidated Financial Statements: Note 25, pages 302-308
Listing rule information [B]	Information concerning the amount of interest capitalised by Shell.	Consolidated Financial Statements: Note 9, page 277
Listing rule information [B]	The Remuneration Committee Report.	Directors' Remuneration Report: pages 191-193
Listing rule information [B]	Details of the Company's long-term incentive schemes as required by LR 9.4.3R	Directors' Remuneration Report: pages 191-193
Significant shareholdings	Information concerning significant shareholdings.	Shareholder information: pages 361-364

[A] "Connected person" has the meaning given to "person closely associated" within the Market Abuse Regulation.

[B] This information is given in accordance with Listing Rule 9.8.4R. Further information in connection with Listing Rule 9.8.4R is contained in the remainder of "Other Regulatory and Statutory Information".

Other regulatory and statutory information continued

Modern Slavery Act Statement

We procure goods and services from local and international suppliers who meet the standards we require. The standards include those relating to human rights, labour practices and business integrity and are governed by the Shell Supplier Principles. Monitoring is undertaken centrally in connection with the preparation of the Shell Group's Modern Slavery Act (MSA) Statement which is prepared by taking proposed inputs from Shell companies in scope of the MSA as to their steps taken to ensure modern slavery does not occur in their supply chain or organisation. The Shell Group Statement is approved by the Board of Shell plc, after approval by the boards of Shell companies which are in scope of the MSA.

Disclosure of information to auditors

In accordance with section 418 of the Companies Act 2006, each of the persons who is a Director at the date of approval of this Report confirms that, so far as the Director is aware, there is no relevant audit information of which the Company's auditor is unaware. The Director has taken all steps that he or she ought to have taken as a Director in order to make himself or herself aware of any relevant audit information and to establish that the Company's auditor is aware of that information.

Financial Statements, Dividends and Dividend Policy

The "Consolidated Statement of Income" and "Consolidated Balance Sheet" can be found on pages 245 and 246 respectively.

Subject to Board approval, Shell aims to grow the dividend per share by around 4% every year. As announced as part of Capital Markets Day, in total, Shell targets the distribution of 30-40% of cash flow from operations through the cycle to shareholders. The Board may choose to return cash to shareholders through a combination of dividends and share buybacks.

When setting the level of shareholder distributions, the Board looks at a range of factors, including the macro environment, the earnings and cash flow of the Group, the current balance sheet, future investment, acquisition and divestment plans, and existing commitments.

Interim dividends are currently declared by the Board and paid on a quarterly basis. Shell does not currently pay a "final" dividend, which would need to be voted on by shareholders, requiring the introduction of a resolution at the AGM. This would delay the payment of the fourth quarter dividend (currently paid in late March) until after the AGM. This approach to dividend payments is not uncommon for companies distributing returns to shareholders on a quarterly basis.

Shell pays its dividend in USD, EUR or GBP fully electronically either in CREST or via interbank transfers.

The Directors have announced a fourth quarter interim dividend payable on March 25, 2024, to shareholders on the Register of Members at the close of business on February 16, 2024. The closing date for dividend currency elections was March 1, 2024 [A] and the euro and sterling equivalents announcement date was March 11, 2024.

[A] A different dividend currency election date may apply to shareholders holding shares in a securities account with a bank or financial institution ultimately through Euroclear Nederland. This may also apply to other shareholders who do not hold their shares either directly on the Register of Members or in the corporate sponsored nominee arrangement. Such shareholders can contact their broker, financial intermediary, bank or financial institution for the election deadline that applies.

2023 Viability Statement and Going Concern Statement

The "Strategic Report" includes information about Shell's strategy, financial condition, cash flows and liquidity, as well as the factors, including the principal risks, likely to affect Shell's future development. It also describes Shell's business model, including competitive advantages and key strengths. The Directors assess Shell's prospects both at an operating and strategic level, each involving different time horizons. To this end, the Directors assess Shell's portfolio and strategy against a wide range of outlooks, including assessing the potential impacts of various possible energy transition pathways and scenarios for changes in societal expectations in relation to climate change. Shell recognises in its strategy that the world is transitioning to a low-carbon energy system.

See "Our journey to net zero" on pages 82-115.

The "Risk factors" section (see pages 14-28) provides an overview of the principal risks Shell is exposed to in its operations. We have assessed which scenarios linked to the principal risks could lead to a severe but possible outcome. Consideration was given to the climate change and energy transition risk, however the associated material impacts are of a longer-term nature, outside the three-year viability statement period. Therefore, it was not assessed as a stress case scenario for the viability statement. However, it is worth noting that key assumptions that underpin the amounts recognised in the Consolidated Balance Sheet, such as future oil and gas prices, discount rates, future costs of decommissioning and restoration, and tax rates, all go well beyond three years and do take climate change and energy transition into account.

Viability Statement Process



[B] Shell's three-year operating plan contains assumptions in relation to internal and external parameters. Some of the key assumptions include the impact of commodity prices, exchange rates, future carbon costs, agreements like LNG contract renewals, production levels and product demand and schedules of growth programmes.

Other regulatory and statutory information continued

Scenarios and risks

Scenario	Link to principal risks	Severity of Impact
Unplanned shutdown of a major cash-generating asset (for the viability statement period i.e. three years)	[A]	Low
A low oil and gas price environment (Brent price averaging \$50 for the next three years)	[B]	Medium
A significant HSSE event	[A]	Medium
Global macroeconomic uncertainties (including those from a pandemic) - low oil and gas price environment, negative impact on oil product and chemical margins, and long-term demand reduction	[B] and [C]	Higher
A significant HSSE event and a low oil and gas price environment	[A] and [B]	Higher
[A] The nature of our operations exposes us, and the communities in which we work, to a wide range of health, safety, security and environment risks.		
[B] We are exposed to macroeconomic risks including fluctuating prices of crude oil, natural gas, oil products and chemicals.		
[C] We are exposed to treasury and trading risks, including liquidity risk, interest rate risk, foreign exchange risk and credit risk. We are affected by the global macroeconomic environment and by financial and commodity market conditions.		

Conclusion

Taking account of Shell's position and principal risks at December 31, 2023, the Directors have a reasonable expectation that Shell will be able to continue in operation and meet its liabilities as they fall due over its three-year operating plan period.

Going Concern

In assessing the appropriateness of the going concern assumption over the period to March 31, 2025 (the "going concern period"), management have stress-tested Shell's most recent financial projections to incorporate a range of potential future outcomes by considering Shell's principal risks, further potential downside pressures on commodity prices and cash preservation measures, including reduced future capital expenditure and shareholder distributions. This assessment confirmed that Shell has adequate cash, other liquid resources and undrawn credit facilities to enable it to meet its obligations as they fall due in order to continue its operations during the going concern period. Therefore, the Directors consider it appropriate to continue to adopt the going concern basis of accounting in preparing the audited Consolidated Financial Statements. See Note 1 to the "Consolidated Financial Statements" on page 249.

Non-Financial and Sustainability Information Statement

The table below forms part of the Strategic Report on pages 1-145 and constitutes Shell's Non-Financial and Sustainability Information Statement, produced to comply with sections 414CA and 414CB of the Companies Act 2006 (as amended by The Companies (Strategic Report) (Climate-related Financial Disclosure) Regulations 2022).

Non-Financial and Sustainability Information Statement

Reporting requirement	Where to read more in this Report	Page
Business Model	Powering Progress strategy	6
Non-financial KPIs	Performance indicators	29
Environmental matters	Our journey to net zero and Respecting nature	82
		116
Sustainability and climate change and TCFD disclosures	Our journey to net zero	82
Employees	Powering lives and Directors' Report	124
		146
Social matters	Powering lives	124
Respect for human rights	Powering lives	124
Anti-corruption and anti-bribery matters	Powering lives	124
Risk	Risk factors	14

Repurchases of shares

As announced as part of Capital Markets Day, Shell targets the distribution of 30-40% of our cash flow from operations through the cycle to shareholders. The Board may choose to return cash to shareholders through a combination of dividends and share buybacks. For all share buyback programmes mentioned below, Shell entered into irrevocable, non-discretionary arrangements with a broker in order to reduce the issued share capital of the Company.

On October 27, 2022, under shareholder authorities granted at the 2022 AGM, Shell announced the commencement of a \$4 billion share buyback programme which was completed on January 27, 2023. On February 2, 2023, Shell announced the commencement of a share buyback programme of a further \$4 billion which was completed on April 28, 2023; and on May 4, 2023, Shell announced the commencement of a share buyback programme of a further \$4 billion which was completed on July 21, 2023.

At the May 23, 2023, AGM, shareholders granted the Company the authority to repurchase (i) up to 692 million ordinary shares "on-market" (excluding any treasury shares), less any "off-market" purchases made under the authority in (ii); and (ii) up to 692 million ordinary shares off-market (excluding any treasury shares), less any on-market purchases made under the authority in (i). The authorities for both on-market and off-market purchases will expire at the earlier of the close of business on August 22, 2024, and the end of the AGM of the Company to be held in 2024. On July 27, 2023, Shell announced the commencement of a \$3 billion share buyback programme which was completed on October 27, 2023; on November 2, 2023, Shell announced the commencement of a \$3.5 billion share buyback programme which was completed on January 26, 2024; and on February 1, 2024, Shell announced the commencement of a share buyback programme of a further \$3.5 billion which is expected to be completed by April 26, 2024. This means that, as at close of February 19, 2024, 465 million further shares could still be repurchased under the current AGM authorities.

More information, including the number and nominal value of the shares repurchased in 2023, can be found in Note 26 to the "Consolidated Financial Statements".

The Board continues to regard the ability to repurchase issued shares in suitable circumstances as an important part of Shell's financial management. New resolutions will be proposed at the 2024 AGM to renew the authority for the Company to purchase its own share capital, up to specified limits, for a further year. These proposals will be described in more detail in the 2024 Notice of Annual General Meeting.

Other regulatory and statutory information continued

Board of Directors

The names of the Directors who held office during the year can be found on pages 147-154. Information on the Directors who are seeking reappointment is included in the Notice of Annual General Meeting.

Disclosures required under Listing Rule 9.8.6 as at 31 December 2023

In accordance with Listing Rule 9.8.6R(10), the gender identity and ethnicity data of the Board and executive management (which includes the Company Secretary, as required by Listing Rule 9.8.6R) in the format prescribed by Listing Rule 9 Annex 2 are set out in the below table. Questionnaires are routinely circulated to the Board and Executive Committee members at the end of each financial year, requesting certain declarations and confirmations. For the purposes of Listing Rule 9.8.6, the Board and Executive Committee were asked to confirm as part of this annual questionnaire with which of the below categories they identify.

	Number of board members	Percentage of the board	Number of senior positions on the board (CEO, CFO, SID and Chair)	Number in executive management	Percentage of executive management
Men	7	58%	3	2	33%
Women	5	42%	1	4	67%
Not specified / prefer not to say	-	-	-	-	-

	Number of board members	Percentage of the board	Number of senior positions on the board (CEO, CFO, SID and Chair)	Number in executive management	Percentage of executive management
White British or other White (including minority-white groups)	9	75%	3	6	100%
Mixed / Multiple ethnic groups	-	-	-	-	-
Asian / Asian British	2	17%	-	-	-
Black / African / Caribbean / Black British	-	-	-	-	-
Other ethnic group, including Arab	1	8%	1	-	-
Not specified / prefer not to say	-	-	-	-	-

The Board met each of the Listing Rules and FTSE Women Leaders Review targets of maintaining a minimum of 40% female representation on the Board. The Company meets the targets set out in Listing Rule 9.8.6 R(9) as the Board was 41.7% female. The CFO and a senior position on the Board is a woman, and the Board has three Directors from minority ethnic backgrounds.

Qualifying third-party indemnities

The Company has entered into a Deed of Indemnity (Deed) with each Director of the Company who served during the year. The terms of each of these Deeds are identical and they reflect the statutory provisions on indemnities contained in the Companies Act 2006 (CA 2006). Under the terms of each Deed, the Company has agreed to indemnify the Director, to the fullest extent permitted by the CA 2006, against any loss, liability or damage, howsoever caused (including in respect of a Director's own negligence), suffered or incurred by a Director in respect of their acts or omissions while or in the course of acting as a Director or employee of the Company, any associated company or affiliate (within the meaning of the CA 2006). In addition, the Company shall lend funds to Directors as required to meet reasonable costs and expenses incurred or to be incurred by them in defending any criminal or civil proceedings brought against them in their capacity as a Director or employee of the Company, associated company or affiliate, or, in connection with certain applications brought under the CA 2006. The provisions in the Company's Articles of Association (Articles) relating to arbitration and exclusive jurisdiction are incorporated, mutatis mutandis, into the Deeds entered into by each Director and the Company.

The Company has provided both indemnities and Directors' and Officers' insurance to the Directors in connection with the performance of their responsibilities. Copies of these indemnities and the Directors' and Officers' insurance policies are open to inspection. A copy of the form of these indemnities are filed with the US Securities and Exchange Commission.

Related party transactions

Other than disclosures given in Notes 13 and 33 to the "Consolidated Financial Statements" on pages 284 and 315, there were no transactions or proposed transactions that were material to either the Company or any related party. Nor were there any transactions with any related party that were unusual in their nature or conditions.

Political contributions

No payments were made by Shell companies to political parties, organisations or their representatives during the year. Shell USA, Inc. administers the non-partisan Shell USA, Inc. Employees' Political Awareness Committee (SEPAC), a political action committee registered with the US Federal Election Commission. Eligible employees may make voluntary personal contributions to the SEPAC. All employees' contributions comply with federal and state law and are publicly reported in accordance with US election laws. Shell USA, Inc. does not exercise control over SEPAC's funding decisions.

Recent developments and post-balance sheet events

See Note 35 to the "Consolidated Financial Statements" on page 316.

Share capital

The Company's issued share capital at December 31, 2023, is set out in Note 26 to the "Consolidated Financial Statements" on page 308. The percentage of the total issued share capital is given below.

Share capital percentage as at December 31, 2023

Share class	%
Ordinary	100

Other regulatory and statutory information continued

Transfer of securities

There are no restrictions on transfer or limitations on the holding of the ordinary shares other than under the Articles, restrictions imposed by law or regulation (for example, insider trading laws) or pursuant to the Company's Share Dealing Code.

Share ownership trusts and trust-like entities

Shell has three primary employee share ownership trusts and trust-like entities: a Dutch foundation (stichting) and two US Rabbi Trusts. The shares held by the Dutch foundation are voted by its Board and the shares in the US Rabbi Trusts are voted by the Voting Trustee, Newport Trust Company. Both the Board of the Dutch foundation and the Voting Trustee are independent of Shell.

The UK Shell All Employee Share Ownership Plan has a separate related share ownership trust. Shares held by the trust are voted by its trustee, Computershare Trustees Limited, as directed by the participants.

Auditor

A resolution relating to the appointment of Ernst & Young LLP as auditor for the financial year 2024 will be proposed at the 2024 AGM.

Annual General Meeting

The AGM will be held on May 21, 2024, at the InterContinental London - The O2, 1 Waterview Drive, Greenwich Peninsula, London SE10 0TW, United Kingdom. The Notice of Annual General Meeting will include details of the business to be put to shareholders at the AGM.

Conflicts of interest

In accordance with the Act and the Company's Articles, the Board may authorise any matter that otherwise may involve any Directors breaching their duty to avoid conflicts of interest. The Board has adopted a procedure to address these requirements. Detailed conflict of interest questionnaires are reviewed by the Board and, if considered appropriate, authorised. Conflicts of interest as well as any gifts and hospitality received by and provided by Directors are kept under review by the Board. Further information relating to conflicts of interest can be found in the Articles, available on the Shell website.

Significant commitments of the Chair

The Chair's other significant commitments are given in his biography on page 147.

Shell General Business Principles

The Shell General Business Principles define how Shell subsidiaries are expected to conduct their affairs and are underpinned by the Shell core values of honesty, integrity and respect for people. These principles include, among other things, Shell's commitment to support fundamental human rights in line with the legitimate role of business and to contribute to sustainable development. They are designed to mitigate the risk of damage to our business reputation and to prevent violations of local and international legislation. They can be found at [shell.com/sgbp](https://www.shell.com/sgbp).

See "Risk factors" on pages 14-28.

Shell Code of Conduct

Directors, officers, employees and contract staff are required to comply with the Shell Code of Conduct, which instructs them on how to behave in line with the Shell General Business Principles. This Code clarifies the basic rules and standards they are expected to follow and the behaviour expected of them. These individuals must also complete mandatory Code of Conduct training.

Designated individuals are required to complete additional mandatory training on antitrust and competition laws, anti-bribery, anti-corruption and anti-money laundering laws, financial crime, data protection laws and trade compliance requirements.

See "Risk factors" on pages 14-28.

The Shell Code of Conduct can be found at [shell.com/codeofconduct](https://www.shell.com/codeofconduct).

Code of Ethics

Executive Directors and Senior Financial Officers of Shell must also comply with the Code of Ethics. This Code is specifically intended to meet the requirements of Section 406 of the Sarbanes-Oxley Act. It can be found at [shell.com/codeofethics](https://www.shell.com/codeofethics).

Malus and Clawback Policy

In compliance with new US SEC rules, the REMCO adopted a Malus and clawback policy for Executive Directors and other Executive Committee members in 2023.

Independent professional advice

All Directors may seek independent professional advice in connection with their role as a Director. All Directors have access to the advice and services of the Company Secretary. The Company has provided both indemnities and Directors' and Officers' insurance to the Directors in connection with the performance of their responsibilities. Copies of these indemnities and the Directors' and Officers' insurance policies are open to inspection. A copy of the form of these indemnities has been previously filed with the US Securities and Exchange Commission.

Results presentations and analysts' meetings

The planned dates of the quarterly, half-yearly and annual results presentations, as well as all major analysts' meetings, are announced in advance on the Shell website and through a regulatory release.

Generally, presentations are broadcast live via webcast and teleconference. Other meetings with analysts or investors are not normally announced in advance, nor can they be followed remotely by webcast or any other means. Procedures are in place to ensure that discussions in such meetings are always limited to non-material information or information already in the public domain.

Results and meeting presentations can be found at [shell.com/investor](https://www.shell.com/investor). This is in line with the requirement to ensure that all shareholders and other parties in the financial market have equal and simultaneous access to information that may influence the price of the Company's securities.

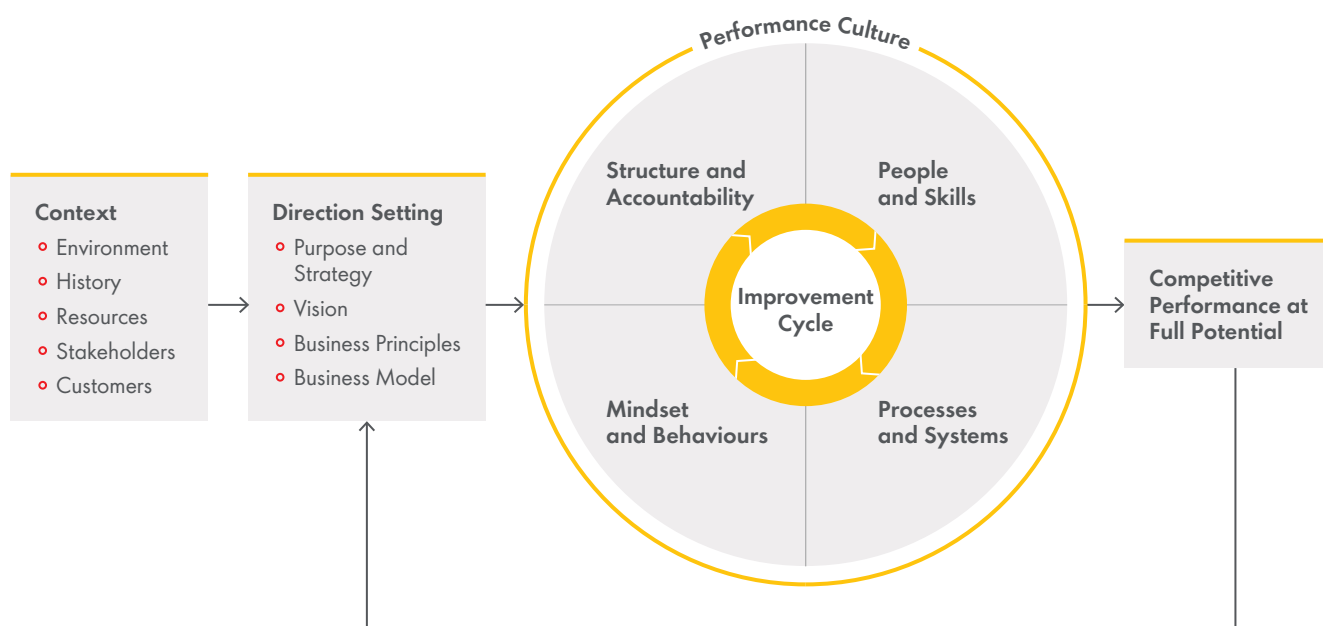
Risk management and controls

The Board is responsible for establishing and maintaining procedures to manage risk, overseeing the internal control framework, and determining the nature and extent of the principal risks that Shell is willing to take in order to achieve its long-term strategic objectives.

In 2023, we introduced the Shell Performance Framework to enhance the control framework in which Shell operates. This new framework, as shown in the diagram below, retains the core strengths of the previous Shell Control Framework, including the Shell General Business Principles, Code of Conduct and risk management fundamentals. However, the Shell Performance Framework also emphasises the value of using a holistic or "whole systems" approach to business activities along with the role that culture plays in achieving Shell's objectives.

Other regulatory and statutory information continued

The Shell Performance Framework



The Shell Performance Framework supports the delivery of sustainable business outcomes. In pursuit of this, consideration is given to both the context in which Shell operates and key elements of direction-setting, including, for example, Shell's strategy and the Shell General Business Principles.

Delivery of the desired outcomes is then pursued by leveraging our Performance Culture, i.e., the shared values, practices and beliefs of our employees. This is influenced by decisions on:

- Structure and Accountability – how we are organised and governed and the associated roles and responsibilities;
- People and Skills – our workforce composition, such as its size, diversity and location, and the skills required to deliver Shell's objectives;
- Processes and Systems – how we transform inputs into outputs in a controlled manner, leveraging data and systems as appropriate. This also includes the standards that further define the boundaries within which Shell operates;
- Mindset and Behaviours – this includes the role of leadership and Shell's values, beliefs and behaviours, as set out, for example, in the Code of Conduct.

At the heart of the Shell Performance Framework is the Improvement Cycle, which integrates performance management, risk management, including controls and assurance, learning and improvement. It follows a "Plan-Do-Check-Adjust" approach and helps to drive a consistent way of working and improving.

The Shell Performance Framework is designed to manage rather than eliminate the risk of failure to achieve our business objectives. It provides reasonable, but not absolute, assurance against material misstatement or loss.

Other regulatory and statutory information continued

Risk management

As outlined above, risk management is a key component of the Improvement Cycle, which emphasises its integration with performance, learning and improvement.

Risk identification

We identify and define risks across the spectrum of strategic, operational and conduct and culture risks. With strategic risks, we consider current and future portfolio issues, examining parameters such as country concentration or exposure to higher-risk countries. We also consider long-range developments in order to test key assumptions or beliefs in relation to energy markets. When assessing operational risks, we consider material operational exposures across Shell's entire value chain which provide a more granular assessment of key risks facing the organisation. Through conduct and culture risks, we consider how our policies and practices align with our purpose, core values and desired mindset and behaviours.

These perspectives help us to maintain a comprehensive view of the different types of risks we face and the different time horizons in which they may affect us.

Risk assessment

To further understand the risks we face, we evaluate the impact and likelihood of each risk.

When assessing the potential impact of a risk, we consider the possible financial consequences. We also look at the impacts on our reputation, our ability to comply with external regulations and impacts on health, safety and the environment.

When assessing the likelihood of a risk occurring, we consider several factors, such as the level of risk exposure, our ability to prevent the risk happening and whether the risk has materialised in the past.

To support risk assessments, we also seek to establish and articulate our risk appetite, which is the level of risk that we are willing to accept in pursuit of Shell's strategy and objectives. There are risks that Shell accepts, or does not seek to fully mitigate. The financial framework, which shapes Shell's financial resilience, sets an overarching boundary condition for risk appetite.

The impact and likelihood assessments, combined with risk appetite, determine the type of risk responses, such as controls and assurance activities, that may be required to manage each risk. The impact and likelihood assessments also help us to prioritise risks.

Risk response

Risk responses, including appropriate processes and controls, are developed taking into account the requirements and guidance in, among others, the Shell General Business Principles and the Code of Conduct as well as our Group Standards, which establish the mandatory rules that need to be followed on specific risks. We use assurance activities to objectively assess the effectiveness of, and to improve, our risk management activities.

Shell's principal risks and the broad array of measures used to manage each risk are described on pages 14-28.

Examples of how some principal risks are managed

We operate in more than 70 countries that have differing degrees of political, legal and economic stability. This exposes us to a wide range of political developments that could cause changes to contractual terms, laws and regulations. We and our joint arrangements and associates also face the risk of litigation and disputes worldwide (see "Risk factors" on page 16). We continually monitor geopolitical developments and societal issues relevant to our interests. Our Legal and Tax functions are organised globally and support our business lines in seeking to ensure compliance with local laws and fiscal regulations, and filing proactive claims where warranted to protest unfair practices. Our Corporate Relations department liaises with governments in countries where we operate to understand and engage on local policies and to advocate Shell's position on topics relevant to our industry. We are prepared to exit a country if we believe we can no longer operate there in accordance with our standards and applicable law, and we have done so in the past. With regard to the conflict in Gaza, we have made adjustments to our operations in the Middle East to reduce our exposure and are closely monitoring the risk of a wider regional escalation.

An erosion of our business reputation could have a material adverse effect on our brand, our ability to secure new hydrocarbon or low-carbon opportunities or access capital markets, and on our licence to operate (see "Risk factors" on page 16). We continually assess and monitor the external environment for potential risks to our reputation. We engage in ongoing dialogue with our key stakeholders such as investors, industry and trade groups, universities, governments and non-governmental organisations (NGOs) to gain greater insights into societal expectations of our business. We have mitigation plans for identified individual risks at the Group, country and line of business level. Our country chairs are responsible for implementing country plans which are updated annually. We continually develop and defend our brand in line with Shell's purpose and promises, and target our investments to drive brand differentiation, relevance and preference.

Many of our major projects and operations are conducted in joint arrangements or with associates, which may reduce our level of control and ability to identify and manage risks (see "Risk factors" on page 24). For every major project where we share control, Shell appoints a Joint Venture Asset Manager, whose responsibility is to manage performance and create and protect value for Shell. The Joint Venture Asset Manager seeks to influence operators and other partners to adapt their practices in order to drive value appropriately and to mitigate identified risks. An annual review assesses how the joint venture's standards and processes align with those of Shell. The Joint Venture Asset Manager follows up on any gaps identified.

In response to Russia's full-scale invasion of Ukraine, a Group Crisis Team was set up to assess the situation, consider potential scenarios of how events may further develop and coordinate responses accordingly (see "Risk factors" on page 17). The team continue to play an oversight and cross-coordination role across Shell's different lines of businesses. Care for our people remains Shell's top priority. We continue to closely monitor and respond to the sanctions that have been imposed and follow international guidelines where relevant to our business activities. Shell no longer participates in any joint ventures with Gazprom and related entities with ongoing operations inside Russia. Shell has also exited all its downstream business (including services stations, fuels supply and lubricants) in Russia.

Other regulatory and statutory information continued

Emerging risks

Management and the Board also consider emerging risks, defined as risks where the scope, impact and likelihood are still uncertain, but which could have a significant effect on achieving Shell's strategy and objectives in the future. These risks are identified through the monitoring of external developments, the status of risk indicators, learnings from incidents and assurance findings, and the appraisal of Shell's forward-looking plans. Once identified, we undertake activities to monitor, prepare for and reduce the future impact, where possible, should such emerging risks materialise.

In 2023, management and the Board identified Artificial Intelligence as an emerging risk, given the evolving regulatory landscape associated with this technology and its potential impacts, for example, on cyber intrusion and data protection.

Board review of principal and emerging risks

The Board confirms it has carried out a robust assessment of Shell's principal risks, including a robust process for identifying, evaluating and managing these principal risks. The Board also confirms it has carried out a robust assessment of Shell's emerging risks. These assessments have been in place throughout 2023 and up to the date of this Report, are reviewed by the Board and accord with the Financial Reporting Council guidance on risk management, internal control and related financial and business reporting.

Review of the effectiveness of the system of risk management and internal control

The Board has delegated authority to the Audit and Risk Committee (ARC) to assist it in fulfilling its responsibilities in relation to the effectiveness of the risk management and internal control system, the integrity of financial reporting, and consideration of compliance matters.

See "Audit and Risk Committee Report" on pages 179-190.

The ARC receives regular reports from the Chief Internal Auditor on notable internal audits and those with a significant impact on the effectiveness of controls. The ARC reviews significant incidents involving financial, operational and compliance controls and receives regular reports on business integrity issues. The ARC also requests updates on specific financial, operational and compliance control issues throughout the year. It is helped with its monitoring and review responsibilities by the reports of:

- the Executive Vice President Controller;
- the Chief Internal Auditor;
- the External Auditors;
- the Chairs of the Disclosure Committee and the Financial Reporting Control Committee; and
- the Chief Ethics and Compliance Officer;
- as well as summaries of the Annual Proved Reserves Disclosure.

The Chair of the ARC provides regular updates to the Board after each of its meetings. These updates cover, among other matters, the respective aspects of controls that it monitors in accordance with its Terms of Reference. During and after such sessions, the Board has the opportunity to request further information and ask clarifying questions. The Board also receives the approved minutes of the ARC. This helps the Board with its ongoing monitoring and annual review of material controls.

The Executive Committee and the ARC conduct an annual review of the effectiveness of the system of risk management and internal control. This is based on their own insights and experience during the year, the outcomes of the Group-level risk reviews and the Group Assurance Letter process. As part of the latter, each Executive Director conducts a structured internal assessment of compliance with legal and ethical requirements and the Shell Performance Framework.

As part of their annual review, the Executive Committee and ARC also consider input from the Chief Internal Auditor, Chief Ethics and Compliance Officer, Executive Vice President Controller and the External Auditor. The Board reviews and discusses the insights and conclusions from this annual assessment.

The Board confirms that it has conducted its annual review of the effectiveness of Shell's system of risk management and internal control in respect of 2023, and that this review covered all material controls, including financial, operational and compliance controls.

Management's evaluation of disclosure controls and procedures of Shell

Shell's management, including the CEO and CFO, have evaluated the effectiveness of Shell's disclosure controls and procedures at December 31, 2023. Based on that evaluation, they concluded that Shell's disclosure controls and procedures are effective.

Management's report on internal control over financial reporting of Shell

Management, including the CEO and CFO, is responsible for establishing and maintaining adequate internal control over Shell's financial reporting and the preparation of the "Consolidated Financial Statements".

Management conducted an evaluation of the effectiveness of Shell's internal control over financial reporting and the preparation of the "Consolidated Financial Statements" based on the Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). On the basis of this evaluation, management concluded that, at December 31, 2023, the Company's internal control over financial reporting and the preparation of the "Consolidated Financial Statements" was effective.

Changes in internal control over financial reporting

There has not been any change in the internal control over financial reporting of Shell that occurred during the period covered by this Report that has materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of Shell.

Material financial information of the Royal Dutch Shell Dividend Access Trust is included in the "Consolidated Financial Statements" and is therefore subject to the same controls and procedures.

Articles of Association

The Company's Articles were adopted on May 23, 2023. The Articles may only be amended by a special resolution of the shareholders in a general meeting. A full version of the Company's Articles can be found at [shell.com/investors](https://www.shell.com/investors).

Management and Directors

The Company has a single-tier Board of Directors headed by a Chair, with management led by a CEO. See "The Board of Shell plc" on pages 147-154 and Executive Committee on pages 155-156.

Other regulatory and statutory information continued

Directors' shareholding qualification

While the Articles do not require Directors to hold shares in the Company, the REMCO believes that Executive Directors should align their interests with those of shareholders by holding shares in the Company. The CEO is expected to build up a shareholding of seven times base salary over five years from appointment and the CFO is expected to build up a shareholding of five times base salary over the same period. In the event that another Executive Director joins the Board, the REMCO will determine their shareholding requirement, which will not be less than 200% of their base salary.

Executive Directors will be required to maintain their requirement (or existing shareholding if less than the guideline) for a period of two years post employment. Non-executive Directors are encouraged to hold shares with a value equivalent to 100% of their base fee and to maintain that holding during their tenure.

Information on the Directors with shares in the Company can be found in the "Directors' Remuneration Report" on pages 191-193.

Appointment and retirement of Directors

The Company's Articles, the Corporate Governance Code and the Companies Act 2006 govern the appointment and retirement of Directors. Board membership and biographical details of the Directors are provided on pages 147-154. However, Directors follow the direction laid out in the Code and stand for re-election annually.

On March 2, 2023, Cyrus Taraporevala joined the Board as a Non-executive Director.

On March 13, 2023, Sir Charles Roxburgh and Leena Srivastava joined the Board as Non-executive Directors.

On May 23, 2023, at the conclusion of the AGM, both Euleen Goh and Martina Hund-Mejean stepped down from the Board as Non-executive Directors. They served on the Board for almost nine years and three years respectively.

Rights attaching to shares

The full rights attaching to shares are set out in the Company's Articles. The Company can issue shares with any rights or restrictions attached to them as long as this is not restricted by any rights attached to existing shares. These rights or restrictions can be decided either by an ordinary resolution passed by the shareholders or by the Board as long as there is no conflict with any resolution passed by the shareholders.

Voting

Currently, the voting rights of each ordinary share carry one vote at a general meeting of the Company.

Change of control

There are no provisions in the Articles that would delay, defer or prevent a change of control.

Directors' responsibilities in respect of the preparation of the Annual Report and Accounts

The Directors are responsible for preparing the Annual Report, including the financial statements, in accordance with applicable laws and regulations. These require the Directors to prepare financial statements for each financial year. As such, the Directors have prepared the (i) Consolidated Financial Statements in accordance with international accounting standards in conformity with the requirements of the UK Companies Act 2006, and therefore in accordance with UK-adopted international accounting standards; and (ii) Parent Company Financial Statements in accordance with international accounting standards in conformity with the requirements of the UK Companies Act 2006. In preparing these financial statements, the Directors have also

elected to comply with IFRS as issued by the International Accounting Standards Board (IASB). The Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of Shell and the Company and of the profit or loss of Shell and the Company for that period. In preparing these financial statements, the Directors are required to:

- adopt the going concern basis unless it is inappropriate to do so;
- select suitable accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent; and
- state whether international accounting standards in conformity with the requirements of the UK Companies Act 2006, UK-adopted international accounting standards and International Financial Reporting Standards as issued by the IASB have been followed.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the transactions of Shell and the Parent Company and disclose with reasonable accuracy, at any time, the financial position of Shell and the Parent Company and to enable them to ensure that the financial statements comply with the UK Companies Act 2006 and, as regards the Consolidated Financial Statements are in accordance with UK-adopted international accounting standards. The Directors are also responsible for safeguarding the assets of Shell and the Parent Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Each of the Directors, whose names and functions can be found on page 147-154, confirms that, to the best of their knowledge:

- the financial statements, which have been prepared in accordance with international accounting standards in conformity with the requirements of the UK Companies Act 2006, and therefore in accordance with UK-adopted international accounting standards and International Financial Reporting Standards as issued by the IASB, give a true and fair view of the assets, liabilities, financial position and profit of Shell and the Company; and
- the Management Report includes a fair review of the development and performance of the business and the position of Shell, together with a description of the principal risks and uncertainties that it faces.

Furthermore, so far as each of the Directors is aware, there is no relevant audit information of which the auditors are unaware, and each of the Directors has taken all the steps that ought to have been taken in order to become aware of any relevant audit information and to establish that the auditors are aware of that information.

The Directors consider that the Annual Report, including the financial statements, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess Shell's position and performance, business model and strategy.

The Directors consider it appropriate to continue to adopt the going concern basis of accounting in preparing the financial statements.

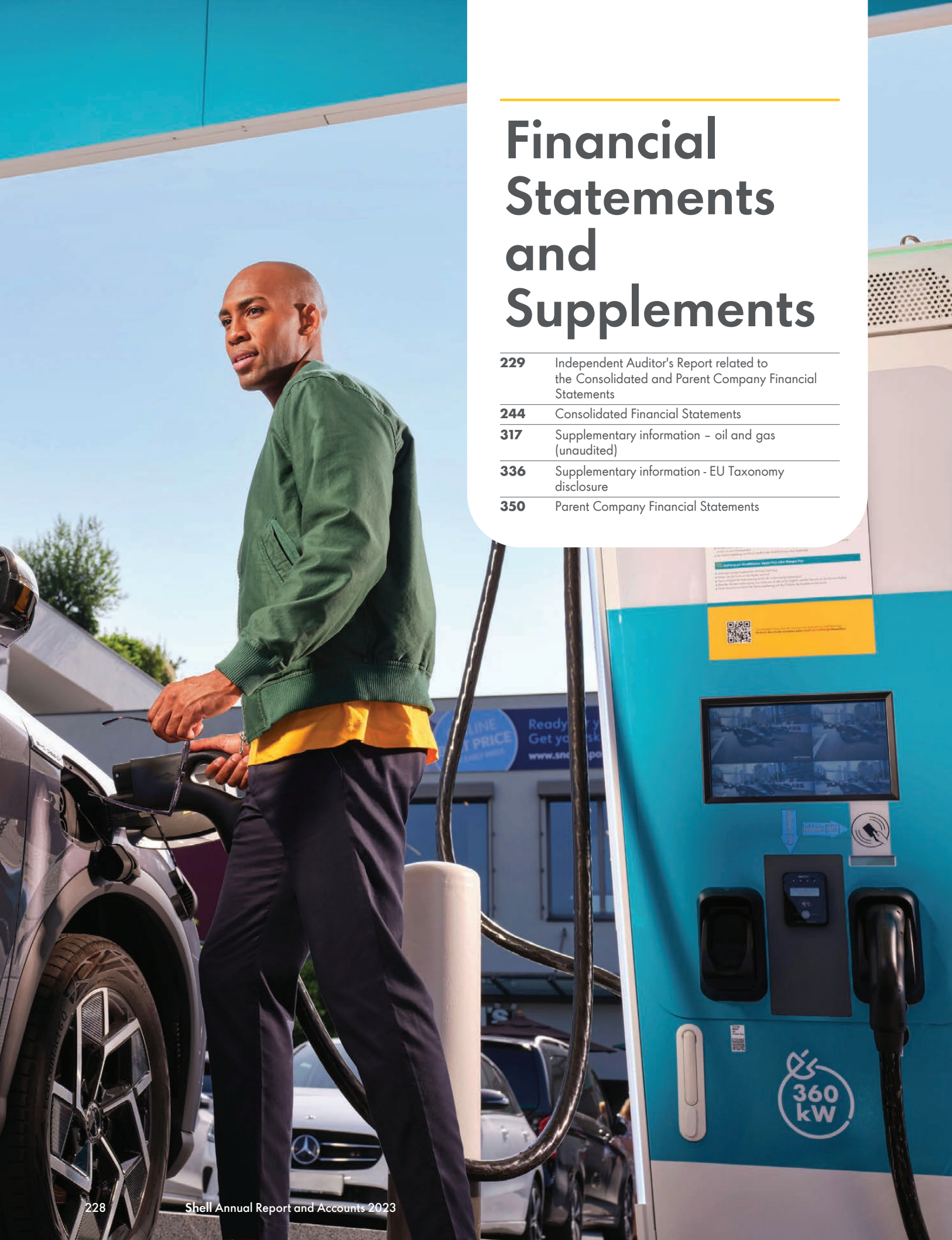
The Directors are responsible for the maintenance and integrity of the Shell website (shell.com). Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Signed on behalf of the Board

/s/ Caroline J.M. Omloo

Caroline J.M. Omloo

Company Secretary
March 13, 2024



Financial Statements and Supplements

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Independent Auditor's Report to the members of Shell plc

1. Opinion

In our opinion, the financial statements of Shell plc (the Parent Company) and its subsidiaries (collectively, Shell or Group):

- give a true and fair view of the state of Shell's and of the Parent Company's affairs as at December 31, 2023 and of Shell's income and the Parent Company's income for the year then ended;
- have been properly prepared in accordance with UK adopted international accounting standards and International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of the Parent Company and the Group for the year ended December 31, 2023, which are included in the Annual Report and comprise:

Group	Parent Company
Consolidated Balance Sheet as at December 31, 2023 Consolidated Statement of Income for the year then ended Consolidated Statement of Comprehensive Income for the year then ended Consolidated Statement of Changes in Equity for the year then ended Consolidated Statement of Cash Flows for the year then ended Related Notes 1 to 35 to the Consolidated Financial Statements, including material accounting policies, judgements and estimates.	Balance Sheet as at December 31, 2023 Statement of Income for the year then ended Statement of Comprehensive Income for the year then ended Statement of Changes in Equity for the year then ended Statement of Cash Flows for the year then ended Related Notes 1 to 16 to the Financial Statements, including material accounting policies.

The financial reporting framework that has been applied in their preparation is applicable law and UK adopted international accounting standards.

2. Basis for our opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISA (UK)) and applicable law. Our responsibilities under those standards are further described in the 'Auditor's responsibilities for the audit of the financial statements' section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

3. Independence

We are independent of the Group and the Parent Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

The non-audit services prohibited by the FRC's Ethical Standard were not provided to the Group or the Parent Company and we remain independent of the Group and the Parent Company in conducting the audit.

4. Conclusions relating to going concern

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate. The going concern assessment covered the period to March 31, 2025 (the going concern period). Our evaluation of the directors' assessment of the Group and Parent Company's ability to continue to adopt the going concern basis of accounting included:

- checking the consistency of information used in management's assessment with the operating plan and information obtained through auditing other areas of the business such as impairment assessments;
- assessing the reasonableness of the estimated financial impact of each of the severe but possible scenarios, and the possible mitigation steps and assumptions regarding the availability of future funding options. The scenarios are described by management in the basis of preparation statements in Note 1 to the Consolidated Financial Statements and Note 1 to the Parent Company Financial Statements;
- checking that Shell's operating plan reflects the actions that management intend to take in order to achieve their stated Scope 1 and Scope 2 emissions reductions, as stated in Note 4 to the Consolidated Financial Statements, including confirming that the operating and capital expenditure estimates to deliver the reductions are included in the operating plan. This included evaluating Shell's carbon pricing assumptions;
- conducting severe but plausible independent stress testing to a significantly lower price environment than current prices throughout the going concern period and a reverse stress test to determine the conditions under which Shell could potentially experience a liquidity shortfall; and
- confirming that Shell's going concern disclosures were appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group's and Parent Company's ability to continue as a going concern until March 31, 2025.

In relation to the Group and Parent Company's reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the Consolidated Financial Statements and Parent Company Financial Statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant section of this report. However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the Group's or Parent Company's ability to continue as a going concern.

Independent Auditor's Report to the members of Shell plc continued

5. Overview of our audit approach

Identifying key audit matters (Section 6)	The key audit matters that we identified in the 2023 audit were: ◦ impact of climate change and the energy transition on the Consolidated Financial Statements; ◦ estimation of oil and gas reserves; ◦ impairment assessment of property plant and equipment (PP&E) and joint ventures and associates (JVAs); and ◦ accounting for complex transactions within Shell's trading and supply function and the valuation of financial derivatives.							
Assessing materiality (Section 7)	We based materiality on three-year normalised Adjusted Earnings on a pre-tax basis. This approach removes both the effects of changes in oil price on inventory carrying amounts and non-recurring gains and charges disclosed as identified items, which can significantly distort Shell's results in any one particular year. By applying a normalised Adjusted Earnings approach, we concluded that it was appropriate to set planning materiality at \$2.0 billion. We adopted the following materiality measures in our 2023 audit:							
	Assessing materiality <table><tr><td>Planning materiality</td><td>Performance materiality</td><td>Reporting differences</td></tr><tr><td>\$2.0 billion (2022: \$1.2 billion)</td><td>\$1.5 billion (2022: \$0.9 billion)</td><td>\$100 million (2022: \$60 million)</td></tr></table>			Planning materiality	Performance materiality	Reporting differences	\$2.0 billion (2022: \$1.2 billion)	\$1.5 billion (2022: \$0.9 billion)
Planning materiality	Performance materiality	Reporting differences						
\$2.0 billion (2022: \$1.2 billion)	\$1.5 billion (2022: \$0.9 billion)	\$100 million (2022: \$60 million)						
Our scope of the audit of Shell's Consolidated Financial Statements (Section 8)	Our scope was tailored to the circumstances of our audit of Shell and is influenced by our determination of materiality and our assessed risks of material misstatement. Similar to the prior year, during the course of the 2023 audit, we did not make any substantial changes to our assessment of the components where we performed full or specific scope audit procedures, nor the number of IT applications to test; however, what did change was the nature and emphasis of our testing in response to our significant audit risks and areas of audit focus. By following this approach, our audit effort focused on higher risk areas, such as management judgements.							

6. Our assessment of key audit matters

Key audit matters (KAMs) are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those which had the greatest effect on: the overall audit strategy, the allocation of resources in the audit and directing the efforts of the engagement team. These matters were addressed in the context of our audit of Shell's Consolidated and Parent Company Financial Statements as a whole, and in our opinion thereon, and we do not provide a separate opinion on these matters.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

The impact of climate change and the energy transition on the Consolidated Financial Statements

Description of the key audit matter

The financial statement and audit risks related to climate change and the energy transition remain an area of audit focus given the continuing uncertainty surrounding the impact of climate change and the pervasive impact it has on many areas of accounting judgement and estimation and, therefore, our audit.

The processes by which management is informed about climate-related issues is set out in Our journey to net zero, within the Strategic report, which forms part of the "other information", rather than the audited financial statements. Within Our journey to net zero, Shell have described climate-related risks and opportunities over the short, medium and long term. In this section, they also describe the impact of climate-related risks and opportunities on Shell's business, strategy and financial planning and Shell's process for identifying and assessing climate-related risks and the process for managing these risks.

In Note 4 to the Consolidated Financial Statements, Shell describe how they consider climate-related impacts in key areas of the Consolidated Financial Statements and how this translates into the valuation of assets and measurement of liabilities.

In carrying out our audit, we have focused on the alignment of assumptions adopted by Shell in the preparation of their financial statements with commentary on climate change within their Strategic Report. We also focused on how Shell had reflected material climate change risks in their financial statements, including the impact of the emissions reduction targets on accounting estimates and judgements.

In focusing on how Shell has reflected material climate change risks in Shell's Consolidated Financial Statements, we have considered:

- 1) how Shell's assumed future commodity price assumptions compare to energy transition scenarios and a range of third party forecasts;
- 2) the reasonableness of Shell's forecast future carbon costs;
- 3) the carbon intensity of Shell's Chemicals and Products, Upstream and Integrated Gas assets and associated products and related abatement projects;
- 4) the incorporation of Shell's stated emissions reduction targets (see Climate-related targets summary within Our journey to net zero in the Strategic Report) within Shell's operating plan;
- 5) the useful economic lives of assets (volumes expected to be produced beyond 2030 and 2050) and the risk of material stranded assets; and
- 6) how physical risk considerations have been incorporated into Shell's asset plans.

The critical accounting judgements and estimates that are impacted by climate change and the energy transition are disclosed within Note 4 to the Consolidated Financial Statements.

Our response to the risk

Overall response

To respond to the impact of climate change and the energy transition on our audit, we ensured that we had the appropriate skills and experience within the audit team. Our group engagement team included professionals with significant experience in climate change and energy transition. The audit procedures were performed by the group engagement team and component teams.

In our 2023 audit, as part of our risk assessment, we considered financial and non-financial data to assess six climate risks at a granular level. This covered Shell's higher risk assets, with a net book value of around \$120 billion. We considered the carbon intensity of the assets and products sold and where there could be a higher degree of management judgement and bias. This included considering the execution risks of certain abatement projects.

For the assets that we assessed as most susceptible to climate change and energy transition risks, we performed sensitivity analysis and read management's climate scenario analysis to assess whether there were indicators of impairment.

Further procedures performed to address the climate risks included:

Alignment of statements made in Strategic Report with the financial statements

- in connection with our audit of the financial statements, we read the other information in the Annual Report and Accounts (as defined in section 9 below) and, in doing so, considered whether the other information, which includes Shell's climate targets, are materially consistent with the financial statements or our knowledge obtained in the audit;
- evaluated whether the effects of material climate risks, as disclosed within Our journey to net zero, within the Strategic report, had been appropriately reflected in asset values and associated financial statement disclosures, and the timing, nature and measurement of liabilities recognised are in accordance with IFRS, which is discussed further below;
- read and challenged the completeness of management's disclosures in Note 4. We audited the sensitivity disclosures in Note 4 of the carrying value of Shell's Upstream and Integrated Gas PP&E assets to a range of future oil and gas price assumptions, reflecting reduced demand scenarios due to climate change and the energy transition, including the IEA Net Zero Emissions (NZE) by 2050 scenario and Announced Pledges Scenarios (APS). This included considering whether the downside sensitivities could have reduced the level of Shell's distributable profits such that their 2023 shareholder distributions would not have been in compliance with the Companies Act 2006. For Upstream, Integrated Gas and Chemicals and Products assets, we also considered the carrying amounts and their sensitivity to IEA NZE 2050 carbon price scenario and the discount rate sensitivity considering Upstream, Integrated Gas, Chemicals and Products and Renewables and Energy Solutions carrying amounts; and
- assessed whether the climate change litigation described in Note 31 was complete and whether it represented obligations where the likelihood of a cash outflow was probable and therefore requiring provision. Also, we considered the appropriateness of the climate change litigation disclosures within Note 31, Legal proceedings and other contingencies, by comparing the disclosures to our understanding of the claims and allegations and to the most recent disclosures provided by other oil and gas companies.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

The impact of climate change and the energy transition on the Consolidated Financial Statements continued

Our response to the risk continued

The reflection of material climate change risks and the impact of Shell's emissions reduction target in the material judgements and estimates

- tested management's internal controls over the identification and estimation of costs of the potential impacts associated with energy transition and climate change, and related financial statement disclosures in Note 4;
- held discussions with Group Planning, Group Reporting, Shell's Carbon Strategy group and, where necessary, individual asset managers to understand and challenge management on how the following five transition and one physical risks of climate change were being factored into Shell's financial statements:

1) The comparison of commodity price assumptions to energy transition scenarios and a range of third party forecasts

- engaged oil and gas valuation specialists to assess the reasonableness of Shell's short and long-term pricing assumptions. This included benchmarking Shell's assumptions against a range of third party forecasts (including other oil and gas companies, consultants, banks, brokers and other external outlooks such as International Energy Agency ('IEA'));
- considered specifically the extent to which management's forecast price assumptions incorporated the potential impact of climate change and the energy transition. This included consideration of assumed hydrocarbon and renewables demand and the impacts of such demand movements and supply constraints on future prices; and
- evaluated the reasonableness of Shell's refining and petrochemical margin assumptions, by comparing Shell's assumptions to external benchmarks. We also considered the expected impact on demand for oil products and chemicals in a transition to a net zero economy. Refining margin and petrochemical assumptions underpin the recoverable amount of refineries and petrochemical plants respectively.

2) The reasonableness of Shell's forecast future carbon costs

- we engaged our climate change specialists to assist in evaluating Shell's carbon price methodology, including how price and free allowance assumptions are applied in different jurisdictions. At a country level, we compared Shell's forecast carbon prices to those presented under the IEA NZE scenario. Our procedures were focused on assets with high scope 1 and 2 emissions and which are geographically located in high carbon price jurisdictions; and
- we independently calculated Shell's forecast carbon cost included in their operating plan, based on carbon price, free allowance and emission assumptions. We performed sensitivity analysis on the mid-point carbon price and free allowance assumptions in the operating plan to the independently determined outlooks identified by our climate change and energy transition specialists to determine whether deviations are material to Shell's operating plan and respective assets.

3) The carbon intensity of Shell's Chemicals and Products, Upstream and Integrated Gas assets and associated products and related abatement projects

- we considered the scope 1 and 2 and lifecycle emissions of the products sold by Shell's assets (net carbon intensity), to identify potential impairment triggers. For Shell's high carbon intensive assets, we considered the abatement plans included in their operating plan. We obtained an understanding of the planned strategies and the basis for associated costs with projects related to carbon capture and storage, energy efficiency and renewables growth. We challenged the associated opex and capex included in the operating plan. We also performed sensitivity analysis by removing all in-plan abatement projects at high carbon intensive assets to determine whether the incremental carbon cost that would need to be incurred on emissions would trigger an impairment.

4) The incorporation of emissions reductions into Shell's operating plan

- we confirmed that Shell's operating plan, included costs associated with Shell's plans to achieve Scope 1 and 2 emission reduction targets and their net carbon intensity ('NCI') targets. We challenged management's ability to accurately forecast their scope 1 and 2 emissions assumptions included in the operating plan to meet their 2030 absolute emissions targets through the performance of lookback analysis; and
- for abatement projects, we considered the degree to which Shell is relying on these projects to meet their reduction targets. We also considered additional abatement levers outside of the operating plan, which Shell has optionality to execute in order to meet their climate targets. We confirmed whether the carbon credits and associated costs were included in the operating plan to meet Shell's 2030 NCI targets.

5) The useful economic lives of assets (volumes expected to be produced beyond 2030 and 2050) and the risk of stranded assets

- considering Shell's long-term target to achieve net zero emissions by 2050, we have assessed Upstream and Integrated Gas assets which are expected to be producing beyond 2030 and 2050. We also verified that the oil, gas and carbon price sensitivity disclosures in Note 4 incorporated life of field assumptions.

6) Whether physical risk considerations have been incorporated into the asset plans

- evaluated management's disclosures around physical risk in the Our journey to net zero section of the Annual Report to ensure compliance with the Task Force on Climate-Related Financial Disclosures;
- using our data analytics and climate change specialists, we performed a physical risk assessment that considered Shell's asset-level mitigation and adaptation measures for the assets that we viewed as being exposed to the highest physical risks, such as hurricanes, flooding, rising temperatures, drought and water dredging. For assets assessed to be high risk, we evaluated the mitigation and adaption measures, and ensured that where relevant, the costs have been appropriately reflected in the operating plan; and
- assessed whether the risk exposure represents an impairment trigger for the associated asset through consideration of the severity of the physical risk, likely time horizon, historical ability to manage physical risk and headroom of the asset.

Our procedures were led by the group engagement team, with input from our teams in Australia, Brazil, Canada, Philippines, Poland, Singapore, UK and the USA.

Key observations communicated to the Shell Audit and Risk Committee

We reported to the Audit and Risk Committee the key procedures that we had performed and the results of those procedures, which are set out below:

Alignment of statements made in Strategic Report with the financial statements

- we reported that we had not identified any material inconsistencies between Shell's disclosures in Note 4 to the Consolidated Financial Statements, which covers the material impacts of climate-related matters, and the disclosures included within the other information; and
- we reported that the various climate change litigations as detailed in Note 31 were consistent with the requirements of IAS 37. We also reported that based on our understanding of the claims and allegations, the disclosures within Note 31, are appropriate.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

The impact of climate change and the energy transition on the Consolidated Financial Statements continued

Key observations communicated to the Shell Audit and Risk Committee continued

The reflection of material climate change risks and the impact of Shell's emissions reduction target in the critical accounting estimates and judgments

1) the comparison of Shell's assumed future commodity price assumptions to energy transition scenarios

- we reported that Shell's best estimate assumptions are within our range when compared against a range of third party forecasts and EY's independent consideration of an acceptable range. Overall, Shell's assumptions are reasonable, albeit for oil price assumptions towards the bottom end of these ranges. We are satisfied Shell's assumptions represent current best estimates, as required by IFRS;
- IEA's Announced Pledges Scenario (APS) price assumptions, which assumes that all climate commitments made by governments around the world to date, are aligned with Shell's oil price assumptions. Shell's Henry Hub gas price assumption is higher than the APS scenario; however, Henry Hub is not a significant input to the recoverable amount of the assets that are expected to be producing beyond 2030 and 2050;
- IEA's NZE price scenarios are lower than Shell's Brent and Henry Hub price assumptions and represent an aspirational target reflecting governmental, societal and regulatory responses to climate change risks that are still developing; however, as IFRS requires preparers to base the financial statements on current best estimates of future oil and gas prices, we are satisfied Shell's assumptions are within a range of benchmarks that reflect the current best estimates of future oil and gas prices; and
- we reported that Shell's refining and petrochemical margin assumptions are reasonable and materially aligned with external benchmarks that consider the impact on demand for oil products and chemicals in a transition to a net zero economy.

2) the reasonableness of Shell's forecast future carbon costs

- we concluded that Shell had adopted an appropriate methodology to forecast carbon prices and through our independent testing, we verified that Shell's forecast carbon price assumptions were within our independently determined ranges. Where assumed carbon prices were at the bottom end of our ranges, we were satisfied that applying our range did not represent an impairment trigger for the impacted assets. Also, we are satisfied that the changes to carbon costs in the operating plan versus the prior year plan are a result of changes to planned actions or to changes in allowances that could not have been previously forecast or that do not have a material impact. Our sensitivity analysis indicated that applying the IEA NZE50 carbon prices would have an additional operating cost of 2% of forecast operating expenses in the operating plan over a 10 year period, which does not represent a material increase in the overall forecast costs.

3) the carbon intensity of Shell's Chemicals and Products, Upstream and Integrated Gas assets and associated products and related abatement projects

- for the assets that we assessed as highly carbon intensive, we were satisfied that the planned abatement opex and capex costs related to carbon capture and storage, energy efficiency and renewables growth were included in the operating plan and that the headroom on the high carbon intensive assets is not sensitive to additional carbon costs that would be incurred should abatement activities not be successful;

4) the incorporation of Shell's stated climate targets within Shell's operating plan

- we reported that Shell's operating plan reflected the expected financial impact of management's current planned actions to address the identified climate change risks. Where impairment assessments were performed, we were satisfied that the climate change factors had been reflected in the assessments throughout the field life of the asset.

5) the useful economic lives of assets (volumes expected to be produced beyond 2030 and 2050) and the risk of stranded assets

- we reported that, of the SEC proved reserves currently recognised at the end of 2023, 54% are expected to be produced by 2030 and only an immaterial amount (3%) will be produced beyond 2050. Shell's Integrated Gas and Upstream assets and Canadian mines are mainly depreciated over SEC proved reserves. This means that the current carrying amount of these assets will be substantially depreciated by 2050, with around \$0.7 billion remaining, which is not material;
- we concluded that there was a low risk of Shell's current refineries being stranded as the assets are expected to be fully depreciated in the next 11 years. We also concluded there was a low risk of Shell's Chemical assets being stranded as petrochemical demand is expected to be resilient to energy transition, as noted in the IEA Net Zero 2050 scenario on World Energy Consumption; and
- we were satisfied that the reserves recognised that are expected to be extracted post 2050 were consistent with Shell's NZE commitments and that the estimated carrying value of these assets in 2050 is not material.

6) whether physical risk considerations have been incorporated into the asset plans

- for the assets that we assessed as susceptible to higher physical risk, we were satisfied that assets included mitigation and adaptation plans and the associated costs in the operating plan. Where mitigation and adaptation plans were not included in the operating plan, we have identified other factors, such as annual risk assessments, preparation and insurance plans, that reduce the risk of impairment on these assets.

Other observations

- with regards to the sensitivity analyses provided by Shell in Note 4 to the Consolidated Financial Statements, including commodity prices, carbon prices, refining and chemical margins and the discount rate, we were satisfied that the descriptions of the sensitivities reflected the sensitivities performed. Also, the prices and assumptions applied by Shell in their calculations were agreed to the scenarios as described. We reformed the sensitivities and were satisfied that the ranges disclosed by Shell in Note 4 were materially correct, including the illustrative disclosures on the impact of commodity prices averaged from three 1.5-2 degrees Celsius external climate change scenarios and from the IEA NZE50 scenario; and
- we reported that we had considered Shell's dividend resilience statement in Note 4. Had Shell applied the IEA NZE50 scenario, and had this impairment of \$25 billion directly reduced the carrying value of investments within the Parent Company, Shell plc, this would not have impacted the distributable reserves available to Shell from which to pay dividends and buyback shares in 2023. This is on the basis that Shell plc had a merger reserve of \$234 billion and under Companies Act 2006, the adverse impact from an impairment would be on the merger reserve as opposed to distributable reserves.

See the "Audit and Risk Committee Report" on page 185 for details on how the Audit and Risk Committee reviewed climate change and energy transition. See "Powering Progress strategy" on pages 6-13 and "Energy transition strategy" on pages 89-99 for more details. Also, see Notes 2, 4, 11, 12, and 31 to the "Consolidated Financial Statements".

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

Estimation of oil and gas reserves

Description of the key audit matter

This is a forecast-based estimate. Oil and gas reserves estimates are used in the calculation of depreciation, depletion and amortisation (DD&A) and impairment testing. The risk is the inappropriate recognition of proved reserves that impacts these accounting estimates. Given the current environment, there may be a heightened risk of proved reserves with a high carbon intensity not ultimately being produced (also see climate change and energy transition key audit matter).

As described in Notes 11 and 13 to the Consolidated Financial Statements, at December 31, 2023, production assets amounted to \$110.7 billion and had an associated DD&A charge of \$18.2 billion. Joint ventures and associates (JVAs) amounted to \$24.5 billion. As further described in Note 12, exploration and production impairment losses of \$4.8 billion and exploration and production impairment reversals of \$0.5 billion were recorded during the year.

If proved reserves are recognised that are not ultimately produced, DD&A will be understated, and the recoverable amount of assets may be overstated. In-year reserve movements are driven by revisions of previous estimates resulting from reclassifications, changes to recovery assumptions, extensions and discoveries and purchases and sales of reserves in place. Revisions generally arise from new information, for example additional drilling results, changes in production patterns and changes to development plans.

Auditing the estimation of oil and gas reserves is complex. There is significant estimation uncertainty in assessing the quantities of reserves and resources in place. The estimates are based on the Company's central group of experts' assessments of petroleum initially in place, production curves and certain other inputs, including prices, license expiration date, capex and opex. Estimation uncertainty is further elevated given the transition to a low-carbon economy, which increases the risk of underutilised or stranded oil and gas assets.

Our response to the risk

We obtained an understanding of the controls over Shell's oil and gas reserves estimation process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested management's review controls over changes to year-on-year estimated oil and gas reserves volumes.

We involved professionals with oil and gas reserves audit experience in evaluating the key assumptions and methodologies applied by management.

Our procedures included, amongst others:

- evaluated the professional qualifications and objectivity of management's experts who performed the detailed preparation of the reserve estimates and those who are primarily responsible for providing independent review and challenge, and ultimately endorsement of, the reserve estimates. This covered around 24 individuals involved in the process;
- tested that significant additions or reductions in reserves had been made in the period in which the new information became available, by understanding the change in circumstance that drove the change. Our most experienced oil and gas team members, which included a reservoir engineer, reviewed the documentation and approvals of all changes greater than 50 mmbbl (seven fields);
- verified that reserve movements were in compliance with Shell's reserves and resources guidance and SEC regulations;
- evaluated management's estimation of the point at which the operating cash flow from a project becomes negative (the economic limit), as this impacts DD&A and impairment. Where relevant, we assessed whether the economic limit test incorporated Shell's estimate of future carbon costs to reflect the potential impact of climate change and the energy transition;
- assessed the completeness and accuracy of the inputs used by management in estimating the oil and gas reserves by agreeing the inputs to source documentation. This included obtaining an understanding of the non-financial information used by the specialists when estimating the reserves. We also performed procedures around the completeness and accuracy of this information;
- performed back-testing of historical data to identify indications of optimism bias over time;
- performed sensitivity analysis on the impact of changes in oil and gas reserves;
- attended all of Shell's Upstream Reserves Committee meetings to observe the internal review and endorsement process. These meetings are part of Shell's proved reserves assurance process, which is described in Supplementary Information – Oil and gas section;
- we focused our audit procedures on those assets that are currently forecast to be producing beyond 2050 and the carbon intensity of the post 2050 production from those fields to identify assets that are carbon intensive, where there may be a higher risk of the reserves not ultimately being produced. The purpose of performing such analysis was to identify assets that were at higher risk of the current net book value being overstated; and
- we also included unpredictability in our testing by selecting a field that did not meet our selection criteria.

Our procedures were led by the group engagement team, with input from our teams in Australia, Brazil, Canada, Malaysia, Nigeria, Poland, Qatar, UK and the USA.

Key observations communicated to the Shell Audit and Risk Committee

We reported to the Audit and Risk Committee in January 2024 that, in our view, Shell follows a robust process for recognising oil and gas reserves. There are no indications that the recognition of the reserve volumes beyond 2030 and 2050 results in any impairment triggers or that the carrying amounts of the related assets are overstated.

We reported to the Committee that the sensitivity analysis that we performed indicated that, at portfolio level with all other assumptions remaining unchanged, reserves would have to be overestimated by 18% for DD&A to be overstated by a material amount (\$2 billion).

The inputs and assumptions used to estimate proved reserves and resources are appropriate such estimates. For the reserves and resources that were expected to be produced post 2050, we were satisfied that this was not inconsistent with Shell's NZE ambitions and that it remains appropriate to recognise these reserves on the basis that they are expected to be recovered.

Please see key audit matter on the impact of climate change and the energy transition on the financial statements for details of our considerations on the carbon intensity associated with reserves expected to be produced beyond 2030.

See the "Audit and Risk Committee Report" on pages 179-190 for details on how the Audit and Risk Committee reviewed assurances for oil and gas reserves. Also, see Notes 2, 4 and 11 to the "Consolidated Financial Statements" and "Supplementary information – oil and gas (unaudited)".

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

Impairment of Property, plant and equipment (PP&E) and Joint ventures and associates (JVA)

Description of the key audit matter

This is a forecast-based estimate. The risk is that potential impairments are not identified on a timely basis, including whether the impacts of climate change and the energy transition have been considered in Shell's impairment trigger assessments (also see climate change and energy transition key audit matter).

As described in Notes 11, and 13 to the Consolidated Financial Statements, at December 31, 2023 Shell recognised \$110.7 billion of production assets, \$49.2 billion of manufacturing, supply and distribution assets (primarily refineries and petrochemical plants) and \$24.5 billion of joint ventures and associates (JVAs). As disclosed in Note 12, in 2023, Shell recognised \$8.2 billion impairment losses and \$0.6 billion impairment loss reversals.

The recoverable amount of PP&E and JVAs can be sensitive to small changes in key assumptions, which increases the risk of indicators of impairment or impairment reversal not being identified. Our audit effort has focused on the completeness and timely identification of indicators of impairment charges or impairment reversals.

Assumptions underpinning the impairment assessments include:

- changes in future oil and gas prices, in particular over the mid-to-long term, which are more uncertain than short term forecasts;
- changes in refining margin assumptions;
- expected production volumes;
- the assumed weighted average cost of capital (WACC) and asset-specific risks; and
- individual asset impairment assessments.

As described in Note 2, the most complex of these judgements relate to management's view on the long-term oil and gas price outlook. Forecasting future prices is inherently difficult, as it requires forecasts that reflect developments in demand such as global economic growth, technology efficiency, policy measures and, on the supply side, consideration of investment and resource potential, cost of development of new supply and behaviour of major resource holders. These judgements are particularly difficult because of increased demand uncertainty and pace of decarbonisation due to climate change and the energy transition.

Our response to the risk

We obtained an understanding of the controls over Shell's asset impairment process. We then evaluated the design of these controls and tested their operating effectiveness. For example, we tested the controls over management's identification of indicators of impairment and reversals of impairment and the approval of oil and gas prices and petrochemical and refining margins.

Our procedures included, amongst others:

Oil and gas prices

- we have included observations on oil and gas prices in our key audit matter above on climate (The impact of climate change and the energy transition on the Consolidated Financial Statements).

Petrochemical and refining margins

- we involved our valuations specialists to assess the reasonableness of Shell's margin estimation methodologies and assumptions; and
- evaluated the reasonableness of Shell's refining margin assumptions by comparing these to independent market and consultant forecasts.

Oil and gas reserves

- we have included observations in our key audit matter above on oil and gas reserves.

WACC

- with the assistance of valuation specialists, we independently assessed a range of reasonable input assumptions for calculating Shell's WACC; and
- assessed whether Shell's risking in their impairment assessments, through both a discount rate and individual asset cash flows, adequately reflects the appropriate level of risking for the asset.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

Impairment of Property, plant and equipment (PP&E) and Joint ventures and associates (JVA) continued

Our response to the risk continued

Individual asset assessments

- evaluated Shell's assessment of impairment losses and impairment reversal triggers, including changes in the forecast commodity price assumptions, movements in oil and gas reserves, changes in asset performance, changes in Shell's operating plan assumptions, including those relating to Shell's carbon emissions reductions targets, and whether these are indicators of impairment or impairment reversal. We also considered whether potential disposals meet the held for sale criteria;
- separately from management, for material assets, we also assessed independently whether or not indicators of impairment or reversal triggers exist and considered the existence of contradictory evidence such as external commentary on asset performance, which could indicate a significant increase or decrease in the recoverable amount of the assets;
- where triggers were identified, we assessed the inputs to the impairment assessment by comparing forecasts to the operating plan and life of field plans, historical actuals and other independent expectations. We also performed a consistency check on the assumptions to other assumptions applied by the group;
- tested the model integrity of material impairment assessments;
- evaluated the assumptions used in the preparation of the operating plan at a group, segment and asset level and compared the actual performance of assets to the forecasts made in the prior year;
- considered the existence of other contradictory evidence, such as the results of any comparable market transactions that could indicate a material increase or decrease in the recoverable amount of any of the assets, public comments or commitments made by Shell and whether these could impact the future potential value of any assets; and
- assessed potential operational changes that have or are expected to have a significant adverse effect on an asset, such as unplanned shutdowns, and whether they should be considered as impairment triggers.

The audit procedures were performed primarily by our group engagement team as well as our local audit teams in Australia, Canada, Nigeria, Poland, UK and USA.

Key observations communicated to the Shell Audit and Risk Committee

In January 2024, we reported to the Audit and Risk Committee that:

Oil and gas prices

- see the key matter above on impact of climate change and the energy transition on the Consolidated Financial Statements.

Petrochemical and refining margins

- we reported to the Committee that Shell's refining and petrochemical margin assumptions are reasonable and sit comfortably within EY's ranges and relative to the external benchmarks. Also, Shell's petrochemical margin assumptions are within the benchmark ranges, other than for North America. Shell's assumptions for North America are conservative; however, this has not impacted any financial reporting judgements as no impairment assessments were performed in this region. The regions that we considered were Europe, North America and Asia.

Oil and gas reserves

- see key matter above on oil and gas reserves.

WACC

- Shell applied a post-tax WACC of 7.5% (2022: 6.5%) to all impairment assessments, other than for the Power business, where a post-tax WACC of 6% (2022: 5%) has been used. We reported to the Committee that Shell's methodology used in estimating the groupwide WACC was reasonable. Shell increased the rate during 2023 and reassessed the rate at the end of the year; and
- in addition to applying a discount rate to risk cash flows, Shell also applied asset-specific risks directly in their cash flows. We reported that our valuation specialists estimated an asset specific discount rate (the WACC and additional cash flow risk) for the most significant impairment assessments performed and that the implicit discount rates were within our ranges.

Individual asset assessments

- we reported that Shell's impairment assessment process is in line with IFRS. We reported to the Committee that we were satisfied with the outcomes of the individual impairment assessments, including the timing of the assessments. We provided the Committee with our observations on asset impairment trigger assessments where we spent the most audit effort, which included assessments where no charge was deemed necessary. Our observations included areas such as held for sale classification, cash flow phasing, cash flow risk and alignment with the operating plan;
- we reported that there was substantial headroom supporting the goodwill within Upstream, IG and Marketing and that there are no material goodwill impairment judgements relating to RE&S.

See the Audit and Risk Committee Report on page 185 for details on how the Audit and Risk Committee considered impairments. Also, see Notes 2, 4, 11, 12 and 13 to the Consolidated Financial Statements.

Independent Auditor's Report to the members of Shell plc continued

6. Our assessment of key audit matters continued

Accounting for complex transactions within Shell's Trading and Supply (T&S) function and the valuation of financial derivatives

Description of the key audit matter

The recognition of complex deals require accounting and valuation judgement. There is a risk of error in revenue due to the increased complexity of trades that are executed by Shell's T&S function.

Additionally, there is a higher inherent risk of unauthorised trading associated to Shell's wider portfolio of over-the-counter traded position.

As described in Note 25, Shell recognised derivative financial instrument assets of \$15.9 billion and derivative financial instrument liabilities of \$11.8 billion. As described in Note 7 of the Consolidated Financial Statements, at December 31, 2023 Shell recognised \$317 billion of revenue. A subset of the consolidated revenue relates to T&S transactions, where there is a risk of unrealised revenues being inappropriately recorded. Shell has identified trading in the risk factors section of the Strategic Report, which form part of the other information, rather than the audited financial statements.

Shell's trading and supply function is integrated within the Integrated Gas, Upstream, Marketing, Chemicals and Products, and Renewables and Energy Solutions segments. The function executes and settles both standard and non-standard complex trades. The IT environment supporting the function is complex and involves a large number of systems, resulting in a high-level of manual intervention being required.

Auditing complex trades is challenging because of the significant judgement used in determining the appropriate accounting treatment, and the key assumptions used in valuing the trades. Also, trading is not always carried out in active markets where prices are readily available, increasing subjectivity used in determining the pricing curve and volatility assumptions, which are key inputs to valuing the trades and in determining unrealised gains and losses.

Unauthorised trading may occur on Shell's portfolio of over-the-counter positions because of trader incentives and the high volume of transactions that Shell executes.

Our response to the risk

We obtained an understanding of the controls over Shell's process for the recognition of revenue relating to unrealised trading gains and losses, including controls over management's complex deal accounting and valuations. We then evaluated the design of these controls and tested their operating effectiveness.

We involved audit professionals with experience auditing large commodity trading organisations. Our audit procedures focus on the appropriateness of the accounting treatment and the valuation of complex contracts.

To respond to the risk of inappropriate accounting for complex deals we:

- assessed the completeness of the list of complex deals by performing an independent search considering non-standard contractual terms, multiple commodity-based transactions, long-term contracts, unobservable inputs and complex valuation models;
- directly confirmed with the counterparty a sample of new or amended complex deals;
- obtained an understanding of the commercial rationale of complex deals by analysing the executed agreements and through discussions with management. Also, we performed an independent assessment of the accounting treatment of a sample of the complex deals, challenging management on contract terms and previous accounting judgement;
- assessed the reasonableness of Shell's derivative valuation methodology by comparing it to market practice, analysing whether a consistent framework was applied and checked the consistency of inputs used in deal valuations and other assumptions;
- involved valuation specialists to assist us in performing independent testing of complex deals, checking that the appropriate valuation model, accounting method, and liquidity window has been applied. Our valuations were established using independent externally sourced inputs, where available;
- tested the forward pricing curve and volatility assumptions in management's valuation models, including comparing to external broker quotes, market consensus providers, and our independent assessments and further reviewed valuation reserve adjustments for a sample of material complex contracts;
- we specifically challenged management's accounting consideration of whether forward physical contracts to buy and sell LNG are in the scope of IFRS 9 and should be fair valued.

To respond to the risk of unauthorised trading, we:

- performed external confirmation procedures for the existence and completeness of recorded forward positions. Our tests included, amongst other procedures, requesting Shell's counterparties to confirm their entire position with Shell and asking counterparties to provide details of individual trades;
- performed additional procedures over the post year-end tradebook to identify material additions, deletions or amendments from the balance sheet date procedures over late deal entries post year-end, corroborating the reasons for the late entry, and validating the impact on the balance sheet date;
- analysed material post-balance sheet date cash receipts/disbursements and assessed the completeness of the associated derivative recorded as of the balance sheet date;
- performed testing of deals that were unconfirmed or excluded from the management's confirmation process at the balance sheet date. We obtained evidence of the trade's existence at the year-end and validating their exclusion respectively, for a sample of deals; and
- performed procedures to assess the appropriateness of Shell's forward price estimates.

The audit procedures were performed principally by the group engagement team and the UK and US component teams.

Key observations communicated to the Shell Audit and Risk Committee

In January 2024, we reported to the Audit and Risk Committee that:

- the valuation of complex derivative contracts were materially correct and the related unrealised gains and losses have been recorded appropriately in the financial statements;
- we were satisfied with Shell's key accounting judgments and the application of their accounting policies, including the accounting treatment of non-standard contractual terms, were appropriate;
- we highlighted that the accounting judgement around LNG liquidity was a significant judgement. We stated that it was appropriate that Shell do not account for their LNG contracts as derivatives and therefore do not reflect these at fair value. This was based on Shell's net settlement history (there is no significant past practice of net settlement within Shell's LNG portfolio) and market liquidity (indicators do not demonstrate any increase in liquidity in 2023 mid/long term contracts continue to dominate the market); and
- we did not identify instances of unauthorised trading as of the balance sheet date.

See the "Audit and Risk Committee Report" on pages 179-190 for details on how the Audit and Risk Committee reviewed the Trading and Supply's control framework. Also see Note 25 to the "Consolidated Financial Statements".

There were no changes from the prior year as to the Key Audit Matters included in our auditor's report.

Independent Auditor's Report to the members of Shell plc continued

7. Our application of materiality

We apply the concept of materiality both in planning and performing the audit and in evaluating the effect of identified misstatements on our audit and in forming our audit opinion.

Overall materiality

What we mean

We define materiality as the magnitude of an omission or misstatement that, individually or in the aggregate, could reasonably be expected to influence the economic decisions of the users of the financial statements. Materiality provides a basis for determining the nature and extent of our procedures.

Level set

Group materiality

We set our preliminary overall materiality for Shell's Consolidated Financial Statements at \$2.0 billion (2022: \$1.2 billion). We kept this under review throughout the year and reassessed the appropriateness of our original assessment in the light of Shell's results and external market conditions. We did not find it necessary to revise our level of overall materiality.

Parent Company materiality

We determined materiality for the Parent Company to be \$2.0 billion (2022: \$1.2 billion), which is 0.7% of equity (2022: 1.0%). We concluded that equity remains an appropriate basis to determine materiality for an investment holding company. The range we normally apply when determining materiality on an equity measurement basis is 1-2%. We applied a lower percentage to align the materiality of the Parent Company with that of the Group.

Our basis of determining materiality

Our assessment of overall materiality that we applied throughout the year was \$2.0 billion, which represented 4.7% of the three-year normalised Adjusted Earnings pre-tax (see table below). Our approach is the same as that applied in 2022 other than the period over which we normalise. In 2022, we changed our approach and normalised over a two-year period (rather than a three-year period) to reflect structural changes to Shell following significant disposals. Applying a shorter period in 2022 did not increase the materiality that we applied in 2022. In 2023, we reverted to a three-year period as Shell's underlying business in 2021, 2022 and 2023 are structurally more comparable.

Where we measure materiality on a pre-tax earnings basis, we normally apply 5% of the measure. Applying this to the three-year normalised Adjusted pre-tax earnings would indicate materiality of \$2.1 billion. In deciding on an appropriate planning materiality to apply in the Shell audit, we judgementsally selected \$2.0 billion. In 2022, we applied a lower planning materiality (\$1.2 billion); however, we could have applied a level similar to that in 2023. We selected a lower level in 2022 on the basis that there was more uncertainty over long term prices.

Our materiality was derived from an average of Shell's earnings for 2021-2023, including an initial estimate of the 2023 result, on an Adjusted Earnings basis, which we then adjusted for an average effective tax rate. At the end of the year, we reassessed materiality based on the actual results for 2023. As disclosed within Non-GAAP measures reconciliations within Additional Information, the "Adjusted Earnings" measure aims to facilitate a comparative understanding of Shell's financial performance from period to period by removing the effects of oil price changes on inventory carrying amounts and removing the effects of identified items. Shell's identified items are disclosed within Additional Information, Non-GAAP measures reconciliations, in the section Identified items.

Our key criterion in determining materiality remains our perception of the needs of Shell's stakeholders. We consider which earnings, activity or capital-based measure aligns best with their expectations. In so doing, we apply a 'reasonable investor perspective', which reflects our understanding of the common financial information needs of the members of Shell as a group.

In our view these needs are best met by basing materiality on normalised Adjusted Earnings on a pre-tax basis. Through applying a normalised earnings approach, large year-on-year swings in materiality are minimised. These swings would be driven primarily by price fluctuations rather than specific structural changes to Shell's business. In addition, an Adjusted Earnings approach is consistent with the presentation of Shell's segment earnings, which is the earnings measure used by the CEO for the purposes of making decisions about allocating resources and assessing performance.

We have considered alternative benchmarks to Adjusted Earnings, including profit before taxation and EBITDA. These indicate a range of \$1.4 billion to \$2.1 billion.

By applying a normalised Adjusted Earnings approach, we have concluded that it is appropriate to apply a materiality of \$2.0 billion (2022: \$1.2 billion).

The Adjusted Earnings were as follows:

\$ billion	2023	2022	2021
Adjusted Earnings*	28.2	39.9	19.3
Estimated tax impact based on the average effective tax rate	13.7	18.5	8.5
Adjusted Earnings pre-tax	41.9	58.4	27.8
Materiality percentage on the average Adjusted Earnings pre-tax - 2021-2023	4.7%		

* Non-GAAP measure (see page 365).

Independent Auditor's Report to the members of Shell plc continued

7. Our application of materiality continued

Performance materiality
What we mean Having established overall materiality, we determined 'performance materiality', which represents our tolerance for misstatement in an individual account. It is calculated as a percentage of overall materiality in order to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality of \$2.0 billion for Shell's financial statements as a whole. We assigned performance materiality to our various in-scope operating units. The performance materiality allocation is dependent on the size of the operating unit, measured by its contribution of earnings to Shell, or other appropriate metric, and the risk associated with the operating unit. Level set In our assessment for 2023, we considered the nature, number and impact of the audit differences identified in 2022. We also noted the way in which management navigated the financial statement close throughout 2022, and the fact that we did not experience any notable increase in control deficiencies in the prior year audit. Based on our assessment of these factors, our judgement was that performance materiality for the 2023 audit should be 75% (2022: 75%) of our overall materiality or \$1.5 billion (2022: \$0.9 billion). The level of materiality that we applied in undertaking our audit work at the operating unit level, for the purpose of obtaining coverage over significant financial statements accounts, was determined by applying a percentage of our total performance materiality. This percentage is based on the significance of the operating unit relative to Shell as a whole and our assessment of the risk of material misstatement at that operating unit. In 2023 the range of materiality applied at the operating unit level was \$225 million to \$975 million (2022: \$135 million to \$585 million). The performance materiality was kept under ongoing review, but the conclusion remained unchanged at our year-end re-assessment of materiality.
Audit difference reporting threshold
What we mean This is the amount below which identified misstatements are clearly trivial. The threshold is the level above which we collate and report audit differences to the Audit and Risk Committee. We also report differences below that threshold that, in our view, warrant reporting on qualitative grounds. We evaluate any uncorrected misstatements against both the quantitative measures of materiality discussed above and in the light of other relevant qualitative considerations in forming our opinion. Level set We agreed with the Audit and Risk Committee that we would report to the Committee all audit differences more than \$100 million (2022: \$60 million), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. This represents 5% of our planning materiality (2022: 5%).

Independent Auditor's Report to the members of Shell plc continued

8. Our scope of the audit of Shell's financial statements

What we mean

We are required to establish an overall audit strategy that sets the scope, timing, and direction of our audit. Audit scope comprises the physical locations, operating units, activities, and processes to be audited that, in aggregate, are expected to provide sufficient coverage of the financial statements for us to express an audit opinion.

Criteria for determining our audit scope and selection of in-scope operating units

Our assessment of audit risk, our evaluation of materiality and our allocation of performance materiality determined our audit scope for each operating unit within Shell which, when taken together, enabled us to form an opinion on the consolidated financial statements. Our audit effort was focused towards higher risk areas, such as management judgements and on operating units that we considered significant based upon size, complexity or risk.

We assessed our 2023 audit scope following the completion of our 2022 audit. We identified those Areas of Operation (AoOs or operating units) that were significant by virtue of their contribution to Shell's results or significant by virtue of their associated risk or complexity. In doing this we considered the history or expectation of unusual or complex transactions, potential for or history of material misstatements, the previous effectiveness of controls, our forensic assessment in relation to fraud, bribery or corruption, and internal audit findings. We then considered the adequacy of account coverage and remaining audit risk of AoOs not directly covered by audit procedures. Finally, we sense checked our scope to the prior year; ensured that there was appropriate unpredictability in our scope and made the necessary changes where appropriate. We applied our Risk Scan analytics techniques, which consolidate internal and external data to inform us on higher risk components to be included in scope. This allowed us to risk rate the group's operating units. We identified 94 operating units where we believed that it was appropriate to carry out targeted testing.

By following this approach, our audit effort focused on higher risk areas, such as management judgements. Our group wide procedures enabled us to obtain audit evidence over the AoOs that were not full, specific or specified procedure scope.

We did not make substantial changes to our 2022 assessment of the components where we performed full or specific scope audit procedures. Also, there were no significant changes to the number of IT applications we tested.

We kept our audit scope under review throughout the year to reflect changes in Shell's underlying business and risks; however, no significant changes were required.

The table below illustrates the scope of work performed by our audit teams:

Operating units	2023	2022	No. of countries	Basis of inclusion	Extent of procedures
Full scope	7	9	6	Size	Complete financial information
Specific scope	34	35	11	Significant risk or higher risk estimates	Individual account balances
Specified procedures ¹	53	54	26	Other risk factors	Individual transactions or processes
Other procedures	818	698	100	Residual risk of error	Supplementary audit procedures ²
Total	912	796			

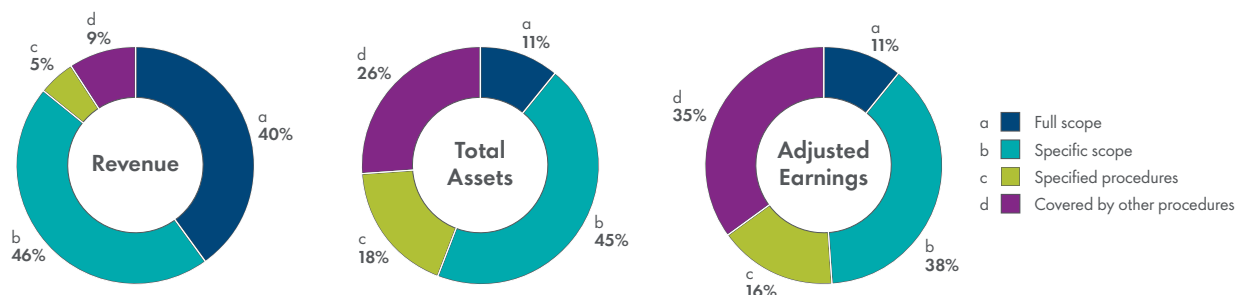
¹ These procedures were performed by components and at the group level, to address specified risks of the audit or for audit coverage purposes.

² We performed supplementary audit procedures in relation to Shell's centralised group accounting and reporting processes. These included, but were not limited to, addressing the implications of significant and complex accounting matters across all operating units, procedures over revenue to cash process analytics, review of impairment or impairment reversal indicators by segments, procedures over the forecasts as they relate to deferred tax asset recoverability and review of pension scheme assumptions, procedures over unusual accounting transactions including trading mark-to-market valuations, acquisitions, divestments and redundancies, addressing the appropriate elimination of intercompany balances and the completeness of provisions for litigation and other claims, including those related to non-compliance with laws and regulations. We performed testing of both manual and consolidation journal entries throughout the year, homogenous processes, and controls at the Business Service Centres (BSCs) and testing of group wide IT systems. We performed a disaggregated analytical review on each financial statement line item and also tested Shell's analytical procedures performed at a group, segment and function level.

Coverage

Our coverage by full, specific, specified and group procedures is illustrated below. The summary is by Total Assets, Adjusted Earnings and Revenue. Overall, our full, specific and specified procedures accounted for 65% of Shell's absolute Adjusted Earnings reported by Shell in its quarterly results announcements and adjusted for an effective tax rate. The remaining Adjusted Earnings were covered by Group wide procedures.

The Parent Company is located in the United Kingdom and audited directly by the Group engagement team



Independent Auditor's Report to the members of Shell plc continued

8. Our scope of the audit of Shell's financial statements continued

Group evaluation, review and oversight of component teams

The group engagement partner and Senior Statutory Auditor, Gary Donald, has overall responsibility for the direction, supervision and performance of the Shell audit engagement in compliance with professional standards and applicable legal and regulatory requirements. He is supported by segment and function partners, who are based in the Netherlands and the UK, and who together with related staff comprise the integrated group engagement team. This group engagement team established the overall group audit strategy, communicated with component auditors, performed work on the consolidation process, and evaluated the conclusions drawn from the audit evidence as the basis for forming EY's opinion on the group financial statements.

The group engagement team is responsible for directing, supervising, evaluating and reviewing the work of EY global network firms operating under their instruction (local EY teams) to assess whether:

- the local EY audit team had the appropriate level of experience;
- the work was performed and documented to a sufficiently high standard;
- the local EY audit team demonstrated that they had challenged management sufficiently and had executed their audit procedures with an appropriate level of scepticism; and
- there is sufficient appropriate audit evidence to support the conclusions reached.

Members of the group engagement team provide direct oversight, review, and coordination of our BSC audit teams. Our BSC teams performed centralised testing in the BSCs for certain accounts, including revenue, cash and payroll. In establishing our overall approach to the group audit, we determined the type of work that needed to be undertaken at each of the operating units or BSCs by the group engagement team or by auditors from other local EY teams.

For the operating units where the work was performed by local EY auditors, we determined the appropriate level of involvement of the group engagement team to enable us to conclude that sufficient appropriate audit evidence had been obtained, as a basis for our opinion on the Group as a whole.

The group engagement team provided detailed instructions to our component teams to drive the audit strategy and execution in a coordinated manner. Group audit partners physically visited India, Philippines Poland, Singapore and the USA, covering operating units, functions and BSCs. The Group audit partners also performed virtual site visits in Australia, Brazil and Nigeria. Our visits covered all of the T&S component teams and Shell's trading locations. The Senior Statutory Auditor physically visited India, Poland and the USA and virtually visited Australia and Nigeria. During the USA site visit, the Senior Statutory Auditor accompanied the Audit and Risk Committee on their visit to a number of operations, including Shell Polymers Monaca, the Shell Norco facility, the Shell – operated Vito floating production facility in the Gulf of Mexico (virtual visit from New Orleans) and the Houston trading floor.

During our visits, we exercised direction, supervision, oversight and review of our overseas EY audit teams. We were satisfied that we have had adequate involvement in their work and that we exercised sufficient and appropriate direction to the component teams.

Our oversight of component teams included maintaining a continuous and open dialogue with our global component teams, as well as holding formal closing meetings quarterly, to ensure that we were fully aware of their progress and results of their procedures.

9. Other information

The other information comprises the information included in the Annual Report including the Strategic Report, Governance, Supplementary Information and Additional Information sections, other than the financial statements and our auditor's report thereon. The Directors are responsible for the other information contained within the Annual Report.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in this report, we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

We have nothing to report in this regard.

10. Opinions on Other matters prescribed by the Companies Act 2006

In our opinion, the part of the directors' remuneration report to be audited has been properly prepared in accordance with the Companies Act 2006.

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the directors' report have been prepared in accordance with applicable legal requirements.

Independent Auditor's Report to the members of Shell plc continued

11. Matters on which we are required to report by exception

In the light of the knowledge and understanding of the Group and the Parent Company and its environment obtained in the course of the audit, we have not identified material misstatements in the strategic report or the directors' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the Parent Company financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

12. Corporate Governance Statement

We have reviewed the directors' statement in relation to going concern, longer-term viability and that part of the Corporate Governance Statement relating to the group and company's compliance with the provisions of the UK Corporate Governance Code specified for our review by the Listing Rules.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the Corporate Governance Statement is materially consistent with the financial statements or our knowledge obtained during the audit:

- Directors' statement with regards to **the appropriateness of adopting the going concern basis of accounting** and any material uncertainties identified set out in the "Other regulatory and statutory information" section;
- Directors' explanation as to its **assessment of the company's prospects**, the period this assessment covers and why the period is appropriate set out in the "Other regulatory and statutory information" section;
- Director's statement on whether it has a reasonable expectation that the group will be able to continue in operation and meets its liabilities set out in the "Other regulatory and statutory information" section;
- Directors' statement on **fair, balanced and understandable** set out in the "Other regulatory and statutory information" section;
- Board's confirmation that it has carried out a **robust assessment of the emerging and principal risks** set out in the "Other regulatory and statutory information" section;
- The section of the annual report that describes the **review of effectiveness of risk management and internal control systems** set out in the "Other regulatory and statutory information" section; and;
- The section describing **the work of the audit and risk committee** set out in the "Other regulatory and statutory information" section.

13. Responsibilities of the Directors'

As explained more fully in the statement of Directors' responsibilities set out in the "Other regulatory and statutory information" section, the Directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing Shell and the Parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate Shell or the Parent Company or to cease operations, or have no realistic alternative but to do so.

14. Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISA (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

15. Explanation as to what extent our audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect irregularities, including fraud.

The risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below. However, the primary responsibility for the prevention and detection of fraud rests with both those charged with governance of the entity and management.

Our approach was as follows:

- we obtained an understanding of the legal and regulatory frameworks that are applicable to Shell and determined that the most significant are those that relate to the reporting framework (UK adopted international accounting standards, IFRS as issued by the IASB, Companies Act 2006, the UK Corporate Governance Code, the US Securities Exchange Act of 1934 and the Listing Rules of the UK Listing Authority) and the relevant tax compliance regulations in the jurisdictions in which Shell operates. In addition, we concluded that there are certain significant laws and regulations that may have an effect on the determination of the amounts and disclosures in the financial statements and those laws and regulations relating to health and safety, employee matters, environmental, and bribery and corruption practices.

Independent Auditor's Report to the members of Shell plc continued

15. Explanation as to what extent our audit was considered capable of detecting irregularities, including fraud continued

- we understood how Shell is complying with those frameworks by making enquiries of management, internal audit, and those responsible for legal and compliance procedures. We corroborated our enquiries through our review of Board minutes, papers provided to the Audit and Risk Committee and correspondence received from regulatory bodies and noted that there was no contradictory evidence.
- we assessed the susceptibility of Shell's financial statements to material misstatement, including how fraud might occur, by embedding forensic specialists into our group engagement team. Our forensic specialists worked with the group engagement team to identify the fraud risks across various parts of the business. In addition, we utilised internal and external information to perform a fraud risk assessment for each of the countries of operation. We considered the risk of fraud through management override and, in response, we incorporated data analytics across manual journal entries into our audit approach. We also considered the possibility of fraudulent or corrupt payments made through third parties, gaining a detailed understanding of the Company's monitoring and compliance activities related to vendor screening and due diligence. Where deemed appropriate we conducted analytical testing on third party vendors in high-risk jurisdictions. We utilised a suite of digital tools in our assessment of fraud and management override including technology that seeks to verify the authenticity of key documents. We also conducted specific audit procedures in relation to the risk of bribery, corruption and sanctions compliance across various countries of operation determined on a risk-based approach.
- based on the results of our risk assessment we designed our audit procedures to identify non-compliance with such laws and regulations identified above. Our procedures involved journal entry testing, with a focus on journals meeting our defined risk criteria based on our understanding of the business; enquiries of legal counsel, group management, internal audit and all full and specific scope management; review of the volume and nature of complaints received by the whistleblowing hotline during the year; review of internal audit reports issued during the year; review of news releases published by external parties; and
- if any instances of non-compliance with laws and regulations were identified, these were communicated to the group engagement team and the relevant local EY teams who performed sufficient and appropriate audit procedures, supplemented by audit procedures performed at the group level.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

16. Other matters we are required to address

Following the recommendation of the Audit and Risk Committee, we were re-appointed by Shell plc's Annual General Meeting (AGM) on May 23, 2023, as auditors of Shell to hold office until the conclusion of the next AGM of the Company, and signed an engagement letter on January 17, 2024. Our total uninterrupted period of engagement is eight years covering periods from our appointment through to the period ending December 31, 2023.

Our audit opinion is consistent with our additional report to the Audit and Risk Committee explaining the results of our audit.

17. Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

/s/ Gary Donald (Senior Statutory Auditor)

Gary Donald

Senior Statutory Auditor
for and on behalf of Ernst & Young LLP
London
March 13, 2024

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Consolidated Financial Statements continued

Consolidated Statement of Income
for the year ended December 31, 2023

		\$ million		
	Notes	2023	2022	2021
Revenue	7	316,620	381,314	261,504
Share of profit of joint ventures and associates	13	3,725	3,972	4,097
Interest and other income	8	2,838	915	7,056
Total revenue and other income		323,183	386,201	272,657
Purchases		212,883	258,488	174,912
Production and manufacturing expenses	7	25,240	25,518	23,822
Selling, distribution and administrative expenses	7	13,433	12,883	11,328
Research and development	7	1,287	1,075	815
Exploration	7	1,750	1,712	1,423
Depreciation, depletion and amortisation	7	31,290	18,529	26,921
Interest expense	9	4,673	3,181	3,607
Total expenditure		290,556	321,386	242,828
Income before taxation		32,627	64,815	29,829
Taxation charge	22	12,991	21,941	9,199
Income for the period	7	19,636	42,874	20,630
Income attributable to non-controlling interest	7	277	565	529
Income attributable to Shell plc shareholders	7	19,359	42,309	20,101
Basic earnings per share (\$)	30	2.88	5.76	2.59
Diluted earnings per share (\$)	30	2.85	5.71	2.57

Consolidated Statement of Comprehensive Income
for the year ended December 31, 2023

		\$ million		
	Notes	2023	2022	2021
Income for the period	7	19,636	42,874	20,630
Other comprehensive income/(loss) net of tax				
Items that may be reclassified to income in later periods:				
Currency translation differences	28	1,397	(2,986)	(1,413)
Debt instruments remeasurements	28	41	(78)	(28)
Cash flow hedging gains/(losses)	28	71	(232)	21
Net investment hedging (losses)/gains	28	(44)	180	295
Deferred cost of hedging	28	(148)	200	(39)
Share of other comprehensive income/(loss) of joint ventures and associates	13	18	274	(109)
Total		1,335	(2,642)	(1,273)
Items that are not reclassified to income in later periods:				
Retirement benefits remeasurements	28	(1,083)	5,466	7,198
Equity instruments remeasurements	28	(99)	(491)	145
Share of other comprehensive (loss)/income of joint ventures and associates	13	(201)	(253)	3
Total		(1,383)	4,722	7,346
Other comprehensive (loss)/income for the period		(48)	2,080	6,073
Comprehensive income for the period		19,588	44,954	26,703
Comprehensive income attributable to non-controlling interest		312	621	468
Comprehensive income attributable to Shell plc shareholders		19,276	44,333	26,235

Consolidated Financial Statements continued

Consolidated Balance Sheet
as at December 31, 2023

		\$ million	
	Notes	Dec 31, 2023	Dec 31, 2022
Assets			
Non-current assets			
Goodwill	10	16,660	16,039
Other intangible assets	10	10,253	9,662
Property, plant and equipment	11	194,835	198,642
Joint ventures and associates	13	24,457	23,864
Investments in securities	14	3,246	3,362
Deferred tax	22	6,454	7,815
Retirement benefits	23	9,151	10,200
Trade and other receivables	15	6,298	6,920
Derivative financial instruments	25	801	582
		272,155	277,086
Current assets			
Inventories	16	26,019	31,894
Trade and other receivables	15	53,273	66,510
Derivative financial instruments	25	15,098	24,437
Cash and cash equivalents	17	38,774	40,246
		133,164	163,087
Assets classified as held for sale	18	951	2,851
		134,115	165,938
Total assets		406,270	443,024
Liabilities			
Non-current liabilities			
Debt	20	71,610	74,794
Trade and other payables	19	3,103	3,432
Derivative financial instruments	25	2,301	3,563
Deferred tax	22	15,347	16,186
Retirement benefits	23	7,549	7,296
Decommissioning and other provisions	24	22,531	23,845
		122,441	129,116
Current liabilities			
Debt	20	9,931	9,001
Trade and other payables	19	68,237	79,357
Derivative financial instruments	25	9,529	23,779
Income taxes payable		3,422	4,869
Decommissioning and other provisions	24	4,041	2,910
		95,160	119,916
Liabilities directly associated with assets classified as held for sale	18	307	1,395
		95,467	121,311
Total liabilities		217,908	250,427
Equity			
Share capital	26	544	584
Shares held in trust		(997)	(726)
Other reserves	28	21,145	21,132
Retained earnings		165,915	169,482
Equity attributable to Shell plc shareholders		186,607	190,472
Non-controlling interest		1,755	2,125
Total equity		188,362	192,597
Total liabilities and equity		406,270	443,024

Signed on behalf of the Board

/s/ Sinead Gorman

Sinead Gorman
Chief Financial Officer
March 13, 2024

Consolidated Financial Statements continued

Consolidated Statement of Changes in Equity
for the year ended December 31, 2023

\$ million

	Equity attributable to Shell plc shareholders					Non-controlling interest	Total equity
	Share capital (see Note 26)	Shares held in trust	Other reserves (see Note 28)	Retained earnings	Total		
At January 1, 2023	584	(726)	21,132	169,482	190,472	2,125	192,597
Comprehensive income for the period	—	—	(83)	19,359	19,276	312	19,588
Transfer from other comprehensive income	—	—	(112)	112	—	—	—
Dividends (see Note 29) [A]	—	—	—	(8,389)	(8,389)	(764)	(9,153)
Repurchases of shares [B]	(40)	—	40	(14,571)	(14,571)	—	(14,571)
Share-based compensation	—	(271)	168	(85)	(188)	—	(188)
Other changes	—	—	—	7	7	82	89
At December 31, 2023	544	(997)	21,145	165,915	186,607	1,755	188,362
At January 1, 2022	641	(610)	18,909	153,026	171,966	3,360	175,326
Comprehensive income for the period	—	—	2,024	42,309	44,333	621	44,954
Transfer from other comprehensive income	—	—	(34)	34	—	—	—
Dividends (see Note 29) [A]	—	—	—	(7,283)	(7,283)	(206)	(7,489)
Repurchases of shares	(57)	—	57	(18,547)	(18,547)	—	(18,547)
Share-based compensation	—	(116)	176	131	191	—	191
Other changes	—	—	—	(188)	(188)	(1,650)	(1,838)
December 31, 2022	584	(726)	21,132	169,482	190,472	2,125	192,597
At January 1, 2021	651	(709)	12,752	142,616	155,310	3,227	158,537
Comprehensive income for the period	—	—	6,134	20,101	26,235	468	26,703
Transfer from other comprehensive income	—	—	(45)	45	—	—	—
Dividends (see Note 29) [A]	—	—	—	(6,321)	(6,321)	(348)	(6,669)
Repurchases of shares	(10)	—	10	(3,513)	(3,513)	—	(3,513)
Share-based compensation	—	99	58	93	250	—	250
Other changes	—	—	—	5	5	13	18
At December 31, 2021	641	(610)	18,909	153,026	171,966	3,360	175,326

[A] The amount charged to retained earnings is based on prevailing exchange rates on payment date.

[B] Includes shares committed to repurchase under irrevocable contracts and repurchases subject to settlement at the end of the year. (See Note 26)

Consolidated Financial Statements continued

Consolidated Statement of Cash Flows
for the year ended December 31, 2023

		\$ million		
	Notes	2023	2022	2021
Income before taxation for the period		32,627	64,815	29,829
Adjustment for:				
Interest expense (net)		2,360	2,135	3,096
Depreciation, depletion and amortisation		31,290	18,529	26,921
Exploration well write-offs	11	868	881	639
Net gains on sale and revaluation of non-current assets and businesses		(246)	(642)	(5,995)
Share of profit of joint ventures and associates		(3,725)	(3,972)	(4,097)
Dividends received from joint ventures and associates		3,674	4,398	3,929
Decrease/(increase) in inventories		6,325	(8,360)	(7,319)
Decrease/(increase) in current receivables		12,401	(8,989)	(20,567)
(Decrease)/increase in current payables		(10,888)	11,915	17,519
Derivative financial instruments		(5,723)	(2,619)	5,882
Retirement benefits		(37)	417	16
Decommissioning and other provisions		(473)	35	(76)
Other		(550)	2,991	803
Tax paid		(13,712)	(13,120)	(5,476)
Cash flow from operating activities		54,191	68,414	45,104
Capital expenditure	7	(22,993)	(22,600)	(19,000)
Investments in joint ventures and associates	7	(1,202)	(1,973)	(479)
Investment in equity securities	7	(197)	(260)	(218)
Proceeds from sale of property, plant and equipment and businesses		2,565	1,431	14,233
Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans		474	511	584
Proceeds from sale of equity securities		51	117	296
Interest received		2,124	906	423
Other investing cash inflows		4,269	2,060	2,928
Other investing cash outflows		(2,825)	(2,640)	(3,528)
Cash flow from investing activities		(17,734)	(22,448)	(4,761)
Net (decrease)/increase in debt with maturity period within three months		(211)	318	14
Other debt:				
New borrowings		1,029	269	1,791
Repayments		(10,650)	(8,459)	(21,534)
Interest paid		(4,441)	(3,677)	(4,014)
Derivative financial instruments		723	(1,799)	(1,165)
Change in non-controlling interest		(22)	(1,965)	19
Cash dividends paid to:				
Shell plc shareholders		(8,393)	(7,405)	(6,253)
Non-controlling interest		(764)	(206)	(348)
Repurchases of shares		(14,617)	(18,437)	(2,889)
Shares held in trust: net purchases and dividends received		(889)	(593)	(285)
Cash flow from financing activities		(38,235)	(41,954)	(34,664)
Effects of exchange rate changes on cash and cash equivalents		306	(736)	(539)
(Decrease)/increase in cash and cash equivalents		(1,472)	3,276	5,140
Cash and cash equivalents at beginning of year		40,246	36,970	31,830
Cash and cash equivalents at end of year	17	38,774	40,246	36,970

Notes to the Consolidated Financial Statements

1. Basis of preparation

The Consolidated Financial Statements of Shell plc (the "Company") and its subsidiaries (collectively referred to as "Shell") have been prepared in accordance with UK-adopted international accounting standards and with the requirements of the UK Companies Act 2006 as applicable to companies reporting under those standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Consolidated Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

As described in the accounting policies in Note 2, the Consolidated Financial Statements have been prepared under the historical cost convention except for certain items measured at fair value. Those accounting policies have been applied consistently in all periods.

The Consolidated Financial Statements were approved and authorised for issue by the Board of Directors on March 13, 2024.

Going concern

These Consolidated Financial Statements have been prepared on the going concern basis of accounting. In assessing the appropriateness of the going concern assumption over the period to March 31, 2025 (the "going concern period"), management have stress-tested Shell's most recent financial projections to incorporate a range of potential future outcomes by considering Shell's principal risks, further potential downside pressures on commodity prices and long-term demand, and cash preservation measures, including reduced future capital expenditure and shareholder distributions. This assessment confirmed that Shell has adequate cash, other liquid resources and undrawn credit facilities to enable it to meet its obligations as they fall due in order to continue its operations during the going concern period. Therefore, the Directors consider it appropriate to continue to adopt the going concern basis of accounting in preparing the audited Consolidated Financial Statements.

2. Material accounting policies, judgements and estimates

This Note describes Shell's material accounting policies. It allows for an understanding as to how material transactions, other events and conditions are reported. It also describes: (a) judgements, apart from those involving estimations, that management makes in applying the policies that have the most significant effect on the amounts recognised in the Consolidated Financial Statements; and (b) estimations, including assumptions about the future, that management makes in applying the policies. The sources of estimation uncertainty that have a significant risk of a material adjustment to the carrying amounts of assets and liabilities within the next financial year are specifically identified as a significant estimate.

The accounting policies applied are consistent with those of the previous financial year except for the adoption as from January 1, 2023, of IFRS 17 Insurance contracts (IFRS 17) and IAS 12 Income taxes (IAS 12) amendments.

The transition to the accounting pronouncements as listed below has no material impact on Shell's financial reporting.

IFRS 17 Insurance contracts

IFRS 17 as issued in 2017, with amendments published in 2020 and 2021, was adopted as from January 1, 2023. The IFRS 17 model combines a current balance sheet measurement of insurance contracts with recognition of profit over the period that services are provided. The general model in IFRS 17 requires insurance contract liabilities to be measured using probability-weighted current estimates of future cash flows, an adjustment to reflect the time value of money and financial and non-financial risk, and a contractual service margin representing the profit expected from fulfilling the contracts. Effects of changes in the estimates of future cash flows and the risk adjustment relating to future services are recognised over the period services are provided rather than immediately in profit or loss.

The adoption of IFRS 17 has no significant impact on Shell's financial reporting.

Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to IAS 12)

IAS 12 amendments, published in May 2021, were adopted as from January 1, 2023 (see Note 22). These amendments require companies to recognise deferred tax on particular transactions that, on initial recognition, give rise to equal amounts of taxable and deductible temporary differences. The amendments typically apply to transactions where assets and liabilities are recognised from a single transaction, such as leases for the lessee and decommissioning and restoration provisions.

The adoption of these IAS 12 amendments has no significant impact on Shell's financial reporting.

International Tax Reform — Pillar Two Model Rules (Amendments to IAS 12)

In May 2023, amendments to IAS 12 were published and adopted from that date. The amendments introduce a temporary mandatory relief from accounting for deferred taxes arising from the jurisdictional implementation of the Organisation for Economic Co-operation and Development (OECD)/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) Pillar Two Model Rules (Pillar Two or Pillar Two income taxes). On June 20, 2023, the UK substantively enacted Pillar Two. The adoption of Pillar Two by the jurisdictions in which Shell operates is not expected to have a significant impact (see Note 22). As required by the amendments to IAS 12, Shell has applied the exception to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes.

Nature of the Consolidated Financial Statements

The Consolidated Financial Statements are presented in US dollars (dollars) and comprise the financial statements of the Company and its subsidiaries, being those entities over which the Company has control, either directly or indirectly, through exposure or rights to their variable returns and the ability to affect those returns through its power over the entities. Information about subsidiaries at December 31, 2023, can be found in "Appendix 1: Significant subsidiaries and other related undertakings (audited)".

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Subsidiaries are consolidated from the date on which control is obtained until the date that such control ceases, using consistent accounting policies. All inter-company balances and transactions, including unrealised profits arising from such transactions, are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Non-controlling interest represents the proportion of income, other comprehensive income and net assets in subsidiaries that is not attributable to the Company's shareholders.

Currency translation

Foreign currency transactions are translated using the exchange rate at the dates of the transactions or valuation where items are remeasured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at quarter-end exchange rates of monetary assets and liabilities denominated in foreign currencies (including those in respect of inter-company balances, unless related to loans of a long-term investment nature) are recognised in income unless when recognised in other comprehensive income in respect of cash flow or net investment hedges. Foreign exchange gains and losses in income are presented within interest and other income or within purchases where not related to financing. Share capital issued in currencies other than the dollar is translated at the exchange rate at the date of issue.

On consolidation, assets and liabilities of non-dollar entities are translated to dollars at year-end rates of exchange, while their statements of income, other comprehensive income and cash flows are translated at monthly average rates. Prior to January 1, 2023, these currency translations were performed at quarterly average rates. This change has no significant impact on Shell's financial reporting. The resulting translation differences are recognised as currency translation differences within other comprehensive income. Upon sale of all or part of an interest in, or upon liquidation of, an entity, the appropriate portion of cumulative currency translation differences related to that entity is generally recognised in income.

Revenue recognition

Revenue from sales of oil, natural gas, chemicals and other products is recognised at the transaction price to which Shell expects to be entitled, after deducting sales taxes, excise duties and similar levies. For contracts that contain separate performance obligations, the transaction price is allocated to those separate performance obligations by reference to their relative stand-alone selling prices.

Revenue is recognised when control of the products has been transferred to the customer. For sales by Integrated Gas and Upstream operations, this generally occurs when the product is physically transferred into a vessel, pipe or other delivery mechanism; for sales by refining operations, it is either when the product is placed onboard a vessel or offloaded from the vessel, depending on the contractually agreed terms; and for sales of oil products and chemicals, it is either at the point of delivery or the point of receipt, depending on contractual conditions.

Revenue resulting from hydrocarbon production from properties in which Shell has an interest with partners in joint arrangements is recognised on the basis of Shell's volumes lifted and sold. Revenue resulting from the production of oil and natural gas under production-sharing contracts (PSCs) is recognised for those amounts relating to Shell's cost recoveries and Shell's share of the remaining production. Gains and losses on derivative contracts and the revenue and costs associated with other contracts that are classified as held primarily for the purpose of being traded are reported on a net basis in the Consolidated Statement of Income. Purchases and sales of hydrocarbons under exchange contracts that are necessary to obtain or reposition feedstocks for the refinery operations are presented net in the Consolidated Statement of Income.

Revenue resulting from arrangements that are not considered contracts with customers is presented as revenue from other sources.

Research and development

Development costs that are expected to generate probable future economic benefits are capitalised as intangible assets. All other research and development expenditure is recognised in the Consolidated Statement of Income as incurred.

Exploration costs

Hydrocarbon exploration costs are accounted for under the successful efforts method: exploration costs are recognised in the Consolidated Statement of Income when incurred, except that exploratory drilling costs, including in respect of the recapitalisation of depreciation, are included in property, plant and equipment pending determination of proved reserves. Exploration costs capitalised in respect of exploration wells that are more than 12 months old are written off unless: (a) proved reserves are booked; or (b) (i) they have found commercially producible quantities of reserves; and (ii) they are subject to further exploration or appraisal activity in that either drilling of additional exploratory wells is under way or firmly planned for the near future or other activities are being undertaken to sufficiently progress the assessing of reserves and the economic and operating viability of the project.

Property, plant and equipment and intangible assets other than goodwill Recognition

Property, plant and equipment comprise assets owned by Shell, assets held by Shell under lease contracts, and assets operated by Shell as contractor in PSCs. They include rights and concessions in respect of properties with proved reserves ("proved properties") and with no proved reserves ("unproved properties"). Property, plant and equipment, including expenditure on major inspections, and intangible assets are initially recognised in the Consolidated Balance Sheet at cost where it is probable that they will generate future economic benefits. This includes capitalisation of decommissioning and restoration costs associated with provisions for asset retirement (see "provisions"), certain development costs (see "research and development") and the effects of associated cash flow hedges (see "financial instruments") as applicable. Interest is capitalised as an increase in property, plant and equipment, on major capital projects during construction. The accounting for exploration costs is described separately (see "exploration costs"). Intangible assets other than goodwill include liquefied natural gas (LNG) off-take and sales contracts, environmental certificates, power purchase agreements, software costs, retail customer relationships and trademarks.

Property, plant and equipment and intangible assets other than goodwill are subsequently carried at cost less accumulated depreciation, depletion and amortisation (including any impairment). Gains and losses on sale are determined by comparing the proceeds with the carrying amounts of assets sold and are recognised in the Consolidated Statement of Income, within interest and other income.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

An asset is classified as held for sale if its carrying amount will be recovered principally through sale rather than through continuing use, which is when the sale is highly probable, and it is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such assets. Assets classified as held for sale are measured at the lower of the carrying amount upon classification and the fair value less costs to sell. Assets classified as held for sale and the associated liabilities are presented separately from other assets and liabilities in the Consolidated Balance Sheet. Once assets are classified as held for sale, property, plant and equipment and intangible assets other than goodwill are no longer subject to depreciation or amortisation.

Depreciation, depletion and amortisation

Property, plant and equipment related to hydrocarbon production activities are in principle depreciated on a unit-of-production basis over the proved developed reserves of the field concerned, other than assets whose useful lives differ from the lifetime of the field which are depreciated applying the straight-line method. For certain Integrated Gas and Upstream assets, the use of proved developed reserves, which are determined using the Securities and Exchange Commission (SEC) mandated yearly average oil and gas prices, could result in depreciation charges for these assets which do not reflect the pattern in which their future economic benefits are expected to be consumed as, for example, it may result in assets with long-term expected lives having accelerated or being fully depreciated within one year. Therefore, in these instances, other approaches are applied to determine a reserves base for the purpose of calculating depreciation, such as using management's expectations of future oil and gas prices rather than yearly average prices and using total proved reserves to provide a phasing of periodic depreciation charges that more appropriately reflects the expected utilisation of the assets concerned. (See Note 11)

Rights and concessions in respect of proved properties are depleted on the unit-of-production basis over the total proved reserves of the relevant area. Where individually insignificant, unproved properties may be grouped and depreciated based on factors such as the average concession term and past experience of recognising proved reserves.

Property, plant and equipment held under lease contracts, capitalised LNG off-take and sales contracts and power purchase agreements are depreciated or amortised over the term of the respective contract. Other property, plant and equipment and intangible assets other than goodwill are depreciated or amortised on a straight-line basis over their estimated useful lives. They include energy and chemicals parks (for which the useful life is generally 20 years), retail service stations (for which the useful life is generally 15 years), onshore power infrastructure (for which the useful life is generally 30-35 years), offshore wind assets (for which the useful life is generally 25-30 years) and major inspection costs, which are depreciated over the estimated period before the next planned major inspection (three to five years).

On classification of an asset as held for sale, depreciation ceases.

Estimates of the useful lives and residual values of property, plant and equipment and intangible assets other than goodwill are reviewed annually and adjusted if appropriate.

Impairment

Intangible assets other than goodwill and assets other than unproved properties (see "Exploration costs") are tested for impairment whenever events or changes in circumstances indicate that the carrying amounts for those assets may not be recoverable. If any such indication of impairment exists, the carrying amounts of those assets are written down to their recoverable amount, which is the higher of fair value less costs of disposal (see "Fair value measurements") and value in use.

Value in use is determined as the amount of estimated risk-adjusted discounted future cash flows. For this purpose, assets are grouped into cash-generating units based on separately identifiable and largely independent cash inflows. Estimates of future cash flows used in the evaluation of impairment of assets are made using management's forecasts of commodity prices, market supply and demand, potential costs associated with operational greenhouse gas (GHG) emissions, mainly related to CO₂, and forecast product, refining and chemical margins. In addition, management takes into consideration the expected useful lives of the manufacturing facilities, exploration and production assets, and expected production volumes. The latter takes into account assessments of field and reservoir performance and includes expectations about both proved reserves and volumes that are expected to constitute proved reserves in the future (unproved volumes), which are risk-weighted utilising geological, production, recovery and economic projections. Cash flow projections are based on management's most recent Operating Plan that represents management's best estimate and are risked as appropriate. The discount rate is based on a nominal post-tax weighted average cost of capital (WACC). Using a post-tax discount rate to calculate value in use does not result in a materially different outcome than using a pre-tax discount rate. (See Note 12).

Impairments are reversed as applicable to the extent that the events or circumstances that triggered the original impairment have changed.

Impairment losses and reversals are reported within depreciation, depletion and amortisation.

Upon classification of an asset as held for sale, the carrying amount is impaired if this exceeds the fair value less costs to sell.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Judgements and estimates

Proved oil and gas reserves

Unit-of-production depreciation, depletion and amortisation charges are principally measured based on management's estimates of proved developed oil and gas reserves. Also, exploration drilling costs are capitalised pending the results of further exploration or appraisal activity (successful efforts method), which may take place for several years before the final investment decision on a development project is taken and before any related proved reserves can be booked.

Proved reserves are estimated by internal qualified professionals. The proved reserves are estimated with reasonable certainty by analysis of available geological and engineering data at the time of the estimation, and only include volumes for which access to market is assured with reasonable expectation. Yearly average oil and gas prices are used for the estimation of proved reserves unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. Proved reserves are subject to regular revision, both upward or downward, based on new information from the drilling of additional wells, observation of long-term reservoir performance under producing conditions, updates of development plans and changes in economic factors, including product prices, contract terms, legislation or development plans.

Changes to estimates of proved developed reserves affect prospectively the amounts of depreciation, depletion and amortisation charged and, consequently, the carrying amounts of exploration and production assets. Generally, in the normal course of business the diversity of the asset portfolio will limit the net effect of such revisions. The outcome of, or assessment of plans for, exploration or appraisal activity may result in the related capitalised exploration drilling costs being recognised in the Consolidated Statement of Income in that period.

Judgement is involved in determining when to use an alternative reserves base in order to appropriately reflect the expected utilisation of the assets concerned (see "Depreciation, depletion and amortisation").

Information about the carrying amounts of exploration and production assets and the amounts charged to the Consolidated Statement of Income, including depreciation, depletion and amortisation and the quantitative impact of the use of an alternative reserves base, is presented in Note 11.

Impairment

For the purposes of determining whether impairment of assets has occurred, and the extent of any impairment loss or its reversal, the key assumptions management uses in estimating risk-adjusted future cash flows for value in use measures are future oil and gas prices and product margins including refining and chemical margins. In addition, management uses other assumptions such as potential costs associated with operational GHG emissions, market supply and demand, expected production volumes and forecast expenditure. These assumptions and the judgements of management that are based on them are subject to change as new information becomes available. Changes in assumptions could affect the carrying amounts of assets, and any impairment losses and reversals will affect income. Changes in economic conditions can affect the rate used to discount future cash flow estimates or the risk adjustment in the future cash flows. Judgement is applied to conclude whether changes in assumptions or economic conditions are an indicator that an asset may be impaired or that an impairment loss recognised in prior periods may no longer exist, or may have decreased.

Expected production volumes, which comprise proved reserves and unproved volumes, are used for impairment testing because management believes this to be the most appropriate indicator of expected future cash flows. Reserves estimates are inherently imprecise. Furthermore, projections about unproved volumes are based on information that is necessarily less robust than that available for mature reservoirs.

Estimation is involved with respect to the expected life of energy and chemicals parks, including management's view on the future development of refining margins.

The determination of cash-generating units requires judgement. Changes in this determination could impact the calculation of value in use and therefore the conclusion on the recoverability of assets' carrying amounts when performing an impairment test.

Judgement, which is subject to change as new information becomes available, can be required in determining when an asset is classified as held for sale. A change in that judgement could result in impairment charges affecting income, depending on whether classification requires a write-down of the asset to its fair value less costs to sell.

In assessing the value in use, the estimated risk-adjusted future post-tax cash flows are discounted to their present value using a post-tax discount rate that reflects Shell's post-tax WACC. (See Note 12). The level of risk reflected in the cash flow assumptions is a consideration in management's assessment of the discount rate to be applied in order to avoid duplication of systemic and asset-specific risk in calculating value in use, and to ensure the discount rate applied is commensurate with risks included in forecast cash flows.

Significant estimates

Assumptions about future commodity prices and refining and chemical margins used in the impairment testing in, respectively, Integrated Gas and Upstream and Chemicals and Products (see Note 12) are regularly assessed by management, noting that management does not necessarily consider short-term increases or decreases in prices as being indicative of long-term levels.

The price methodology applied is based on Shell management's understanding and interpretation of demand and supply fundamentals in the near term, taking into account various other factors such as industry rationalisation and energy transition in the long term.

Future commodity prices and refining margins used in impairment testing provide a source of estimation uncertainty as referred to in paragraph 125 of IAS 1 Presentation of Financial Statements (IAS 1.125).

Information about the carrying amounts of assets and impairments and their sensitivity to changes in significant estimates is presented in Note 12.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Goodwill

Goodwill is initially measured as the excess of the aggregate of the consideration transferred and the amount recognised for any non-controlling interest over the fair value of the identifiable assets acquired and liabilities assumed in a business combination at the acquisition date. The amount recognised for any non-controlling interest is measured as a percentage of the identified net assets of the acquiree based on the present ownership's proportionate share. At the acquisition date, acquired goodwill is allocated to each cash-generating unit (CGU), or groups of CGUs, expected to benefit from the combination's synergies. The CGU to which goodwill is allocated represents the lowest level at which the goodwill will be monitored and managed.

Goodwill is not amortised and is subsequently measured at the initial amount recognised less any accumulated impairment losses. (See Note 12).

Impairment

The carrying amount of goodwill is tested for impairment at least annually. Impairment is determined for goodwill by assessing the recoverable amount of each CGU to which the goodwill relates. An impairment loss is recognised when the CGU's recoverable amount is lower than its carrying amount.

Previously recognised impairment losses of goodwill are not reversed subsequently.

Leases

A contract, or part of a contract, that conveys the right to control the use of an identified asset for a period of time in exchange for payments to be made to the owners (lessors) is accounted for as a lease. Contracts are assessed to determine whether a contract is, or contains, a lease at the inception of a contract or when the terms and conditions of a contract are significantly changed. The lease term is the non-cancellable period of a lease, together with contractual options to extend or to terminate the lease early, where it is reasonably certain that an extension option will be exercised or a termination option will not be exercised.

At the commencement of a lease contract, a lease liability and a corresponding right-of-use asset are recognised, unless the lease term is 12 months or less. The commencement date of a lease is the date on which the underlying asset is made available for use. The lease liability is measured at an amount equal to the present value of the lease payments during the lease term that are not paid at that date. The lease liability includes contingent rentals and variable lease payments that depend on an index, rate, or where they are fixed payments in substance. The lease liability is remeasured when the contractual cash flows of variable lease payments change due to a change in an index or rate when the lease term changes following a reassessment.

Lease payments are discounted using the interest rate implicit in the lease. If that rate is not readily available, the incremental borrowing rate is applied. The incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment.

In general, a corresponding right-of-use asset is recognised for an amount equal to each lease liability, adjusted by the amount of any pre-paid lease payment relating to the specific lease contract. The depreciation on right-of-use assets is recognised in the Consolidated Statement of Income unless capitalised as exploration drilling cost (see "exploration cost") or capitalised when the right-of-use asset is used to construct another asset.

Where Shell is the lessor in a lease arrangement at inception, the lease arrangement will be classified as a finance lease or an operating lease. Classification is based on the extent to which the risks and rewards incidental to ownership of the underlying asset lie with the lessor or the lessee.

Where Shell, usually in its capacity as operator, has entered into a lease contract on behalf of a joint arrangement, a lease liability is recognised to the extent that Shell has primary responsibility for the lease liability. A finance sublease is subsequently recognised if the related right-of-use asset is subleased to the joint arrangement. This is usually the case when the joint arrangement has the right to direct the use and obtains substantially all of the economic benefits from using the asset.

Impairment of the right-of-use asset

Right-of-use assets are subject to existing impairment requirements as set out in "Property, plant and equipment", above, and as presented in Note 12.

Judgements and estimates

A lease term includes optional lease periods where it is reasonably certain Shell will exercise the option to extend or not exercise the option to terminate the lease. Determination of the lease term is subject to judgement and has an impact on the measurement of the lease liability and related right-of-use asset. When assessing the lease term at the commencement date, Shell takes into consideration the broader economics of the contract. Reassessment of the lease term is performed upon changes in circumstances that may affect the probability that an option to extend or to terminate the lease will be exercised.

Where the rate implicit in the lease is not readily available, an incremental borrowing rate is applied. This incremental borrowing rate reflects the rate of interest that the lessee would have to pay to borrow over a similar term, with a similar security, the funds necessary to obtain an asset of a similar nature and value to the right-of-use asset in a similar economic environment. Determination of the incremental borrowing rate requires estimation.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Joint arrangements and associates

Arrangements under which Shell has contractually agreed to share control (see "Nature of the Consolidated Financial Statements" for the definition of control) with another party or parties are joint ventures where the parties have rights to the net assets of the arrangement, or joint operations where the parties have rights to the assets and obligations for the liabilities relating to the arrangement. Investments in entities over which Shell has significant influence but neither control nor joint control are classified as associates. Information about incorporated joint arrangements and associates at December 31, 2023, can be found in "Appendix 1: Significant subsidiaries and other related undertakings (audited)".

Investments in joint ventures and associates are accounted for using the equity method, under which the investment is initially recognised at cost and subsequently adjusted for the Shell share of post-acquisition income less dividends received and the Shell share of other comprehensive income and other movements in equity, together with any loans of a long-term investment nature. Where necessary, adjustments are made to the financial statements of joint ventures and associates to bring the accounting policies used into line with those of Shell. In an exchange of assets and liabilities for an interest in a joint venture, the non-Shell share of any excess of the fair value of the assets and liabilities transferred over the pre-exchange carrying amounts is recognised in the Consolidated Statement of Income. Unrealised gains on other transactions between Shell and its joint ventures and associates are eliminated to the extent of Shell's interest in them; unrealised losses are treated similarly but may also result in an assessment of whether the asset transferred is impaired.

Shell recognises its assets and liabilities relating to its interests in joint operations, including its share of assets held jointly and liabilities incurred jointly with other partners.

Inventories

Inventories are stated at cost or net realisable value, whichever is lower. Cost comprises direct purchase costs (including transportation), and associated costs incurred in bringing inventories to their present condition and location, and is determined using the first-in, first-out (FIFO) method for oil, gas and chemicals and by the weighted average cost method for materials.

Taxation

The charge for current tax is calculated based on the income reported by the Company and its subsidiaries, as adjusted for items that are non-taxable or disallowed and using rates that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is determined, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the Consolidated Balance Sheet and on unused tax losses and credits carried forward.

Deferred tax assets and liabilities are calculated using the enacted or substantively enacted rates that are expected to apply when an asset is realised or a liability is settled. They are not recognised where they arise on the initial recognition of goodwill or of an asset or liability in a transaction (other than in a business combination) that, at the time of the transaction, affects neither accounting nor taxable profit, or in respect of taxable temporary differences associated with subsidiaries, joint ventures and associates where the reversal of the respective temporary difference can be controlled by Shell and it is probable that it will not reverse in the foreseeable future.

Deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which the deductible temporary differences, unused tax losses and credits carried forward can be utilised.

Income tax receivables and payables as well as deferred tax assets and liabilities include provisions for uncertain income tax positions/treatments.

Income taxes are recognised in income except when they relate to items recognised in other comprehensive income, in which case the tax is recognised in other comprehensive income. Income tax assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a right of offset within fiscal jurisdictions and an intention to settle such balances on a net basis.

Judgements and estimates

Tax liabilities are recognised when it is considered probable that there will be a future outflow of funds to a taxing authority. In such cases, provision is made for the amount that is expected to be settled, where this can be reasonably estimated. Provisions for uncertain income tax positions/treatments are measured at the most likely amount or the expected value, whichever method is more appropriate. Generally, uncertain tax treatments are assessed on an individual basis, except where they are expected to be settled collectively. It is assumed that taxing authorities will examine positions taken if they have the right to do so and that they have full knowledge of the relevant information. A change in estimate of the likelihood of a future outflow and/or in the expected amount to be settled would be recognised in income in the period in which the change occurs. This requires the application of judgement as to the ultimate outcome, which can change over time depending on facts and circumstances. Judgements mainly relate to transfer pricing, including inter-company financing, interpretation of PSCs, expenditure deductible for tax purposes and taxation arising on disposal.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Judgements and estimates continued

Deferred tax assets are recognised only to the extent it is considered probable that those assets will be recoverable. This involves an assessment of when those assets are likely to reverse, and a judgement as to whether or not there will be sufficient taxable profits available to offset the assets when they do reverse. This requires assumptions regarding future profitability and is therefore inherently uncertain. To the extent assumptions regarding future profitability change, there can be an increase or decrease in the amounts recognised in respect of deferred tax assets as well as in the amounts recognised in income in the period in which the change occurs.

Taxation information, including charges and deferred tax assets and liabilities, is presented in Note 22. Income taxes include taxes at higher rates levied on income from certain Integrated Gas and Upstream activities.

Retirement benefits

Benefits in the form of retirement pensions and health care and life insurance are provided to certain employees and retirees under defined benefit and defined contribution plans.

Obligations under defined benefit plans are calculated annually by independent actuaries using the projected unit credit method, which takes into account employees' years of service and, for pensions, average or final pensionable remuneration, and are discounted to their present value using interest rates of high-quality corporate bonds denominated in the currency in which the benefits will be paid and of a duration consistent with the plan obligations. Where plans are funded, payments are made to independently managed trusts; assets held by those trusts are measured at fair value. Defined benefit plan surpluses are recognised as assets to the extent that they are considered recoverable, which is generally by way of a refund or lower future employer contributions.

The amounts recognised in income in respect of defined benefit plans mainly comprise service cost and net interest. Service cost comprises principally the increase in the present value of the obligation for benefits resulting from employee service during the period (current service cost) and also amounts relating to past service and settlements or amendments of plans. Plan amendments are changes to benefits and are generally recognised when all legal and regulatory approvals have been received and the effects have been communicated to members. Net interest is calculated using the net defined benefit liability or asset matched against the discount rate yield curve at the beginning of each year for each plan. Remeasurements of the net defined benefit liability or asset resulting from actuarial gains and losses, and the return on plan assets excluding the amount recognised in income, are recognised in other comprehensive income.

For defined contribution plans, pension expense represents the amount of employer contributions payable for the period.

Significant judgements and estimates

Defined benefit obligations and plan assets, and the resulting liabilities and assets that are recognised, require significant estimation as these are subject to volatility as (actuarial) assumptions regarding future outcomes and market values change. Substantial judgement is required in determining the actuarial assumptions, which vary for the different plans to reflect local conditions but are determined under a common process in consultation with independent actuaries. The assumptions applied in respect of each plan are reviewed annually and adjusted where necessary to reflect changes in experience and actuarial recommendations.

Actuarial assumptions applied in determining defined benefit obligations provide a source of estimation uncertainty as referred to in IAS 1.125.

Information about the amounts reported in respect of defined benefit pension plans, assumptions applicable to the principal plans and their sensitivity to changes in significant estimates is presented in Note 23.

Provisions

Provisions are recognised at the balance sheet date at management's best estimate of the expenditure required to settle the present obligation. Non-current amounts are discounted at a rate intended to reflect the time value of money. The carrying amounts of provisions and the discount rate applied are regularly reviewed and adjusted for new facts or changes in law, technology or financial markets.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Provisions for decommissioning and restoration costs, which arise principally in connection with hydrocarbon production facilities, oil products manufacturing facilities and pipelines, are measured on the basis of current requirements, technology and price levels; the present value is calculated using amounts discounted over the useful economic life of the assets. The liability is recognised (together with a corresponding amount as part of the related property, plant and equipment) once a legal or constructive obligation arises to dismantle an item of property, plant and equipment and to restore the site on which it is located and when a reasonable estimate can be made. The effects of changes resulting from revisions to the timing or the amount of the original estimate of the provision are reflected on a prospective basis, generally by adjustment to the carrying amount of the related property, plant and equipment. However, where there is no related asset, or the change reduces the carrying amount to nil, the effect, or the amount in excess of the reduction in the related asset to nil, is recognised in income.

Shell reviews its energy and chemicals parks on a regular basis to determine whether any changes in assumptions, including expected life, trigger the need to recognise a provision for decommissioning and restoration.

Redundancy provisions are recognised when a detailed formal plan identifies the business or part of the business concerned, the location and number of employees affected, a detailed estimate of the associated costs and an appropriate timeline, and the employees affected have been notified of the plan's main features.

An onerous contract provision is recognised when the unavoidable cost of meeting the obligations under the contract exceeds the economic benefits expected to be received under it. The unavoidable cost under a contract is the lower of the cost of fulfilling the contract and any compensation or penalties arising from failure to fulfil it. The cost of fulfilling a contract comprises the costs that relate directly to the contract. Before an onerous provision is recognised Shell first recognises any impairment loss that has occurred on assets dedicated to that contract.

Other provisions are recognised in the Consolidated Statement of Income in the period in which an obligation arises and the amount can be reasonably estimated. Provisions are measured based on current legal requirements and existing technology where applicable. Recognition of any joint and several liability is based on management's best estimate of the final pro rata share of the liability. Provisions are determined independently of expected insurance recoveries. Recoveries are recognised when virtually certain of realisation.

Estimates

Estimates of provisions for future decommissioning and restoration costs are recognised and based on current legal and constructive requirements, technology and price levels. Because actual cash outflows can differ from estimates due to changes in laws, regulations, public expectations, technology, prices and conditions, and can take place many years in the future, the carrying amounts of provisions are regularly reviewed and adjusted to take account of such changes.

Significant estimate

The discount rate applied to reflect the time value of money in the carrying amount of provisions requires estimation. The discount rate used in the calculation of provisions is the pre-tax rate that reflects current market assessments of the time value of money. Generally, the market assessments of the time value of money can be reflected in the risk-free rate and given the long-term investment nature of oil and gas business, Shell considers it appropriate to use the 20-year US Treasury bond yield return as the risk-free rate. The discount rate applied is reviewed regularly and adjusted following changes in market rates.

The discount rate applied to determine the carrying amount of provisions provides a source of estimation uncertainty as referred to in IAS 1.125.

Information about decommissioning and restoration provisions and their sensitivity to changes in estimates is presented in Note 24.

Financial instruments

Financial assets and liabilities are presented separately in the Consolidated Balance Sheet except where there is a legally enforceable right of offset and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously.

Financial assets

Financial assets are classified at initial recognition and subsequently measured at amortised cost, fair value through other comprehensive income or fair value through profit or loss. The classification of financial assets is determined by the contractual cash flows and where applicable the business model for managing the financial assets.

Debt instruments are measured at amortised cost, if the objective of the business model is to hold the financial asset in order to collect contractual cash flows and the contractual terms give rise to cash flows that are solely payments of principal and interest. It is initially recognised at fair value plus or minus transaction costs that are directly attributable to the acquisition or issue of the financial asset. Subsequently, the financial asset is measured using the effective interest method less any impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

All equity instruments and other debt instruments are recognised at fair value. For equity instruments, on initial recognition, an irrevocable election (on an instrument-by-instrument basis) can be made to designate these as at fair value through other comprehensive income instead of fair value through profit or loss. Dividends received on equity instruments are recognised as other income in profit or loss when the right of payment has been established, except when Shell benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case such gains are recorded in other comprehensive income.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Investments in securities

Investments in securities ("securities") comprise equity and debt securities. Equity securities are carried at fair value. Generally, unrealised holding gains and losses are recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are transferred to retained earnings. Debt securities are generally carried at fair value with unrealised holding gains and losses recognised in other comprehensive income. On sale, net gains and losses previously accumulated in other comprehensive income are recognised in income.

Impairment of financial assets

The expected credit loss model is applied for recognition and measurement of impairments in financial assets measured at amortised cost or at fair value through other comprehensive income. The expected credit loss model is also applied for financial guarantee contracts to which IFRS 9 applies and which are not accounted for at fair value through profit or loss. The loss allowance for the financial asset is measured at an amount equal to the 12-month expected credit losses. If the credit risk on the financial asset has increased significantly since initial recognition, the loss allowance for the financial asset is measured at an amount equal to the lifetime expected credit losses. Changes in loss allowances are recognised in profit or loss. For trade receivables, a simplified impairment approach is applied recognising expected lifetime losses from initial recognition.

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand, including offsetting bank overdrafts, short-term bank deposits, money market funds, reverse repos and similar instruments that generally have a maturity of three months or less at the date of purchase.

Financial liabilities

Financial liabilities are measured at amortised cost, unless they are required to be measured at fair value through profit or loss, such as instruments held for trading, or Shell has opted to measure them at fair value through profit or loss. Debt and trade payables are recognised initially at fair value based on amounts exchanged, net of transaction costs, and subsequently at amortised cost except for fixed rate debt subject to fair value hedging which is remeasured for the hedged risk (see below). Interest expense on debt is accounted for using the effective interest method, and other than interest capitalised, is recognised in income. For financial liabilities that are measured under the fair value option, the change in the fair value related to own credit risk is recognised in other comprehensive income. The remaining fair value change is recognised at fair value through profit or loss.

Derivative contracts and hedges

Derivative contracts are used in the management of interest rate risk, foreign exchange risk, commodity price risk, and foreign currency cash balances. Derivatives that are not closely related to the host contract in terms of economic characteristics and risks and the host contract of which is not a financial asset are separated from their host contract and recognised at fair value with the associated gains and losses recognised in income.

Contracts to buy or sell a non-financial item that can be settled net in cash are accounted for as financial instruments, with the exception of those contracts that were entered into and continue to be held for the purpose of the receipt or delivery of a non-financial item in accordance with Shell's expected purchase, sale or usage requirements. Gains or losses arising from changes in the fair value of derivatives that are not designated as effective hedging instruments are recognised in income.

Certain derivative contracts qualify and are designated either: as a fair value hedge of the change in fair value of a recognised asset or liability or an unrecognised firm commitment; or as a cash flow hedge for the change in cash flows to be received or paid relating to a recognised asset or liability or a highly probable forecast transaction; or as a net investment hedge of the change in foreign exchange rates associated with net investments in foreign operations with a different functional currency than Shell's functional currency.

A change in the fair value of a hedging instrument designated as a fair value hedge is recognised in income, together with the consequential adjustment to the carrying amount of the hedged item. The effective portion of a change in fair value of a derivative contract designated as a cash flow hedge is recognised in other comprehensive income until the hedged transaction occurs; any ineffective portion is recognised in income. Where the hedged item is a non-financial asset or liability, the amount in accumulated other comprehensive income is transferred to the initial carrying amount of the asset or liability (reclassified to the balance sheet); a net investment hedge is accounted for similarly to a cash flow hedge. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognised in other comprehensive income while any gains or losses relating to the ineffective portion are recognised in the Consolidated Statement of Income. On disposal of the foreign operation, the cumulative value of any such gains or losses recorded in other comprehensive income is reclassified to the Consolidated Statement of Income.

The effective portion of a change due to retranslation at quarter-end exchange rates in the carrying amount of debt and the principal amount of derivative contracts used to hedge net investments in foreign operations is recognised in other comprehensive income until the related investment is sold or liquidated; any ineffective portion is recognised in income.

All relationships between hedging instruments and hedged items are documented, as well as risk management objectives and strategies for undertaking hedge transactions. The effectiveness of hedges is also continually assessed and hedge accounting is discontinued when there is a change in the risk management strategy.

Unless designated as hedging instruments, contracts to sell or purchase non-financial items that can be settled net as if the contracts were financial instruments and that do not meet expected own-use requirements (typically, forward sale and purchase contracts for commodities in trading operations), and contracts that are or contain written options, are recognised at fair value; associated gains and losses are recognised in income.

Derivatives that are held primarily for the purpose of trading are presented as current in the Consolidated Balance Sheet.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Judgement

Judgement is required to determine whether contracts to buy or sell LNG are capable of being settled on a net basis. Due to the limited liquidity in the LNG market and the lack of net settlement history, contracts to buy or sell LNG are not considered capable of being settled on a net basis. As a result, these contracts are accounted for on an accrual basis and not as a financial instrument.

Fair value measurements

Fair value measurements are estimates of the amounts for which assets or liabilities could be transferred at the measurement date, based on the assumption that such transfers take place between participants in principal markets and, where applicable, taking highest and best use into account.

Estimate

Where available, fair value measurements are derived from prices quoted in active markets for identical assets or liabilities. In the absence of such information, other observable inputs are used to estimate fair value. Inputs derived from external sources are corroborated or otherwise verified, as appropriate. In the absence of publicly available information, fair value is determined using estimation techniques that take into account market perspectives relevant to the asset or liability, in as far as they can reasonably be ascertained, based on predominantly unobservable inputs. For derivative contracts where publicly available information is not available, fair value estimations are generally determined using models and other valuation methods, the key inputs for which include future prices, volatility, price correlation, counterparty credit risk and market liquidity, as appropriate; for other assets and liabilities, fair value estimations are generally based on the net present value of expected future cash flows.

Share-based compensation plans

The fair value of share-based compensation expense arising from the Performance Share Plan (PSP) and the Long-term Incentive Plan (LTIP) - Shell's main equity-settled plans - is estimated using the average Monte Carlo fair values and is recognised in income from the date of grant over the vesting period with a corresponding increase directly in equity. The model projects and averages the results for a range of potential outcomes for the vesting conditions, the principal assumptions for which are the share price volatility and dividend yields for Shell and four of its main competitors using respectively three years and 10 years of historical data.

Shares held in trust

Shares in the Company, which are held by employee share ownership trusts and trust-like entities, are not included in assets but are reflected at cost as a deduction from equity as shares held in trust.

Acquisitions and sales of interests in a business

Assets acquired and liabilities assumed when control is obtained over a business, and when an interest or an additional interest is acquired in a joint operation which is a business, are recognised at their fair value at the date of the acquisition; the amount of the purchase consideration above this value is recognised as goodwill. When control is obtained, any non-controlling interest is recognised as the proportionate share of the identifiable net assets. The acquisition of a non-controlling interest in a subsidiary and the sale of an interest while retaining control are accounted for as transactions within equity. The difference between the purchase consideration or sale proceeds after tax and the relevant proportion of the non-controlling interest, measured by reference to the carrying amount of the interest's net assets at the date of acquisition or sale, is recognised in retained earnings as a movement in equity attributable to Shell plc shareholders.

Emission schemes and related environmental programmes

Emission certificates, biofuel certificates and renewable power certificates (together "environmental certificates") held for trading purposes are recognised at cost or net realisable value, whichever is lower, and classified under inventory.

Emission trading schemes

Emission certificates acquired for compliance purposes are initially recognised at cost and classified under intangible assets. In the schemes where a cap is set for emissions, the associated emission certificates granted are recognised at cost, which may be zero. An emission liability is recognised under other liabilities when actual emissions occur that give rise to an obligation. To the extent the liability is covered by emission certificates held for compliance purposes, the liability is measured with reference to the value of these emission certificates held and for the remaining uncovered portion at market value. The associated expense is presented under "Production and manufacturing expenses". Both the emission certificates and the emission liability are derecognised upon settling the liability with the respective regulator.

Biofuel programmes

Biofuel certificates acquired that are held for compliance purposes are initially recognised at cost under intangible assets. Self-generated biofuel certificates are recognised at nil value, as they primarily offset the obligation. A biofuel liability is recognised under other liabilities when the obligation arises under local regulations. To the extent covered by biofuel certificates held for compliance purposes, the liability is measured with reference to the value of these certificates held and for the remaining uncovered portion at market value. The associated expense is presented under "purchases". Biofuel certificates and the biofuel liability are both derecognised upon settling the liability with the respective regulator.

Notes to the Consolidated Financial Statements continued

2. Material accounting policies, judgements and estimates continued

Renewable power programmes

Renewable power certificates acquired for compliance purposes are initially recognised at cost as an intangible asset. Self-generated renewable power certificates are generally transferred to the customer upon sales of electricity. A renewable power liability is recognised under other liabilities when electricity sales take place that give rise to an obligation to retire renewable power certificates. The associated cost is recognised in "purchases" in the income statement. If the obligation relates to power consumed in business operations, it is presented in other liabilities with cost reflected in "Production and manufacturing expenses". To the extent covered by renewable power certificates held for compliance purposes, the liability is measured with reference to the value of these renewable power certificates and for the remaining uncovered portion at market value. Renewable power certificates and the renewable power liability are derecognised upon settling the liability with the respective regulator.

Consolidated Statement of Income presentation

Purchases reflect all costs related to the acquisition of inventories and the effects of the changes therein, and include associated costs incurred in conversion into finished or intermediate products. Production and manufacturing expenses are the costs of operating, maintaining and managing production and manufacturing assets. Selling, distribution and administrative expenses include direct and indirect costs of marketing and selling products.

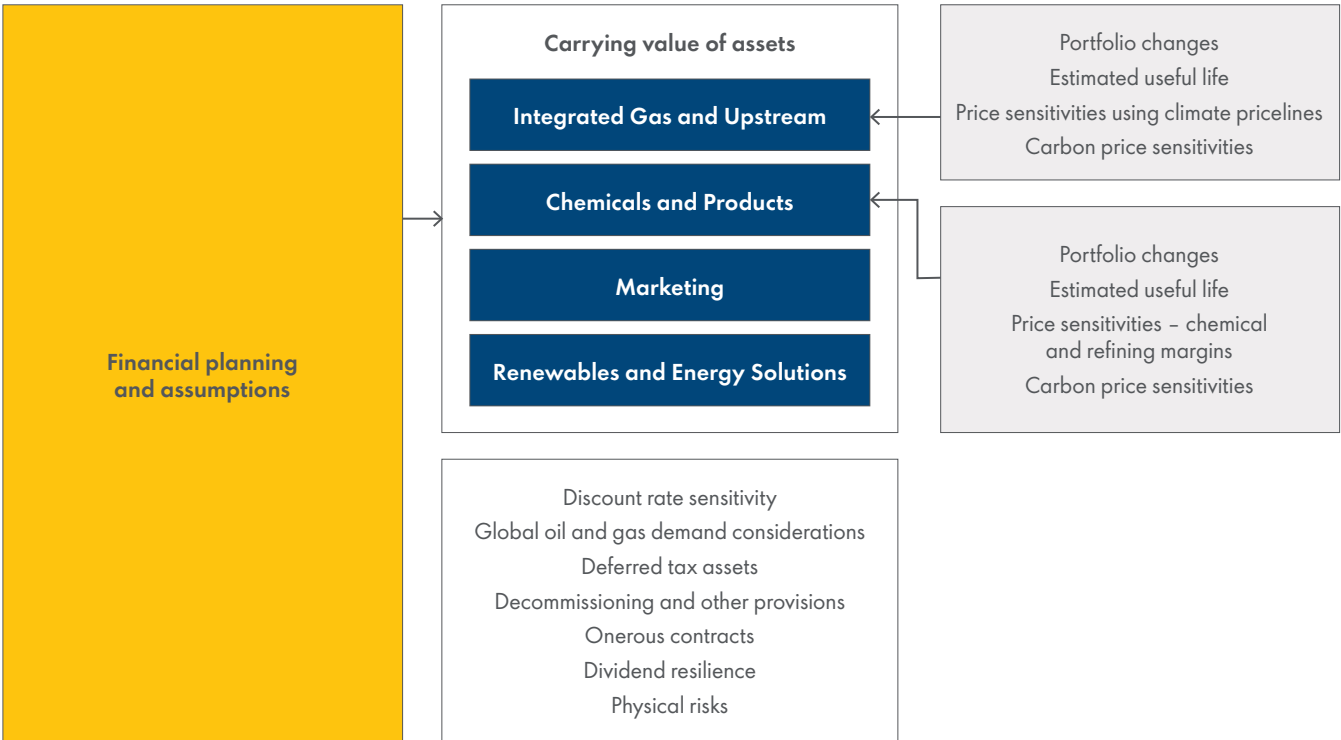
3. Changes to IFRS not yet adopted

As from January 1, 2024, various amendments to IFRS standards will apply that do not have a material impact on Shell.

4. Climate change and energy transition

This note describes how Shell has considered climate-related impacts in key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities as Shell makes progress in the energy transition. The note is structured as follows:

Climate change and energy transition



Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Note 2 Material accounting policies, judgements and estimates describes uncertainties, including those that have the potential to have a material effect on the Consolidated Balance Sheet in the next 12 months. This note describes the key areas of climate impacts that potentially have short-, medium- and longer-term effects on amounts recognised in the Consolidated Balance Sheet at December 31, 2023. Where relevant, this note contains references to other notes to the Consolidated Financial Statements and aims to provide an overarching summary of the energy transition impact.

In 2021, Shell launched its Powering Progress strategy to become a net-zero emissions energy business by 2050. The strategy aims to deliver more value with less emissions. Targets include reduction of absolute emissions from operations and the energy Shell buys to run them, compared with 2016 baseline. Shell's targets include reducing Scope 1 and 2 emissions on a net basis under operational control by 50% by 2030, compared with 2016 baseline, achieving near-zero methane emissions for operated oil and gas assets by 2030 and eliminating routine gas flaring from Shell's upstream-operated assets by 2025 (subject to the completion of the divestment of Shell's interest in The Shell Petroleum Development Company of Nigeria Limited (SPDC)). Shell's target is to reduce the net carbon intensity of energy products sold by 9-12% by 2024, 9-13% by 2025, 15-20% by 2030 and 100% by 2050, compared to a 2016 baseline. In March 2024, Shell set a new ambition to reduce customer emissions (Scope 3, Category 11) related to the use of oil products sold by 15-20% by 2030, compared with 2021.

Financial planning and assumptions

This section provides an overview of key assumptions used for financial planning related to climate change and the energy transition. These assumptions that underpin the amounts recognised in these financial statements – such as future oil and gas prices, future chemical and refining margins, discount rates, future costs of decommissioning and restoration, carbon emission cost and deferred tax assets - take climate change and energy transition into account and are similarly used for impairment testing of carrying amounts of assets. The areas described focus on those most pertinent to Shell's business and how financial planning and assumptions interact with scenarios. Subsequently, the sensitivity of carrying amounts to commodity prices, carbon emission costs, chemical and refining margins, discount rates and demand, if different assumptions were applied, is described.

There is no one single scenario that underpins the financial statements. Shell scenarios are designed to challenge management's perspectives on the future business environment and stretch management to consider events that may be only remotely possible. As a result, these scenarios are not intended to be predictions of likely future events or outcomes and are not the basis for Shell's financial statements and Operating Plans.

Shell scenarios and the range of possible outcomes inform the development of Shell's strategy and Shell's view on future oil and gas price outlooks, refining margins and chemical margins. The oil and gas price outlooks are one of the key assumptions that underpin Shell's financial statements. Shell's scenarios inform high-, mid- and low-price outlooks. The mid-price outlook represents management's reasonable best estimate and is the basis for Shell's financial statements, Operating Plans and impairment testing. Impairment testing applies management's reasonable best estimates across the full life cycle of assets, which may go beyond the operating plan period.

Shell's targets including to reduce absolute Scope 1 and 2 emissions on a net basis [A] by 50% by 2030, compared with 2016 baseline, and a 15-20% reduction of net carbon intensity [B] by 2030 have been included in Shell's Operating Plan. The Operating Plan also includes expected costs for evolving carbon regulations (see section "Carbon price sensitivities" below) based on a forecast of Shell's equity share of emissions from operated and non-operated assets, also taking into account the estimated impact of free allowances. For impairment testing purposes key assumptions that underpin the amounts recognised in the Consolidated Balance Sheet, such as future oil and gas prices, refining margins, chemical margins, discount rates, future costs of decommissioning and restoration, carbon emission cost and tax rates, all go beyond the planning horizon in the Operating Plan and do take climate change and energy transition into account.

[A] Operational control boundary.

[B] GHG emissions based on the energy product sales included in the net carbon intensity (NCI) using equity boundary.

Goodwill, other intangible assets, property, plant and equipment, and joint ventures and associates

The carrying value of goodwill, other intangible assets, property plant and equipment, and joint ventures and associates by segment as at December 31 was as follows:

2023

	\$ billion				
	Goodwill	Other intangible assets	Property, plant and equipment	Joint ventures and associates	Total
Integrated Gas	4.9	3.2	57.7	6.1	71.9
Upstream	5.4	0.3	70.9	7.6	84.2
Chemicals and Products	0.3	2.4	36.9	4.0	43.6
Marketing	4.4	2.9	22.2	4.7	34.2
Renewables and Energy Solutions	1.7	1.5	4.8	2.0	10.0
Corporate	–	–	2.3	0.1	2.4
Total	16.7	10.3	194.8	24.5	246.3

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

2022

					\$ billion
	Goodwill	Other intangible assets	Property, plant and equipment	Joint ventures and associates	Total
Integrated Gas	4.9	3.9	60.8	5.6	75.2
Upstream	5.3	0.2	74.5	7.7	87.7
Chemicals and Products	0.3	2.1	38.1	4.2	44.7
Marketing	3.3	1.8	19.1	4.4	28.6
Renewables and Energy Solutions	2.2	1.6	3.2	1.9	8.9
Corporate	–	0.1	2.9	0.1	3.1
Total	16.0	9.7	198.6	23.9	248.2

For Integrated Gas and Upstream, sensitivity to commodity prices and carbon prices has been tested (see below) covering the carrying amount of goodwill, other intangible assets, property, plant and equipment, and joint ventures and associates. Sensitivity testing was performed applying alternative price scenarios to the forecasted cash flows for the whole period until the end of life of the asset tested. For Chemicals and Products, sensitivity to chemical margins, refining margins and carbon prices has been tested (see below). Marketing and Renewables and Energy Solutions are expected to be resilient through the energy transition with limited exposure of stranded assets.

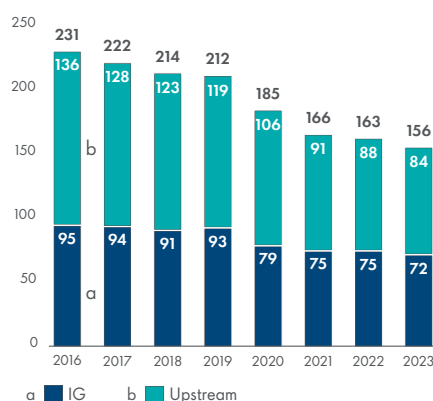
In addition, sensitivity to changes in the discount rate applied in impairment testing has also been tested (see below).

In calculating recoverable value, key assumptions are not determined in isolation, to ensure relevant interdependencies are appropriately reflected. In particular, management considers the relationship between discount rates, forecast commodity prices and cash flow risking to ensure impairment testing assumptions result in an implicit expected return which is balanced and appropriate for the asset under review. Each of the sensitivities described above has been tested under a ceteris paribus assumption where all other factors remain unchanged, and as such do not reflect the potential offsetting effects of corresponding changes in other assumptions.

Carrying value of Integrated Gas and Upstream assets

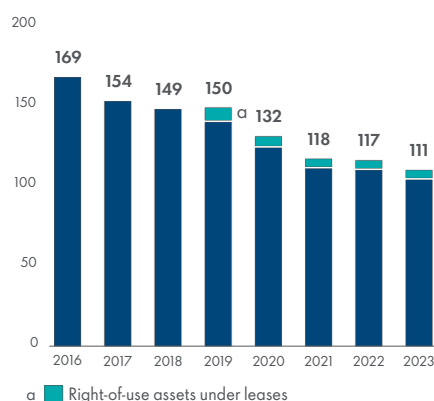
Carrying value of Integrated Gas and Upstream assets

\$ billion as at December 31



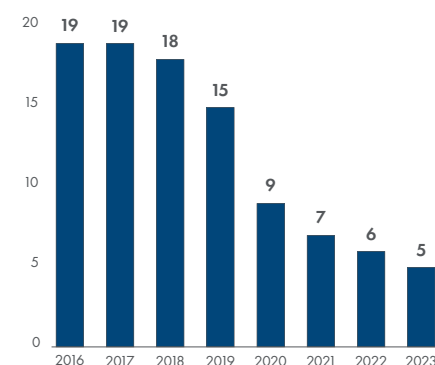
Carrying value of production assets

\$ billion as at December 31



Carrying value of exploration and evaluation assets

\$ billion as at December 31



Within Integrated Gas and Upstream, the assets potentially most sensitive to the energy transition are production assets and exploration and evaluation assets. Both production assets of \$111 billion and exploration and evaluation assets of \$5 billion are recognised within Property, plant and equipment within Integrated Gas and Upstream.

Portfolio composition and changes

Since 2016, the carrying amount of production assets in Integrated Gas and Upstream decreased from \$169 billion as at December 31, 2016, to \$111 billion as at December 31, 2023. Over this period, depreciation was higher than additions for each year, and disposals of property, plant and equipment with a carrying amount of \$26 billion occurred. The carrying amount of capitalised exploration and evaluation expenses decreased from \$19 billion as at December 31, 2016, to \$5 billion at December 31, 2023. This is the result of final investment decisions, reclassifications to production assets and amounts charged to expenses exceeding additions.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Estimated useful life

The energy transition and the pace at which it progresses may impact the remaining life of assets. Integrated Gas and Upstream assets are generally depreciated using a unit-of-production methodology where depreciation generally depends on production of SEC proved reserves (see Note 2). Based on production plans of existing assets, 43%, 7% and 1% of SEC proved reserves as at December 31, 2023, would currently be left by 2030, 2040 and 2050, respectively. Based on the unit-of-production depreciation methodology applied, carrying amounts for individual assets are depreciated to nil in the same pattern as the depletion of reserves towards nil. An analysis of Integrated Gas and Upstream production assets of \$111 billion as at December 31, 2023, based on planned reserves depletion shows that these assets would be significantly further depreciated under the unit-of-production method by 2030 and nearly fully depreciated by 2050. This provides a further perspective on the risk of stranded assets carried in the Consolidated Balance Sheet as at December 31, 2023.

Price sensitivities using climate pricelines

As noted, in accordance with IFRS, Shell's financial statements are based on reasonable and supportable assumptions that represent management's current best estimate of the range of economic conditions that may exist in the foreseeable future. The mid-price outlook informed by Shell's scenario planning represents management's best estimate. A change of -10% or +10% to the mid-price outlook, as an average percentage over the whole life cycle of assets, would result in around \$5-8 billion (2022: \$2-5 billion) impairment or \$2-5 billion (2022: \$2-4 billion) impairment reversal respectively in Integrated Gas and Upstream (see Note 12). Compared with the prior year, the higher impact of a 10% decrease in commodity prices is mainly driven by lower headroom for certain assets between carrying value and recoverable value at December 31, 2023.

The energy transition will continue to bring volatility and there is significant uncertainty as to how commodity prices will develop over the next decades. Some pricelines see a structurally lower price during the transition period, while other pricelines see structurally higher commodity prices as a result of changes in supply and demand. As the risk of stranded assets is prevalent with downside price risk in energy transition scenarios, sensitivities have only been undertaken for such downside scenarios. If different price outlooks from external and often normative climate change scenarios were used, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2023. These external scenarios are not representative of management's mid-price reasonable best estimate.

Sensitivity of carrying amounts to commodity prices described below is under the assumption that all other factors in the models used – such as cost levels, volumes, mid-price CO₂ assumptions and the discount rate – to calculate recoverability of carrying amounts remain unchanged. Sensitivity testing has been performed by applying the alternative commodity price scenarios to cash flows for the whole period until the end of life of the assets tested, which may extend beyond the operating plan period. The alternative commodity prices were applied in the local cash flow models and thereafter aggregated by segment. Changes to commodity prices are applied because of the significant impact on Shell's business. It should be noted that a significant decrease in long-term forecasted commodity prices would probably lead to further changes, such as in portfolio choices and cost levels.

Sensitivity to changes in commodity prices in value in use calculations has been tested as follows:

Priceline 1 – Average prices from three 1.5-2 degrees Celsius external climate change scenarios: in view of the broad range of price outlooks across the various scenarios, the average of three external price outlooks was taken.

- **IHS Markit/ACCS 2023** – under this scenario oil prices (real terms 2023 (RT23)) gradually decrease towards \$25 per barrel (/b) in 2037, gradually recovering to \$63/b in 2045 with subsequent levels until 2050 ranging between \$62/b and \$69/b. Gas prices (RT23) are around \$3 per million British thermal units (/MMBtu) until 2050 for Henry Hub. For Europe, prices decrease from \$17/MMBtu in 2024 towards around \$3/MMBtu in 2030, remaining around that level until 2050. For Asia, prices decrease from \$18/MMBtu in 2024 towards around \$3/MMBtu in 2031, staying at a level between \$3 and \$4/MMBtu until 2050.
- **Woodmac WM AET-1.5 degree** – under this scenario oil prices (RT23) gradually decrease towards \$28/b in 2050. Gas prices (RT23) are around \$3/MMBtu until 2033 and subsequently some \$4/MMBtu until 2046, thereafter some \$3/MMBtu until 2050 for Henry Hub. For Europe, gas prices (RT23) decrease gradually from around \$15/MMBtu in 2024 to some \$5/MMBtu in 2050. For Asia, gas prices decrease from \$15/MMBtu in 2024 to \$7/MMBtu in 2031, subsequently ranging between \$6/MMBtu and \$10/MMBtu until 2050.
- **IEA NZE50** – under this scenario oil prices (RT23) gradually decrease towards some \$26/b in 2050. Gas prices (RT23) decrease from some \$5/MMBtu in 2024 to around \$2/MMBtu for Henry Hub in 2030, remaining slightly below that level until 2050. For Europe and Asia, gas prices (RT23) decrease from some \$26/MMBtu and \$14/MMBtu respectively in 2024 to some \$4/MMBtu and \$6/MMBtu respectively around 2030, staying at that level until 2050.

This average priceline provides an external view of the development of commodity prices under 1.5-2 degrees Celsius external climate change scenarios over the whole period under review.

Applying this priceline to Integrated Gas assets of \$72 billion (2022: \$75 billion) and Upstream assets of \$84 billion (2022: \$88 billion) as at December 31, 2023, shows recoverable amounts that are \$12-16 billion (2022: \$4-6 billion) and \$3-5 billion (2022: \$1-2 billion) lower, respectively, than the carrying amounts as at December 31, 2023. For Integrated Gas the change in sensitivity compared with 2022 reflects lower near-term gas prices applied in the priceline for Europe and Asia, alongside lower headroom for certain assets between carrying value and recoverable value at December 31, 2023. For Upstream the change in sensitivity compared with 2022 reflects lower oil prices applied in the priceline alongside lower headroom for certain assets between carrying value and recoverable value at December 31, 2023.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

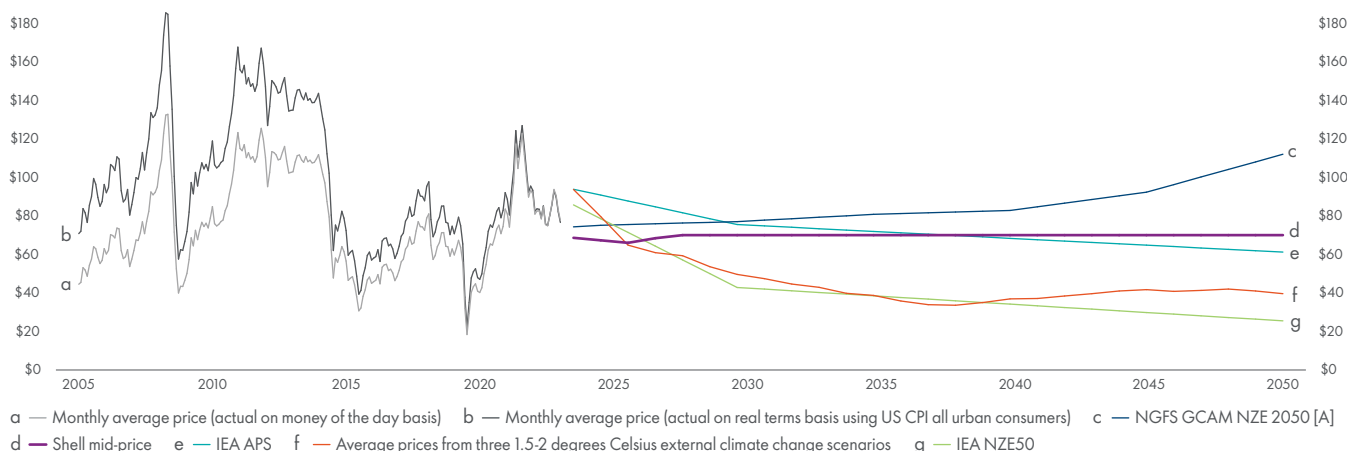
Priceline-2 - Hybrid Shell Plan and IEA NZE50: this priceline applies Shell's mid-price outlook for the next 10 years (see Note 12). Because of the greater uncertainty for the period after 10 years, the International Energy Agency (IEA) normative Net Zero Emissions scenario is applied. This gives less weight to the price-risk uncertainty in the first 10 years reflected in the operating plan period and applies more risk to the more uncertain subsequent periods.

Applying this priceline to Integrated Gas assets of \$72 billion (2022: \$75 billion) and Upstream assets of \$84 billion (2022: \$88 billion) as at December 31, 2023, shows recoverable amounts that are \$8-10 billion (2022: \$4-6 billion) and \$1-3 billion (2022: \$1-2 billion) lower, respectively, than the carrying amounts as at December 31, 2023. For Integrated Gas the change in sensitivity compared with 2022 is largely driven by lower near-term Shell mid-prices applied, an increased differential between the Shell mid-price and the gas prices applied in sensitivity testing for Europe and Asia from 2034 onwards and lower headroom for certain assets between carrying value and recoverable value at December 31, 2023.

Priceline-3 - IEA NZE50: this priceline applies the IEA normative Net Zero Emissions scenario over the whole period under review. This priceline has been applied in order to also reflect the sensitivity to a pure net-zero emissions scenario from the IEA.

Applying this priceline to Integrated Gas assets of \$72 billion (2022: \$75 billion) and Upstream assets of \$84 billion (2022: \$88 billion) as at December 31, 2023, shows recoverable amounts that are \$15-20 billion (2022: \$9-12 billion) and \$3-5 billion (2022: \$8-11 billion) lower, respectively, than the carrying amounts as at December 31, 2023. For Integrated Gas the change in sensitivity compared with 2022 is largely driven by an increased differential between the Shell mid-price and the gas prices applied in sensitivity testing for Europe and Asia from 2030 onwards and lower headroom for certain assets between carrying value and recoverable value at December 31, 2023. For Upstream the change in sensitivity compared with 2022 is largely driven by higher near-term oil prices applied in the priceline, partly offset by lower headroom for certain assets between carrying value and recoverable value at December 31, 2023.

Oil price assumptions



[A] The Network for Greening the Financial System (NGFS) is a group of 127 central banks and supervisors and 20 observers committed to sharing best practices, contributing to the development of climate- and environment-related risk management in the financial sector and mobilising mainstream finance to support the transition toward a sustainable economy. This scenario results from the NGFS GCAM model. This model embodies certain assumptions on the relationships between economic and energy output and climate interactions. This NGFS scenario shows a decline in world oil demand relative to the current policies baseline, in part a response to substitution away from fossil fuels. At the same time prices increase due to supply constraints.

[B] All figures are presented on RT23 basis unless noted differently.

The graph above shows the oil pricelines on a real-terms basis applied for the period until 2050 for Shell's mid-price outlook in comparison with the IEA announced pledges (IEA APS) scenario, the NGFS GCAM NZE 2050 scenario, the average prices from three 1.5-2 degrees Celsius external climate change scenarios (Priceline 1, above) and the IEA Net Zero Emissions by 2050 scenario (IEA NZE50, Priceline 3 above). The development of future oil prices is uncertain and oil prices have been subject to significant volatility in the past. Future oil prices may be impacted by future changes in macroeconomic factors, available supply, demand, geopolitical and other factors. The pricelines as per the scenarios NGFS GCAM NZE 2050, IEA APS, the average prices from three 1.5-2 degrees Celsius external climate change scenarios and IEA NZE50 differ from Shell's best estimate and view of the future oil price.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Sensitivity + 10% to the mid-price outlook

	Carrying amount		Sensitivity			
			\$ billion			
	Dec 31, 2023	Dec 31, 2022	2023	2022	2023	2022
Integrated Gas	72	75	2	4	2	3
Upstream	84	88	—	1	—	1
Total	156	163	2	5	2	4

Sensitivity averaged from three below-two-degrees-Celsius external climate scenarios

	Carrying amount		Sensitivity			
			\$ billion			
	Dec 31, 2023	Dec 31, 2022	2023	2022	2023	2022
Integrated Gas	72	75	(12)	(16)	(4)	(6)
Upstream	84	88	(3)	(5)	(1)	(2)
Total	156	163	(15)	(21)	(5)	(8)

Sensitivity IEA NZE50

	Carrying amount		Sensitivity			
			\$ billion			
	Dec 31, 2023	Dec 31, 2022	2023	2022	2023	2022
Integrated Gas	72	75	(15)	(20)	(9)	(12)
Upstream	84	88	(3)	(5)	(8)	(11)
Total	156	163	(18)	(25)	(17)	(23)

Carbon price sensitivities

Carbon costs in the Operating Plan

The Operating Plan includes capital expenditure and operating costs to achieve Scope 1 and 2 emission reduction targets (see above). These include asset level abatement project costs that drive efficiencies and reduce emissions, expected costs for evolving carbon regulations based on a forecast of Shell's equity share of emissions and costs of offsets for any residual amounts.

The total capital expenditure for abatement projects in relation to efficiency improvements, energy and chemicals parks transformations and use of renewable power included in the Operating Plan is in excess of \$5 billion (2022: \$4 billion). Total yearly carbon emission costs in Shell's Operating Plan gradually increase from \$1 billion in 2024 to \$4 billion in 2033 using the mid-price scenario. The sensitivity of carrying values of assets to changes in carbon prices is described in the section below.

Methods for estimating costs vary, depending on the nature of the cost. Abatement projects costs to improve efficiencies and reduce emissions are estimated by applying a bottom-up approach where individual opportunities on an asset-level, project-by-project basis are identified.

Costs for evolving carbon regulations are based on a forecast of Shell's equity share of emissions and are included in the Operating Plan at Shell's mid-price outlook on a country-by-country basis and represent management's best estimate. In the short and near term, up to around 2030, costs for carbon emissions estimates are largely policy driven, through emission trading schemes or taxation levied by governments which currently vary significantly on a country-by-country basis. Beyond 2030, where policy predictions are more challenging, the costs for carbon emissions are estimated based on the expected costs of abatement technologies required for 2050. The estimated costs are trending towards \$125 or \$170 per tonne (RT23), depending on the country [A], in 2050. This outlook used for the Operating Plan sits within the middle of abatement costs range of \$100-200 which incorporates a broad range of technologies.

[A] Except for the Netherlands and Norway where the estimated mid-price assumption is around \$220 per tonne in 2050.

Sensitivity to changes in carbon price assumptions

There is significant uncertainty as to how carbon costs will develop over the next decades. These will depend on policies set by countries and the pace of the energy transition. In accordance with IFRS, Shell's financial statements are based on reasonable and supportable assumptions that represent management's current best estimate, which is policy based up to 2030 and then based on the mid-price outlook beyond 2030. As the risk of stranded assets is prevalent with higher carbon emission prices than anticipated, sensitivity analyses have only been undertaken for such a downside scenario. If the IEA NZE 2050 outlook is applied, this would impact the recoverability of certain assets recognised in the Consolidated Balance Sheet as at December 31, 2023. This scenario is not representative of management's mid-price reasonable best estimate.

Sensitivity of carrying amounts to carbon emission costs as described below is under the assumption that all other factors in the value in use models used to calculate recoverability of carrying amounts remain unchanged. Changes to carbon emission costs are applied for Integrated Gas, Upstream and Chemicals and Products because of the potential impact on Shell's business.

Sensitivity - 10% to the mid-price outlook

	Carrying amount		Sensitivity			
			\$ billion			
	Dec 31, 2023	Dec 31, 2022	2023	2022	2023	2022
Integrated Gas	72	75	(4)	(6)	(2)	(4)
Upstream	84	88	(1)	(2)	—	(1)
Total	156	163	(5)	(8)	(2)	(5)

Sensitivity Hybrid Shell Plan + IEA NZE50

	Carrying amount		Sensitivity			
			\$ billion			
	Dec 31, 2023	Dec 31, 2022	2023	2022	2023	2022
Integrated Gas	72	75	(8)	(10)	(4)	(6)
Upstream	84	88	(1)	(3)	(1)	(2)
Total	156	163	(9)	(13)	(5)	(8)

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Applying the IEA NZE 2050 carbon price scenario to Integrated Gas assets of \$72 billion (2022: \$75 billion) and Upstream assets of \$84 billion (2022: \$88 billion), up to the end of life of these assets, shows recoverable amounts that are \$2-4 billion (2022: \$2-5 billion) lower for Integrated Gas and up to \$1 billion lower for Upstream than the carrying amounts as at December 31, 2023.

Applying the IEA NZE 2050 carbon price scenario to Chemicals and Products assets of \$44 billion shows recoverable amounts that are \$3-4 billion lower than the carrying amounts as at December 31, 2023. For Chemicals and Products, increased carbon cost could however potentially be recovered partially through increased product sale prices.

Sensitivity IEA NZE 2050 carbon price scenario

	Carrying amount		Sensitivity				\$ billion
			2023		2022		
	Dec 31, 2023	Dec 31, 2022					
Integrated Gas	72	75	(2)	(4)	(2)	(5)	
Upstream	84	88	—	(1)	—	—	
Chemicals and Products [A]	44		(3)	(4)			
Total	200	163 [A]	(5)	(9)			

[A] Excludes Chemicals and Products for 2022 for which from 2023 sensitivity to IEA NZE 2050 carbon prices has been included.

For the key regions and countries the following carbon prices per tonne (RT23) have been assumed in the Operating Plan:

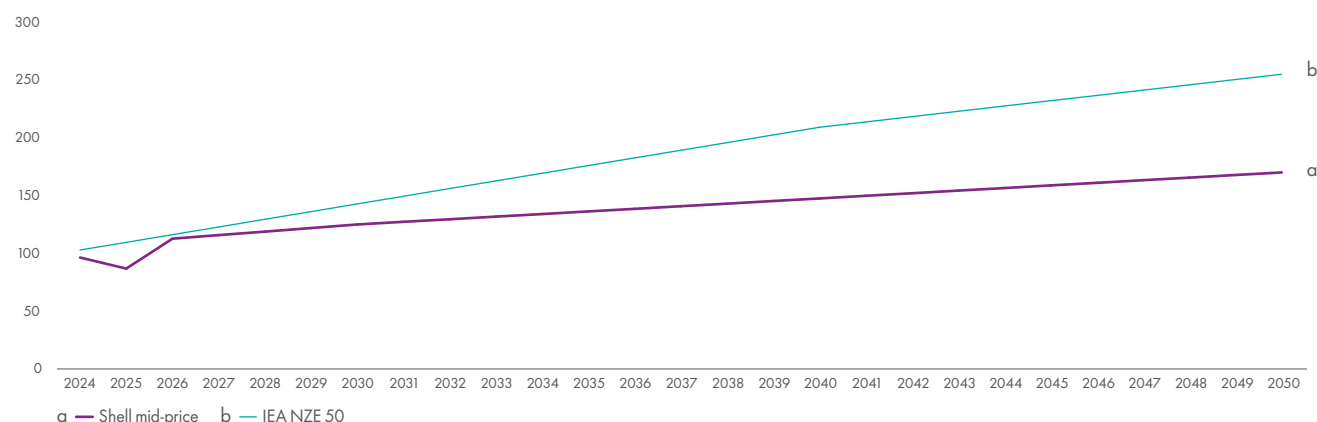
Region	Operating plan period	Subsequent period
	2024-2033	2034-2050
European Union [A]	\$87-\$132	\$134-\$170
Norway	\$97-\$226	\$226-\$226
United Kingdom	\$94-\$145	\$146-\$170
Canada (Federal)	\$59-\$113	\$113-\$125
United States of America (Federal)	\$0-\$42	\$47-\$125
Australia	\$29-\$61	\$65-\$125
All other countries	\$0-\$55	\$25-\$125

[A] Except for the Netherlands where the ranges are \$87-159 per tonne (2024-2033) and \$163-220 per tonne (2034-2050).

The graph below shows the carbon pricelines per tonne for the European Union on an RT23 basis under Shell's mid-price outlook that represents the best estimate as required to be applied under IFRS, in comparison with the IEA NZE 2050 scenario. The IEA NZE 2050 scenario differs from Shell's best estimate and view of future CO₂ prices. Sensitivity of carrying amounts to the IEA NZE 2050 carbon price scenario is provided above.

CO₂ prices - European Union

RT23 \$/tonne

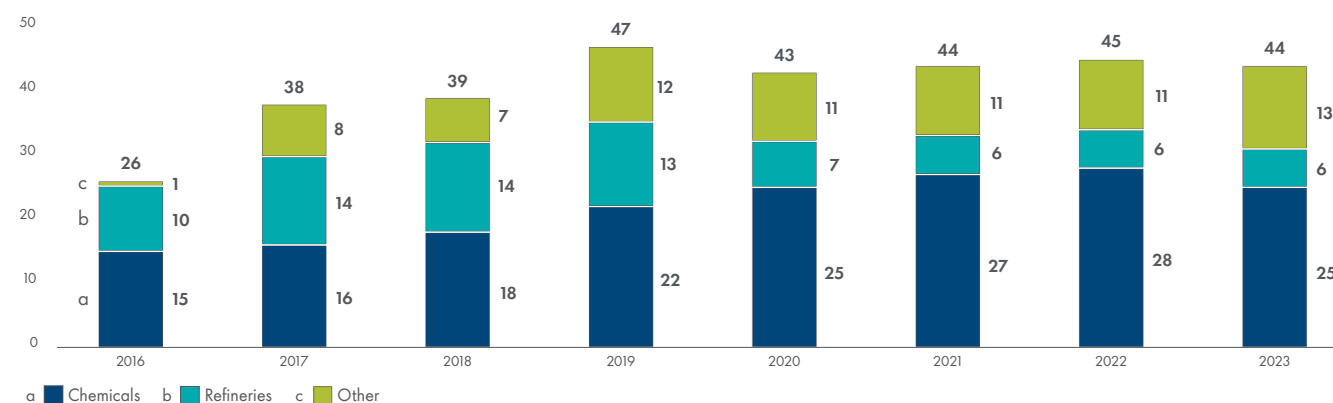


Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Carrying value of Chemicals and Products assets

\$ billion as at December 31



Within Chemicals and Products, the assets potentially most sensitive to the energy transition are refineries.

Portfolio composition and changes

Since 2016, Shell's Chemicals and Products portfolio has evolved, shifting from 15 refineries at the end of 2016 to eight at the end of 2023. During that period, Shell assumed the sole ownership of two refineries through the dissolution of the Motiva joint venture, and disposed of, converted or closed nine refineries. Further, during 2023 Shell agreed to sell one refinery (under assets held for sale at the end of 2023, see Note 18), announced the intention to sell the Singapore refining and chemicals assets and subsequently announced plans to repurpose the Rheinland refinery in Germany into a base oil manufacturing plant. The carrying amount of refineries decreased from \$10 billion as at December 31, 2016, to less than \$6 billion as at December 31, 2023. In line with Shell's strategy, Shell's refining footprint continues its transformation into energy and chemicals parks that will provide feedstocks for the chemicals and lubricants business, as well as other low-carbon energy products, including biofuels and hydrogen. This transformation will involve investments in assets within these energy and chemicals parks that will be recognised as separate cash-generating units and are expected to be resilient in the energy transition, and hence their carrying amounts may increase.

Estimated useful life

Refineries in the Chemicals and Products segment (carrying amount as at December 31, 2023, \$6 billion (2022: \$6 billion)) may be impacted under a two-degrees-Celsius or less external climate scenario.

For refineries in Chemicals and Products, depreciation of assets is on a straight-line basis over the life of the assets, starting at the date the asset becomes available for use, over a period of 20 years (see Note 2). Over the course of the energy transition, the current carrying amount of refineries will be fully depreciated, offset by anticipated investments in assets that are expected to be resilient in the energy transition as described above. Based on current depreciation of the carrying amounts as at December 31, 2023, and assuming no further investment, all refineries would be fully depreciated between four and 11 years.

In addition to refineries, further assets of \$38 billion include \$25 billion of assets in relation to Chemicals. This includes \$15 billion for the new Pennsylvania chemical plant, which started operations in November 2022 and being a more efficient plant, it is expected to be more resilient in the energy transition. Chemical products are not produced with the aim to combust and consequently do not generate GHG emissions. Under the IEA NZE 2050 scenario chemical production volumes are not expected to decrease towards 2050, compared with current levels and hence chemical assets are expected to be resilient through the energy transition.

Other assets of \$13 billion include \$8 billion of assets mainly related to storage tanks, vessels, terminals and depots in trading and supply that are also expected to be resilient in the energy transition. Another \$3 billion of assets relates to oil sands. Based on production plans for oil sands assets, 82%, 57% and 32% of SEC proved reserves for oil sands as at December 31, 2023, would currently be left by 2030, 2040 and 2050, respectively. Taking into consideration the carrying amount as at December 31, 2023 and depreciation under the unit-of-production methodology, this provides a further perspective on the risk of stranded oil sands assets carried in the Consolidated Balance Sheet as at December 31, 2023.

Price sensitivities

Where available Shell uses external climate scenarios for sensitivity testing. In relation to chemical and refining margin forecasts, no credible climate scenarios have been identified and consequently sensitivity testing is performed by providing sensitivity to changes in margins.

Chemical margins applied for impairment testing by reference to value in use are at an average of \$252/tonne (20-year average). A change of -\$30/tonne or +\$30/tonne in long-term chemical margins over the entire cash flow projection period would ceteris paribus result in up to \$2 billion impairment or no impairment reversal, respectively, in Chemicals and Products (see Note 12).

Refining margins applied for impairment testing by reference to value in use are at an average of \$7.6/bbl (20-year). A change of -\$1/bbl or +\$1/bbl to the refining margin outlook over the entire cash flow projection period would ceteris paribus result in \$1-2 billion impairment or up to \$1 billion impairment reversal respectively in Chemicals and Products (see Note 12).

Sensitivities to carbon prices are described in the section above.

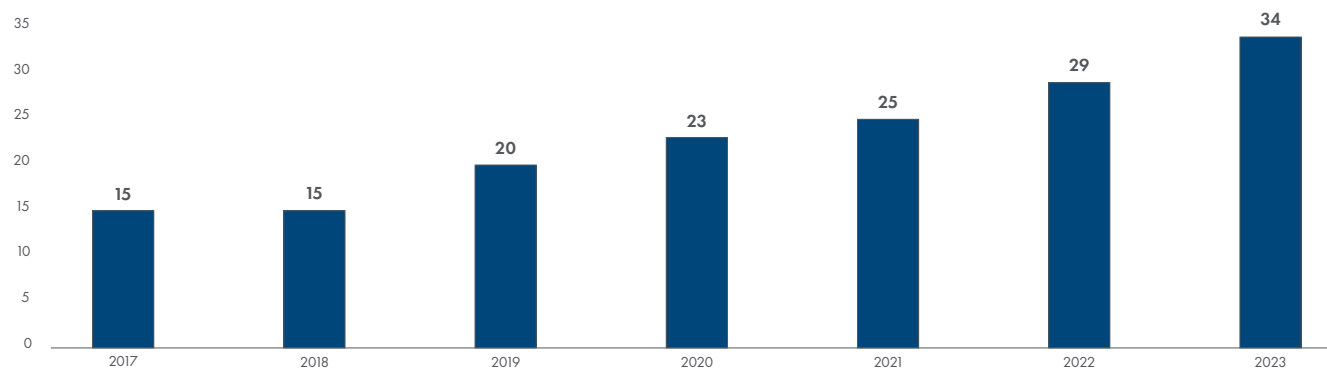
Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Carrying value of Marketing assets

Carrying value of Marketing assets

\$ billion as at December 31



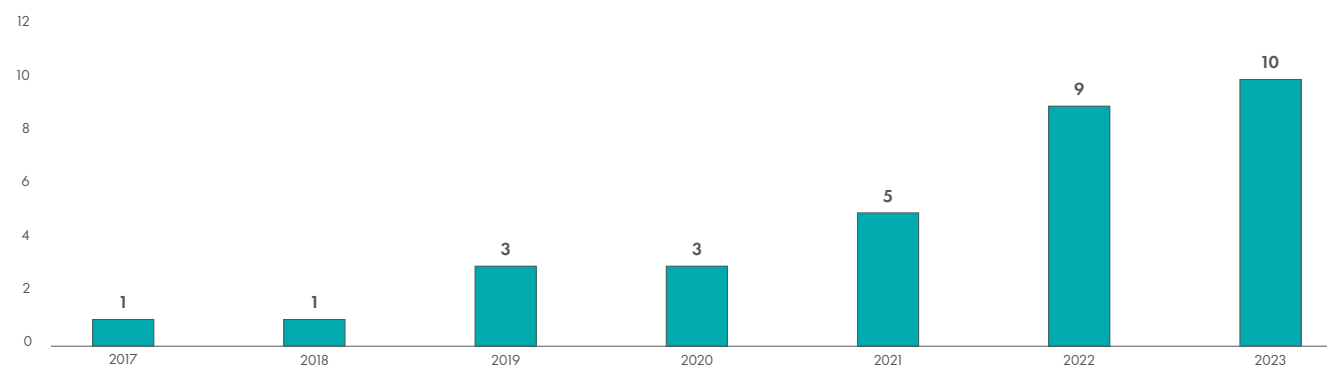
Portfolio composition and changes

Assets in the Marketing segment are expected to be resilient through the energy transition with a change in the product mix as the energy transition progresses. The demand for products sold – such as chemicals, lubricants, biofuels, bitumen, electric vehicle charging and convenience retail – is not expected to decrease and is expected to increase for a variety of these products in many markets. Shell is expanding networks of refuelling stations offering low-carbon fuels, including biofuels and various gaseous fuels, such as LNG and bio-LNG. As a result, the carrying value of these assets is not expected to be impacted by the energy transition or lower commodity price scenarios.

Carrying value of Renewables and Energy Solutions assets

Carrying value of Renewables and Energy Solutions assets

\$ billion as at December 31



Portfolio composition and changes

Assets in the Renewables and Energy Solutions segment are expected to be resilient through the energy transition.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Other energy transition considerations

Discount rate sensitivity

The discount rate applied for value in use impairment testing is based on a nominal post-tax weighted average cost of capital (WACC) and is determined at 7.5% except for the power activities in the Renewables and Energy Solutions segment where 6% is applied. The discount rate includes generic systematic risk for energy transition risk. In addition, cash flow projections applied in individual assets include specific asset risks, including risk of transition. An increase in systematic climate risk could lead to a higher WACC and consequently to a higher discount rate to be applied in impairment testing. An increase of the discount rate applied for impairment testing of 1% under the assumption that all other factors (such as commodity prices, product margins and carbon prices) in the models used to calculate recoverability of carrying amounts remain unchanged would lead to a change in the carrying amount of \$2-4 billion in Integrated Gas and Upstream, and up to \$1 billion in Chemicals and Products, and no significant impairment in other segments.

Global oil and gas demand considerations

A decrease in global demand and unchanged supply of oil and gas would likely lead to a decrease in price (see price sensitivity above). During 2023, Shell's production of oil and gas accounted for 1.5% and 2% of total global production of oil and gas respectively. Changes in global oil and gas demand are therefore not expected to directly impact the ability to sell volumes of oil and gas produced by Shell at market prices.

Deferred tax assets

In general, it is expected that sufficient deferred tax liabilities and forecasted taxable profits within the planning period of 10 years are available for recovery of the deferred tax assets recognised at December 31, 2023. Integrated Gas and Upstream deferred tax assets recognised are expected to be recovered within the period of production of each asset. For deferred tax assets of \$241 million as at December 31, 2023 (2022: \$303 million) this period extends beyond 10 years. Deferred tax assets in Chemicals and Products and in Marketing expected to be recovered in more than 10 years (between 11 and 20 years) are \$455 million as at December 31, 2023 (2022: \$382 million) for which the forecasted taxable profits to determine recoverability have been risked. (See Note 22).

Decommissioning and other provisions

The energy transition may result in decommissioning and restoration occurring earlier than expected. The risk on the timing of decommissioning and restoration activities for Integrated Gas and Upstream fields is limited, supported by production plans in the foreseeable future (see "Estimated useful life" above). Acceleration of decommissioning and restoration activities has also been reflected in the assessment of the appropriate discount rate. In 2021, the discount rate was revised from a 30-year to a 20-year term in line with the average remaining life of Integrated Gas and Upstream assets. On an undiscounted basis the provision for decommissioning and restoration as at December 31, 2023 was \$33 billion (2022: \$33 billion), recognised on a discounted basis in the Consolidated Balance Sheet as at December 31, 2023 at \$19 billion (2022: \$20 billion). Sensitivity to changes in the discount rate is provided in Note 24.

Historically, in Chemicals and Products, it was industry practice not to recognise decommissioning and restoration provisions associated with manufacturing facilities. This was on the basis that these assets were considered to have indefinite lives, so it was considered remote that an outflow of economic benefits would be required. In 2020, Shell considered the changed macroeconomic fundamentals, together with Shell's plans to rationalise the Group's manufacturing portfolio. Shell also reconsidered whether it remained appropriate not to recognise decommissioning and restoration provisions for manufacturing facilities. Since 2020, decommissioning and restoration provisions are recognised for certain shorter-lived manufacturing facilities (see Notes 24 and 31). The energy and chemicals parks are considered longer-lived facilities that are expected to be resilient in the energy transition, and decommissioning would generally be more than 50 years away.

Onerous contracts

Closure or early termination of activities may lead to supply contracts becoming onerous. Onerous contract provisions (see Note 24) have been recognised as at December 31, 2023, to reflect changes in expected future utilisation of certain assets. These include contracts in relation to unused terminals and refineries. The total carrying amount of the provision for onerous contracts as at December 31, 2023 was \$1.1 billion (2022: \$1.5 billion) principally related to contracts in relation to unused terminals and refineries.

Dividend resilience

External stakeholders have requested disclosures on how climate change affects dividend-paying capacity. If a further impairment had been recognised in 2023 using any of the climate change scenarios described above, this would not have impacted the ability to pay dividends in this financial year because of strong cash flow generation and financial reserves. Had Shell applied the IEA NZE50 scenario (see above), and if this had led to a decrease in the recoverable amount of Integrated Gas and Upstream assets of \$18-25 billion and recognition of an equivalent impairment, this would not have impacted the distributable reserves available to Shell from which to pay dividends in 2023. This is on the basis that such impairment would have resulted in part-realisation of the merger reserve recognised by the Company of \$234 billion as at December 31, 2023.

A forward-looking statement regarding future dividend-paying capacity cannot be provided because of unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements.

Notes to the Consolidated Financial Statements continued

4. Climate change and energy transition continued

Physical risks

Mitigation of physical risks, whether or not related to climate change, is considered and embedded in the design and construction of Shell's projects, and/or operation of Shell's assets to minimise the risk of adverse incidents to Shell's employees and contractors, the communities where Shell operates, and Shell's equipment. The potential impact of physical changes comes from both acute and chronic physical risks. Acute risks, such as flooding and droughts, wildfires and more severe tropical storms, and chronic risks, such as rising temperatures and rising sea levels, could potentially impact some of Shell's facilities, operations and supply chains. The frequency of these hazards and impacts is expected to increase in certain high-risk locations. Extreme weather events, whether or not related to climate change, could have a negative impact on Shell's earnings, cash flows and financial condition.

In 2023 Shell carried out a detailed review to assess the impact of a range of changing climatic conditions including changes in temperature, precipitation, wind and sea levels across segments and geographies for our significant assets. Shell used IPCC climate modelling data covering three future climate scenarios (RCP2.6, RCP4.5 and RCP8.5) across the time-horizons 2025, 2030 and 2050. In the short to medium term, the risks were found to be related to factors that Shell is already aware of (whether or not related to climate change) and the assets are actively managing to mitigate, e.g. hurricane impacts in the US Gulf Coast, rising air temperatures in the Middle East and water scarcity in Europe and Asia. As an example, in recent years the Rhine river in Europe has seen historic lows during the summer months leading to challenges in the use of barges for transportation of our products. Dredging of harbours and investment in shallower-draft barges have helped to mitigate the risk. In the long term, the results of the exercise indicated that while we have evaluated against current known risk factors and our current asset portfolio, the frequency and severity of the identified risk factors may increase by 2050. The level of predictability is such that the need for investment in climate adaptation measures at the assets is not immediate and the results mean we are in a position to monitor the assets and determine whether there is any need for adaptation action, e.g. the impact of potential water scarcity on various assets. Shell tested over 70% of the carrying amount of Shell's physical assets as at December 31, 2022, to assess the potential impact of climate-related changes on Shell's significant assets. 13% (based on the carrying value) of physical assets tested are considered to be exposed to climate-related physical risks in the short to medium term which the assets are already actively managing to mitigate. In addition, we reviewed significant acquisitions made in 2023 of which none are considered to be exposed to climate-related physical risks in the short to medium term. Shell's plan reflects the impact of mitigating actions in the short to medium term. Shell will continue to monitor and assess the future exposure of Shell's assets in the longer term to changing climatic conditions to establish the need for any further adaptation actions and related metrics.

Additionally, the impact of physical climate change on Shell's operations is unlikely to be limited to the boundaries of Shell's assets. The overall impact, including how supply chains, resource availability and markets may be affected, also needs to be considered for a holistic assessment of this risk. Shell's assets manage this risk as part of broad risk and threat management processes as required by Shell's HSSE & SP Control Framework part of the wider Shell Performance Framework.

Notes to the Consolidated Financial Statements continued

5. Emission schemes and related environmental programmes

Emission trading and related schemes

In general, emission trading schemes (ETS) are mandated governmental schemes to control emission levels and enhance clean energy transition, allowing for the trading of emission certificates. In most ETS, governments set an emission cap for one or more sectors. Generally, entities in scope of the scheme are allowed to buy emission certificates to cover shortages or sell surplus emission certificates. In certain countries, emissions are priced through a carbon tax. For Shell, the most significant carbon pricing mechanisms are established in Europe, Canada and Singapore.

Biofuel programmes

Biofuel programmes are mandated governmental schemes that set binding national targets on the share of renewables in fuel consumption or measures on reducing GHG emissions by fuel suppliers. Biofuels are blended with existing fuels, such as gasoline and diesel, to reduce net emissions. The share of biofuels in the total sales mix of fuel is used to comply with regulatory requirements. This can be achieved by the blending of biofuels in refineries and/or distribution depots (self-blending), through import of biofuels (for jurisdictions that grant biofuels certificates at the point of import) or by the purchasing of certificates from third parties (for jurisdictions that have a tradable biofuel certificates mechanism). Biofuel programmes also include regulatory requirements to pay a levy for the combustion of fossil fuels, based on CO₂ emitted – mainly related to the German Fuel Emissions Trading Act (BEHG) which has applied since January 1, 2021.

Renewable power programmes

Renewable power programmes create a financial incentive to consume power that is sourced from renewable origins or require that a minimum percentage of power sold meets the green definition of the relevant standard. These regulations are typically accompanied by schemes supporting investments in the renewable technology. Renewable power programmes generally use certificates to monitor compliance, where renewable power certificates are granted for each MWh of energy generated that meets the predefined renewable criteria. Shell's compliance obligation under renewable power programmes comes primarily from energy supply and results from regulations applying in Europe, North America and Australia.

Cost of emission schemes and related environmental programmes recognised in the Consolidated Statement of Income

	\$ million		
	2023	2022	2021
ETS and related schemes	493	493	331
Biofuels [A]	2,581	2,918	2,609
Renewable power	552	594	455
Total	3,626	4,005	3,395

[A] Represents the cost of biofuel certificates required for compliance purposes over and above those generated from self-blending activities.

Purchased environmental certificates (presented under Other intangible assets, see Note 10) [A]

	\$ million			
	ETS and related schemes	Biofuels	Renewable power	Total
At January 1, 2023	440	1,601	160	2,201
Additions	396	2,955	486	3,837
Settlements	(413)	(2,783)	(451)	(3,647)
Other movements	18	32	(50)	–
At December 31, 2023	441	1,805	145	2,391
At January 1, 2022	284	2,362	101	2,747
Additions	385	1,485	468	2,338
Settlements	(256)	(2,142)	(398)	(2,796)
Other movements	27	(104)	(11)	(88)
At December 31, 2022	440	1,601	160	2,201

[A] Relates to environmental certificates held for compliance purposes.

Notes to the Consolidated Financial Statements continued

5. Emission schemes and related environmental programmes continued

Obligation (presented under Other payables, see Note 19)

	ETS and related schemes	Biofuels	Renewable power	\$ million Total
At January 1, 2023				
Current	(458)	(3,424)	(350)	(4,232)
Non-current	—	(422)	(56)	(478)
	(458)	(3,846)	(406)	(4,710)
Additions	(1,244)	(2,593)	(597)	(4,434)
Additions covered by government grants	762 [A]			762
Settlements	479	3,386	492	4,357
Other movements	(37)	(64)	80	(21)
	(40)	729	(25)	664
At December 31, 2023				
Current	(498)	(3,012)	(343)	(3,853)
Non-current	—	(105)	(88)	(193)
	(498)	(3,117)	(431)	(4,046)
At January 1, 2022				
Current	(270)	(3,262)	(273)	(3,805)
Non-current	—	(182)	(29)	(211)
	(270)	(3,444)	(302)	(4,016)
Additions	(1,237)	(2,916)	(637)	(4,790)
Additions covered by government grants	776 [A]			776
Settlements	292	2,456	499	3,247
Other movements	(19)	58	34	73
	(188)	(402)	(104)	(694)
At December 31, 2022				
Current	(458)	(3,424)	(350)	(4,232)
Non-current	—	(422)	(56)	(478)
	(458)	(3,846)	(406)	(4,710)

[A] Emission certificates that were allocated free of charge at an equivalent fair value at grant date.

Environmental certificates acquired that are held for compliance purposes are recognised at cost under other intangible assets (see Note 10). In addition, a portfolio of environmental certificates is held for trading purposes and classified under inventory (see Note 2 and Note 16). Environmental certificates held for trading purposes can be redesignated for compliance purposes and then used to settle compliance obligations.

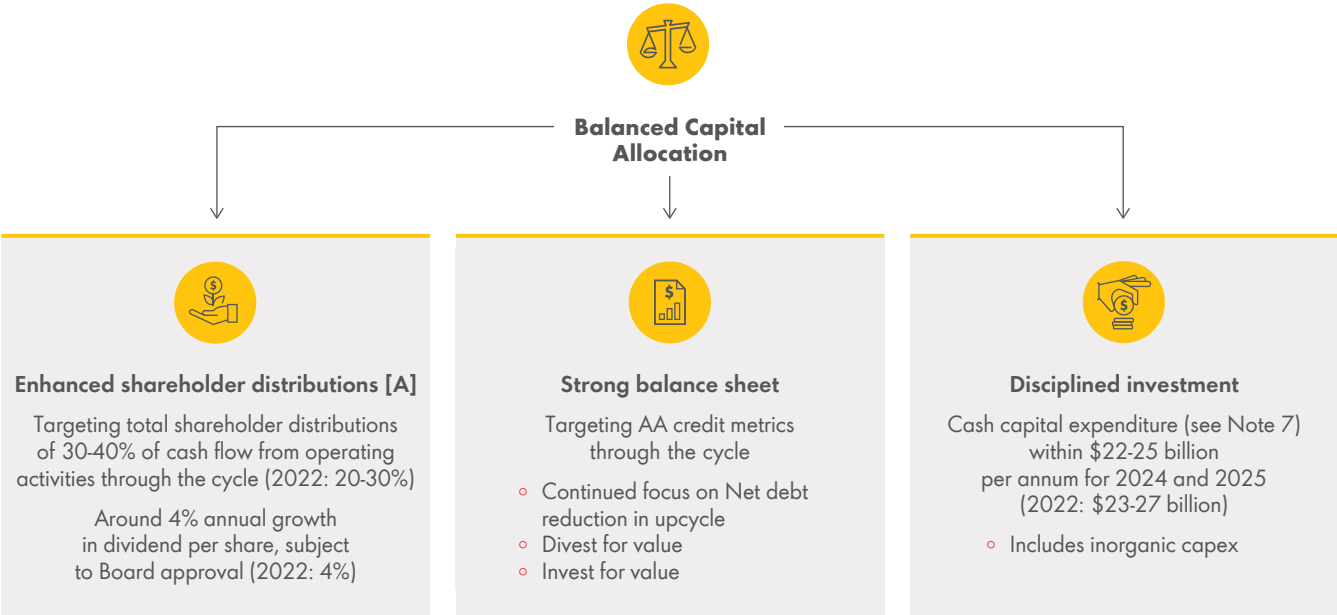
Cost recognised in the Consolidated Statement of Income represents the compliance cost associated with emissions or with products sold during the year. The liability at year-end represents the compliance cost recognised over current and past compliance periods to the extent not settled to date. Liabilities are settled in line with compliance periods, which depend on the scheme and may not coincide with the calendar year.

The figures present compliance schemes only, excluding voluntary activities.

Notes to the Consolidated Financial Statements continued

6. Capital management

Shell manages its businesses to deliver strong cash flows to sustain its strategy and for profitable growth. Management's current priorities for applying Shell's cash are:



[A] Total shareholder distributions (dividends + share buybacks) based on cash generation, macro-outlook and balance sheet trajectory.

7. Segment information

General information

Shell is an international energy company engaged in the principal aspects of the energy and petrochemicals industries and reports its business through segments: Integrated Gas, Upstream, Marketing, Chemicals and Products, Renewables and Energy Solutions, and Corporate.

The Integrated Gas segment includes liquefied natural gas (LNG), conversion of natural gas into gas-to-liquids (GTL) fuels and other products. It includes natural gas and liquids exploration and extraction, and the operation of the upstream and midstream infrastructure necessary to deliver these to market. The segment also includes the marketing, trading and optimisation of LNG, including LNG as a fuel for heavy-duty vehicles.

The Upstream segment includes exploration and extraction of crude oil, natural gas and natural gas liquids. It also markets and transports oil and gas, and operates the infrastructure necessary to deliver them to the market.

The Marketing segment comprises the Mobility, Lubricants, and Sectors & Decarbonisation businesses. The Mobility business operates Shell's retail network, including electric vehicle charging services. The Lubricants business produces, markets and sells lubricants for road transport, and machinery used in manufacturing, mining, power generation, agriculture and construction. The Sectors & Decarbonisation business sells fuels, speciality products and services, including low-carbon energy solutions, to a broad range of commercial customers, including the aviation, marine, and agricultural sectors.

The Chemicals and Products segment includes chemicals manufacturing plants, with their own marketing network, and refineries, which turn crude oil and other feedstocks into a range of oil products which are moved and marketed around the world for domestic, industrial and transport use. The segment also includes the pipeline business, trading and optimisation of crude oil, oil products and petrochemicals, and oil sands activities (the extraction of bitumen from mined oil sands and its conversion into synthetic crude oil).

The Renewables and Energy Solutions segment includes renewable power generation, the marketing and trading and optimisation of power and pipeline gas, as well as carbon credits, and digitally enabled customer solutions. The segment also includes production and marketing of hydrogen, development of commercial carbon capture and storage hubs, investment in nature-based projects that avoid or reduce carbon emissions, and Shell Ventures, which invests in companies that work to accelerate the energy and mobility transformation.

The Corporate segment covers the non-operating activities supporting Shell, comprising Shell's holdings and treasury organisation, its self-insurance activities and its headquarters and central functions. All finance expense and income and related taxes are included in Corporate segment earnings rather than in the earnings of business segments.

Notes to the Consolidated Financial Statements continued

7. Segment information continued**Basis of segmental reporting**

Sales between segments are based on prices generally equivalent to commercially available prices. Third-party revenue and non-current assets information by geographical area are based on the country of operation of the Group subsidiaries that report this information. Separate disclosure is provided for the UK as this is the Company's country of domicile.

Segment earnings are presented on a current cost of supplies basis (CCS earnings). On this basis, the purchase price of volumes sold during the period is based on the current cost of supplies during the same period after making allowance for the tax effect. CCS earnings therefore exclude the effect of changes in the oil price on inventory carrying amounts. CCS earnings attributable to Shell plc shareholders is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance.

Finance expense and income related to core financing activities, as well as related taxes, are included in the Corporate segment earnings rather than in the earnings of the business segments.

Information by segment on a current cost of supplies basis is as follows:

2023

							\$ million
	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Revenue:							
Third-party	37,645	6,475	108,858	118,781	44,819	42	316,620 [A]
Inter-segment	11,560	41,230	624	2,252	4,707	—	60,373
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,951	768	548	590	(96)	(3)	3,758
Interest and other income, of which:	137	671	76	61	75	1,818	2,838
Interest income	6	27	9	57	12	2,202	2,313
Net gains/(losses) on sale and revaluation of non-current assets and businesses	(22)	209	16	(61)	110	5	257
Other	153	435	51	65	(47)	(389)	268
Third-party and inter-segment purchases (CCS basis)	27,356	7,890	94,614	102,396	40,170	15	272,441
Operating expenses, of which:	4,823	9,845	9,336	11,483	3,831	642	39,960
Production and manufacturing expenses	4,529	9,186	949	7,908	2,610	58	25,240
Selling, distribution and administrative expenses	168	163	8,137	3,323	1,058	584	13,433
Research and development expenses	126	496	250	252	163	—	1,287
Exploration expenses	216	1,534	—	—	—	—	1,750
Depreciation, depletion and amortisation charge, of which:	8,903	12,463	2,335	6,411	1,159	19	31,290
Impairment losses	3,472	1,360	420	2,787	908	—	8,947 [B]
Impairment reversals	(324)	(206)	(1)	(90)	(141)	—	(762) [C]
Interest expense	146	507	52	62	4	3,902	4,673
Taxation charge/(credit) (CCS basis)	2,803	8,377	819	(198)	1,303	90	13,194
CCS earnings	7,046	8,528	2,950	1,530	3,038	(2,811)	20,281

[A] Includes \$15,607 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior gains of \$4,689 million related to sales contracts and prior losses of \$2,074 million related to purchase contracts that were previously recognised and where physical settlement has taken place during 2023.

[B] Impairment losses comprise Property, plant and equipment (\$8,182 million), Goodwill (\$635 million) and Other intangible assets (\$130 million). (See Note 12).

[C] Impairment reversals comprise Property, plant and equipment (\$627 million) and Other intangible assets (\$135 million). (See Note 12).

Notes to the Consolidated Financial Statements continued

7. Segment information continued

2022

							\$ million
	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Revenue:							
Third-party	54,751	8,352	120,638	144,342	53,190	41	381,314 [A]
Inter-segment	18,412	52,285	606	2,684	6,791	–	80,778
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,219	2,111	237	374	(7)	(4)	3,930
Interest and other income, of which:	(714)	726	(104)	244	57	706	915
Interest income	43	22	–	24	(2)	959	1,046
Net gains on sale and revaluation of non-current assets and businesses	101	437	(186)	282	8	–	642
Other	(858) [B]	267	82	(62)	51	(253)	(773)
Third-party and inter-segment purchases (CCS basis)	37,785	10,666	108,012	127,521	57,024	(28)	340,980
Operating expenses, of which:	5,237	10,365	8,383	11,362	3,590	539	39,476
Production and manufacturing expenses	4,907	9,676	810	7,583	2,520	22	25,518
Selling, distribution and administrative expenses	218	233	7,351	3,592	972	517	12,883
Research and development expenses	112	456	222	187	98	–	1,075
Exploration expenses	240	1,472	–	–	–	–	1,712
Depreciation, depletion and amortisation charge, of which:	2,211	10,334	1,900	3,289	777	18	18,529
Impairment losses	115	950	480	356	412	–	2,313 [C]
Impairment reversals	(3,449)	(2,504)	(151)	(73)	–	–	(6,177) [D]
Interest expense	84	345	46	22	2	2,682	3,181
Taxation charge/(credit) (CCS basis)	5,899	14,070	903	935	(303)	(7)	21,497
CCS earnings	22,212	16,222	2,133	4,515	(1,059)	(2,461)	41,562

[A] Includes \$11,708 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior losses of \$9,815 million related to sales contracts and prior gains of \$7,201 million related to purchase contracts that were previously recognised and where physical settlement had taken place during 2022.

[B] Includes the full write-down of the Nord Stream 2 loan amounting to \$1,126 million as a result of the withdrawal from Russian oil and gas activities.

[C] Impairment losses comprise Property, plant and equipment (\$1,799 million), Goodwill (\$361 million) and Other intangible assets (\$153 million). (See Note 12).

[D] Impairment reversals fully comprise Property, plant and equipment. (See Note 12).

Notes to the Consolidated Financial Statements continued

7. Segment information continued

2021

							\$ million
	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Revenue:							
Third-party	29,922	9,182	83,494	116,448	22,415	43	261,504 [A]
Inter-segment	8,072	35,789	254	1,890	4,675	–	50,680
Share of profit/(loss) of joint ventures and associates (CCS basis)	1,933	632	385	989	(27)	1	3,913
Interest and other income, of which:	1,596	4,592	278	37	200	353	7,056
Interest income	–	37	3	36	4	431	511
Net gains on sale and revaluation of non-current assets and businesses	1,610	4,130	285	(24)	(6)	–	5,995
Other	(14)	425	(10)	25	202	(78)	550
Third-party and inter-segment purchases (CCS basis)	20,188	9,094	70,745	103,294	26,048	(5)	229,364
Operating expenses, of which:	4,526	10,322	7,501	10,347	2,745	524	35,965
Production and manufacturing expenses	4,194	9,797	950	6,815	2,098	(32)	23,822
Selling, distribution and administrative expenses	231	186	6,384	3,375	596	556	11,328
Research and development expenses	101	339	167	157	51	–	815
Exploration expenses	122	1,301	–	–	–	–	1,423
Depreciation, depletion and amortisation charge, of which:	5,908	13,485	1,700	5,485	326	17	26,921
Impairment losses	723	920	129	2,248	45	–	4,065 [B]
Impairment reversals	(204)	(9)	(1)	–	–	–	(214) [C]
Interest expense	71	333	27	44	–	3,132	3,607
Taxation charge/(credit) (CCS basis)	2,648	6,057	903	(210)	(342)	(665)	8,391
CCS earnings	8,060	9,603	3,535	404	(1,514)	(2,606)	17,482

[A] Includes \$126 million of revenue from sources other than from contracts with customers, which mainly comprises the impact of fair value accounting of commodity derivatives. This amount includes both the reversal of prior losses of \$4,824 million related to sales contracts and prior gains of \$4,892 million related to purchase contracts that were previously recognised and where physical settlement had taken place during 2021.

[B] Impairment losses comprise Property, plant and equipment (\$3,894 million), Goodwill (\$167 million) and Other intangible assets (\$4 million). (See Note 12).

[C] Impairment reversals fully comprise Property, plant and equipment. (See Note 12).

Reconciliation of CCS earnings to income for the period

				\$ million
	2023	2022	2021	
Income attributable to Shell plc shareholders	19,359	42,309	20,101	
Income attributable to non-controlling interest	277	565	529	
Income for the period	19,636	42,874	20,630	
Current cost of supplies adjustment:				
Purchases	815	(1,714)	(3,772)	
Taxation	(203)	444	808	
Share of profit of joint ventures and associates	33	(42)	(184)	
Current cost of supplies adjustment	645	(1,312)	(3,148)	
Of which:				
Attributable to Shell plc shareholders	650	(1,196)	(3,029)	
Attributable to non-controlling interest	(5)	(116)	(119)	
CCS earnings	20,281	41,562	17,482	
Of which:				
CCS earnings attributable to Shell plc shareholders	20,008	41,113	17,072	
CCS earnings attributable to non-controlling interest	273	449	410	

Notes to the Consolidated Financial Statements continued

7. Segment information continued

Information by geographical area is as follows:

2023

					\$ million
	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	118,135 [A]	99,967	70,291	28,227	316,620
Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31	48,008 [B]	91,374	57,261	49,562	246,205

[A] Includes \$44,815 million that originated from the UK.

[B] Includes \$21,478 million located in the UK.

2022

					\$ million
	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	135,975 [A]	126,643	87,085	31,611	381,314
Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31	40,161 [B]	97,019	59,233	51,794	248,207

[A] Includes \$50,236 million that originated from the UK.

[B] Includes \$20,772 million located in the UK.

2021

					\$ million
	Europe	Asia, Oceania, Africa	USA	Other Americas	Total
Third-party revenue, by origin	78,549 [A]	87,070	73,647	22,238	261,504
Goodwill, other intangible assets, property, plant and equipment, joint ventures and associates at December 31	38,881 [B]	97,278	58,286	48,595	243,040

[A] Includes \$21,846 million that originated from the UK.

[B] Includes \$21,974 million located in the UK.

Cash capital expenditure

Cash capital expenditure is a measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance.

2023

							\$ million
	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Capital expenditure	3,491	8,249	5,563	3,106	2,314	270	22,993 [A]
Investments in joint ventures and associates	705	94	49	84	261	9	1,202 [A]
Investments in equity securities	—	—	—	2	106	89	197 [A]
Cash capital expenditure*	4,196	8,343	5,612	3,192	2,681	368	24,392

[A] See Consolidated Statements of Cash Flows.

* Non-GAAP measure (see page 365).

Notes to the Consolidated Financial Statements continued

7. Segment information continued

2022

							\$ million
	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Capital expenditure	3,433	8,020	4,527	3,835	2,610	175	22,600 [A]
Investments in joint ventures and associates	832	123	304	2	703	9	1,973 [A]
Investments in equity securities	—	—	—	1	156	103	260 [A]
Cash capital expenditure*	4,265	8,143	4,831	3,838	3,469	287	24,833

[A] See Consolidated Statements of Cash Flows.

2021

							\$ million
	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate	Total
Capital expenditure	3,306	6,277	2,122	5,091	2,069	135	19,000 [A]
Investments in joint ventures and associates	196	(109)	148	80	154	10	479 [A]
Investments in equity securities	—	—	3	4	136	75	218 [A]
Cash capital expenditure*	3,502	6,168	2,273	5,175	2,359	220	19,697

[A] See Consolidated Statements of Cash Flows.

8. Interest and other income

				\$ million
	2023	2022	2021	
Interest income	2,313	1,046	511	
Dividend income (from investments in equity securities)	49	216	91	
Net gains on sale and revaluation of non-current assets and businesses	257	642	5,995	
Net foreign exchange (losses)/gains on financing activities	(458)	(340)	118	
Other	677	(649)	341	
Total	2,838	915	7,056	

Other includes amounts recognised in respect of sublease income from partners in joint operations (2023: \$418 million, 2022: \$319 million, 2021: \$313 million).

In 2022, Other included the full write-down of the Nord Stream 2 loan amounting to \$1,126 million as a result of Shell's withdrawal from Russian oil and gas activities. In 2021, net gains on sale of non-current assets and businesses arose mainly in respect of gains on the sale of Integrated Gas assets in Australia and Norway, and Upstream assets in the USA and Nigeria.

9. Interest expense

				\$ million
	2023	2022	2021	
Interest incurred and similar charges	2,669	1,971	2,086	
Interest expense related to leases	1,772	1,724	1,987	
Less: interest capitalised	(532)	(950)	(917)	
Other net losses/(gains) on fair value and cash flow hedges of debt	45	(71)	1	
Accretion expense	719	507	450	
Total	4,673	3,181	3,607	

The rate applied in determining the amount of interest capitalised in 2023 was 4.0% (2022: 4.0%; 2021: 4.0%).

* Non-GAAP measure (see page 365).

Notes to the Consolidated Financial Statements continued

10. Goodwill and other intangible assets

2023

		Other intangible assets			\$ million
	Goodwill	LNG off-take and sales contracts	Environmental certificates	Other	Total
Cost					
At January 1	17,557	9,833	2,201	8,158	20,192
Additions	1,436	–	3,837	1,721 [C]	5,558
Sales, retirements and other movements [A]	(506)	(99)	(3,714)	(376)	(4,189)
Currency translation differences	55	–	67	139	206
At December 31	18,542	9,734	2,391	9,642	21,767
Depreciation, depletion and amortisation, including impairments					
At January 1	1,518	6,060		4,470	10,530
Charge for the year [B]	635	790		442	1,232
Sales, retirements and other movements [A]	(296)	(99)		(222)	(321)
Currency translation differences	25	–		73	73
At December 31	1,882	6,751		4,763	11,514
Carrying amount at December 31	16,660	2,983	2,391	4,879 [D]	10,253

[A] Includes the reclassification of assets classified as held for sale. (See Note 18).

[B] Includes impairment losses and reversals. (See Note 12).

[C] Includes feedstock supply contracts and intellectual property rights (\$948 million) from an acquisition in Marketing and software (\$357 million) primarily in Integrated Gas and Marketing.

[D] Includes software (\$829 million), power purchase agreements, retail customer relationships and trademarks.

2022

		Other intangible assets			\$ million
	Goodwill	LNG off-take and sales contracts	Environmental certificates	Other	Total
Cost					
At January 1	16,117	9,833	2,747	6,679	19,259
Additions	1,954	–	2,338	1,263 [C]	3,601
Sales, retirements and other movements [A]	(351)	–	(2,749)	459 [D]	(2,290)
Currency translation differences	(163)	–	(135)	(243)	(378)
At December 31	17,557	9,833	2,201	8,158	20,192
Depreciation, depletion and amortisation, including impairments					
At January 1	1,197	5,267		4,219	9,486
Charge for the year [B]	360	793		532	1,325
Sales, retirements and other movements [A]	–	–		(137)	(137)
Currency translation differences	(39)	–		(144)	(144)
At December 31	1,518	6,060		4,470	10,530
Carrying amount at December 31	16,039	3,773	2,201	3,688 [E]	9,662

[A] Includes the reclassification of assets classified as held for sale. (See Note 18).

[B] Includes impairment losses and reversals. (See Note 12).

[C] Includes other intangible assets (\$1,010 million) mainly acquired through acquisitions in Marketing and Renewables and Energy Solutions.

[D] Includes the reclassification from goodwill following the completion of a purchase price allocation in Renewables and Energy Solutions.

[E] Includes software (\$583 million), power purchase agreements, retail customer relationships and trademarks.

Goodwill at December 31, 2023, related principally to the acquisition of BG Group plc in 2016, allocated to Integrated Gas (\$4,945 million) and Upstream (\$5,294 million) at the operating segment level, and to Pennzoil-Quaker State Company (\$1,665 million), a lubricants business in the Marketing segment based largely in North America.

Additions to goodwill in 2023 of \$1,436 million mainly related to goodwill recognised from acquisitions in Marketing (\$1,304 million) and Renewables and Energy Solutions (\$132 million).

Notes to the Consolidated Financial Statements continued

11. Property, plant and equipment

2023 [A]

	Exploration and production		Manufacturing, supply and distribution	Other	Total	\$ million
	Exploration and evaluation	Production				
Cost						
At January 1	11,565	277,016	106,785	39,595	434,961	
Additions	2,161	10,731	5,910	7,029	25,831	
Sales, retirements and other movements [B]	(5,164)	(1,153)	(1,016)	(1,387)	(8,720)	
Reclassifications [C]	—	(2,779)	527	2,252	—	
Currency translation differences	73	1,855	863	207	2,998	
At December 31	8,635	285,670	113,069	47,696	455,070	
Depreciation, depletion and amortisation, including impairments						
At January 1	5,162	159,662	56,901	14,594	236,319	
Charge for the year [D]	731	18,202	8,295	2,687	29,915	
Sales, retirements and other movements [B]	(2,609)	(2,000)	(2,083)	(1,394)	(8,086)	
Reclassifications [C]	—	(2,217)	63	2,154	—	
Currency translation differences	39	1,326	650	72	2,087	
At December 31	3,323	174,973	63,826	18,113	260,235	
Carrying amount at December 31	5,312	110,697	49,243	29,583	194,835	

[A] Includes right-of-use assets under leases. (See Note 21).

[B] Includes the reclassification of assets classified as held for sale. (See Note 18).

[C] Reclassifications of right-of-use assets. (See Note 21).

[D] Includes impairment losses and reversals. (See Note 12).

2022 [A]

	Exploration and production				\$ million
	Exploration and evaluation	Production	Manufacturing, supply and distribution	Other	Total
Cost					
At January 1	12,679	285,903	104,182	34,005	436,769
Additions	1,564	11,954	6,928	7,808	28,254
Sales, retirements and other movements [B]	(2,469)	(14,541)	(2,548)	(242)	(19,800)
Currency translation differences	(209)	(6,300)	(1,777)	(1,976)	(10,262)
At December 31	11,565	277,016	106,785	39,595	434,961
Depreciation, depletion and amortisation, including impairments					
At January 1	5,580	167,530	55,131	13,596	241,837
Charge for the year [C]	397	9,709	5,149	2,055	17,310
Sales, retirements and other movements [B]	(765)	(13,207)	(2,054)	(396)	(16,422)
Currency translation differences	(50)	(4,370)	(1,325)	(661)	(6,406)
At December 31	5,162	159,662	56,901	14,594	236,319
Carrying amount at December 31	6,403	117,354	49,884	25,001	198,642

[A] Includes right-of-use assets under leases. (See Note 21).

[B] Includes the reclassification of assets classified as held for sale. (See Note 18).

[C] Includes impairment losses and reversals. (See Note 12).

Notes to the Consolidated Financial Statements continued

11. Property, plant and equipment continued

The carrying amount of property, plant and equipment at December 31, 2023, included \$28,135 million (2022: \$27,277 million) of assets under construction. This amount excludes exploration and evaluation assets.

The carrying amount of exploration and production assets at December 31, 2023, included rights and concessions in respect of proved and unproved properties of \$6,097 million (2022: \$7,662 million). Exploration and evaluation assets principally comprise rights and concessions in respect of unproved properties and capitalised exploration drilling costs.

The total contractual commitments for the purchase and lease of property, plant and equipment at December 31, 2023, amounted to \$12,419 million of which \$8,594 million related to lease commitments.

Capitalised exploration drilling costs

	\$ million		
	2023	2022	2021
At January 1	2,911	3,015	3,654
Additions pending determination of proved reserves	1,967	1,298	1,024
Amounts charged to expense	(868)	(881)	(639)
Reclassifications to productive wells on determination of proved reserves	(874)	(531)	(577)
Other movements	–	10	(447)
At December 31	3,136	2,911	3,015

	Projects		Wells	
	Number	\$ million	Number	\$ million
Between 1 and 5 years	13	721	14	353
Between 6 and 10 years	6	704	22	708
Between 11 and 15 years	2	69	20	390
Between 16 and 20 years	2	124	8	167
Total	23	1,618	64	1,618

Exploration drilling costs capitalised for periods greater than one year at December 31, 2023, analysed according to the most recent year of activity, are presented in the table above. These comprise \$273 million relating to five projects where drilling activities were under way or firmly planned for the future, and \$1,345 million relating to 18 projects awaiting development concepts.

Notes to the Consolidated Financial Statements continued

12. Impairment of property, plant and equipment, goodwill and other intangible assets

Impairments

	2023	2022	\$ million 2021
Impairment losses			
Goodwill	635	361	167
Intangible assets other than goodwill	130	153	4
Property, plant and equipment, of which [A]	8,182	1,799	3,894
Exploration and production	4,820	868	1,533
Manufacturing, supply and distribution	2,785	474	2,340
Other	577	457	21
Total [B]	8,947	2,313	4,065
Impairment reversals			
Intangible assets other than goodwill	135	–	–
Property, plant and equipment, of which [A]	627	6,177	214
Exploration and production	528	5,954	213
Manufacturing, supply and distribution	91	72	–
Other	8	151	1
Total [B]	762	6,177	214

[A] Includes right-of-use assets under leases. (See Note 21).

[B] See Note 7.

Discount rate and other assumptions

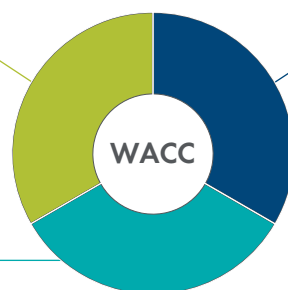
The discount rates applied in determining value in use reflect a current market assessment of the time value of money, adjusted for risks not included in forecast cash flows. The discount rate applied is based on a nominal post-tax weighted average cost of capital (WACC), derived from the following key assumptions:

Risk-free rate

derived from a range of benchmark US Treasury yields of varying maturities, to reflect the range of useful economic lives of Shell's assets and to appropriately adjust, where relevant, for pricing anomalies and short-term volatility of specific tenors.

Cost of debt [A]

derived from observable risk premiums on corporate debt issued by a group of comparable energy companies, adjusted for a blended statutory tax rate.

**Cost of equity [A]**

calculated per the capital asset pricing model. Equity risk premiums are derived from a range of published sources, adjusted to reflect a beta derived from a peer group of comparable energy companies, and subsequently calibrated to ensure that total cost of equity is consistent with market practice.

[A] The peer group of comparable energy companies is tailored to reflect relevant integrated power companies (for power activities in the Renewables and Energy Solutions segment) and integrated oil and gas companies (for the rate applied to all other assets). The proportion of debt and equity in the WACC calculation reflects a target gearing ratio, tailored for power activities and oil and gas activities as appropriate.

This rate is reassessed throughout the reporting period, with adjustments made when changes in assumptions applied would lead to a change in an investor's expected rate of return on a portfolio of similar assets. This assessment considers a range of factors, including macroeconomic forecasts, the historical volatility of key assumptions and the level of risk reflected in cash flow forecasts, including the extent to which systemic risks have been reflected in Shell's Operating Plan, which forms the basis of forecast cash flows in determining value in use.

Cash flow projections used in the determination of value in use were made using management's forecasts of commodity prices, market supply and demand, forecast expenditures, potential costs associated with operational GHG emissions, product margins including forecast refining margins, chemical margins and expected production volumes (see Note 2). The level of risk reflected in these assumptions is a consideration in management's assessment of the discount rate to be applied in order to avoid duplication of systemic and asset-specific risk in calculating value in use, and to ensure the discount rate applied is commensurate with risks included in forecast cash flows.

The discount rate increased in 2023, predominantly as a result of sustained increases in US Treasury yields. The discount rate applied was a nominal post-tax WACC of 6% (2022: 5%) for the power activities in the Renewables and Energy Solutions segment and a nominal post-tax WACC of 7.5% (2022: 6.5%) for all other businesses.

Notes to the Consolidated Financial Statements continued

12. Impairment of property, plant and equipment, goodwill and other intangible assets continued

Recoverable value was predominantly assessed by reference to value in use. The pre-tax discount rates applied for value in use impairment testing vary according to the characteristics of the asset, including its useful life and cash flow profiles. The weighted average pre-tax discount rate applied in the recognition of impairment charges during the year was 9.9% for the Renewables and Energy Solutions segment and 12.9% for all other businesses. Prior year impairment charges were predominantly related to the withdrawal from Russia where value in use calculations were not applicable.

The near-term commodity price assumptions applied in impairment testing were as follows:

Commodity price assumptions [A]

2023	2024	2025	2026	2027
Brent crude oil (\$/b)	70	70	70	74
Henry Hub natural gas (\$/MMBtu)	4.00	4	4	4
2022	2023	2024	2025	2026
Brent crude oil (\$/b)	80	70	70	71
Henry Hub natural gas (\$/MMBtu)	4.00	3.50	3.50	3.98

[A] Money of the day.

For periods after 2027, the real-terms price assumptions applied were: \$70 per barrel (/b) (2022: \$65/b) for Brent crude oil, \$4.00 per million British thermal units (/MMBtu) (2022: \$4.00/MMBtu) for Henry Hub natural gas.

Oil and gas price assumptions applied for impairment testing are reviewed and, where necessary, adjusted on a periodic basis. Reviews include comparison with available market data and forecasts that reflect developments in demand such as global economic growth, technology efficiency, policy measures and, in supply, consideration of investment and resource potential, cost of development of new supply, and behaviour of major resource holders.

For certain assets in the Chemicals and Products and Renewables and Energy Solutions segments, the recoverable value was determined by reference to fair value less costs of disposal. In determining fair value, adjustments are made to forecast cash flows to reflect assumptions used by market participants. These adjustments predominantly relate to the discount rate applied and commodity price assumptions. For certain assets in the Renewables and Energy Solutions segment, the valuation methodology incorporates other adjustments to reflect comparable transactions.

The total carrying value of property, plant and equipment, goodwill and other intangible assets at December 31, 2023 for which recoverable value was determined by reference to fair value less costs of disposal was \$2.6 billion related to assets in Renewables and Energy Solutions and \$2.5 billion in Chemicals and Products. The weighted average post-tax discount rate applied to impairments recognised during the year is 12% for Renewables and Energy Solutions and 10% for Chemicals and Products.

Goodwill

Goodwill impairments of \$635 million in 2023 are mainly recognised in Renewables and Energy Solutions primarily related to an asset in North America, triggered by annual goodwill impairment testing reflecting factors including the impact of the deteriorated macro environment.

Property, plant and equipment Exploration and production

Impairment losses recognised in Exploration and production in 2023 of \$4,820 million related to various assets in Integrated Gas (\$3,472 million) and Upstream (\$1,348 million). Impairments recognised in Integrated Gas mainly related to an asset located in North America, triggered by a change in the discount rate applied, and a project in Australia, triggered by factors including revised production estimates and regulatory changes. Impairment losses recognised in Upstream principally relate to projects in North America, Nigeria and the UK triggered by factors including revised reserves estimates and portfolio choices.

Manufacturing, supply and distribution

Impairment losses recognised in Manufacturing, supply and distribution in 2023 of \$2,785 million mainly related to chemical assets in Singapore in Chemicals and Products, triggered by lower expected chemical margins and associated with portfolio choices.

Other

Other impairment losses in 2023 of \$577 million related to various assets in Marketing (\$292 million) and assets in Renewables and Energy Solutions mainly in Europe (\$273 million).

Impairment reversals in 2023 of \$627 million are mainly triggered by the reassessment of fair value less costs of disposal in Integrated Gas (\$325 million) and revised reserves estimates in Upstream (\$203 million).

Impairment losses in 2022 mainly related to the withdrawal from Russia (\$854 million), the classification of an Upstream asset as held for sale (\$320 million) and an impairment of capital expenditure additions in fully impaired sites in Chemicals and Products (\$257 million).

Notes to the Consolidated Financial Statements continued

12. Impairment of property, plant and equipment, goodwill and other intangible assets continued

The recognition of impairment reversals in 2022 was mainly triggered by the revision of Shell's mid- and long-term commodity price assumptions reflecting the energy market demand and supply fundamentals. They are related to: i) Integrated Gas for \$3,449 million, mainly relating to the Queensland Curtis LNG asset; and ii) Upstream for \$2,504 million, mainly related to two offshore projects in Brazil and an asset in the US Gulf of Mexico.

Impairment losses in 2021 were predominantly triggered by reclassifications of assets held for sale and portfolio developments. They were mainly related to three refineries in the USA within Chemicals and Products impaired on classification as held for sale (\$1,537 million), and exploration and evaluation assets both within Integrated Gas (\$600 million) and Upstream (\$373 million).

Sensitivities

The main sensitivities in relation to value in use impairment assessment are the commodity price assumptions in Integrated Gas and Upstream, refining and chemical margins in Chemicals and Products, and discount rates in all segments.

Commodity price assumptions

A change of -10% or +10% in the commodity price assumptions over the entire cash flow projection period would ceteris paribus result in \$5-8 billion impairments or \$2-5 billion impairment reversal, respectively, in Integrated Gas and Upstream.

Refining margins

Refining margins applied for impairment testing by reference to value in use are at an average of \$7.6/bbl. A change of -\$1/bbl or +\$1/bbl in long-term refining margins over the entire cash flow projection period would ceteris paribus result in \$1-2 billion impairments or up to \$1 billion impairment reversal, respectively, in Chemicals and Products.

Chemical margins

Chemicals margins applied for impairment testing by reference to value in use are at an average of \$252/tonne. A change of -\$30/tonne or +\$30/tonne in long-term chemical margins over the entire cash flow projection period would ceteris paribus result in up to \$2 billion impairments or no impairment reversal, respectively, in Chemicals and Products.

Discount rates

A change of +1% in the discount rate would ceteris paribus result in \$2-4 billion impairments in Integrated Gas and Upstream, and up to \$1 billion in Chemicals and Products, and would have no significant impact in other segments.

Where carrying values have been supported by reference to fair value less costs of disposal, recoverable amounts are less sensitive to Shell's planning assumptions. This is on the basis that key assumptions (including discount rates and commodity prices) have been adjusted to reflect those used by market participants.

In calculating recoverable value, key assumptions are not determined in isolation, to ensure relevant interdependencies are appropriately reflected. In particular, management considers the relationship between discount rates, forecast commodity prices and cash flow risking to ensure impairment testing assumptions result in an implicit expected return which is balanced and appropriate for the asset under review. Each of the sensitivities described above have been tested under a ceteris paribus assumption where all other factors remain unchanged, and as such do not reflect the potential offsetting effects of corresponding changes in other assumptions.

Notes to the Consolidated Financial Statements continued

13. Joint ventures and associates

Shell share of comprehensive income of joint ventures and associates

	2023			2022			\$ million 2021		
	Joint ventures	Associates	Total	Joint ventures	Associates	Total	Joint ventures	Associates	Total
Income for the period	1,619	2,106	3,725	2,589	1,383 [A]	3,972	1,955	2,142	4,097
Other comprehensive (loss)/income for the period	(183)	—	(183)	21	—	21	(106)	—	(106)
Comprehensive income for the period	1,436	2,106	3,542	2,610	1,383	3,993	1,849	2,142	3,991

[A] Includes an impairment charge of \$1,614 million related to Sakhalin-2. (See Note 14).

Carrying amount of interests in joint ventures and associates

	Dec 31, 2023			\$ million Dec 31, 2022		
	Joint ventures	Associates	Total	Joint ventures	Associates	Total
Net assets	17,382	7,075	24,457	17,056	6,808	23,864

Transactions with joint ventures and associates [A]

	2023		2022		\$ million 2021
Sales and charges to joint ventures and associates	10,223		12,230		8,509
Purchases and charges from joint ventures and associates	15,084		22,286		13,584

[A] Includes 25% (2022: 29%) of sales and 19% (2022: 16%) purchases in transactions with one joint venture operating in the oil trading business.

These transactions principally comprise sales and purchases of goods and services in the ordinary course of business. Related balances outstanding at December 31, 2023, and 2022, are presented in Notes 15 and 19.

Other arrangements in respect of joint ventures and associates

	\$ million	
	Dec 31, 2023	Dec 31, 2022
Commitments to make purchases from joint ventures and associates [A]	1,397	1,234
Commitments to provide debt or equity funding to joint ventures and associates	405	567

[A] Commitments to make purchases from joint ventures and associates mainly relate to contracts associated with LNG processing fees and transportation capacity. Shell has other purchase obligations related to joint ventures and associates that are not fixed or determinable and are principally intended to be resold in a short period of time through sales agreements with third parties. These include long-term LNG and natural gas purchase commitments and commitments to purchase refined products or crude oil at market prices.

Notes to the Consolidated Financial Statements continued

14. Investments in securities

Investments in securities

	\$ million	
	Dec 31, 2023	Dec 31, 2022
Equity securities:	1,605	1,533
Equity securities at fair value through other comprehensive income	1,605	1,533
Debt securities:	1,641	1,829
Debt securities at amortised cost	28	21
Debt securities at fair value through other comprehensive income	1,285	1,308
Debt securities at fair value through profit or loss	328	500
Total	3,246	3,362
At fair value		
Measured by reference to prices in active markets for identical assets	1,983	1,884
Measured by reference to other observable inputs	92	158
Measured using predominantly unobservable inputs	1,143	1,299
Total	3,218	3,341
At cost	28	21
Total	3,246	3,362

As at December 31, 2023, investments included equity securities comprising interests in which Shell has no significant influence; debt securities, principally comprising a portfolio required to be held by the Company's internal insurance entities as security for their activities; and assets held in escrow in relation to the Group's UK pension arrangements.

Equity securities at fair value through other comprehensive income include a 27.5% (minus one share) interest in Sakhalin Energy Investment Company Ltd. (SEIC). Up to March 31, 2022, this investment was accounted for as an associate applying the equity method. Significant influence over the Sakhalin-2 investment was lost from April 1, 2022, leading to recognition, without financial impact, of the investment as a financial asset accounted for at fair value from that date, with subsequent changes in fair value recognised in other comprehensive income. The carrying value of the investment is zero as at December 31, 2023 (2022: zero).

Investments in securities measured using predominantly unobservable inputs [A]

	\$ million	
	2023	2022
At January 1	1,299	1,707
Losses recognised in other comprehensive income	(126)	(206)
Purchases	146	142
Sales	(207)	(37)
Other movements	31	(307)
At December 31	1,143	1,299

[A] Based on expected dividend flows, adjusted for country and other risks as appropriate and discounted to their present value.

Other movements in 2022 includes a reclassification to Property, plant and equipment, as a result of obtaining title to assets in a project in Asia.

Notes to the Consolidated Financial Statements continued

15. Trade and other receivables

	Dec 31, 2023		Dec 31, 2022	
	Current	Non-current	Current	Non-current
Trade receivables	36,273	—	39,334	—
Lease receivables	188	1,032	206	1,090
Other receivables	9,642	2,801	9,737	3,247
Amounts due from joint ventures and associates	1,014	278	2,722	423
Prepayments and deferred charges	6,156	2,187	14,511	2,160
Total	53,273	6,298	66,510	6,920

The fair value of financial assets included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other receivables at December 31, 2023, included receivables from certain governments in their capacity as joint arrangement partners of \$296 million (2022: \$717 million), after provisions for impairments, that are overdue in part or in full. Recoverability and timing thereof are subject to uncertainty, however, the ultimate risk of default on the carrying amount is considered to be low. Other receivables at December 31, 2023, also included current income tax receivables of \$558 million (2022: \$363 million) and non-current income tax receivables of \$568 million (2022: \$469 million).

Current prepayments and deferred charges at December 31, 2023, mainly decreased compared to prior year due to lower gas and power prices and a lower outstanding collateral position.

Provisions for impairments deducted from trade and other receivables amounted to \$1,251 million at December 31, 2023 (2022: \$1,510 million).

Allowance for expected credit losses - trade receivables

Shell uses a provision matrix to calculate expected credit losses (ECLs) for trade receivables. The provision matrix is initially based on Shell's historical observed default rates. Shell calculates the ECL to adjust the historical credit loss experienced with forward-looking information. The ECL at December 31, 2023, was \$185 million (2022: \$214 million), which represents 0.51-0.54% (2022: 0.45-0.54%) of all trade receivables.

A loss allowance provision of \$415 million (2022: \$841 million) was established in addition to all other impairments to trade receivables as at December 31, 2023, that are outside of the provision matrix calculations.

Lease receivables

Lease contracts where Shell is the lessor are classified as finance leases or operating leases. Receivables for lease contracts classified as finance leases are as follows:

	Dec 31, 2023		Dec 31, 2022	
	\$ million		\$ million	
Less than one year	238	257		
Between 1 and 5 years	848	792		
5 years and later	453	532		
Total undiscounted lease payments receivable	1,539	1,581		
Unearned finance income	260	270		
Net investment in leases	1,279	1,311		

In addition, at December 31, 2023, Shell is entitled to future contractual payments under operating leases of \$312 million (2022: \$389 million).

16. Inventories

	Dec 31, 2023		Dec 31, 2022	
	\$ million		\$ million	
Oil, gas and chemicals	22,232	27,823		
Environmental certificates	2,108	2,557		
Materials	1,679	1,514		
Total	26,019	31,894		

Inventories at December 31, 2023, included write-downs to net realisable value of \$1,567 million (2022: \$2,705 million).

Notes to the Consolidated Financial Statements continued

17. Cash and cash equivalents

	\$ million	
	Dec 31, 2023	Dec 31, 2022
Cash	5,886	6,608
Short-term bank deposits	6,590	5,147
Money market funds, reverse repos and other cash equivalents	26,298	28,491
Total	38,774	40,246

In 2023, cash continued to be invested with an emphasis on capital preservation. Information about credit risk is presented in Note 25. Included in cash and cash equivalents at December 31, 2023, were amounts totalling \$460 million (2022: \$156 million) subject to currency controls or other legal restrictions.

18. Assets held for sale

	Dec 31, 2023			Dec 31, 2022		
	Current	Non-current	Total	Current	Non-current	Total
Intangible assets	—	71	71	—	—	—
Property, plant and equipment	—	250	250	—	2,526	2,526
Joint ventures and associates	—	19	19	—	94	94
Investments in securities	—	—	—	—	128	128
Deferred tax	—	10	10	—	—	—
Retirement benefits	—	1	1	—	—	—
Trade and other receivables	103	34	137	44	51	95
Inventories	463	—	463	8	—	8
Assets classified as held for sale	566	385	951	52	2,799	2,851
Debt	2	82	84	3	1	4
Trade and other payables	94	—	94	256	22	278
Retirement benefits	—	53	53	—	—	—
Decommissioning and other provisions	7	68	75	134	971	1,105
Income taxes payable	1	—	1	8	—	8
Liabilities directly associated with assets classified as held for sale	104	203	307	401	994	1,395

At December 31, 2023, assets held for sale mainly related to an asset in Chemicals and Products in Europe, a Renewables and Energy Solutions project in North America and an asset within Marketing in Asia. All transactions that resulted in the reclassification of assets held for sale at December 31, 2023, are expected to be completed in 2024.

At December 31, 2022, assets held for sale mainly related to three Upstream projects. All transactions that resulted in assets held for sale reclassification at December 31, 2022, were completed in 2023.

19. Trade and other payables

	Dec 31, 2023		Dec 31, 2022	
	Current	Non-current	Current	Non-current
Trade payables	34,591	—	42,632	—
Other payables [A]	9,887	2,835	10,059	3,148
Sales taxes, excise duties and similar levies	3,105	—	3,270	—
Amounts due to joint ventures and associates	7,519	33	8,441	31
Accruals and deferred income	13,135	235	14,955	253
Total	68,237	3,103	79,357	3,432

[A] Includes obligations under environmental compliance schemes of \$4,046 million as at December 31, 2023 (2022: \$4,710 million). (See Note 5).

The fair value of financial liabilities included above approximates the carrying amount and was determined from predominantly unobservable inputs.

Other payables include amounts due to joint arrangement partners and in respect of other project-related items.

Information about offsetting, collateral and liquidity risk is presented in Note 25.

Notes to the Consolidated Financial Statements continued

20. Debt

Debt

	Dec 31, 2023			\$ million Dec 31, 2022		
	Debt (excluding lease liabilities)	Lease liabilities [A]	Total	Debt (excluding lease liabilities)	Lease liabilities [A]	Total
Current debt:	5,288	4,643	9,931	4,620	4,381	9,001
Short-term debt	845		845	1,026		1,026
Long-term debt due within 1 year	4,443	4,643	9,086	3,594	4,381	7,975
Non-current debt	48,544	23,066	71,610	51,532	23,262	74,794
Total	53,832	27,709	81,541	56,152	27,643	83,795

[A] Further analysis of lease liabilities is provided in Note 21.

Net debt is the sum of current and non-current debt, less cash and cash equivalents, adjusted for the fair value of derivative financial instruments used to hedge the volatility caused by fluctuations in foreign exchange and interest rates relating to debt, and associated collateral balances. Net debt is a non-GAAP measure, providing additional information to help demonstrate the economic impacts of debt, associated hedges, and cash and cash equivalents.

Net debt

	\$ million (Asset)/liability				
	Current debt	Non-current debt	Derivative financial instruments	Cash and cash equivalents (see Note 17)	Net debt*
At January 1, 2023	9,001	74,794	1,288	(40,246)	44,837
Cash flow	(9,617)	(215)	723	1,778	(7,331)
Lease additions [A]	1,021	3,321			4,342
Other movements	9,619	(7,184)	(481)	—	1,954
Currency translation differences and foreign exchange (gains)/losses	(93)	894	(755)	(306)	(260)
At December 31, 2023	9,931	71,610	775	(38,774)	43,542
At January 1, 2022	8,218	80,868	440	(36,970)	52,556
Cash flow	(7,618)	(254)	(1,799)	(4,012)	(13,683)
Lease additions [A]	1,111	4,077			5,188
Other movements	7,560	(7,883)	1,393	—	1,070
Currency translation differences and foreign exchange (gains)/losses	(270)	(2,014)	1,254	736	(294)
At December 31, 2022	9,001	74,794	1,288	(40,246)	44,837

[A] Further analysis of lease liabilities is provided in Note 21.

Borrowing facilities and amounts undrawn

	\$ million			
	Facility		Amount undrawn	
	Dec 31, 2023	Dec 31, 2022	Dec 31, 2023	Dec 31, 2022
CP programmes	20,000	20,000	20,000	20,000
EMTN programme	unlimited	unlimited	N/A	N/A
US shelf registration	unlimited	unlimited	N/A	N/A
Committed credit facilities	9,920	9,920	9,920	9,920

* Non-GAAP measure (see page 365).

Notes to the Consolidated Financial Statements continued

20. Debt continued

Shell has access to international debt capital markets via two commercial paper (CP) programmes, a Euro medium-term note (EMTN) programme and a US universal shelf (US shelf) registration. Issuances under the CP programmes are supported by a committed credit facility and cash.

Under the CP programmes, Shell can issue debt of up to \$10,000 million with maximum maturities ranging between 183 days and 364 days depending on the form of the notes issued; and \$10,000 million with maturities not exceeding 397 days.

The EMTN programme is updated each year, most recently in November 2023. During 2023, no debt was issued under this programme (2022: no debt issued).

The US shelf registration provides Shell with the flexibility to issue debt securities, ordinary shares, preferred shares and warrants. The registration is updated once every three years and was last updated in December 2023. During 2023, no debt was issued under the US shelf registration (2022: no debt issued).

On December 13, 2019, Shell refinanced its revolving credit facilities (RCF), which are linked to the Secured Overnight Financing Rate (SOFR), at pre-agreed margins. In December 2023, Shell extended the short-dated tranche of the facility of \$1,920 million until December 2024. The facility retains a further one-year bank extension option, taking final maturity to 2025. The additional RCF tranche is \$8,000 million expiring in 2026 (2022: \$320 million expiring in 2025 and \$7,680 million expiring in 2026). The terms and availability are not conditional on Shell's financial ratios nor its financial credit ratings. The interest and fees related to these facilities are linked to Shell's progress towards reaching its short-term Net Carbon Intensity target.

The following tables compare contractual cash flows for debt, excluding lease liabilities at December 31, with the carrying amount in the Consolidated Balance Sheet. Contractual amounts reflect the effects of changes in foreign exchange rates; differences from carrying amounts reflect the effects of discounting, premiums and, where fair value hedge accounting is applied, fair value adjustments. Interest is estimated assuming that interest rates applicable to variable-rate debt remain constant and there is no change in aggregate principal amounts of debt other than repayment at scheduled maturity, as reflected in the table.

2023

	Contractual payments							Difference from carrying amount	Carrying amount
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total		
Bonds	4,292	6,194	3,856	2,489	5,442	30,049	52,322	(567)	51,755
EMTN	3,042	3,444	1,106	2,489	3,942	7,649	21,672	(414)	21,258
US shelf	1,250	2,750	2,750	—	1,500	22,400	30,650	(153)	30,497
Bank and other borrowings	1,060	230	73	346	53	316	2,078	(1)	2,077
Total (excluding interest)	5,352	6,424	3,929	2,835	5,495	30,365	54,400	(568)	53,832
Interest	1,569	1,452	1,285	1,207	1,177	13,366	20,056		

2022

	Contractual payments							Difference from carrying amount	Carrying amount
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total		
Bonds	3,365	4,184	6,054	3,817	2,400	35,005	54,825	(1,210)	53,615
EMTN	865	2,934	3,304	1,067	2,400	11,105	21,675	(936)	20,739
US shelf	2,500	1,250	2,750	2,750	—	23,900	33,150	(274)	32,876
Bank and other borrowings	1,229	335	64	156	63	704	2,551	(14)	2,537
Total (excluding interest)	4,594	4,519	6,118	3,973	2,463	35,709	57,376	(1,224)	56,152
Interest	1,669	1,574	1,463	1,314	1,233	14,757	22,010		

Interest rate swaps have been entered into against certain fixed rate debt affecting the effective interest rate on these balances (see Note 25). The fair value of debt excluding lease liabilities at December 31, 2023, was \$50,866 million (2022: \$51,959 million), mainly determined from the prices quoted for those securities. The difference between the fair value of debt and the carrying amount is predominantly related to fixed rate debt.

Notes to the Consolidated Financial Statements continued

21. Leases

Shell has lease contracts in Integrated Gas and Upstream, principally for floating production storage and offloading units, subsea equipment, drilling and ancillary equipment, service vessels, LNG vessels and land and buildings; in Marketing, principally for land and retail sites; in Chemicals and Products, principally for plant pipeline and machinery, tankers and storage capacity; in Renewables and Energy Solutions, principally for power generation assets, storage capacity and land; and in Corporate, principally for land and buildings. Shell's obligations under its leases are secured on the leased assets.

Right-of-use assets

Right-of-use assets are included in property, plant and equipment for the following amounts:

2023

	Exploration and production		Manufacturing, supply and distribution	Other [D]	Total
	Exploration and evaluation	Production			
Cost					
At January 1	–	14,675	16,463	9,899	41,037
Additions	–	790	2,442	1,308	4,540
Sales, retirements and other movements [A]	–	(116)	29	(1,040)	(1,127)
Reclassifications [B]	–	(2,779)	527	2,252	–
Currency translation differences	–	27	24	(268)	(217)
At December 31	–	12,597	19,485	12,151	44,233
Depreciation, depletion and amortisation, including impairments					
At January 1	–	8,275	6,695	2,950	17,920
Charge for the year [C]	–	1,382	2,428	998	4,808
Sales, retirements and other movements [A]	–	(303)	(1,149)	(1,042)	(2,494)
Reclassifications [B]	–	(2,217)	63	2,154	–
Currency translation differences	–	9	12	(101)	(80)
At December 31	–	7,146	8,049	4,959	20,154
Carrying amount at December 31	–	5,451	11,436	7,192	24,079

[A] Includes the reclassification of right-of-use assets to assets held for sale. (See Note 18).

[B] Reclassification from Production to Manufacturing, supply and distribution and Other.

[C] Includes impairment losses (\$72 million) and reversals (\$2 million). (See Note 12).

[D] Other mainly includes lease contracts for retail sites, land and buildings in Marketing, Renewables and Energy Solutions and Corporate.

2022

	Exploration and production		Manufacturing, supply and distribution	Other [C]	Total
	Exploration and evaluation	Production			
Cost					
At January 1	5	14,322	15,748	8,031	38,106
Additions	–	1,088	2,305	2,111	5,504
Sales, retirements and other movements [A]	(5)	(569)	(1,530)	319	(1,785)
Currency translation differences	–	(166)	(60)	(562)	(788)
At December 31	–	14,675	16,463	9,899	41,037
Depreciation, depletion and amortisation, including impairments					
At January 1	–	7,935	5,946	2,273	16,154
Charge for the year [B]	–	1,182	2,223	797	4,202
Sales, retirements and other movements [A]	–	(751)	(1,444)	23	(2,172)
Currency translation differences	–	(91)	(30)	(143)	(264)
At December 31	–	8,275	6,695	2,950	17,920
Carrying amount at December 31	–	6,400	9,768	6,949	23,117

[A] Includes the reclassification of right-of-use assets to assets held for sale. (See Note 18).

[B] Includes impairment losses (\$160 million) and reversals (\$206 million). (See Note 12).

[C] Other mainly includes lease contracts for retail sites, land and buildings in Marketing, Renewables and Energy Solutions and Corporate.

Notes to the Consolidated Financial Statements continued

21. Leases continued

Lease arrangements

Shell also has certain lease contracts of items with lease terms of 12 months or less. For these lease contracts, Shell applies the short-term lease recognition exemption. Lease expenses not included in the measurement of lease liability are:

Lease expenses not included in the measurement of lease liability

	\$ million	
	2023	2022
Expense relating to short-term leases	495	552
Expense relating to variable lease payments	1,415	1,251

The total cash outflow in respect of leases representing repayment of principal and payment of interest in 2023 was \$7,512 million (2022: \$6,280 million), recognised in the Consolidated Statement of Cash Flows within Cash flows from financing activities.

The future lease payments under lease contracts and the carrying amounts at December 31, by payment date are as follows:

2023

	\$ million		
	Contractual lease payments	Interest	Lease liabilities
Less than 1 year	6,182	1,539	4,643
Between 1 and 5 years	16,105	4,443	11,662
5 years and later	16,794	5,390	11,404
Total	39,081 [A]	11,372	27,709

[A] Future cash outflows in respect of leases may differ from lease liabilities recognised due to future decisions that may be taken by Shell in respect of the use of leased assets. These decisions may result in variable lease payments being made. In addition, Shell may reconsider whether it will exercise extension options or termination options, which are not reflected in the lease liabilities. There is no exposure to these potential additional payments in excess of the recognised lease liabilities until these decisions have been taken by Shell.

2022

	\$ million		
	Contractual lease payments	Interest	Lease liabilities
Less than 1 year	5,914	1,533	4,381
Between 1 and 5 years	15,624	4,655	10,969
5 years and later	17,935	5,642	12,293
Total	39,473	11,830	27,643

Notes to the Consolidated Financial Statements continued

22. Taxation

Taxation charge

	2023	2022	\$ million 2021
Current tax:			
Charge in respect of current period	13,066	16,383	7,254
Adjustments in respect of prior periods	(422)	(947)	(719)
Total	12,644	15,436	6,535
Deferred tax:			
Relating to the origination and reversal of temporary differences, tax losses and credits	(305)	5,196	2,971
Relating to changes in tax rates and legislation	242	785	10
Adjustments in respect of prior periods	410	524	(317)
Total	347	6,505	2,664
Total taxation charge	12,991	21,941	9,199

Adjustments in respect of prior periods relate to events in the current period and reflect the effects of changes in rules, facts or other factors compared with those used in establishing the current tax position or deferred tax balance in prior periods.

Adjustments in respect of changes in tax rates and legislation in 2022 principally relate to the introduction of the UK Energy Profits Levy Act 2022 (EPL) on July 14, 2022.

On December 20, 2021, the OECD/G20 Inclusive Framework on BEPS released the Pillar Two Model Rules aimed to address the tax challenges of the digitalisation of the economy. The Pillar Two rules are designed to ensure large multinational enterprises (meeting certain conditions) pay a minimum level of tax on the income arising in each jurisdiction where they operate. On June 20, 2023, the UK substantively enacted Pillar Two. Shell has established a Group-wide Pillar Two Project, with oversight from senior executives, to prepare and implement these new tax rules.

Shell has applied the exception, as set out in the amendments to IAS 12, to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes. The adoption of Pillar Two by the jurisdictions in which Shell operates is not expected to have a significant impact (see also Note 2).

Reconciliation of applicable tax charge at statutory tax rates to taxation charge

	2023	2022	\$ million 2021
Income before taxation	32,627	64,815	29,829
Less: share of profit of joint ventures and associates	(3,725)	(3,972)	(4,097)
Income before taxation and share of profit of joint ventures and associates	28,902	60,843	25,732
Applicable tax charge at standard statutory tax rates	11,921	22,170	10,097
Adjustments in respect of prior periods	(12)	(424)	(1,036)
Tax effects of:			
Expenses not deductible for tax purposes	1,225	849	893
Incentives for investment and development	(553)	(1,388)	(467)
Derecognition/(recognition) of deferred tax assets	243	(457)	(113)
Changes in tax rates and legislation	242	785	10
Income not subject to tax at standard statutory rates	(213)	234	90
Disposals	(113)	39	(328)
Exchange rate differences	89	(102)	53
Other reconciling items	162	235	—
Taxation charge	12,991	21,941	9,199
Weighted average of statutory tax rates [A]	41%	36%	39%
Effective tax rate based on income before taxation [B]	40%	34%	31%
Effective tax rate based on income before taxation excluding share of profit of joint ventures and associates [C]	45%	36%	36%

[A] The weighted average of statutory tax rates is calculated by dividing the applicable tax charge at standard statutory tax rates by Income before taxation and share of profit of joint ventures and associates.

[B] The effective tax rate based on income before taxation is calculated by dividing Taxation charge by Income before taxation.

[C] The effective tax rate based on income before taxation excluding share of profit of joint ventures and associates is calculated by dividing Taxation charge by Income before taxation and share of profit of joint ventures and associates.

Notes to the Consolidated Financial Statements continued

22. Taxation continued

Compared with 2022, the increase in the weighted average of statutory tax rates reflects a higher proportion of earnings mainly in the Upstream segment subject to relatively higher tax rates.

2023 – Deferred tax

						\$ million
	Decommissioning and other provisions	Property, plant and equipment	Tax losses and credits carried forward	Retirement benefits	Other	Total
Deferred tax asset						
At January 1, 2023	6,049	4,290	6,446	1,977	4,827	23,589
(Charge)/credit to income	61	(680)	(2,025)	27	557	(2,060)
Currency translation differences	89	18	66	28	(11)	190
Other comprehensive income	–	–	(5)	104	23	122
Other movements	1,378 [A]	(2,044) [A]	(202)	(386)	(964)	(2,218)
At December 31, 2023	7,577	1,584	4,280	1,750	4,432	19,623
Deferred tax liability						
At January 1, 2023		(24,818)		(3,189)	(3,953)	(31,960)
Credit/(charge) to income		2,109		(228)	(168)	1,713
Currency translation differences		(173)		227	–	54
Other comprehensive income		(3)		(90)	(3)	(96)
Other movements		889		400	484	1,773
At December 31, 2023		(21,996)		(2,880)	(3,640)	(28,516)
Net deferred tax liability at December 31, 2023						(8,893)
Deferred tax asset/(liability) as presented in the balance sheet at December 31, 2023						
Deferred tax asset						6,454
Deferred tax liability						(15,347)

[A] Includes the impact of the IAS 12 amendments Deferred Tax related to Assets and Liabilities arising from a Single Transaction. (See Note 2).

2022 – Deferred tax

						\$ million
	Decommissioning and other provisions	Property, plant and equipment	Tax losses and credits carried forward	Retirement benefits	Other	Total
Deferred tax asset						
At January 1, 2022	6,562	4,993	10,518	2,744	4,545	29,362
(Charge)/credit to income	(217)	(1,261)	(3,434)	(66)	160	(4,818)
Currency translation differences	(303)	(63)	(426)	(40)	(109)	(941)
Other comprehensive income	–	–	18	(618)	70	(530)
Other movements	7	621	(230)	(43)	161	516
At December 31, 2022	6,049	4,290	6,446	1,977	4,827	23,589
Deferred tax liability						
At January 1, 2022		(23,144)		(2,736)	(3,603)	(29,483)
(Charge)/credit to income		(1,503)		93	(277)	(1,687)
Currency translation differences		380		287	170	837
Other comprehensive income		4		(870)	18	(848)
Other movements		(555)		37	(261)	(779)
At December 31, 2022		(24,818)		(3,189)	(3,953)	(31,960)
Net deferred tax asset at December 31, 2022						(8,371)
Deferred tax asset/(liability) as presented in the balance sheet at December 31, 2022						
Deferred tax asset						7,815
Deferred tax liability						(16,186)

The presentation in the balance sheet takes into consideration the offsetting of deferred tax assets and deferred tax liabilities within the same tax jurisdiction, where this is permitted. The overall deferred tax position in a particular tax jurisdiction determines if a deferred tax balance related to that jurisdiction is presented within deferred tax assets or deferred tax liabilities.

Notes to the Consolidated Financial Statements continued

22. Taxation continued

Other movements in deferred tax assets and liabilities relates to acquisitions, sales of non-current assets and businesses.

The deferred tax category Other primarily includes deferred tax positions in respect of leases, financial assets and liabilities, inventories, intangible assets other than goodwill and investments in subsidiaries, joint ventures and associates.

The deferred tax category Property, plant and equipment also includes deferred tax positions in respect of investments in partnerships in the USA which are considered pass-through entities by its parent for tax purposes.

Deferred tax assets of \$6,454 million (2022: \$7,815 million) are recognised only to the extent it is considered probable that those assets will be recoverable. This involves an assessment of when those assets are likely to be recovered, and a judgement as to whether or not there will be sufficient taxable profits available to offset the assets. It is considered probable based on business forecasts that such taxable profits will be available. For Marketing, as well as Chemicals and Products, additional judgement is required; in some jurisdictions the assessment of forecasted taxable profits resulting in deferred tax asset recognition of \$455 million (2022: \$382 million) extends for an additional 10 years beyond Shell's regular 10-year planning horizon. In those situations, additional risking has been applied to the forecast of taxable profits. For Integrated Gas and Upstream, deferred tax assets recognised are expected to be recovered within the period of production of each asset. For deferred tax assets of \$241 million (2022: \$303 million) as at December 31, 2023, this period extends beyond 10 years.

The amount of deferred tax assets which are dependent on future taxable profits not arising from the reversal of existing deferred tax liabilities, and which relate to tax jurisdictions where Shell has suffered a loss in the current or preceding year, was \$2,027 million at December 31, 2023 (2022: \$4,202 million). The decrease compared with 2022 is primarily attributable to the utilisation of deferred tax assets in 2023 and a higher number of entities which have generated profit in both the current and preceding year.

Expected expiration of unused tax losses, unrecognised deductible temporary differences and tax credits

Expected expiration	\$ million	
	Dec 31, 2023	Dec 31, 2022
Less than one year	1,496	1,034
Between 1 and 5 years	1,475	3,257
5 years and later [A]	71,709	72,032
Total	74,680	76,323

[A] Includes unrecognised losses for Petroleum Resource Rent Tax (PRRT) in Australia which, due to the annual augmentation, increased to \$46,220 million as at the end of the most recent PRRT fiscal year, June 30, 2023 (June 30, 2022: \$43,832 million).

Unrecognised taxable temporary differences associated with undistributed retained earnings of investments in subsidiaries, joint ventures and associates amounted to \$5,311 million at December 31, 2023 (2022: \$5,521 million). These retained earnings are subject to withholding tax upon distribution.

Excluding unrecognised tax losses for PRRT, the unrecognised deductible temporary differences, unused tax losses and credits carried forward amounted to \$28,460 million at December 31, 2023 (2022: \$32,491 million), and included amounts of \$25,489 million (2022: \$28,199 million) that are subject to time limits for utilisation of five years or later, or are not time limited.

23. Retirement benefits

Retirement benefits are provided in most of the countries where Shell has operational activities. Shell offers these benefits through funded and unfunded defined benefit plans and defined contribution plans. The most significant pension plans are in the Netherlands, UK and USA.

Other post-employment benefits (OPEB) comprising retirement health care and life insurance are also provided in certain countries. The most significant OPEB plan is in the USA.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Financial position

	\$ million	
	Dec 31, 2023	Dec 31, 2022
Obligations	(78,024)	(73,481)
Plan assets	79,961	76,756
Asset ceilings	(335)	(371)
Surplus	1,602	2,904
Retirement benefits in the Consolidated Balance Sheet:		
Non-current assets	9,151	10,200
Non-current liabilities:	(7,549)	(7,296)
Non-current liabilities - Pensions	(4,448)	(4,417)
Non-current liabilities - OPEB	(3,101)	(2,879)
Total	1,602	2,904

Retirement benefit expense

	\$ million		
	2023	2022	2021
Defined benefit plans:			
Current service cost, net of plan participants' contributions	731	1,100	1,385
Interest expense on defined pension benefit obligations	3,072	1,584	1,223
Interest income on plan assets	(3,417)	(1,732)	(1,160)
Interest expense on OPEB obligations	166	120	128
Current OPEB service cost	36	57	60
Other [A]	262	246	(343)
Total	850	1,375	1,293
Defined contribution plans	474	420	403
Total retirement benefit expense	1,324	1,795	1,696

[A] Mainly related to plan amendments and curtailments on pension and OPEB plans.

Retirement benefit expenses are presented principally within production and manufacturing expenses and selling, distribution and administrative expenses in the Consolidated Statement of Income. Interest income on plan assets is calculated using the same rate as that applied to the related defined benefit obligations for each plan to determine interest expense.

Remeasurements

	\$ million		
	2023	2022	2021
Actuarial (losses)/gains on obligations:			
Due to changes in financial assumptions on pensions [A]	(1,513)	28,840	1,915
Due to changes in financial assumptions on OPEB [A]	(264)	527	59
Due to experience adjustments on pensions [B]	(491)	(2,956)	136
Due to experience adjustments on OPEB [B]	230	1,480 [C]	322
Due to changes in demographic assumptions on pensions [D]	(299)	27	(320)
Due to changes in demographic assumptions on OPEB [D]	(38)	25	(111)
Total	(2,375)	27,943	2,001
Return on plan assets in excess/(shortage) of interest income	1,243	(20,612)	8,185
Other movements	44	(349)	5
Total remeasurements	(1,088)	6,982	10,191

[A] Mainly relates to changes in the discount rate and inflation assumptions.

[B] Experience adjustments arise from differences between the actuarial assumptions made in respect of the year and actual outcomes.

[C] Includes \$782 million to reflect the impact of prescription drug rebates.

[D] Mainly relates to updates in mortality assumptions.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued
Defined benefit plan obligations**2023**

\$ million, except where indicated

	Pension benefits				Other post-employment benefits	
	The Netherlands	UK	USA	Rest of the world	OPEB [A]	Total
At January 1	24,608	17,791	14,793	13,410	2,879	73,481
Current service cost	184	145	215	179	36	759
Interest expense	904	881	695	592	166	3,238
Actuarial losses	929	257	832	285	72	2,375
Benefit payments	(1,032)	(1,014)	(956)	(757)	(88)	(3,847)
Other movements	252	—	—	(63)	—	189
Currency translation differences	901	1,014	—	(122)	36	1,829
At December 31	26,746	19,074	15,579	13,524 [B]	3,101	78,024
Comprising:						
Funded pension plans	26,746	18,734	14,695	11,298		71,473
Weighted average duration	16 years	15 years	11 years	13 years		14 years
Unfunded pension plans		340	884	2,226	—	3,450
Weighted average duration		16 years	8 years	11 years		11 years
Unfunded OPEB plans					3,101	3,101
Weighted average duration					13 years	13 years

[A] Mainly related to post-retirement medical benefits in the USA.

[B] Rest of the world includes pension plans in Germany (\$3,647 million) and Canada (\$3,930 million) which are the largest pension plans in this category.

2022

\$ million, except where indicated

	Pension benefits				Other post-employment benefits	
	The Netherlands	UK	USA	Rest of the world	OPEB [A]	Total
At January 1	35,340	29,913	19,003	18,213	4,867	107,336
Current service cost	286	259	282	261	57	1,145
Interest expense	298	489	417	380	120	1,704
Actuarial gains	(8,806)	(9,793)	(3,730)	(3,582)	(2,032)	(27,943)
Benefit payments	(942)	(1,124)	(1,088)	(771)	(178)	(4,103)
Other movements	374	130	(91)	(154)	37	296
Currency translation differences	(1,942)	(2,083)	—	(937)	8	(4,954)
At December 31	24,608	17,791	14,793	13,410 [B]	2,879	73,481
Comprising:						
Funded pension plans	24,608	17,474	13,925	11,258		67,265
Weighted average duration	17 years	15 years	12 years	13 years		15 years
Unfunded pension plans		317	868	2,152		3,337
Weighted average duration		15 years	9 years	12 years		11 years
Unfunded OPEB plans					2,879	2,879
Weighted average duration					14 years	14 years

[A] Mainly related to post-retirement medical benefits in the USA.

[B] Rest of the world includes pension plans in Germany (\$3,477 million) and Canada (\$3,482 million) which are the largest pension plans in this category.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued
Defined benefit plan assets**2023**

\$ million, except where indicated

	Pension benefits				Total
	The Netherlands	UK	USA	Rest of the world	
At January 1	27,986	21,963	14,243	12,564	76,756
Return on plan assets in excess of interest income	833	(999)	609	800	1,243
Interest income	1,035	1,094	679	609	3,417
Employer contributions [A]	419	34	274	(23)	704
Plan participants' contributions	11	16	—	7	34
Benefit payments	(1,032)	(1,014)	(957)	(703)	(3,706)
Other movements	(6)	(16)	(13)	17	(18)
Currency translation differences	1,020	1,242	—	(731)	1,531
At December 31	30,266	22,320	14,835	12,540 [B]	79,961

[A] Includes the netted amount of \$225 million received from the captive structure in relation to pension plans reinsured in Rest of the world.

[B] Rest of the world includes pension plans in Germany (\$2,730 million) and Canada (\$3,504 million) which are the largest pension plans in this category.

2022

\$ million, except where indicated

	Pension benefits				Total
	The Netherlands	UK	USA	Rest of the world	
At January 1	37,096	33,720	18,055	15,624	104,495
Return on plan assets in excess of interest income	(6,576)	(8,682)	(3,523)	(1,831)	(20,612)
Interest income	314	552	406	460	1,732
Employer contributions	228	54	408	41	731
Plan participants' contributions	11	16	—	5	32
Benefit payments	(942)	(1,124)	(1,088)	(735)	(3,889)
Other movements	(9)	150	(15)	(184)	(58)
Currency translation differences	(2,136)	(2,723)	—	(816)	(5,675)
At December 31	27,986	21,963	14,243	12,564 [A]	76,756

[A] Rest of the world includes pension plans in Germany (\$2,538 million) and Canada (\$3,497 million) which are the largest pension plans in this category.

Type of pension assets

	2023	2022
Quoted in active markets:		
Equities	12%	13%
Debt securities	71%	70%
Real estate	1%	—%
Other	—%	1%
Unquoted		
Equities	12%	13%
Debt securities	4%	2%
Real estate	7%	7%
Investment funds	3%	4%
Debt repurchase agreements [A]	(11)%	(14)%
Cash	1%	4%

[A] Debt repurchase agreements are mainly related to UK member defined pension plans to fund liability-driven investments. In addition to these contracts, derivatives including interest rate and inflation swaps are used in the principal defined benefit plan in the Netherlands for liability matching strategies.

Employer contributions to funded defined benefit pension plans are based on actuarial valuations in accordance with local regulations and are estimated to be \$480 million in 2024.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

Characteristics of significant defined benefit and defined contribution plans and regulatory framework

The Netherlands

The principal defined benefit pension plan in the Netherlands is a funded career-averaged pension arrangement with retired employees drawing benefits as an annuity, with a surplus of \$3,520 million reported as at December 31, 2023, (2022: \$3,378 million surplus). While the plan was closed to employees hired or rehired after July 1, 2013, it currently remains open for ongoing accrual for existing active members. Active members account for 23% (2022: 23%) of the total defined benefit liability in the Netherlands. From July 1, 2013 onwards, new employees in the Netherlands are entitled to membership of a defined contribution pension plan.

In line with Dutch regulations, the defined benefit pension plan has a joint Trustee Board with trustee representatives nominated by the Company, the Central Staff Council and retired members. The defined benefit pension plan also has an Accountability Council comprised of members nominated by the Company, the Central Staff Council and retired members. Furthermore, there is a Supervisory Committee, which includes external experts from the pension industry, to oversee management, compliance and operations of the fund. The defined contribution pension plan has a one-tier Trustee Board with an independent chair, trustee representatives nominated by the Company and the Central Staff Council, as well as two executive board members. The defined contribution fund also has an Accountability Council comprised of members nominated by the Company and the Central Staff Council. Both Trustee Boards are responsible for administering the plans in line with the Dutch "Pensioen Wet" (PW), including corporate governance, investment strategy for the pension plans' assets and paying member benefits, and are required to act in the best interests of the members.

As per July 1, 2023, new pension legislation ("Wet Toekomst Pensioenen") came into effect in the Netherlands which needs to be implemented latest January 2028. This legislation aims to create a more resilient and adaptable pensions system that can better accommodate demographic changes and economic fluctuations while providing adequate retirement income. The legislation requires all future pension accruals to be in a defined contribution framework and also intends that benefits accrued in pension funds are converted into a defined contribution framework. The new regulatory framework will have an impact on both the defined benefit pension plan and the defined contribution pension plan. The necessary changes to the pension plans require Central Staff Council consent and acceptance by the Trustee Boards of the pension plans. It is our expectation that consent will be obtained during 2024 and that following this, a transition plan will be offered to the Trustee Boards for acceptance. Shell will continue to monitor and take appropriate actions when and as necessary, as required by the law. There remains a degree of uncertainty regarding the potential outcome and impact on Shell's earnings, cash flows and financial position.

UK

The three largest defined benefit pension plans for employees in the UK are funded final salary pension arrangements with retired employees mainly drawing benefits as an annuity with the option to take a portion as a lump sum. The three plans are separate and independent plans and cannot be netted against each other. In total, the plans reported a surplus of \$3,246 million as at December 31, 2023 (2022: surplus of \$4,172 million), which is after netting of unfunded plans of \$340 million (2022: \$317 million) which are reported as non-current liabilities on the balance sheet. All three plans were closed to new employees hired or rehired. However, two plans currently remain open for ongoing accrual for existing active members. Active members account for 16% (2022: 17%) of the total defined benefit liability in the UK. From March 1, 2013, onwards new employees in the UK are entitled to membership of a defined contribution pension plan.

In line with UK regulations, the principal defined benefit pension plan is governed by a corporate trustee whose board is comprised of four trustee directors nominated by the Company, including the chair and four member-nominated trustee directors. The defined contribution pension plan is governed by a corporate trustee whose board is comprised of three company-nominated directors, including the chair and two member-nominated trustee directors. The trustees are responsible for administering the plans in line with the Trust Deed and Regulations, including setting the investment strategy for the pension plans' assets and paying member benefits, and are required to act in the best interests of the members of the pension plans.

USA

The principal defined benefit pension plan in the USA is a funded final average pay pension plan with a surplus of \$140 million reported as at December 31, 2023 (2022: \$318 million surplus). After retirement, all retirees can choose to draw their benefits as an annuity, whereas others also have the choice to take their benefit in a lump sum. There is also an unfunded defined benefit pension plan with a deficit of \$884 million (2022: \$868 million deficit). The benefits under this plan are taken primarily in a lump sum. In addition, the Company provides a defined contribution benefit plan. The funded defined benefit, unfunded defined benefit, and Shell's defined contribution pension plans are subject to the provisions of the Employee Retirement Income Security Act (ERISA). Active members account for 23% (2022: 24%) of the total defined benefit liability in the USA.

Both the funded defined benefit pension plan and the defined contribution pension plan are governed by trustees who are appointed by the Plan Sponsor and are named fiduciaries with respect to the plans. The trustees are generally responsible for investment-related matters, appointing the Plan Administrator, maintaining general oversight and deciding appeals of participants.

In line with Shell group's strategic objectives and risk management, on January 30, 2024, the principal defined benefit pension plan in the USA, Shell Pension Plan, entered into a contract with "The Prudential Insurance Company of America" to settle \$5,052 million of pension liabilities. The settlement price consisted of \$4,920 million of pension assets. As a result of this transaction, all legal and constructive obligations for a tranche of benefits provided by the Shell Pension Plan have been eliminated. A gain on settlement of \$101 million (after tax) will be recognised in Shell's Consolidated Statement of Income in 2024.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

USA OPEB

The Company also sponsors "other post-retirement employee benefits" (OPEB), mainly in the USA. The OPEB plans in the USA provide medical, dental and vision benefits, as well as life insurance benefits to eligible retired employees. The plans are unfunded, and the Company and retirees share the costs with a deficit of \$2,267 million reported as at December 31, 2023 (2022: \$2,135 million deficit). The plan that provides post-retirement medical benefits in the USA is closed to employees hired or rehired on or after January 1, 2017. Certain life insurance benefits are paid by the Company.

Significant funding requirements:

- Additional contributions to the Dutch defined benefit pension plan would be required if the 12-month rolling average local funding percentage falls below 105% for six months or more. At the most recent (2023) funding valuation, the local funding percentage was above this level.
- There are no set minimum statutory funding requirements for the UK plans. A professional qualified independent actuary, appointed by the trustee board, undertakes a local funding valuation typically every three years. The most recent completed funding valuation for the principal defined benefit plan was undertaken as at December 31, 2020, and revealed a funding ratio of 103% and therefore no sponsor contributions (except for salary sacrifice contributions) were payable under the schedule of contributions.
- Under the Pension Protection Act, US pension plans are subject to minimum required contribution levels based on the funding position. No contributions are required based on the most recent funding valuation.

Associated risks to which retirement benefits are exposed

There are inherent risks associated with defined benefit pension and OPEB plans. These risks are related to various assumptions made on valuation of the liabilities and the cash funding requirement of the underlying plans. Volatility in capital markets or government policies, and the resulting consequences for investment performance, interest and inflation rates, as well as changes in assumptions for mortality, retirement age or pensionable remuneration at retirement, could result in significant changes to the funding level of future liabilities. In case of a shortfall, there could be a requirement to make substantial cash contributions (depending on the applicable local regulations).

These inherent risks are managed by a pension forum, chaired by the Chief Financial Officer, which oversees Shell's pension strategy, policy and operations. The forum is supported by a risk committee in reviewing the results of the assurance process with respect to pension risk.

Investment strategies

Long-term investment strategies of plans are generally determined by the relevant pension plan trustees using a structured asset/liability modelling approach to define the asset mix that best meets the objectives of optimising returns within agreed risk levels, while maintaining adequate funding levels.

Principal and actuarial assumptions

The principal assumptions applied in determining the present value of defined benefit obligations and their bases were as follows:

- rates of increase in pensionable remuneration, pensions in payment and health-care costs: historical experience and management's long-term expectation;
- discount rates: prevailing long-term AA corporate bond yields, chosen to match the currency and duration of the relevant obligation; and
- mortality rates: published standard mortality tables for the individual countries concerned adjusted for Shell experience where statistically significant.

The weighted averages for those assumptions and related sensitivity information as at December 31, 2023 are presented below. Sensitivity information indicates by how much the defined benefit obligations would increase or decrease if a given assumption were to increase or decrease with no change in other assumptions. The sensitivity analyses may not be representative of an actual change in the defined benefit obligation as it is unlikely that changes in assumptions would occur in isolation from one another. The weighted averages are at nominal terms and based on market expectations at December 31, 2023.

Notes to the Consolidated Financial Statements continued

23. Retirement benefits continued

\$ million, except where indicated

	Assumptions used at nominal rates		Effect of using alternative assumptions				
	Dec 31, 2023	Dec 31, 2022	Range of assumptions	Increase/(decrease) in defined benefit obligations			
				Dec 31, 2023		Dec 31, 2022	
Rate of increase in pensionable remuneration [A]	3.9%	4.0%	-1% to +1%	(828)	915	(833)	921
of which the Netherlands	3.3%	3.3%					
of which UK	4.1%	4.1%					
of which USA	4.6%	4.6%					
Rate of increase in pensions in payment	1.9%	2.1%	-1% to +1%	(5,599)	6,713	(5,542)	6,657
of which the Netherlands	2.4%	2.6%					
of which UK	2.8%	3.0%					
of which USA	—%	—%					
Discount rate for pension plans	4.1%	4.5%	-1% to +1%	10,560	(8,472)	10,522	(8,328)
of which the Netherlands	3.3%	3.7%					
of which UK	4.6%	4.8%					
of which USA	4.9%	5.0%					
Inflation rate for defined benefit obligation [B]	2.0%	2.2%	-1% to +1%	(6,034)	7,300	(6,002)	7,271
of which the Netherlands	2.4%	2.6%					
of which UK	2.9%	3.1%					
Expected age at death for persons aged 60:							
Men	88 years	87 years	-1 year to +1 year	(1,166)	1,143	(1,130)	1,103
of which the Netherlands	88 years	88 years					
of which UK	87 years	87 years					
of which USA	87 years	85 years					
Women	89 years	89 years	-1 year to +1 year	(1,006)	1,041	(993)	1,077
of which the Netherlands	90 years	89 years					
of which UK	89 years	90 years					
of which USA	89 years	86 years					
Rate of increase in health-care costs [C]	7.0%	6.4%	-1% to +1%	(338)	422	(298)	372
Discount rate for health-care plans [C]	5.6%	5.7%	-1% to +1%	457	(358)	401	(309)

[A] Based on active members.

[B] Excluding US funds in the weighted average inflation rate, because of the insignificant impact on the defined benefit obligation.

[C] Mainly related to post-retirement health-care benefits in the USA.

Notes to the Consolidated Financial Statements continued

24. Decommissioning and other provisions

	\$ million						
	Decommissioning and restoration	Legal	Onerous contracts	Environmental	Redundancy	Other	Total
At January 1, 2023							
Current	856	224	277	321	171	1,061	2,910
Non-current	19,429	1,177	1,207	730	153	1,149	23,845
	20,285	1,401	1,484	1,051	324	2,210	26,755
Additions	617	853	26	208	424	806	2,934
Amounts charged against provisions	(777)	(195)	(345)	(233)	(154)	(203)	(1,907)
Accretion expense	643	21	24	13	4	9	714
Disposals and liabilities classified as held for sale	(60)	(1)	—	(16)	(1)	(1)	(79)
Remeasurements and other movements	(1,499)	(24)	(83)	(74)	(113)	(321)	(2,114)
Currency translation differences	244	1	(2)	7	6	13	269
	(832)	655	(380)	(95)	166	303	(183)
At December 31, 2023							
Current	1,296	508	224	318	367	1,328	4,041
Non-current	18,157	1,548	880	638	123	1,185	22,531
	19,453	2,056	1,104	956	490	2,513	26,572
At January 1, 2022							
Current	871	270	653	332	410	802	3,338
Non-current	21,213	1,141	1,029	847	235	1,339	25,804
	22,084	1,411	1,682	1,179	645	2,141	29,142
Additions	618	314	620	178	226	832	2,788
Amounts charged against provisions	(672)	(272)	(661)	(211)	(372)	(333)	(2,521)
Accretion expense	483	16	13	12	1	5	530
Disposals and liabilities classified as held for sale	(1,228)	(21)	(66)	(2)	—	(7)	(1,324)
Remeasurements and other movements	(182)	(44)	(139)	(78)	(155)	(354)	(952)
Currency translation differences	(818)	(3)	35	(27)	(21)	(74)	(908)
	(1,799)	(10)	(198)	(128)	(321)	69	(2,387)
At December 31, 2022							
Current	856	224	277	321	171	1,061	2,910
Non-current	19,429	1,177	1,207	730	153	1,149	23,845
	20,285	1,401	1,484	1,051	324	2,210	26,755

The amount and timing of settlement in respect of these provisions are uncertain and dependent on various factors that are not always within management's control. Reviews of estimated future decommissioning and restoration costs and the discount rate applied are carried out regularly. The discount rate applied at December 31, 2023, was 4.5% (2022: 3.25%). In 2023, there was a decrease of \$2,916 million in total provisions due to the change in discount rate. Of this total, \$2,777 million relates to a decrease in the decommissioning and restoration provision, partly offset by an increase resulting from changes in cost estimates of \$1,340 million, reported within remeasurements and other movements. This net decrease is predominantly reflected in the carrying amount of the related asset.

An increase of 0.5% or a decrease of 0.5% in the discount rate could result in a decrease of \$0.9 billion (2022: \$1.2 billion) or an increase of \$1 billion (2022: \$1.3 billion) in decommissioning and restoration provisions, respectively. Where applicable, the carrying amount of the related asset is to be tested for impairment.

Other provisions at December 31, 2023, include amounts recognised in respect of employee benefits.

Notes to the Consolidated Financial Statements continued

24. Decommissioning and other provisions continued

The decommissioning and restoration provision at December 31, 2023, is expected to be utilised within:

	\$ million Dec 31, 2023
Between 1 to 5 years	4,766
Between 6 to 10 years	5,102
11 years and later	9,585
Total	19,453

25. Financial instruments

Financial instruments in the Consolidated Balance Sheet include investments in securities (see Note 14), cash and cash equivalents (see Note 17), debt (see Note 20) and derivative contracts.

Risks

In the normal course of business, financial instruments of various kinds are used for the purposes of managing exposure to interest rate, foreign exchange and commodity price movements.

Treasury standards are applicable to all subsidiaries and each subsidiary is required to adopt a treasury policy consistent with these standards. These policies cover: financing structure; interest rate and foreign exchange risk management; insurance; counterparty risk management; and use of derivative contracts. Wherever possible, treasury operations are carried out through specialist regional organisations without removing from each subsidiary the responsibility to formulate and implement appropriate treasury policies.

Apart from forward foreign exchange contracts to meet known commitments, the use of derivative contracts by most subsidiaries is not permitted by their treasury policy.

Other than in exceptional cases, the use of external derivative contracts is confined to specialist trading and central treasury organisations that have appropriate skills, experience, supervision, control and reporting systems.

Shell's operations expose it to market, credit and liquidity risk, as described below.

Market risk

Market risk is the possibility that changes in interest rates, foreign exchange rates or the prices of crude oil, natural gas, LNG, refined products, chemical feedstocks, power and environmental certificates will adversely affect the value of assets, liabilities or expected future cash flows.

Interest rate risk

Most debt is raised from central borrowing programmes. Shell's policy continues to be to have debt principally denominated in dollars and to maintain a largely floating interest rate exposure profile. However, Shell has issued a significant amount of fixed rate debt in recent years, taking advantage of historically low interest rates available in debt markets. As a result, the majority of the debt portfolio at December 31, 2023, is at fixed rates and this reduces Shell's adverse exposure to rising floating dollar interest rates (see Note 2).

The financing of most subsidiaries is structured on a floating-rate basis, and any further interest rate risk management is only applied under exceptional circumstances.

On the basis of the floating-rate net cash position at December 31, 2023, (both issued and hedged), and assuming other factors (principally foreign exchange rates and commodity prices) remained constant and that no further interest rate management action was taken, an increase in interest rates of 1% would have increased 2023 income before taxation by \$226 million (2022: \$234 million increase).

The carrying amounts and maturities of debt and borrowing facilities are presented in Note 20. Interest expense is presented in Note 9.

Foreign exchange risk

Many of the markets in which Shell operates are priced, directly or indirectly, in dollars. As a result, the functional currency of most Integrated Gas and Upstream entities and those with significant cross-border business is the dollar. For Chemicals and Products entities, the functional currency is typically the local currency. Consequently, Shell is exposed to varying levels of foreign exchange risk: when an entity enters into transactions that are not denominated in its functional currency; when foreign currency monetary assets and liabilities are translated at the balance sheet date; and as a result of holding net investments in operations that are not dollar-functional. Each entity is required to adopt treasury policies that are designed to measure and manage its foreign exchange exposures by reference to its functional currency.

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

Foreign exchange gains and losses arise in the normal course of business from the recognition of receivables and payables and other monetary items in currencies other than an entity's functional currency. Foreign exchange risk may also arise in connection with capital expenditure. For major projects, an assessment is made at the final investment decision stage of whether to hedge any resulting exposure.

Assuming other factors (principally interest rates and commodity prices) remained constant and that no further foreign exchange risk management actions were taken, a 10% appreciation against the dollar at December 31 of the main currencies to which Shell is exposed would have the following effects:

	Increase/(decrease) in income before taxation		Increase in net assets	
	2023	2022	2023	2022
10% appreciation against the dollar of:				
Sterling	(270)	(168)	1,022	894
Euro	(46)	124	2,434	1,486
Malaysian ringgit	49	65	279	313
Australian dollar	(129)	(65)	780	837
Canadian dollar	9	(44)	1,392	1,575

The above sensitivity information was calculated by reference to carrying amounts of assets and liabilities at December 31 only. The effect on income before taxation arises in connection with monetary balances denominated in currencies other than an entity's functional currency; the effect on net assets arises principally from the translation of assets and liabilities of entities that are not dollar-functional.

Foreign exchange gains and losses included in income are presented in Note 8.

Commodity price risk

Certain subsidiaries have a mandate to trade crude oil, natural gas, LNG, refined products, chemical feedstocks, power and environmental certificates, and to use commodity derivative contracts (forwards, futures, swaps and options) as a means of managing price and timing risks arising from this trading activity. In effecting these transactions, the entities concerned operate within procedures and policies designed to ensure that risks, including those relating to the default of counterparties, are managed within authorised limits. A department that is independent from Shell's traders monitors market risk exposures daily.

Value-at-risk (VAR) techniques based on variance/covariance or Monte Carlo simulation models are used to make a statistical assessment of the market risk arising from possible future changes in market values for commodity positions held by these subsidiaries over a 1-day holding period and within a 95% confidence level. The calculation of potential changes in fair value takes into account positions, the history of price movements and the correlation of these price movements. Models are regularly reviewed against actual fair value movements to ensure integrity is maintained. The VAR average and year-end positions in respect of commodities traded in active markets, which are presented in the table below, are calculated on a diversified basis in order to reflect the effect of offsetting risk within combined portfolios.

Value-at-risk (pre-tax)

	2023		2022	
	Average	Year-end	Average	Year-end
Global oil	43	25	72	56
North America gas and power	13	10	18	23
Europe gas and power	31	12	54	40
Australia gas and power	4	2	12	12
Environmental certificates	9	4	10	13

Furthermore, commodity derivative hedge contracts are used to partially mitigate price volatility on future LNG sales and purchases.

As contracts to buy and sell physical LNG are accounted for on an accrual basis (see Note 2) and commodity derivatives are accounted for on a fair-value basis, this creates an accounting mismatch over periods. The fair value accounting of commodity derivatives can result in gains or losses in the Consolidated Statement of Income.

These derivative contracts are based on a mix of European and North American gas price indices, global crude price indices and Asian LNG price indices. In previous years, Shell has seen high volatility in these markets. On that basis, a sensitivity analysis has been performed for a 50% price increase or decrease of this basket of derivative contracts at year-end 2023, which would result in a gain or loss of \$1.5 billion (pre-tax) in the Consolidated Statement of Income (2022: \$2.7 billion), whereas the same sensitivity analysis applied to the average exposures for the period was \$0.8 billion (2022: \$2.5 billion).

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued**Credit risk**

Policies are in place to ensure that sales of products are made to customers with appropriate creditworthiness. These policies include credit analysis and monitoring of trading partners against counterparty credit limits. Credit information is regularly shared between business and finance functions, with dedicated teams in place to quickly identify and respond to cases of credit deterioration. Mitigation measures are defined and implemented for higher-risk business partners and customers, and include shortened payment terms, collateral or other security posting and vigorous collections. In addition, policies limit the amount of credit exposure to any individual financial institution.

A defined portfolio credit risk appetite is in place to manage credit risk concentrations. It includes a set of thresholds and alerts set at different portfolio levels (e.g. country, industry sector, creditworthiness). Utilisation against these thresholds is actively monitored, and actions are taken to ensure compliance where appropriate. In 2023, there were no material concentrations of credit risk, with individual customers or geographically. In 2022, elevated commodity prices, mainly in relation to strategic long-term contracts in the gas portfolios resulted in a material concentration of risk representing around 25% of total Shell net credit exposure after offsetting for cash collateral and other instruments held.

Surplus cash is invested in a range of short-dated, secure and liquid instruments including short-term bank deposits, money market funds, reverse repos and similar instruments. The portfolio of these investments is diversified to avoid concentrating risk in any one instrument, country or counterparty. Management monitors the investments regularly and adjusts the investment portfolio in light of new market information where necessary to ensure credit risk is effectively diversified.

In commodity trading, counterparty credit risk is managed within a framework approved by the CEO and CFO, and for which delegations are in place to other executives in the business. Credit limits are defined and their utilisation is regularly reviewed. Credit risk exposure is continuously monitored and the acceptable level of credit exposure is determined in accordance with the approved delegations. Credit checks are performed by a department independent of traders, and are undertaken before contractual commitment. Where appropriate, netting arrangements, credit insurance, prepayments and collateral are used to manage specific risks.

Shell routinely enters into offsetting, master netting and similar arrangements with trading and other counterparties to manage credit risk. Where there is a legally enforceable right of offset under such arrangements and Shell has the intention to settle on a net basis or realise the asset and settle the liability simultaneously, the net asset or liability is recognised in the Consolidated Balance Sheet, otherwise assets and liabilities are presented gross. These amounts, as presented net and gross within trade and other receivables, trade and other payables and derivative financial instruments in the Consolidated Balance Sheet at December 31, were as follows:

2023

						\$ million
	Gross amounts before offset	Amounts offset	Net amounts as presented	Cash collateral received/pledged	Other offsetting instruments	Net amounts
Assets:						
Within trade receivables	20,810	12,350	8,460	18	356	8,086
Within derivative financial instruments	26,166	13,140	13,026	1,688	2,616	8,722
Liabilities:						
Within trade payables	18,423	12,351	6,072	69	356	5,647
Within derivative financial instruments	23,037	13,163	9,874	2,040	2,636	5,198

2022

						\$ million
	Gross amounts before offset	Amounts offset	Net amounts as presented	Cash collateral received/pledged	Other offsetting instruments	Net amounts
Assets:						
Within trade receivables	28,259	17,200	11,059	292	495	10,272
Within derivative financial instruments	56,154	34,685	21,469	1,904	4,563	15,002
Liabilities:						
Within trade payables	29,981	17,200	12,781	608	495	11,678
Within derivative financial instruments	58,991	34,710	24,281	4,788	3,364	16,129

Amounts not offset principally relate to contracts where the intention to settle on a net basis was not clearly established at December 31.

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

The carrying amount of financial assets pledged as collateral for liabilities or contingent liabilities at December 31, 2023, presented within trade and other receivables, was \$3,437 million (2022: \$11,133 million). The decrease in financial assets pledged as collateral is driven by the reduction in overall derivative exposure, mainly due to the decline in gas and power forward prices. The carrying amount of collateral held at December 31, 2023, presented within trade and other payables, was \$1,404 million (2022: \$1,648 million). Collateral mainly relates to initial margins held with commodity exchanges and over-the-counter counterparty variation margins. Some derivative contracts are fully cash collateralised, thereby eliminating both counterparty risk and the Group's own non-performance risk.

Liquidity risk

Liquidity risk is the risk that suitable sources of funding for Shell's business activities may not be available. Management believes that it has access to sufficient cash and cash equivalents, debt funding sources (capital markets) and to undrawn committed borrowing facilities to meet foreseeable requirements. Information about borrowing facilities is presented in Note 20.

Derivative contracts and hedges

Derivative contracts are used principally as hedging instruments. However, because hedge accounting is not always applied, movements in the carrying amounts of derivative contracts that are recognised in income may not be matched in the same period by the recognition of the income effects of the related hedged items.

Carrying amounts, maturities and hedges

The carrying amounts of derivative contracts at December 31, designated and not designated as hedging instruments for hedge accounting purposes, were as follows:

2023

							\$ million
	Assets			Liabilities			
	Designated	Not designated	Total	Designated	Not designated	Total	Net
Interest rate swaps	14	2	16	98	—	98	(82)
Forward foreign exchange contracts	—	697	697	—	592	592	105
Currency swaps and options	177	—	177	1,959	13	1,972	(1,795)
Commodity derivatives	—	14,783	14,783	—	9,161	9,161	5,622
Other contracts	—	226	226	—	7	7	219
Total	191	15,708	15,899	2,057	9,773	11,830	4,069

2022

							\$ million
	Assets			Liabilities			
	Designated	Not designated	Total	Designated	Not designated	Total	Net
Interest rate swaps	—	1	1	169	—	169	(168)
Forward foreign exchange contracts	—	907	907	—	996	996	(89)
Currency swaps and options	31	24	55	2,925	5	2,930	(2,875)
Commodity derivatives	—	23,676	23,676	—	22,858	22,858	818
Other contracts	—	380	380	—	389	389	(9)
Total	31	24,988	25,019	3,094	24,248	27,342	(2,323)

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

As part of Shell's normal business, commodity derivative hedge contracts are entered into for mitigation of future purchases, sales and inventory. Net gains before tax on derivative contracts, excluding those designed as hedges, were \$5,189 million in 2023 (2022: \$1,331 million gains; 2021: \$8,377 million losses).

Certain contracts, mainly to hedge price risk relating to forecast commodity transactions, were designated in cash flow hedging relationships and are presented after the offset of related margin balances with exchanges. Contracts to hedge foreign exchange risks were also designated in cash flow hedging relationships and the net carrying amount of these contracts at December 31, 2023, was a liability of \$373 million (2022: \$828 million liability). See Note 28 for the accumulated balance recognised within other comprehensive income.

Certain interest rate and currency swaps were designated in fair value hedges, principally in respect of debt for which the net carrying amount of the related derivative contracts, net of accrued interest, at December 31, 2023, was a liability of \$1,441 million (2022: \$2,191 million liability).

At December 31, 2023, no debt instruments (2022: €3 billion) were designated as hedges of net investments in foreign operations, relating to the foreign exchange risk arising between certain intermediate holding companies and their subsidiaries. See Note 28 for the accumulated balance recognised within other comprehensive income.

In the course of trading operations, certain contracts are entered into for delivery of commodities that are accounted for as derivatives. The resulting price exposures are managed by entering into related derivative contracts. These contracts are managed on a fair value basis and the maximum exposure to liquidity risk is the undiscounted fair value of derivative liabilities.

For a minority of commodity derivatives contracts, carrying amounts cannot be derived from quoted market prices or other observable inputs, in which case fair value is estimated using valuation techniques, such as Black-Scholes; option spread models; and extrapolation, using quoted spreads with assumptions developed internally based on observable market activity.

Other contracts include certain contracts that are held to sell or purchase commodities and others containing embedded derivatives, which are required to be recognised at fair value because of pricing or delivery conditions, even though they were entered into to meet operational requirements. These contracts are expected to mature in 2024-2025, with certain contracts having early termination rights (for either party). Valuations are derived from other observable inputs.

The contractual maturities of derivative liabilities at December 31 compare with their carrying amounts in the Consolidated Balance Sheet as follows:

2023

	Contractual maturities							Difference from carrying amount [A]	Carrying amount
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total		
Interest rate swaps	78	9	3	3	5	—	98	—	98
Forward foreign exchange contracts	465	77	25	1	—	(3)	565	27	592
Currency swaps and options	551	609	521	392	186	859	3,118	(1,146)	1,972
Commodity derivatives	5,767	1,902	799	381	225	597	9,671	(510)	9,161
Other contracts	2	4	2	—	—	—	8	(1)	7
Total	6,863	2,601	1,350	777	416	1,453	13,460	(1,630)	11,830

[A] Mainly related to the effect of discounting.

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

2022

	Contractual maturities								\$ million
	Less than 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	5 years and later	Total	Difference from carrying amount [A]	Carrying amount
Interest rate swaps	120	50	2	1	1	1	175	(6)	169
Forward foreign exchange contracts	629	294	18	(1)	(2)	(3)	935	61	996
Currency swaps and options	582	554	750	588	507	1,353	4,334	(1,404)	2,930
Commodity derivatives	17,273	3,678	1,203	515	270	793	23,732	(874)	22,858
Other contracts	212	148	22	1	1	—	384	5	389
Total	18,816	4,724	1,995	1,104	777	2,144	29,560	(2,218)	27,342

[A] Mainly related to the effect of discounting.

Fair value measurements

The net carrying amounts of derivative contracts held at December 31 categorised according to the predominant source and nature of inputs used in determining the fair value of each contract were as follows:

2023

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total	\$ million
Interest rate swaps	—	(82)	—	(82)	
Forward foreign exchange contracts	—	105	—	105	
Currency swaps and options	—	(1,795)	—	(1,795)	
Commodity derivatives	(39)	3,191	2,470	5,622	
Other contracts	—	223	(4)	219	
Total	(39)	1,642	2,466	4,069	

2022

	Prices in active markets for identical assets/liabilities	Other observable inputs	Unobservable inputs	Total	\$ million
Interest rate swaps	—	(168)	—	(168)	
Forward foreign exchange contracts	—	(89)	—	(89)	
Currency swaps and options	—	(2,875)	—	(2,875)	
Commodity derivatives	68	(1,161)	1,911	818	
Other contracts	—	(7)	(2)	(9)	
Total	68	(4,300)	1,909	(2,323)	

Notes to the Consolidated Financial Statements continued

25. Financial instruments continued

Net carrying amounts of derivative contracts measured using predominantly unobservable inputs

	\$ million	
	2023	2022
At January 1	1,909	389
Net gains recognised in revenue	576	1,190
Purchases	271	886
Sales	(185)	(623)
Settlements	(125)	46
Recategorisations (net)	25	17
Currency translation differences	(5)	4
At December 31	2,466	1,909

Included in net gains recognised in revenue in 2023 were unrealised net gains totalling \$797 million relating to assets and liabilities held at December 31, 2023 (2022: \$449 million gains).

Unrecognised day one gains or losses

Certain long-term commodity contracts extend to periods where observable pricing data are limited and their value may include estimates. Where this is more than an insignificant part of the overall contract valuation, any gains or losses will be deferred. Valuation techniques are further described in Note 2. The unrecognised gains on these derivative contracts at December 31, 2023, were as follows:

	\$ million	
	2023	2022
At January 1	1,620	1,024
Movements	(13)	596
At December 31	1,607	1,620

26. Share capital

Issued and fully paid ordinary shares of €0.07 each [A]

	Number of shares			Nominal value			\$ million
	A	B	Ordinary shares	A	B	Ordinary shares	Total
At January 1, 2023			7,003,503,393			584	584
Repurchases of shares			(479,394,344)			(40)	(40)
At December 31, 2023			6,524,109,049			544	544
At January 1, 2022	4,101,239,499	3,582,892,954		345	296		641
Repurchases of shares before assimilation	—	(34,106,548)			(3)		(3)
Assimilation of ordinary A and B shares into ordinary shares	(4,101,239,499)	(3,548,786,406)	7,650,025,905	(345)	(293)	638	—
Repurchases of B shares on January 27 and 28, 2022, cancelled as ordinary shares on February 2 and 3, 2022			(507,742)			—	—
Repurchases of shares after assimilation			(646,014,770)			(54)	(54)
At December 31, 2022			7,003,503,393			584	584

[A] Share capital at December 31, 2022, also included 50,000 issued and fully paid sterling deferred shares of £1 each, which were redeemed on March 27, 2023. Upon redemption, the sterling deferred shares were treated as cancelled and the Company's issued share capital was reduced by the nominal value of the shares redeemed in accordance with section 688 of the UK Companies Act 2006.

On January 29, 2022, as part of the Simplification announced on December 20, 2021, the Company's A and B shares were assimilated into a single line of ordinary shares. This is reflected in the above table.

At the Company's Annual General Meeting (AGM) on May 23, 2023, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of approximately €161 million (representing approximately 2,307 million ordinary shares of €0.07 each), and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 22, 2024, and the end of the AGM to be held in 2024, unless previously renewed, revoked or varied by the Company in a general meeting.

Notes to the Consolidated Financial Statements continued

26. Share capital continued

At the May 23, 2023, AGM, shareholders granted the Company the authority to repurchase (i) up to 692 million ordinary shares "on-market" (excluding any treasury shares), less the number of ordinary shares purchased or committed to be purchased in terms of the buyback contracts ("off-market"), made under the authority in (ii); and (ii) up to 692 million ordinary shares off-market, less any on-market purchases made under the authority in (i).

In the case of both on-market and off-market purchases of the ordinary shares, the minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07 and the maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid in relation to ordinary shares on the trading venues where the purchase is carried out. The authorities for both on-market and off-market purchases of the ordinary shares will expire at the earlier of the close of business on August 22, 2024, and the end of the AGM of the Company to be held in 2024. Ordinary shares purchased by the Company pursuant to these authorities will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company itself.

27. Share-based compensation plans and shares held in trust

Share-based compensation expense

	\$ million		
	2023	2022	2021
Equity-settled [A]	700	807	539

[A] On an incidental basis awards may be cash-settled, where an equity settlement is not possible under local regulations.

The principal share-based employee compensation plans are the PSP and LTIP. Awards of shares and American Depositary Shares (ADS) of the Company under the PSP and LTIP are granted upon certain conditions to eligible employees. The actual number of shares that may vest ranges from 0% to 200% of the awards, depending on the outcomes of prescribed performance conditions over a three-year period beginning on January 1 of the award year.

Share awards [A]

	Number of A shares (million)	Number of B shares (million)	Number of ordinary shares (million) [B]	Number of ADSs (million)	Weighted average remaining contractual life (years)
At January 1, 2023			58	10	1.1
Granted			19	3	
Vested			(17)	(3)	
Forfeited			(2)	—	
At December 31, 2023			58	10	0.9
At January 1, 2022	38	12		9	1.2
Assimilation of ordinary A and B shares into ordinary shares	(38)	(12)	50		
Granted	—	—	28	4	
Vested	—	—	(13)	(2)	
Forfeited	—	—	(7)	(1)	
At December 31, 2022	—	—	58	10	1.1

[A] As revised, includes notional dividends.

[B] On January 29, 2022, as part of the Simplification announced on December 20, 2021, the Company's A and B shares were assimilated into a single line of ordinary shares.

Other plans offer eligible employees opportunities to acquire shares and ADSs of the Company or receive cash benefits measured by reference to the Company's share price.

Shell employee share ownership trusts and trust-like entities purchase the Company's shares in the open market to meet delivery commitments under employee share plans. At December 31, 2023, they held a total of 24.2 million ordinary shares (2022: 23.9 million) and 6.8 million ADSs (2022: 4.5 million).

Notes to the Consolidated Financial Statements continued

28. Other reserves

Other reserves attributable to Shell plc shareholders

\$ million

	Merger reserve	Share premium reserve	Capital redemption reserve	Share plan reserve	Accumulated other comprehensive income	Total
At January 1, 2023	37,298	154	196	1,140	(17,656)	21,132
Other comprehensive income attributable to Shell plc shareholders	—	—	—	—	(83)	(83)
Transfer from other comprehensive income	—	—	—	—	(112)	(112)
Repurchases of shares	—	—	40	—	—	40
Share-based compensation	—	—	—	168	—	168
At December 31, 2023	37,298	154	236	1,308	(17,851)	21,145
At January 1, 2022	37,298	154	139	964	(19,646)	18,909
Other comprehensive income attributable to Shell plc shareholders	—	—	—	—	2,024	2,024
Transfer from other comprehensive income	—	—	—	—	(34)	(34)
Repurchases of shares	—	—	57	—	—	57
Share-based compensation	—	—	—	176	—	176
At December 31, 2022	37,298	154	196	1,140	(17,656)	21,132
At January 1, 2021	37,298	154	129	906	(25,735)	12,752
Other comprehensive loss attributable to Shell plc shareholders	—	—	—	—	6,134	6,134
Transfer from other comprehensive income	—	—	—	—	(45)	(45)
Repurchases of shares	—	—	10	—	—	10
Share-based compensation	—	—	—	58	—	58
At December 31, 2021	37,298	154	139	964	(19,646)	18,909

The merger reserve and share premium reserve were established as a consequence of the Company becoming the single parent company of Royal Dutch Petroleum Company and The "Shell" Transport and Trading Company, plc, now The Shell Transport and Trading Company Limited, in 2005. The merger reserve increased in 2016 following the issuance of shares for the acquisition of BG Group plc.

The capital redemption reserve was established in connection with repurchases of shares of the Company.

The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 27). The movement comprises the net of the charge for the year and the release as a result of vested awards.

Notes to the Consolidated Financial Statements continued

28. Other reserves continued

Accumulated other comprehensive income comprises the following:

Accumulated other comprehensive income attributable to Shell plc shareholders

\$ million

	Currency translation differences	Equity instruments remeasurements	Debt instruments remeasurements	Cash flow hedging (losses)/ gains	Net investment hedging (losses)/ gains	Deferred cost of hedging	Retirement benefits remeasurements	Total
At January 1, 2023	(12,590)	487	(75)	(524)	(1,964)	(26)	(2,964)	(17,656)
Recognised in other comprehensive income	1,393	(67)	33	(196)	(44)	(273)	(1,088)	(242)
Reclassified to income	1	—	9	162	—	61	—	233
Reclassified to the balance sheet	—	—	(1)	117	—	1	—	117
Reclassified to retained earnings	—	(112)	—	—	—	—	—	(112)
Tax on amounts recognised/reclassified	3	(32)	—	(12)	—	63	5	27
Total, net of tax	1,397	(211)	41	71	(44)	(148)	(1,083)	23
Share of joint ventures and associates	16	(202)	—	2	—	—	1	(183)
Other comprehensive (loss)/income for the period	1,413	(413)	41	73	(44)	(148)	(1,082)	(160)
Less: non-controlling interest	(36)	(1)	—	—	—	—	2	(35)
Attributable to Shell plc shareholders	1,377	(414)	41	73	(44)	(148)	(1,080)	(195)
At December 31, 2023	(11,213)	73	(34)	(451)	(2,008)	(174)	(4,044)	(17,851)
At January 1, 2022	(9,563)	1,294	3	(536)	(2,144)	(226)	(8,474)	(19,646)
Recognised in other comprehensive income	(3,422)	(524)	(90)	426	180	64	6,982	3,616
Reclassified to income	437	—	12	(636)	—	81	—	(106)
Reclassified to the balance sheet	—	—	—	(81)	—	—	—	(81)
Reclassified to retained earnings	—	(32)	—	—	—	—	(2)	(34)
Tax on amounts recognised/reclassified	(1)	33	—	59	—	55	(1,516)	(1,370)
Total, net of tax	(2,986)	(523)	(78)	(232)	180	200	5,464	2,025
Share of joint ventures and associates	30	(283)	—	244	—	—	30	21
Other comprehensive income/(loss) for the period	(2,956)	(806)	(78)	12	180	200	5,494	2,046
Less: non-controlling interest	(71)	(1)	—	—	—	—	16	(56)
Attributable to Shell plc shareholders	(3,027)	(807)	(78)	12	180	200	5,510	1,990
At December 31, 2022	(12,590)	487	(75)	(524)	(1,964)	(26)	(2,964)	(17,656)
At January 1, 2021	(8,175)	1,144	31	(485)	(2,439)	(187)	(15,624)	(25,735)
Recognised in other comprehensive income	(1,841)	180	(23)	88	295	(145)	10,191	8,745
Reclassified to income	368	—	(5)	(38)	—	92	—	417
Reclassified to the balance sheet	—	—	—	(13)	—	—	—	(13)
Reclassified to retained earnings	—	(45)	—	—	—	—	—	(45)
Tax on amounts recognised/reclassified	60	(35)	—	(16)	—	14	(2,993)	(2,970)
Total, net of tax	(1,413)	100	(28)	21	295	(39)	7,198	6,134
Share of joint ventures and associates	(36)	50	—	(72)	—	—	(48)	(106)
Other comprehensive income/(loss) for the period	(1,449)	150	(28)	(51)	295	(39)	7,150	6,028
Less: non-controlling interest	61	—	—	—	—	—	—	61
Attributable to Shell plc shareholders	(1,388)	150	(28)	(51)	295	(39)	7,150	6,089
At December 31, 2021	(9,563)	1,294	3	(536)	(2,144)	(226)	(8,474)	(19,646)

Notes to the Consolidated Financial Statements continued

29. Dividends

Interim dividends

	\$ per share			\$ million		
	2023	2022	2021 [A]	2023	2022	2021 [B]
Cash:						
March	0.2875	0.24	0.1665	2,030	1,829	1,290
June	0.2875	0.25	0.1735	1,984	1,850	1,331
September	0.3310	0.25	0.24	2,179	1,818	1,854
December	0.3310	0.25	0.24	2,196	1,786	1,846
Total	1.237	0.99	0.82	8,389	7,283	6,321

[A] In 2021 Shell plc declared equal amounts of dividends per A and B share as presented.

[B] Dividends paid on A shares totalled in 2021: \$3,330 million and dividends paid on B shares totalled in 2021: \$2,991 million.

On February 1, 2024, the Directors announced a further interim dividend in respect of 2023 of \$0.3440 per ordinary share. The total dividend is estimated to be \$2,230 million and is payable on March 25, 2024, to shareholders on the register at February 16, 2024.

Shareholders will be able to elect to receive their dividends in US dollars, sterling or euros.

30. Earnings per share

	2023	2022	2021
Income attributable to Shell plc shareholders (\$ million)	19,359	42,309	20,101
Weighted average number of shares used as the basis for determining:			
Basic earnings per share (million of shares)	6,733.5	7,347.5	7,761.7
Diluted earnings per share (million of shares)	6,799.8	7,410.5	7,806.8

Basic earnings per share are calculated by dividing the income attributable to Shell plc shareholders for the year by the weighted average number of shares outstanding during the year. The weighted average number of shares outstanding excludes shares held in trust.

Diluted earnings per share are based on the same income figures. The weighted average number of shares outstanding during the year is increased by dilutive shares related to share-based compensation plans. If the inclusion of potentially issuable shares could decrease diluted loss per share, the potentially issuable shares are excluded from the weighted average number of shares outstanding used to calculate diluted earnings per share.

31. Legal proceedings and other contingencies

General

In the ordinary course of business, Shell subsidiaries are subject to a number of contingencies arising from litigation and claims brought by governmental authorities, including tax authorities, and private parties. The operations and earnings of Shell subsidiaries continue, from time to time, to be affected to varying degrees by political, legislative, fiscal and regulatory developments, including those relating to the protection of the environment and indigenous groups in the countries where they operate. The industries in which Shell subsidiaries are engaged are also subject to physical risks of various types.

The amounts claimed in relation to such events and, if such claims against Shell were successful, the costs of implementing the remedies sought in the various cases could be substantial. Based on information available to date and taking into account that in some cases it is not practicable to estimate the possible magnitude or timing of any resultant payments, management believes that the foregoing are not expected to have a material adverse impact on Shell's Consolidated Financial Statements. However, there remains a high degree of uncertainty around these contingencies, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

In certain divestment transactions, liabilities related to decommissioning and restoration are de-recognised upon transfer of these obligations to the buyer. For certain of these obligations Shell has issued guarantees to third parties and continues to be liable in case the primary obligor is not able to meet its obligation. These potential obligations arising from issuance of these guarantees are assessed to be remote.

Decommissioning and restoration of manufacturing facilities

For long-lived manufacturing facilities, where decommissioning would generally be more than 50 years away, while there is a present obligation that has arisen from past events, the amount of the obligation cannot be reliably measured. This is because the settlement dates are indeterminate; and other estimates, such as extremely long-term discount rates for which there is no observable measure, cannot be reliably determined. Consequently, the decommissioning and restoration obligation that exists for such long-lived manufacturing facilities cannot be reliably quantified and is disclosed as a contingent liability. There remains a high degree of uncertainty concerning such obligations and their potential effects on future operations, earnings, cash flows, reputation and Shell's financial condition.

Notes to the Consolidated Financial Statements continued

31. Legal proceedings and other contingencies continued

Pesticide litigation

Shell USA, Inc. (Shell USA), along with another agricultural chemical pesticide manufacturer and several distributors, has been sued by public and quasi-public water purveyors, water storage districts and private landowners alleging responsibility for groundwater contamination caused by applications of chemical pesticides. There are approximately 24 such cases currently pending, four claims made but not yet filed, and an active subpoena for records. These matters assert various theories of strict liability and negligence, seeking to recover actual damages, including drinking well treatment and remediation costs. Most assert claims for punitive damages. While Shell USA continues to vigorously defend these actions, in January 2018 an environmental regulatory standard became effective in the State of California, where a majority of the suits are pending. The 2018 standard requires public water systems state-wide to perform quarterly or monthly sampling of their drinking water sources for a chemical contained in certain pesticides. Water systems deemed out of compliance with the regulatory standard must take corrective action to resolve the exceedance or take the potable water source out of service. In response to this regulatory standard, Shell USA monitors the sampling results to determine the number of wells potentially impacted. Based on the claims asserted and Shell USA's history with regard to amounts paid to resolve varying actions, management does not expect the outcome of the matters pending at December 31, 2023, to have a material adverse impact on Shell. However, there remains a high degree of uncertainty regarding the potential outcome of some of these pending lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

Climate change litigation

In the USA, energy companies (including Shell), industry associations, and others have been named in several matters alleging responsibility for the impacts of climate change due to the use of fossil fuels. These matters assert a number of different theories of liability for a wide variety of harms, including but not limited to, impacts to public and private infrastructure, natural resources, and public health and services. As of December 31, 2023, 24 lawsuits naming Shell as a defendant were pending, three claims were filed but not yet served, and one petition to preserve testimony was pending.

In the Netherlands, in a case against Shell brought by a group of environmental non-governmental organisations (eNGOs) and individual claimants, the Court found that while Shell is not currently acting unlawfully, Shell must reduce the aggregate annual volume of CO₂ emissions of Shell operations and energy-carrying products sold across Scopes 1, 2 and 3 by 45% (net) by the end of 2030 relative to its 2019 emissions levels (the "Dutch Court Order"). For Scopes 2 and 3, this is a significant best-efforts obligation. Shell appealed that ruling and a hearing is scheduled to take place before the Dutch Court of Appeal of The Hague in April 2024.

Management believes the outcome of these matters should be resolved in a manner favourable to Shell, but there remains a high degree of uncertainty regarding the ultimate outcome of these lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

NAM (Groningen gas field) litigation

Since 1963, NAM – a joint venture between Shell and ExxonMobil (50%:50%) – has been producing gas from the Groningen field, the largest gas field in Western Europe. After smaller tremors in the 1990s and the late 2000s, an earthquake measuring 3.6 on the Richter scale occurred in 2012, causing damage to properties in the affected area, and the area continues to experience tremor/earthquake-type events. NAM has successfully settled close to 80,000 claims for physical damage to property. The Dutch State has taken over the damage-claim-handling from NAM for all claim categories, and the strengthening operation in the region, while NAM remains financially responsible insofar as the costs corresponded to NAM's liability. In 2022, NAM started arbitrations with the Dutch government to have its financial liability determined for costs which the Dutch government compensated to claimants and subsequently charged to NAM. These claims include but are not limited to physical damage to property, housing value loss, emotional damage and loss of living enjoyment.

Shell and ExxonMobil seek to reach a final, all-encompassing settlement with the Dutch government on the new design of the Dutch "Gasgebouw" and the wind-down of natural gas production in Groningen. Shell, ExxonMobil and the Dutch government reached agreements in 2018 (Heads of Agreement) and 2019 (Interim Agreement) and subsequently have been engaged in discussions on the interpretation and implementation of these agreements and on a final and all-encompassing settlement. As these discussions have not led to such a settlement, in December 2023, the NAM shareholders asked an independent arbitration panel to rule on the interpretation and implementation of the agreements made in 2018/2019. The purpose of this arbitration is for a neutral third party to assess the situation and provide clarity. The arbitration is expected to take several years and the judgement will be binding. The arbitration does not preclude a final and all-encompassing settlement, provided Shell, ExxonMobil and the Dutch government agree to pursue such a settlement.

There remains a high degree of uncertainty concerning the ultimate outcome of these disputes and their potential effect on future operations, earnings, cash flows, reputation and Shell's financial condition.

Notes to the Consolidated Financial Statements continued

31. Legal proceedings and other contingencies continued

Kazakhstan

Shell has several matters in dispute involving the Republic of Kazakhstan. One litigation matter involving a Shell NOV relates to a Sulphur permitting inspection outcome. An unfavourable ruling was issued by the Administrative Collegium of Astana City Court in February 2024. The Shell NOV is assessing its next steps, including filing an appeal to the Kazakhstan Supreme Court.

The other matters are two Shell NOVs concerning disputes as to cost recovery for the period 2010 to 2019 under the applicable production sharing contracts. In March 2023, the Republic of Kazakhstan appointed its arbitrator in each of the disputes, formally starting the arbitration process. No Statement of Claim has been filed in either matter.

Accordingly, at this time, it is not possible to reliably estimate the magnitude and timing of any possible obligations or payments in respect of the matters above or whether any payments will be due. There remains a high degree of uncertainty regarding the ultimate outcomes, as well as the potential effect on future operations, earnings, cash flows and Shell's financial condition.

Nigerian litigation

Shell subsidiaries and associates operating in Nigeria are parties to various environmental, non-environmental and contractual disputes brought in the courts of Nigeria and England. These disputes are at different stages in litigation, including at the appellate stage, where judgements have been rendered against Shell entities in some of these disputes. If taken at face value, the aggregate amount of these judgements could be seen as material. Management, however, believes that the outcomes of these disputes, once determined, will be favourable to Shell. However, there remains a high degree of uncertainty regarding these cases, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

OPL 245

On January 27, 2017, the Nigeria Federal High Court issued an Interim Order of Attachment for Oil Prospecting Licence 245 (OPL 245), pending the conclusion of the investigation of Shell Nigeria Exploration and Production Company Ltd.'s (SNEPCO's) investment in the Nigeria oil block OPL 245 and the 2011 settlement of litigation pertaining to that block with regard to potential anti-bribery, anti-corruption and anti-money laundering laws. SNEPCO applied for and was granted a discharge of this order on constitutional and procedural grounds. Also in Nigeria, in March 2017, criminal charges alleging official corruption and conspiracy to commit official corruption were filed against SNEPCO, one then current now former Shell employee and third parties including ENI SpA and one of its subsidiaries. Those proceedings are in abeyance. In January 2020, criminal charges alleging disobeying direction of law related to tax waivers were filed in Nigeria against Shell Nigeria Ultra Deep Ltd., SNEPCO, and third parties including Nigeria Agip Exploration Limited (NAE). Those proceedings are ongoing. In March 2017, parties alleging to be shareholders of Malabu Oil and Gas Company Ltd. (Malabu) filed two actions to challenge the 2011 settlement and the award of OPL 245 to SNEPCO and an ENI SpA subsidiary by the Federal Government of Nigeria. Both actions are currently stayed awaiting the outcome of appeals filed against procedural decisions. Those appeal proceedings are ongoing. On May 8, 2018, Human Environmental Development Agenda (HEDA) sought permission from the Federal High Court of Nigeria to apply for an order to direct the Attorney General of the Federation to revoke OPL 245 on grounds that the entire Malabu transaction in relation to the OPL is unconstitutional, illegal and void as it was obtained through fraudulent and corrupt practice. On July 3, 2019, the Nigerian Federal High Court upheld objections from SNEPCO and NAE and struck the lawsuit filed by HEDA. The suit was struck because of the statute of limitations and lack of jurisdiction to hear the matter. HEDA has appealed the judgement, which is ongoing.

On a separate OPL 245 matter, pre-trial criminal proceedings are pending against an individual who also did not work for or on behalf of Shell.

On July 21, 2022, the Dutch Public Prosecutor's office announced it had dismissed its investigation into bribery allegations related to OPL 245. On October 24, 2022, Re:Common, HEDA and The Corner House announced that they filed a complaint at the Court of Appeal in The Hague, pursuant to Article 12 of the Dutch Code for Criminal Procedure, challenging the decision by the Dutch Public Prosecutor to dismiss its investigation. There remains a high degree of uncertainty around the OPL 245 matters and contingencies discussed above, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition. Accordingly, at this time, it is not possible to reliably estimate the possible obligations and timing of any payments. Any violation of anti-bribery, anti-corruption or anti-money laundering legislation could have a material adverse effect on Shell plc's earnings, cash flows and financial condition.

Notes to the Consolidated Financial Statements continued

32. Employees

Employee costs

	2023	2022	\$ million 2021
Remuneration	10,648	10,509	9,038
Social security contributions	957	860	819
Retirement benefits (see Note 23)	1,324	1,795	1,696
Share-based compensation (see Note 27)	700	807	539
Total [A]	13,629	13,971	12,092

[A] Excludes employees seconded to joint ventures and associates.

Average employee numbers [A]

	2023	2022	Thousand 2021
Integrated Gas	6	6	6
Upstream	11	12	13
Marketing	26	17	14
Chemicals and Products	22	21	22
Renewables and Energy Solutions	5	4	3
Corporate	30	27	25
- of which Shell Business Service Centre (SBSC)	23	20	19
Total [B]	100	87	83

[A] Employee numbers are based on headcount.

[B] Excludes employees seconded to joint ventures and associates (2023: 2,000 employees; 2022: 2,000 employees; 2021: 2,000 employees).

33. Directors and Senior Management

Remuneration of Directors of the Company

	2023	2022	\$ million 2021
Emoluments	12	12	12
Value of released awards under long-term incentive plans	4	7	5
Employer contributions to pension plans	1	1	1

Emoluments comprise salaries and fees, annual bonuses (for the period for which performance is assessed) and other benefits. The value of released awards under long-term incentive plans for the period is in respect of the performance period ending in that year. In 2023, no Director accrued retirement benefits in respect of qualifying services under defined benefit plans.

Further information on the remuneration of the Directors can be found in the Directors' Remuneration Report on pages 191-193.

Directors and Senior Management expense

	2023	2022	\$ million 2021
Short-term benefits	31	33	27
Retirement benefits	2	2	3
Share-based compensation	17	17	16
Termination and related amounts	7	1	2
Total	57	53	48

Directors and Senior Management comprise members of the Executive Committee and the Non-executive Directors of the Company.

Short-term benefits comprise salaries and fees, annual bonuses delivered in cash and shares (for the period for which performance is assessed), other benefits and employer social security contributions.

Notes to the Consolidated Financial Statements continued

34. Auditor's remuneration

	2023	2022	\$ million 2021
Fees in respect of the audit of the Consolidated and Parent Company Financial Statements, including audit of consolidation returns	42	45	39
Other audit fees, principally in respect of audits of accounts of subsidiaries	19	18	18
Total audit fees	61	63	57
Audit-related fees	3	3	3
Fees in respect of other non-audit services	2	3	3
Total	66	69	63

In addition, the auditor provided audit services to retirement benefit plans for employees of subsidiaries. Remuneration paid by those benefit plans amounted to \$1 million in 2023 (2022: \$1 million; 2021: \$1 million).

35. Post-balance sheet events

On January 16, 2024, Shell reached an agreement to sell its Nigerian onshore subsidiary The Shell Petroleum Development Company of Nigeria Limited (SPDC) for a consideration of \$1.3 billion with additional cash payments up to \$1.1 billion as well as further contingent payments. Under the agreed deal structure, economic performance accrues to the buyer with effect from December 31, 2021, however, Shell will continue to consolidate SPDC until control transfers at completion. At completion Shell will provide secured term loans of up to \$1.2 billion and additional financing of up to \$1.3 billion over future years. Completion of the transaction is subject to approvals by the Federal Government of Nigeria and other conditions.

On January 30, 2024, the principal defined benefit pension plan in the USA, Shell Pension Plan, entered into a contract with "The Prudential Insurance Company of America" to settle \$5,052 million of pension liabilities. The settlement price consisted of \$4,920 million of pension assets. As a result of this transaction, all legal and constructive obligations for a tranche of benefits provided by the Shell Pension Plan have been eliminated. This transaction will have no significant impact on the Consolidated Statement of Income, Consolidated Balance Sheet or Consolidated Statement of Cash Flows.

On February 1, 2024, Shell announced the commencement of a \$3.5 billion share buyback programme covering an aggregate contract term of approximately three months (the "programme"). The purpose of the programme is to reduce the issued share capital of the Company. All shares repurchased as part of the programme will be cancelled. It is intended that, subject to market conditions, the programme will be completed prior to the Company's first quarter 2024 results announcement, scheduled for May 2, 2024. The Company has entered into an arrangement with a single broker consisting of three irrevocable, non-discretionary contracts, to enable the purchase of ordinary shares.

Supplementary information – oil and gas (unaudited)

About this section

The purpose of this section is to comply with the requirements of the Financial Accounting Standards Board (FASB) "Extractive Activities – Oil and Gas (Topic 932)". Extractive activities for this purpose include exploration and production activities to extract oil, condensates, natural gas liquids, oil sands and natural gas from their natural reservoirs.

In Shell, extractive activities, or oil and gas exploration and production activities, are undertaken within the Integrated Gas, Upstream and the Chemicals and Products (includes oil sands) segments. Shell's extractive activities do not represent the full extent of Integrated Gas, Upstream and Chemicals and Products activities, and exclude GTL, some LNG activities, trading and optimisation, as well as other non-extractive activities. As a result, the information in this extractive activities section is not suitable for modelling Shell's integrated businesses, for which we refer to the segment information. Full segment information to the Consolidated Financial Statements is available on pages 272-277.

The information set out on pages 317-335 is referred to as "unaudited" as a means of clarifying that it is not covered by the audit opinion of the independent registered public accounting firm that has audited and reported on the Consolidated Financial Statements.

Proved reserves

Proved reserves estimates are calculated pursuant to the US Securities and Exchange Commission (SEC) Rules and the FASB's Topic 932. Proved reserves can be either developed or undeveloped. The definitions used are in accordance with the SEC Rule 4-10 (a) of Regulation S-X. We include proved reserves associated with future production that will be consumed in operations.

Proved reserves shown are net of any quantities of crude oil or natural gas that are expected to be (or could be) taken as royalties in kind. Proved reserves outside North America include quantities that will be settled as royalties in cash. Proved reserves include certain quantities of crude oil or natural gas that will be produced under arrangements that involve Shell subsidiaries, joint ventures and associates in risks and rewards but do not transfer title of the product to those entities.

Subsidiaries' proved reserves at December 31, 2023, were divided into 76% developed and 24% undeveloped on a barrel of oil equivalent (boe) basis. For the Shell share of joint ventures and associates, the proved reserves at December 31, 2023, were divided into 34% developed and 66% undeveloped on a boe basis.

Proved reserves are recognised under various forms of contractual agreements. Shell's proved reserves volumes at December 31, 2023, present in agreements such as production-sharing contracts (PSC), tax/variable royalty contracts or other forms of economic entitlement contracts, where the Shell share of reserves can vary with commodity prices, were 2,095 million barrels of crude oil and natural gas liquids, and 10,443 thousand million standard cubic feet (scf) of natural gas.

Proved reserves cannot be measured exactly because estimation of reserves involves subjective judgement (see "Risk factors" on page 17 and our "Proved reserves assurance process" below). These estimates remain subject to revision and are unaudited supplementary information.

Proved reserves assurance process

A central group of reserves experts, who on average have around 28 years' experience in the oil and gas industry, undertake the primary assurance of the proved reserves bookings. This group of experts is part of the Resources Assurance and Reporting (RAR) organisation within Shell. A Vice President with 38 years' experience in the oil and gas industry currently heads the RAR organisation. He is a member of the Society of Petroleum Engineers, Society of Petroleum Evaluation Engineers and holds a BA in mathematics from Oxford University and an MEng in Petroleum Engineering from Heriot-Watt University. The RAR organisation reports directly to an Executive Vice President of Finance, who is a member of the Upstream Reserves Committee (URC). The URC is a multidisciplinary committee consisting of senior representatives from the Finance, Legal, Integrated Gas and Upstream organisations. The URC reviews and endorses all major (larger than 20 million barrels of oil equivalent) proved reserves bookings and debookings and endorses the total aggregated proved reserves. Final approval of all proved reserves bookings remains with Shell's CEO, and all proved reserves bookings are reviewed by Shell's Audit and Risk Committee. The Internal Audit function also provides secondary assurance through audits of the control framework.

Crude oil, natural gas liquids, synthetic crude oil and bitumen

Shell subsidiaries' proved reserves of crude oil, natural gas liquids (NGLs), synthetic crude oil and bitumen at the end of the year; their share of the proved reserves of joint ventures and associates at the end of the year; and the changes in such reserves during the year are set out on pages 318-321. Significant changes in these proved reserves are discussed below (except where specific disclosures are prohibited), where "revisions and reclassifications" are changes based on new information that resulted from development drilling, production history and changes in economic factors.

Supplementary information – oil and gas (unaudited) continued

Proved reserves 2023–2022

Shell subsidiaries

Asia

- The increase of 149 million barrels in revisions and reclassifications was mainly in Oman.

Africa

- The increase of 79 million barrels in revisions and reclassifications was mainly in Bonga in Nigeria.

USA

- The increase of 69 million barrels in extensions and discoveries was due to FID of Sparta.
- The increase of 46 million barrels in revisions and reclassifications was mainly in Appomattox.
- The decrease of 110 million barrels in sales in place was in Aera.

South America

- The increase of 165 million barrels in revisions and reclassifications was mainly in Mero and Atapu in Brazil.

Proved reserves 2022–2021

Shell subsidiaries

Canada

- The increase of 240 million barrels in purchases was mainly in Jackpine Mine.

South America

- The increase of 55 million barrels in purchases was in Atapu in Brazil.

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2023

Million barrels

	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	192	1,411	106	218	543	4	731	1,138	3,612	731	4,343
Revisions and reclassifications	2	149	(17)	79	46	1	35	165	425	35	460
Improved recovery	—	3	—	—	—	—	—	—	3	—	3
Extensions and discoveries	—	2	—	—	69	1	—	25	97	—	97
Purchases of minerals in place	—	—	1	—	3	—	11	—	4	11	15
Sales of minerals in place	—	(11)	—	—	(110)	—	—	—	(121)	—	(121)
Production [A]	(34)	(162)	(11)	(38)	(112)	(1)	(20)	(150)	(508)	(20)	(528)
At December 31	160	1,392	79	259	439	5	757	1,178	3,512	757	4,269
Shell share of joint ventures and associates											
At January 1	3	327	—	—	—	—	—	7	337	—	337
Revisions and reclassifications	—	—	—	—	—	—	—	(7)	(7)	—	(7)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	—	—	—	—	—
Purchases of minerals in place	—	85	—	—	—	—	—	—	85	—	85
Sales of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Production	(1)	(22)	—	—	—	—	—	—	(23)	—	(23)
At December 31	2	390	—	—	—	—	—	—	392	—	392
Total [B]	162	1,782	79	259	439	5	757	1,178	3,904	757	4,661
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	—	—	—	—	—	—	378	—	—	378	378

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

[B] On January 16, 2024, Shell announced an agreement to sell its Nigerian onshore subsidiary The Shell Petroleum Development Company of Nigeria Limited (SPDC) which holds a 30% interest in the SPDC JV to Renaissance, subject to approvals by the Federal Government of Nigeria and other conditions. As of December 31, 2023, we had proved reserves of 142 million barrels in crude oil. See Note 35 on page 316.

Proved developed reserves 2023

Million barrels

	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	140	999	73	187	356	3	731	831	2,589	731	3,320
At December 31	122	985	53	230	305	2	757	841	2,538	757	3,295
Shell share of joint ventures and associates											
At January 1	3	154	—	—	—	—	—	7	164	—	164
At December 31	2	113	—	—	—	—	—	—	115	—	115

Proved undeveloped reserves 2023

Million barrels

	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	52	412	33	31	187	1	—	307	1,023	—	1,023
At December 31	38	407	26	29	134	3	—	337	974	—	974
Shell share of joint ventures and associates											
At January 1	—	173	—	—	—	—	—	—	173	—	173
At December 31	—	277	—	—	—	—	—	—	277	—	277

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2022

Million barrels

	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	208	1,521	80	265	610	5	533	1,131	3,820	533	4,353
Revisions and reclassifications	16	34	11	(18)	48	(1)	(25)	47	137	(25)	112
Improved recovery	—	—	—	—	—	—	—	32	32	—	32
Extensions and discoveries	5	13	24	—	7	1	—	11	61	—	61
Purchases of minerals in place	—	12	—	—	—	—	240	55	67	240	307
Sales of minerals in place	—	(1)	—	—	—	—	—	—	(1)	—	(1)
Production [A]	(37)	(168)	(9)	(29)	(122)	(1)	(17)	(138)	(504)	(17)	(521)
At December 31	192	1,411	106	218	543	4	731	1,138	3,612	731	4,343
Shell share of joint ventures and associates											
At January 1	7	217	—	—	—	—	—	4	228	—	228
Revisions and reclassifications	(3)	(23)	—	—	—	—	—	1	(25)	—	(25)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	—	4	4	—	4
Purchases of minerals in place	—	159	—	—	—	—	—	—	159	—	159
Sales of minerals in place	—	—	—	—	—	—	—	—	—	—	—
Production	(1)	(26)	—	—	—	—	—	(2)	(29)	—	(29)
At December 31	3	327	—	—	—	—	—	7	337	—	337
Total [B]	195	1,738	106	218	543	4	731	1,145	3,949	731	4,680
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31							365			365	365

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

[B] As announced on February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which held a 51.8% membership interest in Aera Energy LLC, to IKAV. As of December 31, 2022, we had proved reserves of 112 million barrels in crude oil.

Proved developed reserves 2022

Million barrels

	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	140	1,348	71	218	397	2	533	786	2,962	533	3,495
At December 31	140	999	73	187	356	3	731	831	2,589	731	3,320
Shell share of joint ventures and associates											
At January 1	7	197	—	—	—	—	—	4	208	—	208
At December 31	3	154	—	—	—	—	—	7	164	—	164

Proved undeveloped reserves 2022

Million barrels

	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	68	173	9	47	213	3	—	345	858	—	858
At December 31	52	412	33	31	187	1	—	307	1,023	—	1,023
Shell share of joint ventures and associates											
At January 1	—	20	—	—	—	—	—	—	20	—	20
At December 31	—	173	—	—	—	—	—	—	173	—	173

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2021

Million barrels

	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	178	1,573	73	379	728	15	644	815	3,761	644	4,405
Revisions and reclassifications	67	121	18	(53)	119	–	(90)	325	597	(90)	507
Improved recovery	–	–	–	–	9	–	–	21	30	–	30
Extensions and discoveries	4	11	–	1	55	1	–	103	175	–	175
Purchases of minerals in place	–	–	–	–	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	(21)	(136)	(8)	–	–	(165)	–	(165)
Production [A]	(41)	(184)	(11)	(41)	(165)	(3)	(21)	(133)	(578)	(21)	(599)
At December 31	208	1,521	80	265	610	5	533	1,131	3,820	533	4,353
Shell share of joint ventures and associates											
At January 1	6	210	–	–	–	–	–	–	216	–	216
Revisions and reclassifications	2	40	–	–	–	–	–	4	46	–	46
Improved recovery	–	–	–	–	–	–	–	–	–	–	–
Extensions and discoveries	–	–	–	–	–	–	–	2	2	–	2
Purchases of minerals in place	–	–	–	–	–	–	–	–	–	–	–
Sales of minerals in place	–	–	–	–	–	–	–	–	–	–	–
Production	(1)	(33)	–	–	–	–	–	(2)	(36)	–	(36)
At December 31	7	217	–	–	–	–	–	4	228	–	228
Total [B]	215	1,738	80	265	610	5	533	1,135	4,048	533	4,581
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	–	–	–	–	–	267	–	–	267	267

[A] Includes 1 million barrels consumed in operations for synthetic crude oil.

[B] As of December 31, 2021, we had proved reserves of 93 million barrels in crude oil relating to activities in Russia.

Proved developed reserves 2021

Million barrels

	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	103	1,417	69	316	539	12	644	674	3,130	644	3,774
At December 31	140	1,348	71	218	397	2	533	786	2,962	533	3,495
Shell share of joint ventures and associates											
At January 1	6	192	–	–	–	–	–	1	199	–	199
At December 31	7	197	–	–	–	–	–	4	208	–	208

Proved undeveloped reserves 2021

Million barrels

	Europe	Asia	Oceania	Africa	North America			South America	Total		
	Oil and NGL	Oil and NGL	Oil and NGL	Oil and NGL	USA	Canada	Synthetic crude oil	Oil and NGL	Oil and NGL	Synthetic crude oil	All products
Shell subsidiaries											
At January 1	76	156	5	63	189	3	–	141	633	–	633
At December 31	68	173	9	47	213	3	–	345	858	–	858
Shell share of joint ventures and associates											
At January 1	–	18	–	–	–	–	–	–	18	–	18
At December 31	–	20	–	–	–	–	–	–	20	–	20

Supplementary information – oil and gas (unaudited) continued

Natural gas

Shell subsidiaries' proved reserves of natural gas at the end of the year, their share of the proved reserves of joint ventures and associates at the end of the year, and the changes in such reserves during the years are set out on pages 322-325. Significant changes in these proved reserves are discussed below (except where specific disclosures are prohibited).

Volumes are not adjusted to standard heat content. Apart from integrated projects, volumes of gas are reported on an "as-sold" basis. The price used to calculate future revenue and cash flows from proved gas reserves is the contract price or the 12-month average on "as-sold" volumes. Volumes associated with integrated projects are those measured at a designated transfer point between the upstream and downstream portions of the integrated project. Natural gas volumes are converted into oil equivalent using a factor of 5,800 scf per barrel.

Proved reserves 2023–2022

Shell subsidiaries

Asia

- The increase of 952 thousand million scf in revisions and reclassifications was mainly in Oman.

Oceania

- The increase of 1,043 thousand million scf in revisions and reclassifications was mainly in Surat QGC and Gorgon in Australia.

Canada

- The increase of 443 thousand million scf in revisions and reclassifications was mainly in Groundbirch in Canada.

Proved reserves 2022–2021

Shell subsidiaries

Asia

- The increase of 682 thousand million scf in purchases was mainly in Oman.
- The increase of 581 thousand million scf in extensions and discoveries was mainly in Marjoram and Rosmari in Malaysia.
- The decrease of 906 thousand million scf in revisions and reclassifications was mainly due to higher prices resulting in a lower reserves entitlement in production-sharing contracts.

Oceania

- The increase of 959 thousand million scf in revisions and reclassifications was mainly in Surat QGC in Australia.
- The increase of 453 thousand million scf in extensions and discoveries was due to FID of Crux in Australia.

Canada

- The decrease of 540 thousand million scf in revisions and reclassifications was mainly in Groundbirch in Canada.

South America

- The increase of 288 thousand million scf in revisions and reclassifications was mainly in Trinidad and Tobago.

Shell share of joint ventures and associates

Asia

- The decrease of 776 thousand million scf in revisions and reclassifications was mainly in Lunskeye in Russia.

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2023

	Europe	Asia	Oceania	Africa	Thousand million standard cubic feet			Total
					North America		South America	
					USA	Canada		
Shell subsidiaries								
At January 1	2,884	9,078	5,949	1,841	521	956	1,819	23,048
Revisions and reclassifications	(103)	952	1,043	139	64	443	64	2,602
Improved recovery	–	–	–	–	–	–	–	–
Extensions and discoveries	–	55	–	–	43	224	14	336
Purchases of minerals in place	–	–	14	–	2	–	–	16
Sales of minerals in place	–	(82)	–	–	(31)	–	–	(113)
Production [A]	(273)	(835)	(777)	(133)	(114)	(140)	(341)	(2,613)
At December 31	2,508	9,168	6,229	1,847	485	1,483	1,556	23,276
Shell share of joint ventures and associates								
At January 1	175	5,008	169	–	–	–	7	5,359
Revisions and reclassifications	3	(141)	60	–	–	–	(6)	(84)
Improved recovery	–	–	–	–	–	–	–	–
Extensions and discoveries	–	–	30	–	–	–	–	30
Purchases of minerals in place	–	1,516	–	–	–	–	–	1,516
Sales of minerals in place	–	–	–	–	–	–	–	–
Production [B]	(56)	(280)	(31)	–	–	–	(1)	(368)
At December 31	122	6,103	228	–	–	–	–	6,453
Total [C]	2,630	15,271	6,457	1,847	485	1,483	1,556	29,729
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	–	–	–	–	–	–	–

[A] Includes 233 thousand million standard cubic feet consumed in operations.

[B] Includes 27 thousand million standard cubic feet consumed in operations.

[C] On January 16, 2024, Shell announced an agreement to sell its Nigerian onshore subsidiary The Shell Petroleum Development Company of Nigeria Limited (SPDC) which holds a 30% interest in the SPDC JV to Renaissance, subject to approvals by the Federal Government of Nigeria and other conditions. As of December 31, 2023, we had proved reserves of 1765 thousand million standard cubic feet in natural gas. See Note 35 on page 316.

Proved developed reserves 2023

	Europe	Asia	Oceania	Africa	Thousand million standard cubic feet			Total
					North America		South America	
					USA	Canada		
Shell subsidiaries								
At January 1	2,460	6,698	4,111	984	275	712	1,582	16,822
At December 31	2,205	7,348	4,870	875	268	706	1,273	17,545
Shell share of joint ventures and associates								
At January 1	175	2,261	129	–	–	–	7	2,572
At December 31	120	1,936	228	–	–	–	–	2,284

Proved undeveloped reserves 2023

	Europe	Asia	Oceania	Africa	Thousand million standard cubic feet			Total
					North America		South America	
					USA	Canada		
Shell subsidiaries								
At January 1	424	2,380	1,838	857	246	244	237	6,226
At December 31	303	1,820	1,359	972	217	777	283	5,731
Shell share of joint ventures and associates								
At January 1	–	2,747	40	–	–	–	–	2,787
At December 31	2	4,167	–	–	–	–	–	4,169

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2022

	Europe	Asia	Oceania	Africa	Thousand million standard cubic feet			Total
					North America		South America	
					USA	Canada		
Shell subsidiaries								
At January 1	2,991	9,573	5,307	2,016	615	1,540	1,753	23,795
Revisions and reclassifications	131	(906)	959	15	22	(540)	288	(31)
Improved recovery	–	–	–	–	–	–	–	–
Extensions and discoveries	64	581	453	–	10	81	81	1,270
Purchases of minerals in place	–	682	–	–	–	–	33	715
Sales of minerals in place	–	(53)	–	–	–	–	–	(53)
Production [A]	(302)	(799)	(770)	(190)	(126)	(125)	(336)	(2,648)
At December 31	2,884	9,078	5,949	1,841	521	956	1,819	23,048
Shell share of joint ventures and associates								
At January 1	312	3,560	71	–	–	–	6	3,949
Revisions and reclassifications	(3)	(776)	45	–	–	–	1	(733)
Improved recovery	–	–	–	–	–	–	–	–
Extensions and discoveries	–	–	77	–	–	–	3	80
Purchases of minerals in place	–	2,549	–	–	–	–	–	2,549
Sales of minerals in place	–	–	–	–	–	–	–	–
Production [B]	(134)	(325)	(24)	–	–	–	(3)	(486)
At December 31	175	5,008	169	–	–	–	7	5,359
Total [C]	3,059	14,086	6,118	1,841	521	956	1,826	28,407
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31	–	–	–	–	–	–	–	–

[A] Includes 228 thousand million standard cubic feet consumed in operations.

[B] Includes 31 thousand million standard cubic feet consumed in operations.

[C] As announced on February 28, 2023, Shell completed the sale of its 100% interest in Shell Onshore Ventures LLC, which held a 51.8% membership interest in Aera Energy LLC, to IKAV.

As of December 31, 2022, we had proved reserves of 31 thousand million standard cubic feet.

Proved developed reserves 2022

	Europe	Asia	Oceania	Africa	Thousand million standard cubic feet			Total
					North America		South America	
					USA	Canada		
Shell subsidiaries								
At January 1	2,532	8,789	4,089	981	373	757	1,301	18,822
At December 31	2,460	6,698	4,111	984	275	712	1,582	16,822
Shell share of joint ventures and associates								
At January 1	265	3,097	71	–	–	–	6	3,439
At December 31	175	2,261	129	–	–	–	7	2,572

Proved undeveloped reserves 2022

	Europe	Asia	Oceania	Africa	Thousand million standard cubic feet			Total
					North America		South America	
					USA	Canada		
Shell subsidiaries								
At January 1	459	784	1,218	1,035	242	783	452	4,973
At December 31	424	2,380	1,838	857	246	244	237	6,226
Shell share of joint ventures and associates								
At January 1	47	463	–	–	–	–	–	510
At December 31	–	2,747	40	–	–	–	–	2,787

Supplementary information – oil and gas (unaudited) continued

Proved developed and undeveloped reserves 2021

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	2,442	9,927	4,176	2,363	801	1,295	1,128	22,132
Revisions and reclassifications	838	(37)	1,905	(63)	90	123	535	3,391
Improved recovery	—	—	—	—	5	—	4	9
Extensions and discoveries	1	559	—	126	158	277	357	1,477
Purchases of minerals in place	1	—	—	—	—	—	—	1
Sales of minerals in place	—	—	—	(122)	(225)	(37)	—	(384)
Production [A]	(291)	(876)	(774)	(288)	(214)	(118)	(271)	(2,831)
At December 31	2,991	9,573	5,307	2,016	615	1,540	1,753	23,795
Shell share of joint ventures and associates								
At January 1	262	3,678	41	—	—	—	1	3,982
Revisions and reclassifications	210	313	51	—	—	—	3	577
Improved recovery	—	—	—	—	—	—	—	—
Extensions and discoveries	—	—	—	—	—	—	2	2
Purchases of minerals in place	—	—	—	—	—	—	—	—
Sales of minerals in place	—	—	—	—	—	—	—	—
Production [B]	(160)	(431)	(21)	—	—	—	—	(612)
At December 31	312	3,560	71	—	—	—	6	3,949
Total [C]	3,303	13,133	5,378	2,016	615	1,540	1,759	27,744
Reserves attributable to non-controlling interest in Shell subsidiaries at December 31								
	—	—	—	—	—	—	—	—

[A] Includes 232 thousand million standard cubic feet consumed in operations.

[B] Includes 41 thousand million standard cubic feet consumed in operations.

[C] As of December 31, 2021, we had proved reserves of 980 thousand million cubic feet in natural gas relating to activities in Russia.

Proved developed reserves 2021

					Thousand million standard cubic feet			
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	1,590	9,675	3,656	1,341	670	720	924	18,576
At December 31	2,532	8,789	4,089	981	373	757	1,301	18,822
Shell share of joint ventures and associates								
At January 1	227	3,175	42	—	—	—	1	3,445
At December 31	265	3,097	71	—	—	—	6	3,439

Proved undeveloped reserves 2021

	Thousand million standard cubic feet							
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Shell subsidiaries								
At January 1	852	252	520	1,022	132	575	203	3,556
At December 31	459	784	1,218	1,035	242	783	452	4,973
Shell share of joint ventures and associates								
At January 1	35	502	—	—	—	—	—	537
At December 31	47	463	—	—	—	—	—	510

Supplementary information – oil and gas (unaudited) continued

Standardised measure of discounted future cash flows

The SEC Form 20-F requires the disclosure of a standardised measure of discounted future net cash flows, relating to proved reserves quantities and based on a 12-month unweighted arithmetic average sales price, calculated on a first-day-of-the-month basis, with cost factors based on those at the end of each year, currently enacted tax rates and a 10% annual discount factor. In our view, the information so calculated does not provide a reliable measure of future cash flows from proved reserves, nor does it permit a realistic comparison to be made of one entity with another because the assumptions used cannot reflect the varying circumstances within each entity. In addition, a substantial but unknown proportion of future real cash flows from oil and gas production activities is expected to derive from reserves which have already been discovered, but which cannot yet be regarded as proved.

Standardised measure of discounted future cash flows relating to proved reserves at December 31

2023 – Shell subsidiaries

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	47,840	130,018	61,283	25,740	34,456	54,604	96,804	450,745
Future production costs	13,367	29,098	28,065	10,844	14,506	23,944	43,320	163,144
Future development costs	6,013	13,744	8,902	3,446	8,771	6,633	15,862	63,371
Future tax expenses	23,310	37,566	3,562	6,805	1,561	5,485	11,674	89,963
Future net cash flows	5,150	49,610	20,754	4,645	9,618	18,542	25,948	134,267
Effect of discounting cash flows at 10%	1,351	21,769	7,594	1,392	1,644	13,453	9,320	56,523
Standardised measure of discounted future net cash flows	3,799	27,841	13,160	3,253	7,974	5,089	16,628	77,744
Non-controlling interest included	–	–	–	–	–	2,544	–	2,544

2023 – Shell share of joint ventures and associates

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	1,885	71,003	1,478	–	–	–	–	74,366
Future production costs	792	27,725	1,136	–	–	–	–	29,653
Future development costs	601	8,267	155	–	–	–	–	9,023
Future tax expenses	386	24,495	–	–	–	–	–	24,881
Future net cash flows	106	10,516	187	–	–	–	–	10,809
Effect of discounting cash flows at 10%	(83)	6,539	(59)	–	–	–	–	6,397
Standardised measure of discounted future net cash flows	189	3,977	246	–	–	–	–	4,412

2022 – Shell subsidiaries

								\$ million
	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	82,513	157,030	67,551	28,054	52,231	66,059	115,529	568,967
Future production costs	16,781	32,416	22,764	9,762	23,546	28,520	46,947	180,736
Future development costs	6,125	15,240	8,696	3,004	7,720	5,269	15,917	61,971
Future tax expenses	43,626	50,771	6,917	9,670	3,821	7,004	15,074	136,883
Future net cash flows	15,981	58,603	29,174	5,618	17,144	25,266	37,591	189,377
Effect of discounting cash flows at 10%	5,193	25,770	10,529	1,580	4,056	17,478	13,104	77,710
Standardised measure of discounted future net cash flows	10,788	32,833	18,645	4,038	13,088	7,788	24,487	111,667
Non-controlling interest included	–	–	–	–	–	3,314	–	3,314

Supplementary information – oil and gas (unaudited) continued

2022 – Shell share of joint ventures and associates

\$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	6,576	86,464	1,227	–	–	–	577	94,844
Future production costs	3,626	31,569	760	–	–	–	162	36,117
Future development costs	778	7,139	536	–	–	–	15	8,468
Future tax expenses	2,257	34,551	–	–	–	–	81	36,889
Future net cash flows	(85)	13,205	(69)	–	–	–	319	13,370
Effect of discounting cash flows at 10%	85	6,152	(130)	–	–	–	67	6,174
Standardised measure of discounted future net cash flows	(170)	7,053	61	–	–	–	252	7,196

2021 – Shell subsidiaries

\$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	37,801	115,068	37,462	22,663	41,431	34,835	81,239	370,499
Future production costs	11,977	30,567	13,446	8,742	23,314	15,565	35,787	139,398
Future development costs	5,347	12,989	6,718	3,078	7,787	4,063	16,130	56,112
Future tax expenses	12,311	28,834	2,206	7,584	1,572	3,153	7,829	63,489
Future net cash flows	8,166	42,678	15,092	3,259	8,758	12,054	21,493	111,500
Effect of discounting cash flows at 10%	1,754	18,771	4,205	497	1,207	7,331	7,270	41,035
Standardised measure of discounted future net cash flows	6,412	23,907	10,887	2,762	7,551	4,723	14,223	70,465
Non-controlling interest included	–	–	–	–	–	1,906	–	1,906

2021 – Shell share of joint ventures and associates

\$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Future cash inflows	4,006	36,365	326	–	–	–	283	40,980
Future production costs	2,869	15,653	245	–	–	–	128	18,895
Future development costs	931	6,819	82	–	–	–	15	7,847
Future tax expenses	1,623	6,229	–	–	–	–	9	7,861
Future net cash flows	(1,417)	7,664	(1)	–	–	–	131	6,377
Effect of discounting cash flows at 10%	(316)	1,630	(29)	–	–	–	34	1,319
Standardised measure of discounted future net cash flows	(1,101) [A]	6,034	28	–	–	–	97	5,058

[A] While proved reserves are economically producible at the 2021 yearly average price, the standardised measure of discounted future net cash flows was negative for those proved reserves at December 31, 2021, due to addition of overhead, tax and abandonment costs and ongoing commitments post production of proved reserves.

Supplementary information – oil and gas (unaudited) continued

Change in standardised measure of discounted future net cash flows relating to proved reserves

2023

	Shell subsidiaries	Shell share of joint ventures and associates	\$ million Total
At January 1	111,667	7,196	118,863
Net changes in prices and production costs	(57,249)	(8,991)	(66,240)
Revisions of previous reserves estimates	17,624	(1,507)	16,117
Extensions, discoveries and improved recovery	5,007	60	5,067
Purchases and sales of minerals in place	(4,039)	3,365	(674)
Development cost related to future production	(8,339)	(2,011)	(10,350)
Sales and transfers of oil and gas, net of production costs	(41,345)	(1,976)	(43,321)
Development cost incurred during the year	9,797	1,337	11,134
Accretion of discount	17,482	1,855	19,337
Net change in income tax	27,139	5,084	32,223
At December 31	77,744	4,412	82,156

2022

	Shell subsidiaries	Shell share of joint ventures and associates	\$ million Total
At January 1	70,465	5,058	75,523
Net changes in prices and production costs	107,637	10,441	118,078
Revisions of previous reserves estimates	12,378	(5,544)	6,834
Extensions, discoveries and improved recovery	7,422	439	7,861
Purchases and sales of minerals in place	3,187	10,374	13,561
Development cost related to future production	(11,233)	(1,619)	(12,852)
Sales and transfers of oil and gas, net of production costs	(54,486)	(7,029)	(61,515)
Development cost incurred during the year	10,079	1,545	11,624
Accretion of discount	9,796	888	10,684
Net change in income tax	(43,578)	(7,357)	(50,935)
At December 31	111,667	7,196	118,863

2021

	Shell subsidiaries	Shell share of joint ventures and associates	\$ million Total
At January 1	28,452	106	28,558
Net changes in prices and production costs	74,896	9,188	84,084
Revisions of previous reserves estimates	19,435	3,253	22,688
Extensions, discoveries and improved recovery	5,631	60	5,691
Purchases and sales of minerals in place	(880)	–	(880)
Development cost related to future production	(10,652)	(982)	(11,634)
Sales and transfers of oil and gas, net of production costs	(35,754)	(4,455)	(40,209)
Development cost incurred during the year	8,594	969	9,563
Accretion of discount	3,832	170	4,002
Net change in income tax	(23,089)	(3,251)	(26,340)
At December 31	70,465	5,058	75,523

Supplementary information – oil and gas (unaudited) continued

Oil and gas exploration and production activities capitalised costs

The aggregate amount of property, plant and equipment and intangible assets, excluding goodwill, relating to oil and gas exploration and production activities, and the aggregate amount of the related depreciation, depletion and amortisation at December 31 are shown in the tables below.

Shell subsidiaries

	\$ million	
	2023	2022
Cost		
Proved properties [A]	260,979	251,173
Unproved properties	8,711	11,641
Support equipment and facilities	11,767	11,329
	281,457	274,143
Depreciation, depletion and amortisation		
Proved properties [A]	164,860	149,884
Unproved properties	3,400	5,238
Support equipment and facilities	6,953	6,241
	175,213	161,363
Net capitalised costs	106,244	112,780

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

Shell share of joint ventures and associates

	\$ million	
	2023	2022
Cost		
Proved properties [A]	48,424	46,244
Unproved properties	1,372	1,528
Support equipment and facilities	4,673	4,577
	54,469	52,349
Depreciation, depletion and amortisation		
Proved properties [A]	36,844	34,683
Unproved properties	452	452
Support equipment and facilities	3,053	3,023
	40,349	38,158
Net capitalised costs	14,120	14,191

[A] Includes capitalised asset decommissioning and restoration costs and related depreciation.

Oil and gas exploration and production activities costs incurred

Costs incurred during the year in oil and gas property acquisition, exploration and development activities, whether capitalised or charged to income currently, are shown in the tables below. Development costs include capitalised asset decommissioning and restoration costs (including increases or decreases arising from changes to cost estimates or to the discount rate applied to the obligations) and exclude costs of acquiring support equipment and facilities, but include depreciation thereon.

Shell subsidiaries

2023

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Acquisition of properties								
Proved	1	—	—	—	3	—	—	4
Unproved	—	—	—	(6)	18	34	45	91
Exploration	352	201	62	536	1,159	293	365	2,968
Development	1,431	1,701	1,039	353	3,265	309	1,982	10,080

[A] Comprises Canada, Mexico and Barbados.

Supplementary information – oil and gas (unaudited) continued

2022

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Acquisition of properties								
Proved	(1)	–	–	102	–	–	184	285
Unproved	–	–	–	(1)	66	8	27	100
Exploration	422	141	21	259	721	140	591	2,295
Development	981	1,001	547	727	1,951	213	3,966	9,386

[A] Comprises Canada, Mexico and Barbados.

2021

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Acquisition of properties								
Proved	2	–	–	246	–	–	–	247
Unproved	–	–	–	2	26	34	42	103
Exploration	298 [B]	106 [B]	26	136	920	217	170	1,873
Development	996	693	600	166	3,116	106	1,436	7,113

[A] Comprises Canada and Mexico.

[B] As revised, following a reassessment.

Shell share of joint ventures and associates

Joint ventures and associates did not incur costs in the acquisition of oil and gas properties in 2023, 2022, and 2021.

2023

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other		Total
Exploration	–	65	5	–	–	–	–	70
Development	2	2,809	189	–	–	–	–	3,000

2022

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other		Total
Exploration	–	50	3	–	–	–	51	104
Development	(8)	2,250	246	–	–	–	87	2,575

2021

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other		Total
Exploration	–	69	1	–	–	–	41	111
Development	101	1,648	205	–	–	–	49	2,002

Supplementary information – oil and gas (unaudited) continued

Oil and gas exploration and production activities earnings

In Shell, extractive activities, or oil and gas exploration and production activities, are undertaken within the Integrated Gas, Upstream and Chemicals and Products segments. Shell's extractive activities do not represent the full extent of Integrated Gas, Upstream and Chemicals and Products activities, and exclude GTL, some LNG activities, trading and optimisation, as well as other non-extractive activities.

The earnings disclosed in this "extractive activities" section are only a subset of Shell's total earnings and as a result are not suitable for modelling Shell's integrated businesses, for which we refer to the full segment earnings and descriptions of Integrated Gas, Upstream and Chemicals and Products. These are available on pages 42, 48, and 69 respectively. The earnings disclosed in this "extractive activities" section are not adjusted for items such as impairment charges, restructuring charges and charges for onerous contract provisions. Full segment information to the Consolidated Financial Statements is available on pages 272-277.

The results of operations for oil and gas producing activities are shown in the tables below. Taxes other than income tax include royalties in cash to governments, without option to pay in kind outside USA and Canada.

Shell subsidiaries

2023

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Revenue								
Third parties	1,328	2,967	754	1,431	123	827	1,934	9,364
Sales between businesses	7,452	11,717	7,113	2,344	8,711	2,382	10,663	50,382
Total	8,780	14,684	7,867	3,775	8,834	3,209	12,597	59,746
Production costs excluding taxes	1,655	1,827	1,181	659	1,259	677	1,514	8,772
Taxes other than income tax	102	165	412	284	–	–	3,307	4,270
Exploration	146	256	13	317	446	336	236	1,750
Depreciation, depletion and amortisation	1,687	1,324	2,760	1,471	4,330	1,094	4,100	16,766
Other costs/(income)	1,846	1,350	118	(32)	886	1,595	1,774	7,537
Earnings before taxation	3,344	9,762	3,383	1,076	1,913	(493)	1,666	20,651
Taxation charge/(credit)	2,362	5,544	976	343	330	(13)	1,088	10,630
Earnings after taxation	982	4,218	2,407	733	1,583	(480)	578	10,021

[A] Comprises Canada, Mexico and Barbados.

2022

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		Total
Revenue								
Third parties	1,986	3,832	1,394	2,173	257	888	2,459	12,989
Sales between businesses	11,115	14,503	8,457	2,013	12,221	2,713	12,107	63,129
Total	13,101	18,335	9,851	4,186	12,478	3,601	14,566	76,118
Production costs excluding taxes	2,151	1,956	1,331	825	1,556	731	1,331	9,881
Taxes other than income tax	102	831	688	238	(3)	–	3,837	5,693
Exploration	274	121	74	233	621	92	297	1,712
Depreciation, depletion and amortisation	1,468	2,090	(211)	1,090	4,462	403	1,722	11,024
Other costs/(income)	3,772	1,089	135	(336)	629	1,557	1,030	7,876
Earnings before taxation	5,334	12,248	7,834	2,136	5,213	818	6,349	39,932
Taxation charge/(credit)	5,151	7,561	3,025	527	739	229	1,681	18,913
Earnings after taxation	183	4,687	4,809	1,609	4,474	589	4,668	21,019

[A] Comprises Canada, Mexico and Barbados.

Supplementary information – oil and gas (unaudited) continued

2021

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Other [A]		
Revenue								
Third parties	1,502	3,084	681	1,849	3,411	816	1,167	12,510
Sales between businesses	5,524	11,107	5,256	2,214	8,009	1,815	8,249	42,174
Total	7,026	14,191	5,937	4,063	11,420	2,631	9,416	54,684
Production costs excluding taxes	1,892	1,817	1,222	1,013	2,165	679	1,045	9,833
Taxes other than income tax	77	858	234	250	120	–	2,847	4,386
Exploration	239	73	21	133	616	191	150	1,423
Depreciation, depletion and amortisation	1,342	2,817	1,805	1,227	5,201	181	3,973	16,546
Other costs/(income)	3,747	1,330	(155)	(349)	(2,550)	1,045	233	3,301
Earnings before taxation	(271)	7,296	2,810	1,789	5,868	535	1,168	19,195
Taxation charge/(credit)	494	4,452	831	35	1,268	180	256	7,516
Earnings after taxation	(765)	2,844	1,979	1,754	4,600	355	912	11,679

[A] Comprises Canada and Mexico.

Shell share of joint ventures and associates

2023

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Canada		
Third-party revenue	433	3,801	239	–	–	–	52	4,525
Total	433	3,801	239	–	–	–	52	4,525
Production costs excluding taxes	255	634	109	–	–	–	7	1,005
Taxes other than income tax	26	872	17	–	–	–	7	922
Exploration		9	–	–	–	–	–	9
Depreciation, depletion and amortisation	105	501	45	–	–	–	29	680
Other costs/(income)	(2)	29	17	–	(7)	–	(10)	27
Earnings before taxation	49	1,756	51	–	7	–	19	1,882
Taxation charge	25	868	–	–	2	–	(20)	875
Earnings after taxation	24	888	51	–	5	–	39	1,007

2022

					North America		South America	\$ million
	Europe	Asia	Oceania	Africa	USA	Canada		
Third-party revenue	2,899	5,997	190	–	–	–	219	9,305
Total	2,899	5,997	190	–	–	–	219	9,305
Production costs excluding taxes	289	617	97	–	–	–	23	1,026
Taxes other than income tax	231	1,402	18	–	–	–	25	1,676
Exploration	1	26	–	–	–	–	–	27
Depreciation, depletion and amortisation	155	2,910	46	–	–	–	47	3,158
Other costs/(income)	(2,061)	184	14	–	(2)	–	18	(1,847)
Earnings before taxation	4,284	858	15	–	2	–	106	5,265
Taxation charge	2,958	1,437	–	–	1	–	22	4,418
Earnings after taxation	1,326	(579)	15	–	1	–	84	847

Supplementary information – oil and gas (unaudited) continued

2021

\$ million

	Europe	Asia	Oceania	Africa	North America		South America	Total
					USA	Canada		
Third-party revenue	1,632	5,236	78	–	–	–	102	7,048
Total	1,632	5,236	78	–	–	–	102	7,048
Production costs excluding taxes	246	770	82	–	–	–	9	1,107
Taxes other than income tax	48	900	7	–	–	–	12	967
Exploration	2	27	–	–	–	–	–	29
Depreciation, depletion and amortisation	254	1,262	32	–	–	–	38	1,586
Other costs/(income)	732	118	(22)	–	(8)	–	11	831
Earnings before taxation	350	2,159	(21)	–	8	–	32	2,528
Taxation charge	62	877	–	–	2	–	(2)	939
Earnings after taxation	288	1,282	(21)	–	6	–	34	1,589

Acreeage and wells

The tables below reflect acreage and wells of Shell subsidiaries, joint ventures and associates. The term "gross" refers to the total activity in which Shell subsidiaries, joint ventures and associates have an interest. The term "net" refers to the sum of the fractional interests owned by Shell subsidiaries plus the Shell share of joint ventures and associates' fractional interests. Data below are rounded to the nearest whole number.

Oil and gas acreage (at December 31)

Thousand Acres

	2023				2022				2021			
	Developed		Undeveloped		Developed		Undeveloped		Developed		Undeveloped	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	5,913	1,854	4,230	2,105	6,008	1,873	6,121	3,095	6,022	1,880	8,083	3,839
Asia	20,654	7,360	34,782	18,515	20,678	7,370	33,382	18,524	21,360	7,651	31,620	17,022
Oceania	2,381	879	7,618	4,337	2,368	854	8,978	4,940	2,343	839	9,714	5,237
Africa	3,086	1,141	57,376	28,471	3,086	1,141	71,934	37,199	3,937	1,457	71,398	35,633
North America - USA	388	242	1,984	1,318	486	286	2,180	1,457	487	286	2,049	1,555
North America - Mexico	–	–	5,406	3,335	–	–	5,406	3,335	–	–	5,407	3,335
North America - Canada	385	213	1,147	646	379	209	1,126	626	367	208	1,326	821
South America	1,678	761	31,164	20,183	1,669	755	26,156	14,393	1,463	616	23,467	12,629
Total	34,485	12,450	143,707	78,910	34,674	12,488	155,283	83,569	35,979	12,937	153,064	80,071

Supplementary information – oil and gas (unaudited) continued

Number of productive wells [A] (at December 31)

	2023				2022				2021			
	Oil		Gas		Oil		Gas		Oil		Gas	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	754	201	930	295	749	199	963	306	796	193	1,021	324
Asia	8,536	2,959	374	238	8,164 [B]	2,843 [B]	316	201	8,804	3,213	362	209
Oceania	–	–	3,579	2,127	–	–	3,382	1,964	–	–	3,398	1,974
Africa	328	108	83	33	321	106	84	34	391	126	114	56
North America – USA	173	109	23	16	13,021	6,617	26	18	13,042	6,627	28	20
North America – Canada	–	–	545	472	–	–	530	459	–	–	510	440
South America	345	170	63	39	293 [C]	144 [C]	58 [D]	35 [D]	229	112	67	39
Total	10,136	3,547	5,597	3,220	22,548 [E]	9,909 [E]	5,359 [F]	3,017 [F]	23,262	10,271	5,500	3,062

[A] The number of productive wells with multiple completions at December 31, 2023 was 346 Gross (142 Net); December 31, 2022: 869 Gross (400 Net); December 31, 2021: 956 Gross (427 Net).

[B] Corrected From 8,147 Gross (2837 Net).

[C] Corrected From 294 Gross (145 Net).

[D] Corrected From 69 Gross (40 Net).

[E] Corrected From 22,532 Gross (9904 Net).

[F] Corrected From 5,370 Gross (3022 Net).

Number of net productive wells and dry holes drilled [A]

	2023		2022		2021	
	Productive	Dry	Productive	Dry	Productive	Dry
Exploratory [A]						
Europe	–	1	5	2	–	–
Asia	1	4	4	5	5	10
Oceania	24	0	20	1	–	2
Africa	–	2	–	2	–	11
North America – USA	2	5	–	5	3	39
North America – Canada	3	–	–	–	–	15
South America	10	–	18	2	5	1
Total	40	12	47	17	13	78
Development						
Europe	2	–	3	–	3	1
Asia	255	3	217	–	218	–
Oceania	166	25	84	1	7	–
Africa	2	–	5	–	6	–
North America – USA	12	–	54	–	46	–
North America – Canada	10	1	22	–	–	–
South America	20	–	23	–	31	–
Total	467	29	408	1	311	1

[A] Productive wells are wells with proved reserves allocated. Wells in the process of drilling are excluded and presented separately below.

Supplementary information – oil and gas (unaudited) continued

Number of wells in the process of exploratory drilling [A]

2023

	At January 1		Wells in the process of drilling at January 1 and allocated proved reserves during the year		Wells in the process of drilling at January 1 and determined as dry during the year		New wells in the process of drilling at December 31		At December 31	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Europe	9	5	–	–	–	–	2	1	11	7
Asia	66 [B]	25 [B]	(2)	(1)	(6)	(1)	4	3	62	26
Oceania	71	31	(51)	(24)	–	–	10	5	30	11
Africa	20	11	–	–	–	–	6	4	26	15
North America - USA	11	9	(2)	(2)	(3)	(3)	1	1	7	5
North America - Canada	6	6	–	–	–	–	–	–	6	6
South America	24	10	(14)	(6)	(1)	–	17	8	26	12
Total	207 [C]	97 [C]	(69)	(33)	(10)	(4)	40	22	168	82

[A] Wells in the process of exploratory drilling includes wells pending further evaluation.

[B] Corrected from 60 Gross (22 Net).

[C] Corrected from 201 Gross (94 Net).

Number of wells in the process of development drilling

2023

	At January 1		At December 31	
	Gross	Net	Gross	Net
Europe	2	1	5	2
Asia	109 [A]	20 [A]	127	20
Oceania	282	184	165	94
Africa	1	1	3	1
North America - USA	21	12	5	3
North America - Canada	6	5	–	–
South America	18	7	26	6
Total	439 [B]	230 [B]	331	126

[A] Corrected from 29 Gross (16 Net).

[B] Corrected from 359 Gross (226 Net).

In addition to the present activities mentioned above, the following recovery methods are operational in the following countries: water flooding (Brazil (including water alternating gas), Brunei, Malaysia, Nigeria, Oman, the UK and the USA); gas injection (Brazil, Brunei, Kazakhstan, Malaysia, Nigeria and Oman); steam injection (the Netherlands, Oman and the USA), and polymer flooding (Oman).

Supplementary information – EU Taxonomy disclosure

The EU Taxonomy

Introduction

Regulation EU 2020/852 (the "EU Taxonomy Regulation") is a classification system for determining when an economic activity can be considered environmentally sustainable according to European Union (EU) standards. It aims to encourage investment in a low-carbon economy by creating common definitions of sustainability and mandatory disclosures to help investors make informed decisions.

Non-financial companies screen their eligible activities against the taxonomy's technical criteria for environmental sustainability and minimum safeguards. This allows them to calculate the share of revenue (turnover), capital expenditure (capex) and operating expenditure (opex) that can be classified as aligned.

Shell supports the EU's ambition to achieve net zero emissions, which aligns with our own target to become a net-zero emissions energy business by 2050. We report against the taxonomy voluntarily because we recognise the importance of increasing transparency about how companies are progressing in the energy transition, even if the regulation is still evolving.

Reporting scope

The taxonomy's reporting scope covers Shell's global business, based on the financial consolidation boundary. Shell's eligible activities include elements of our chemicals, power generation and storage, hydrogen, biogas and biofuels, electric vehicle charging, carbon capture and storage (CCS) and nature-based solutions (NBS) businesses. Our remaining businesses are non-eligible.

The taxonomy's reporting basis differs from that used in our financial statements, which are based on International Financial Reporting Standards (IFRS).

For example, the taxonomy does not recognise our interests in equity-accounted joint ventures and associates, goodwill, feasibility expenses or integrated value chains. These and other differences result in lower reported turnover, capex and opex under the taxonomy compared with our other disclosures.

Technical criteria

The taxonomy's technical criteria recognise stringent levels of environmental performance rather than transitional steps or alternative pathways. The complexity of the criteria and their reliance on EU standards can make the criteria difficult to interpret and apply, especially for activities outside the EU.

Eligible and aligned share of Shell's business

In 2023, Shell's eligible turnover was \$8,445 million or 2.7% (2022: \$11,986 million or 3.1%), capex was \$6,032 million or 19.2% (2022: \$6,744 million or 20.9%) and opex was \$1,382 million or 25.9% (2022: \$796 million or 16.1%).

In 2023, our aligned turnover was \$542 million or 0.2%, capex was \$4,173 million or 13.3% and opex was \$30 million or 0.6%, comparing with zero alignment reported in 2022. The increase in the alignment was attributable to further development of our approach to technical screening based on evolving market practices and the acquisition of a biogas business. Our taxonomy-aligned activities include elements of our hydrogen, wind, solar, battery storage, biogas and biofuels and EV charging business, excluding individual assets that are not currently aligned with the technical screening criteria.

The taxonomy does not provide a complete picture of our low-carbon business. Nevertheless, we support efforts to improve the framework and advance climate-related disclosure more broadly. For more information, see "Our journey to net zero" on pages 82-115.

Scope of taxonomy-eligible activities

1.4 Conservation forestry	 Equity-accounted JVAs	 Feasibility	 Eligible projects	 Non-eligible projects	 Trading
3.14 Manufacture of chemicals	 Equity-accounted JVAs	 Feasibility	 Manufacturing	 Non-eligible products	 Trading
3.17 Manufacture of plastics	 Equity-accounted JVAs	 Feasibility	 Manufacturing	 Trading	 Feedstock (biofuels only)
3.10 Manufacture of hydrogen	 Equity-accounted JVAs	 Feasibility	 Manufacturing	 Trading and B2B/B2C sales	 Decarbonisation of non-eligible activities
4.1 Electricity from solar	 Equity-accounted JVAs	 Feasibility	 Power generation	 Trading and B2B/B2C sales	 Power storage
4.3 Electricity from wind	 Equity-accounted JVAs	 Feasibility	 Power storage	 Trading and B2B/B2C sales	 Upstream, midstream, LNG, GTL
4.10 Storage of electricity	 Equity-accounted JVAs	 Feasibility	 Power generation	 Carbon capture	 Retail power and hydrogen sales
4.29 Electricity from fossil gas	 Equity-accounted JVAs	 Feasibility	 Transport & storage	 B2B/B2C solutions	
5.11 Transport of CO ₂	 Equity-accounted JVAs	 Feasibility	 Infrastructure		
5.12 Storage of CO ₂	 Equity-accounted JVAs	 Feasibility	 B2C solutions		
6.15 Infrastructure enabling low-carbon road transport	 Equity-accounted JVAs	 Feasibility			
7.6 Installation of renewable energy technologies	 Equity-accounted JVAs	 Feasibility			

B2B Business-to-Business B2C Business-to-Consumer JVA Joint Ventures & Associates LNG Liquefied Natural Gas GTL Gas-to-Liquids

 Taxonomy-eligible

 Taxonomy non-eligible

Supplementary information – EU Taxonomy disclosure continued

The taxonomy framework

The taxonomy establishes technical criteria for environmental sustainability across more than 150 economic activities and six environmental objectives.

An activity is taxonomy-eligible if it is described in a delegated act adopted under the EU Taxonomy Regulation. Such an activity is eligible regardless of whether it complies with the technical screening criteria.

An activity is taxonomy-aligned if it contributes substantially to one or more environmental objectives, does no significant harm to any of the other objectives, is carried out in compliance with minimum human and labour rights safeguards, and complies with the relevant technical screening criteria.

The EU has stated that the taxonomy will develop over time. It notes that the fact an activity is not recognised as substantially contributing to one of the EU's environmental objectives does not necessarily mean it is not sustainable, and that not all activities with the potential to make a substantial contribution to the environmental objectives are yet included in the framework.

As a UK company with its registered office and headquarters in London, Shell plc is not currently subject to the EU Taxonomy Regulation. We expect to come into scope in 2024 via the EU's Corporate Sustainability Reporting Directive (CSRD), which extends the EU Taxonomy Regulation's reporting obligation to third-country issuers that are listed on European exchanges.

Our eligibility and alignment

In 2023, Shell's eligible turnover was \$8,445 million or 2.7% (2022: \$11,986 million or 3.1%), capex was \$6,032 million or 19.2% (2022: \$6,744 million or 20.9%) and opex was \$1,382 million or 25.9% (2022: \$796 million or 16.1%).

Eligible turnover decreased by \$3,541 million, mainly due to lower prices and lower demand for Chemicals products. Capex was comparable to capex reported in 2022. Lower capex for wind and solar was offset by an increase in capex for the biogas and biofuels businesses. Opex was higher by \$586 million compared with 2022, mainly driven by commencement of operations at the Shell Polymers Monaca polyethylene production facility in Pennsylvania.

In 2023, Shell's taxonomy-aligned turnover was \$542 million or 0.2%, capex was \$4,173 million or 13.3% and opex was \$30 million or 0.6%. In 2022, Shell elected to report zero alignment for all economic

activities due to uncertainty in the market about how to interpret various aspects of the technical criteria. Several activities were, however, assessed as close to aligned, including solar, wind, hydrogen, low-carbon road transport and renewable energy technology.

In 2023, five economic activities were assessed as taxonomy-aligned, including manufacture of hydrogen, electricity from wind, electricity from solar, storage of electricity and infrastructure enabling low-carbon road transport. For a sixth activity, manufacture of biogas and biofuels, we assessed some elements of our activities as taxonomy-aligned and some as non-aligned.

We further developed our approach to technical screening based on evolving market practices and internal efforts to improve alignment with the technical screening criteria. For example, we carried out a review of physical climate risks for our eligible activities in line with the requirements of the Generic criteria for Do No Significant Harm to Climate Change Adaptation (Appendix A). Completion of this review made it possible to report several activities that were close to alignment in 2022 as aligned in 2023.

Basis of preparation

Shell seeks to prepare its disclosure in accordance with Delegated Regulation EU 2021/2178 (the "Disclosures Delegated Act") as well as several Commission Notices containing answers to frequently asked questions about taxonomy reporting issued between 2021 and 2023.

Shell has adopted a three-step process to prepare its taxonomy disclosure:

- we identify our eligible activities and map these to our assets and projects;
- we screen those activities for alignment with the technical criteria and the minimum safeguards; and
- we calculate the metrics for eligibility and alignment, based on the screening results.

Each step is discussed below.

Identification of eligible activities

Shell has assessed its business against the economic activities qualifying for the taxonomy's six environmental objectives. These include the activities listed in Delegated Regulation EU 2021/2139 (the "Climate Delegated Act", as amended), the gas-related activities listed in Delegated Regulation EU 2022/1214 (the "Complementary Climate Delegated Act") and the activities listed in EU 2023/2486 (the "Environmental Delegated Act").

EU taxonomy eligibility and alignment 2023

	2023			\$ million, except where indicated		
	Turnover	Capex	Opex	Turnover	Capex	Opex
Aligned	542	4,173	30	–	–	–
Eligible	8,445	6,032	1,382	11,986	6,744	796
Non-eligible	308,175	25,440	3,951	369,328	25,556	4,138
Total	316,620	31,472	5,333	381,314	32,300	4,934
Aligned % of total	0.2%	13.3%	0.6%	–%	–%	–%
Eligible % of total	2.7%	19.2%	25.9%	3.1%	20.9%	16.1%
Non-eligible % of total	97.3%	80.8%	74.1%	96.9%	79.1%	83.9%

Supplementary information – EU Taxonomy disclosure continued

The taxonomy does not provide criteria for determining when an economic activity is in scope for reporting. According to EU guidance, an economic activity takes place when resources – such as capital, goods, labour, manufacturing techniques or intermediary products – are combined to produce specific goods or services. Based on this definition, Shell treats economic activities as in scope for reporting if they correspond to final goods or services offered for sale to customers, or if they are intended to be offered for sale in the future, based on current business plans. We do not report on factors of production or overheads, such as real estate or IT, since these do not represent a final good or service. We also do not report on activities which are immaterial to our results and are not intended to operate as stand-alone businesses, such as sales of waste heat or electricity from refineries and chemical plants.

For 2023, we identified a total of 13 economic activities as eligible for reporting. The only addition to our activities since last year was Storage of electricity, which became an eligible activity due to the development of new power storage projects. Although we screen our activities against all applicable environmental objectives, the discussion of our performance against the technical screening criteria focuses on the climate mitigation objective.

Alignment screening

Shell has developed an internal process to assess its eligible activities for alignment with the technical screening criteria and minimum safeguards, based on our understanding of the requirements of the Disclosures Delegated Act.

For each eligible activity, we begin by identifying the assets in scope for reporting. An asset is typically a discrete element of physical plant or equipment that contributes to an economic activity, such as a chemical plant or a wind farm, or a project in development that is intended to become an asset in the future.

Once the assets for each activity have been defined, we review the Substantial Contribution and Do No Significant Harm criteria and proceed to screen the assets. Screening is carried out by subject matter experts and subject to cross-checking at various levels.

The technical criteria are highly detailed, with extensive references to European standards and regulations, which are not widely used outside the region. Applying them poses several challenges including:

- where it is difficult to translate EU standards or regulations to a non-EU context;
- where Shell is materially aligned with a complex technical standard but varies in certain details;
- where the criteria are expressed in qualitative terms that are open to interpretation; or
- where the criteria are designed for a narrower range of applications than the one implied by the activity description.

These situations require us to apply judgement in determining whether the criteria are met.

Sometimes it is not possible to associate eligible turnover, capex or opex with a specific asset. For example, this can happen when we incur research and development expenses for an activity but the expenditure cannot be tied to a specific project for screening purposes. If alignment cannot be reasonably established according to our alignment screening process, the relevant amounts are classified as eligible but non-aligned.

Situations can arise where we may not be able to screen all assets in scope of an activity. This can occur when an activity contains a large number of early-stage projects and it is more efficient to focus on the most material projects and treat the remaining ones as eligible but

non-aligned. This situation can also arise when assets are acquired late in the reporting cycle and there is insufficient time to conduct a high-quality screening, or when it has not been possible to obtain information about a non-operated asset from joint-venture partners. Such assets are treated as eligible but non-aligned by default.

Assets that do not have eligible turnover, capex or opex to report are non-eligible and are not subject to technical screening. In practice, many early-stage projects are non-eligible because they have no turnover or capex to report, while feasibility expenditures incurred prior to a final investment decision (FID) are non-eligible under the opex performance indicator. Technical screening outcomes described in this disclosure apply only to eligible assets that have been screened in 2023.

Where some assets or products in scope of an economic activity are assessed as fully aligned with the technical screening criteria while others are not, an allocation method is applied so that only the aligned portion is included. For example, this can occur when some biofuels or biogas production is assessed as taxonomy-aligned and some is assessed as non-aligned.

Where there is uncertainty with regard to how to interpret or apply any of the technical screening criteria in our alignment screening process, the relevant assets are assessed as non-aligned. In such cases, we intend to monitor future developments and update our approach as appropriate.

Substantial Contribution

The Substantial Contribution criteria are designed to ensure that an economic activity either has a substantial positive impact on one of the environmental objectives or substantially reduces negative impacts on the environment. The criteria vary from activity to activity.

Shell screened its eligible economic activities against all relevant environmental objectives. For five activities, assets in scope for screening were assessed as aligned with the Substantial Contribution criteria for climate mitigation, including solar, wind, hydrogen manufacturing, storage of electricity and infrastructure enabling low-carbon road transport. For a sixth activity, manufacture of biogas and biofuels, some elements were assessed as aligned and some as non-aligned, based on the proportion of feedstock meeting the Substantial Contribution criteria.

Assets in scope for our remaining activities were assessed as non-aligned. For two activities, alignment could not be established due to uncertainty about how to interpret and apply the technical screening criteria. This was the case for carbon transport and storage, where there are questions as to whether local standards are equivalent to the international and EU standards referenced by the criteria, and for conservation forestry, where the technical criteria differ from internationally recognised carbon credit standards.

Do No Significant Harm

The Do No Significant Harm (DNSH) criteria are designed to ensure that an economic activity does not impede other environmental objectives being reached. The combination of the Substantial Contribution and Do No Significant Harm criteria is intended to ensure coherence between the taxonomy's objectives and to avoid progress towards one objective being made at the expense of another.

The DNSH criteria for activities contributing to climate change mitigation include detailed requirements for climate change adaptation, water, circular economy, pollution prevention and biodiversity. The criteria vary for each environmental objective and activity.

Supplementary information – EU Taxonomy disclosure continued

Shell screened its eligible economic activities against all relevant environmental objectives. For five activities, assets in scope for screening were assessed as aligned with the DNSH criteria for climate mitigation, including solar, wind, hydrogen manufacturing, storage of electricity and infrastructure enabling low-carbon road transport. Some elements of our manufacture of biogas and biofuels activities were assessed as aligned and some as non-aligned.

In 2023 we carried out a review of physical climate risks for our eligible activities in line with the requirements of the Generic criteria for Do No Significant Harm to Climate Change Adaptation (Appendix A). The completion of this review made it possible to report several activities that were close to alignment in 2022 as aligned in 2023. For more information, see "Climate Related Physical Risk" on page 92.

In assessing alignment with the DNSH criteria, we were required to apply judgement to our electric vehicle charging activities. Electric vehicle charging is referenced by multiple economic activities in the taxonomy, each of which has a different set of technical screening criteria. There is a lack of consensus in the market about which one to apply. Shell categorised all its electric vehicle charging businesses under the activity with the most stringent criteria, "6.15 Infrastructure Enabling Low-Carbon Road Transport and Public Transport".

For this activity, we assessed the DNSH criteria for waste management to be more applicable to medium- or large-scale infrastructure projects than to distributed, small-scale electric vehicle charging infrastructure with a small construction footprint. Our operating standards for electric vehicle charging include measures to limit waste generation and encourage re-use and recycling, which we assess as materially equivalent.

Our remaining eligible activities were assessed as non-aligned with one or more of the DNSH criteria. In several cases, we assessed ourselves as non-aligned due to uncertainty about how to interpret various aspects of the technical screening criteria.

Minimum safeguards

The taxonomy defines the minimum safeguards as procedures implemented by a company to ensure alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights.

Respect for human rights is embedded in the Shell General Business Principles and our Code of Conduct. We have an integrated approach to human rights that is embedded into our policies and processes, which are applicable to all employees and contractors. This approach is informed by the UN Guiding Principles on Business and Human Rights.

We assessed our taxonomy-eligible activities as compliant with the minimum safeguards. For more information, see "Human Rights" on page 127.

Capex Plan assessment

As specified in the Disclosures Delegated Act, capex and opex can be treated as aligned when such expenditures form part of a Capex Plan aimed at expanding an aligned activity or upgrading an eligible activity to enable it to become aligned.

To qualify, a Capex Plan must be approved by management and disclosed at the economic activity aggregated level. The expansion or upgrade must take place within five years unless a longer period is justified by the specific features of the activity and the upgrade

concerned. This can be up to a maximum of 10 years. The justification for a longer transition period must feature in the Capex Plan and be included in the disclosure. If the Capex Plan fails to meet the conditions within the specified timeframe, previously published KPIs must be restated.

A lack of consensus exists in the market about how to interpret various aspects of the technical screening criteria. There is also uncertainty about how the criteria might apply to future performance conditions. Shell has therefore decided not to recognise any capex or opex as aligned under the Capex Plan provision in 2023.

Enabling and transitional activities

The taxonomy designates a subset of aligned activities as "enabling" or "transitional".

Transitional activities are those for which low-carbon alternatives are not yet available and which:

- have greenhouse gas emission levels that correspond to the best performance in the sector or industry;
- do not hamper the development and deployment of low-carbon alternatives; and
- do not lead to a lock-in of carbon-intensive assets, considering the economic lifetime of those assets.

Enabling activities are those which directly enable others to make a substantial contribution to an environmental objective, provided they:

- do not lead to a lock-in of assets that undermine long-term environmental goals, considering the economic lifetime of those assets; and
- have a substantial positive impact on the basis of life-cycle considerations.

An economic activity is only transitional or enabling if it complies with the technical screening criteria. In 2023, two of Shell's activities, storage of electricity and infrastructure enabling low-carbon road transport, qualified as enabling.

Calculating the key performance indicators

The taxonomy KPIs consist of separate measures for eligible and aligned turnover, capex and opex. Each measure is calculated as the amount associated with eligible or aligned economic activities (numerator) divided by the total (denominator). In 2023, there was no change in the approach to calculate KPIs.

Turnover

The turnover KPI comprises the Revenue line from the Consolidated Statement of Income. This measure is reconciled as follows.

EU Taxonomy turnover 2023

	\$ million	
	2023	2022
Revenue from contracts with customers	301,013	369,606
Revenue from other sources	15,607	11,708
Total EUT Turnover	316,620	381,314

Shell's reporting of revenue in the Consolidated Statement of Income follows the IFRS definition, under which realised and unrealised gains and losses from hedging are recognised in revenue. We follow the same principles when calculating the numerator and denominator for the turnover KPI. In 2023, excluding hedging effects would have an immaterial impact on the numerator and denominator.

Supplementary information – EU Taxonomy disclosure continued

Capex

The capex KPI comprises the Additions line from the "Consolidated Financial Statements" Note 10 – Goodwill and other intangible assets; and the Additions line from the "Consolidated Financial Statements" Note 11 – Property, plant and equipment. Goodwill is excluded from the measure.

When business combinations involving an eligible activity occur in a prior reporting period but Purchase Price Allocation takes place within the current period, we recognise the resulting movements to property, plant and equipment and intangible assets as an addition. These amounts are contained within Note 10 – Goodwill and other intangible assets and Note 11 – Property, plant and equipment in the Sales, retirements and other movements line and are added to the numerator and denominator.

This measure is reconciled as follows.

EU Taxonomy capex 2023

	\$ million	
	2023	2022
Additions to property, plant and equipment	25,831	28,254
Additions to goodwill and other intangible assets	6,994	5,555
Less: Goodwill	1,436	1,954
Add: Other movements	83	445
Total EUT Capex	31,472	32,300

The numerator for aligned capex comprises the part of eligible capex that is (a) associated with taxonomy-aligned economic activities; (b) part of a Capex Plan to expand an aligned activity or to enable a non-aligned activity to become aligned; and (c) related to the purchase of output from taxonomy-eligible activities. Due to limited guidance about how (c) should be calculated, our reporting focuses on (a) and (b) only.

The capex KPI as defined by the EU Taxonomy Regulation differs from Shell's cash capital expenditure measure. The latter monitors investing activities on a cash basis, excluding items such as lease additions, which do not necessarily result in cash outflows in the period. This measure comprises the following lines from the Consolidated Statement of Cash Flows: Capital expenditure, investments in joint ventures and associates and investments in equity securities. The cash capex measure is presented on page 368.

Opex

The taxonomy defines the opex KPI as costs associated with maintenance and repair, research and development and short-term leases. This is narrower than Shell's definition of operating expenses and does not capture all of our expenditure on otherwise eligible activities. This measure is reconciled as follows:

* Non-GAAP measure (see page 365).

EU Taxonomy opex 2023

	\$ million	
	2023	2022
Production and manufacturing expenses	25,240	25,518
Selling, distribution and administrative expenses	13,433	12,883
Research and development	1,287	1,075
Total operating expenses*	39,960	39,476
Less: Non-maintenance expenses	21,689	22,211
Less: Selling, distribution and administrative expenses	13,433	12,883
Add: Expenses relating to short-term leases	495	552
Total EUT Opex	5,333	4,934

The numerator for aligned opex comprises the part of eligible opex that is (a) associated with taxonomy-aligned economic activities; (b) part of a Capex Plan to expand an aligned activity or to enable a non-aligned activity to become aligned; and (c) related to the purchase of output from taxonomy-eligible activities. Due to limited guidance about how (c) should be calculated, our reporting focuses on (a) and (b) only.

Other accounting policies

Eligibility and alignment are calculated separately for each economic activity.

The reporting boundary for each economic activity is determined by the description contained in the relevant delegated act. This boundary frequently differs from our integrated value chains and segmental reporting. As a result, various adjustments are needed to calculate the required figures. For example, we exclude sales of third-party products as well as trading and retailing from the calculation of the KPIs. These are significant for Shell's integrated business model but are not eligible for the taxonomy. Although intra-group sales are non-eligible, sales to our trading business are used in certain circumstances to calculate the turnover attributable to eligible parts of the value chain.

When a reporting entity is engaged in multiple economic activities, an allocation method is applied so that only the appropriate part is included. Reconciliation is made to total turnover, capex and opex to avoid double counting.

In some cases, a subsidiary or other related undertaking may have interests in more than one economic activity but there insufficient data are available to disaggregate turnover, capex and opex. In these cases, we allocate the KPIs to the activity that best describes the primary business of the entity.

Shell's eligible and aligned turnover, capex and opex are presented on pages 343-345 in accordance with templates specified in Annex II of the Disclosures Delegated Act as amended. Disclosures concerning our gas-related activities are presented on pages 346-349 in accordance with the requirements of the Disclosures Delegated Act, Articles 8(6) and (7), including the templates specified in Annex XII.

Supplementary information – EU Taxonomy disclosure continued

Contextual information on the KPIs

This section provides additional contextual information to accompany the presentation of the turnover, capex and opex KPIs on pages 343-345.

Turnover

In 2023, Shell's taxonomy-eligible turnover was \$8,445 million or 2.7% of the total, which was a decrease in absolute terms of \$3,541 million compared with 2022. The economic activities that made the biggest contribution to eligible turnover were chemicals and plastics, renewable power (including wind, solar and installation of renewable energy technologies) and manufacture of biogas and biofuels.

Eligible turnover for renewable power increased to \$842 million in 2023 from \$462 million in 2022. Additional eligible revenue of \$246 million was generated by manufacture of biogas and biofuels. The main drivers for increases were acquisitions and organic growth of the above businesses, offset by lower prices and lower demand for Chemicals products.

Aligned turnover of \$542 million was generated by renewable power, low-carbon road transport and manufacture of biogas and biofuels.

Capex

In 2023, Shell's taxonomy-eligible capex was \$6,032 million or 19.2% of the total, which was comparable to capex reported in 2022. The economic activities that made the biggest contribution to eligible capex included manufacture of biogas and biofuels, low-carbon road transport, chemicals and renewable power (solar and wind).

Eligible capex for biogas and biofuels was \$2,078 million in 2023 compared with \$580 million in 2022 driven by the business acquisition and the construction of the biofuels facility in Rotterdam. Solar and wind was a combined \$1,596 million in 2023 compared with \$2,862 million in 2022 due to capital relocation in the renewable power business compared with material acquisitions in 2022. Eligible capex for low-carbon transport, which includes electric vehicle charging and

hydrogen mobility, was \$ 991 million in 2023 compared with \$346 million in 2022, driven by acquisitions and organic growth. Eligible capex for hydrogen was \$199 million in 2023 compared to \$139 million in 2022. Eligible capex for plastics fell to \$131 million in 2023 from \$1,914 million in 2022, reflecting the completion of construction activity at our Shell Polymers Monaca polyethylene production facility in Pennsylvania. A new activity, Storage of electricity, was added in 2023 due to the development of new power storage projects, which added additional capex of \$82 million.

Aligned capex of \$4,173 million was mainly driven by acquisition of the biogas business and growth of the biofuels business, by low-carbon road transport via its further growth and acquisitions, and by further developments in renewable power and manufacture of hydrogen.

Capex additions related to acquisitions through business combinations are aggregated with other capex additions.

Opex

In 2023, Shell's taxonomy-eligible opex was \$1,382 million or 25.9% of the total, which was higher by \$586 million compared with 2022. The economic activities that made the biggest contribution to eligible opex include chemicals and plastics, biofuels and hydrogen. Our chemicals business is relatively mature compared with our other eligible activities and therefore accounts for the largest share of opex.

Eligible opex for chemicals increased to \$776 million in 2023 from \$658 million in 2022. Opex for plastics increased to \$357 million due to commencement of operations at the Shell Polymers Monaca polyethylene production facility in Pennsylvania. An increase in opex in biofuels and hydrogen was mainly related to research and development expenditure.

Aligned opex of \$30 million was incurred by wind power generation and low-carbon road transport and related to research and development work.

Supplementary information – EU Taxonomy disclosure continued

Scope of taxonomy-eligible activities

No	Economic activity	Scope	Notes
1.4	Conservation forestry	Nature-based solutions projects that meet the EU taxonomy activity description for conservation forestry and generate capital assets.	[A], [B], [C]
3.10	Manufacture of hydrogen	Development and operation of hydrogen manufacturing assets.	[A], [B], [C], [D], [E]
3.14	Manufacture of organic basic chemicals	Manufacture of taxonomy-eligible chemical products.	[A], [B], [C], [D], [F]
3.17	Manufacture of plastics in primary form	Manufacture of polyethylene.	[A], [B], [C], [D]
4.1	Electricity generation using solar photovoltaic technology	Development and operation of solar photovoltaic power assets.	[A], [B], [C], [D], [G], [H]
4.3	Electricity generation from wind power	Development and operation of wind power assets.	[A], [B], [C], [D], [G], [H]
4.10	Storage of electricity	Development and operation of utility-scale facilities that store electricity.	[A], [B], [C], [G]
4.13	Manufacture of biogas and biofuels for use in transport and of bioliquids	Development and operation of assets for the manufacture of biogas and biofuels for use in transport.	[A], [B], [C], [D], [I]
4.29	Electricity generation from fossil gaseous fuels	Development and operation of gas-fired power assets.	[A], [B], [C], [D], [J], [K]
5.11	Transport of CO ₂	Development and operation of CO ₂ transport assets.	[A], [B], [L], [M]
5.12	Underground permanent geological storage of CO ₂	Development and operation of CO ₂ storage assets.	[A], [B], [L], [M]
6.15	Infrastructure enabling low-carbon road transport and public transport	Development and operation of electric vehicle charging points and hydrogen infrastructure for road transport.	[A], [B], [G]
7.6	Installation, maintenance and repair of renewable energy technologies	Installation, maintenance and repair of renewable energy technologies, on site.	[A], [B], [H]

[A] Excludes interests in equity-accounted joint ventures and associates.

[B] Excludes feasibility expenses incurred prior to final investment decision.

[C] Excludes trading activity.

[D] Excludes sales of third-party products.

[E] Excludes integrated hydrogen units whose outputs are primarily intended for internal consumption, such as desulphurisation in refineries.

[F] Excludes taxonomy non-eligible chemical products.

[G] Excludes B2B/B2C retail sales of electricity.

[H] Excludes expenditure on renewable power projects to reduce Scope 1 and 2 emissions for taxonomy non-eligible target activities.

[I] Excludes ventures engaged in the development of feedstocks for biofuels manufacturing.

[J] Does not include integrated generation or cogeneration units whose outputs are primarily intended for internal consumption.

[K] Does not include upstream exploration and production, midstream, LNG or GTL.

[L] Excludes carbon capture, subject to the remarks in Note [M].

[M] For integrated CCS projects where it is not practically possible to distinguish carbon capture, transport and/or storage, the "Storage of CO₂" activity is used.

Supplementary information – EU Taxonomy disclosure continued

Turnover KPI

Proportion of turnover from products or services associated with taxonomy-aligned economic activities - 2023 [A]

Financial year	2023	Substantial contribution criteria								DNSH criteria ('Do No Significant Harm')							Proportion of taxonomy-aligned (A.1.) or eligible (A.2.) turnover, year 2022 (18)			Category enabling activity (19)		Category transitional activity (20)	
	Code (2)	Turnover (3)	Proportion of turnover year 2023 (4)																				
Economic activities (1)		\$ million	%	Y; N; N/EL						Y/N							%	E	T				
A. TAXONOMY-ELIGIBLE ACTIVITIES																							
A.1 Environmentally sustainable activities (taxonomy-aligned)																							
Manufacture of hydrogen	CCM 3.10	–	–	Y					Y	Y	Y		Y	Y	–								
Electricity generation using solar photovoltaic technology	CCM 4.1	125	–	Y					Y				Y	Y	Y	–							
Electricity generation from wind power	CCM 4.3	170	0.1%	Y					Y				Y	Y	Y	–							
Storage of electricity	CCM 4.10	–	–	Y					Y	Y			Y	Y	Y	–	E						
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	99	–	Y					Y	Y	Y		Y	Y	–								
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	147	–	Y					Y	Y	Y	Y	Y	Y	–	E							
Turnover of environmentally sustainable activities (taxonomy-aligned) (A.1)		542	0.2%	100%	–	–	–	–	–						–								
Of which Enabling		147	–	–	–	–	–	–	–	–						E							
Of which Transitional		–	–	–	–	–	–	–	–	–							T						
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)																							
																		EL; N/EL					
Conservation forestry	CCM 1.4	–	–	EL												–							
Manufacture of hydrogen	CCM 3.10	–	–	EL												–							
Manufacture of organic basic chemicals	CCM 3.14	6,756	2.1%	EL												3.0%							
Manufacture of plastics in primary form	CCM 3.17	326	0.1%	EL												–							
Electricity generation using solar photovoltaic technology	CCM 4.1	–	–	EL												–							
Electricity generation from wind power	CCM 4.3	–	–	EL												–							
Storage of electricity	CCM 4.10	–	–	EL												–							
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	147	–	EL												–							
Electricity generation from fossil gaseous fuels	CCM 4.29	114	–	EL												–							
Transport of CO ₂	CCM 5.11	–	–	EL												–							
Underground permanent geological storage of CO ₂	CCM 5.12	12	–	EL												–							
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	–	–	EL												–							
Installation, maintenance and repair of renewable energy technologies	CCM 7.6	547	0.2%	EL												0.1%							
Turnover of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned) (A.2)		7,902	2.5%													3.1%							
A.Turnover of taxonomy-eligible activities (A1 + A2)		8,445	2.7%													3.1%							
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																							
Turnover of taxonomy non-eligible activities		308,175	97.3%																				
TOTAL		316,620	100%																				

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity-accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared with our other disclosures.

Supplementary information – EU Taxonomy disclosure continued

Capex KPI

Proportion of capex from products or services associated with taxonomy-aligned economic activities - 2023 [A]

Financial year	2023	Substantial contribution criteria										DNSH criteria ('Do No Significant Harm')							Proportion of taxonomy-aligned (A.1.) or eligible (A.2.) capex, year 2022 (18)			Category enabling activity (19)		Category transitional activity (20)									
Economic activities (1)	Code (2)	Capex (3)	Proportion of capex year 2023 (4)	Climate change mitigation (5)	Climate change adaptation (6)	Water (7)	Pollution (8)	Circular economy (9)	Biodiversity (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water (13)	Pollution (14)	Circular economy (15)	Biodiversity (16)	Minimum safeguards (17)																	
		\$ million	%	Y, N; N/EL							Y/N							%	E	T													
A. TAXONOMY-ELIGIBLE ACTIVITIES																																	
A.1 Environmentally sustainable activities (taxonomy-aligned)																																	
Manufacture of hydrogen	CCM3.10	199	0.6%	Y							Y	Y	Y		Y	Y		–															
Electricity generation using solar photovoltaic technology	CCM 4.1	738	2.3%	Y							Y			Y	Y	Y		–															
Electricity generation from wind power	CCM 4.3	700	2.2%	Y							Y			Y	Y	Y		–															
Storage of electricity	CCM 4.10	82	0.3%	Y							Y	Y		Y	Y	Y		–	E														
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	1,487	4.7%	Y							Y	Y	Y		Y	Y		–															
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	968	3.1%	Y							Y	Y	Y	Y	Y	Y		–	E														
Capex of environmentally sustainable activities (taxonomy-aligned) (A.1)		4,173	13.3%	100%	–	–	–	–	–									–															
Of which Enabling		1,050	3.3%	–	–	–	–	–	–										E														
Of which Transitional		–	–	–	–	–	–	–	–											T													
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)																																	
																				EL; N/EL													
Conservation forestry	CCM 1.4	11	–	EL														–															
Manufacture of hydrogen	CCM 3.10	–	–	EL														0.4%															
Manufacture of organic basic chemicals	CCM 3.14	868	2.8%	EL														2.5%															
Manufacture of plastics in primary form	CCM 3.17	131	0.4%	EL														5.9%															
Electricity generation using solar photovoltaic technology	CCM 4.1	133	0.4%	EL														5.4%															
Electricity generation from wind power	CCM 4.3	25	0.1%	EL														3.4%															
Storage of electricity	CCM 4.10	–	–	EL														–															
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	591	1.9%	EL														1.9%															
Electricity generation from fossil gaseous fuels	CCM 4.29	9	–	EL														0.1%															
Transport of CO ₂	CCM 5.11	–	–	EL														–															
Underground permanent geological storage of CO ₂	CCM 5.12	35	0.1%	EL														0.1%															
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	23	0.1%	EL														1.1%															
Installation, maintenance and repair of renewable energy technologies	CCM 7.6	33	0.1%	EL														0.1%															
Capex of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned) (A.2)		1,859	5.9%															20.9%															
A.Capex of taxonomy-eligible activities (A1+A2)		6,032	19.2%															20.9%															
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																																	
Capex of taxonomy non-eligible activities		25,440	80.8%																														
TOTAL		31,472	100%																														

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity-accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared with our other disclosures.

Supplementary information – EU Taxonomy disclosure continued

Opex KPI

Proportion of opex from products or services associated with taxonomy-aligned economic activities - 2023 [A]

Financial year	2023	Substantial contribution criteria									DNSH criteria ('Do No Significant Harm')							Proportion of taxonomy-aligned (A.1.) or eligible (A.2.) opex, year 2022 (18)			Category enabling activity (19)		Category transitional activity (20)		
Economic activities (1)	Code (2)	Opex (3)	Proportion of opex year 2023 (4)		Climate change mitigation (5)		Climate change adaptation (6)		Water (7)	Pollution (8)	Circular economy (9)	Biodiversity (10)	Climate change mitigation (11)		Climate change adaptation (12)		Water (13)							Pollution (14)	Circular economy (15)
		\$ million	%																				%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																									
A.1 Environmentally sustainable activities (taxonomy-aligned)																									
Manufacture of hydrogen	CCM 3.10	–	–	Y										Y	Y	Y			Y	Y		–			
Electricity generation using solar photovoltaic technology	CCM 4.1	–	–	Y										Y					Y	Y	Y	–			
Electricity generation from wind power	CCM 4.3	25	0.5%	Y										Y					Y	Y	Y	–			
Storage of electricity	CCM 4.10	–	–	Y										Y	Y				Y	Y	Y	–	E		
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	–	–	Y										Y	Y	Y			Y	Y		–			
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	5	0.1%	Y										Y	Y	Y	Y	Y	Y	Y	Y	–	E		
Opex of environmentally sustainable activities (taxonomy-aligned) (A.1)		30	0.6%	100%	–	–	–	–	–	–												–			
Of which Enabling		5	0.1%	–	–	–	–	–	–	–														E	
Of which Transitional		–	–	–	–	–	–	–	–	–															T
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned)																									
					EL; N/EL																				
Conservation forestry	CCM 1.4	–	–	EL																					
Manufacture of hydrogen	CCM 3.10	61	1.1%	EL																					
Manufacture of organic basic chemicals	CCM 3.14	776	14.6%	EL																					
Manufacture of plastics in primary form	CCM 3.17	357	6.7%	EL																					
Electricity generation using solar photovoltaic technology	CCM 4.1	2	–	EL																					
Electricity generation from wind power	CCM 4.3	17	0.3%	EL																					
Storage of electricity	CCM 4.10	4	0.1%	EL																					
Manufacture of biogas and biofuels for use in transport and of bioliquids	CCM 4.13	129	2.4%	EL																					
Electricity generation from fossil gaseous fuels	CCM 4.29	–	–	EL																					
Transport of CO ₂	CCM 5.11	–	–	EL																					
Underground permanent geological storage of CO ₂	CCM 5.12	5	0.1%	EL																					
Infrastructure enabling low-carbon road transport and public transport	CCM 6.15	–	–	EL																					
Installation, maintenance and repair of renewable energy technologies	CCM 7.6	–	–	EL																					
Opex of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned) (A.2)		1,352	25.4%																						
A.Opex of taxonomy-eligible activities (A1+A2)		1,382	25.9%																						
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																									
Opex of taxonomy non-eligible activities		3,951	74.1%																						
TOTAL		5,333	100%																						

[A] The taxonomy's reporting basis differs from that used in Shell's financial statements, which are based on International Financial Reporting Standards. For example, the taxonomy does not recognise our interests in equity-accounted joint ventures and associates; goodwill; feasibility expenses; or the non-eligible parts of integrated value chains. These differences, and others, result in lower reported turnover, capex and opex under the taxonomy compared with our other disclosures.

Supplementary information – EU Taxonomy disclosure continued

Disclosures for nuclear and fossil gas activities

Template 1: Nuclear and fossil gas related activities

Row		2023
Nuclear energy related activities		
1	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	No
2	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	No
3	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	No
Fossil gas related activities		
4	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	Yes
5	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	No [A]
6	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	No [A]

[A] Shell's facilities include integrated gas-fired heating, cooling and power generation units which support one or more primary activities. Such units do not operate on a stand-alone basis and are not treated as a separate economic activity for reporting purposes.

Template 2: Taxonomy-aligned economic activities (denominator), 2023

\$ million, except where indicated

Row	Economic activities	Turnover						Capex						Opex					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0	0%	0	0%	—	—	0	0%	0	0%	—	—	0	0%	0	0%	—	—
5	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	542	0.2%	542	0.2%	—	—	4,173	13.3%	4,173	13.3%	—	—	30	0.6%	30	0.6%	—	—
8	Total applicable KPI	316,620	100%	316,620	100%	—	—	31,472	100%	31,472	100%	—	—	5,333	100%	5,333	100%	—	—

Supplementary information – EU Taxonomy disclosure continued

Template 3: Taxonomy-aligned economic activities (numerator), 2023

\$ million, except where indicated

Row	Economic activities	Turnover						Capex						Opex					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
3	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0	0%	0	0%	–	–	0	0%	0	0%	–	–	0	0%	0	0%	–	–
5	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
6	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI	542	0.2%	542	0.2%	–	–	4,173	13.3%	4,173	13.3%	–	–	30	0.6%	30	0.6%	–	–
8	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI	542	0.2%	542	0.2%	–	–	4,173	13.3%	4,173	13.3%	–	–	30	0.6%	30	0.6%	–	–

Supplementary information – EU Taxonomy disclosure continued

Template 4: Taxonomy-eligible but not taxonomy-aligned economic activities, 2023

\$ million, except where indicated

Row	Economic activities	Turnover						Capex						Opex					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
3	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	114	0.0%	114	0.0%	–	–	9	0.0%	9	0.0%	–	–	0	0%	0	0%	–	–
5	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
6	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	7,788	2.5%	7,788	2.5%	–	–	1,850	5.9%	1,850	5.9%	–	–	1,352	25.4%	1,352	25.4%	–	–
8	Total amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI	7,902	2.5%	7,902	2.5%	–	–	1,859	5.9%	1,859	5.9%	–	–	1,352	25.4%	1,352	25.4%	–	–

Supplementary information – EU Taxonomy disclosure continued

Template 5: Taxonomy non-eligible economic activities, 2023

\$ million, except where indicated

Row	Economic activities	Turnover		Capex		Opex	
		Amount	%	Amount	%	Amount	%
1	Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy non-eligible in accordance with Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–
2	Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy non-eligible in accordance with Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–
3	Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy non-eligible in accordance with Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–
4	Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy non-eligible in accordance with Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI [A]	0	0%	0	0%	0	0%
5	Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy non-eligible in accordance with Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–
6	Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy non-eligible in accordance with Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–	–	–	–	–
7	Amount and proportion of other taxonomy non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	308,175	97.3%	25,440	80.8%	3,951	74.1%
8	Total amount and proportion of taxonomy non-eligible economic activities in the denominator of the applicable KPI	308,175	97.3%	25,440	80.8%	3,951	74.1%

[A] The scope of this requirement cannot be determined based on current EU guidance. Shell intends to monitor future developments and update our approach as appropriate.

Parent Company Financial Statements

The Parent Company Financial Statements have not been audited in accordance with the standards of the Public Company Accounting Oversight Board (United States of America).

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Parent Company Financial Statements continued

Statement of Income for the year ended December 31, 2023

		\$ million	
	Notes	2023	2022
Dividend income		28,498	20,200
Interest and other income	3	321	117
Administrative expenses		(340)	(326)
Interest and other expense	3	—	(2)
Income before taxation		28,479	19,989
Taxation credit/(charge)	7	(14)	22
Income for the period		28,465	20,011

Statement of Comprehensive Income for the year ended December 31, 2023

		\$ million	
		2023	2022
Income for the period		28,465	20,011
Comprehensive income for the period		28,465	20,011

Balance Sheet as at December 31, 2023

		\$ million	
	Notes	Dec 31, 2023	Dec 31, 2022
Assets			
Non-current assets			
Investments in subsidiaries	4	257,694	257,455
Deferred tax asset	7	2	1
		257,696	257,456
Current assets			
Accounts receivable	5	11,638	6,077
Tax receivables		35	34
Cash and cash equivalents		—	—
		11,673	6,111
Total assets		269,369	263,567
Liabilities			
Current liabilities			
Accounts payable and accrued liabilities	6	1,874	2,087
Total liabilities		1,874	2,087
Equity			
Share capital	9	544	584
Other reserves	10	235,929	235,721
Retained earnings		31,022	25,175
Total equity		267,495	261,480
Total liabilities and equity		269,369	263,567

Signed on behalf of the Board

/s/ Sinead Gorman

Sinead Gorman
Chief Financial Officer
March 13, 2024

Parent Company Financial Statements continued

Statement of Changes in Equity for the year ended December 31, 2023

				\$ million
	Notes	Share capital	Other reserves	Retained earnings
At January 1, 2023		584	235,721	25,175
Comprehensive income for the period		—	—	28,465
Dividends	11	—	—	(8,387)
Repurchases of shares [A]	9	(40)	40	(14,571)
Share-based compensation	10	—	168	340
At December 31, 2023		544	235,929	31,022
At January 1, 2022		641	235,488	30,478
Comprehensive income for the period		—	—	20,011
Dividends	11	—	—	(7,283)
Repurchases of shares	9	(57)	57	(18,547)
Share-based compensation	10	—	176	516
At December 31, 2022		584	235,721	25,175

[A] Includes shares committed to repurchase under an irrevocable contract and repurchases subject to settlement at the end of the year (see Note 9).

Statement of Cash Flows for the year ended December 31, 2023

	Notes	2023	2022
Income before taxation for the period		28,479	19,989
Adjustment for:			
Dividend income		(28,498)	(20,200)
Interest income		(320)	(114)
Interest expense		—	2
Share-based compensation		13	7
(Increase)/decrease in net working capital		(185)	219
Cash flow from operating activities		(511)	(97)
Dividends received		28,498	20,200
(Increase)/decrease in deposits with subsidiary undertakings	14	(5,559)	5,445
Interest received		320	114
Share-based compensation		256	182
Cash flow from investing activities		23,515	25,941
Cash dividends paid	11	(8,387)	(7,405)
Shares repurchased		(14,617)	(18,437)
Interest and other expenses paid		—	(2)
Cash flow from financing activities		(23,004)	(25,844)
Change in cash and cash equivalents		—	—
Cash and cash equivalents at beginning of the year		—	—
Cash and cash equivalents at end of the year		—	—

Notes to the Parent Company Financial Statements

1. Basis of preparation

The Financial Statements of Shell plc (the "Company") have been prepared in accordance with UK-adopted international accounting standards and with the requirements of the UK Companies Act 2006 as applicable to companies reporting under those standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Financial Statements have been prepared in accordance with IFRS as issued by the IASB.

As described in the material accounting policies in Note 2, the Financial Statements have been prepared under the historical cost convention, except for certain items measured at fair value. Those accounting policies have been applied consistently in all periods.

The Financial Statements have been prepared on the going concern basis of accounting, as set out in Note 1 to the Consolidated Financial Statements (see page 249).

The preparation of financial statements in conformity with IFRS requires the use of certain accounting estimates. It also requires management to exercise its judgement in the process of applying the Company's accounting policies. Actual results may differ from those estimates.

The financial results of the Company are included in the Consolidated Financial Statements on pages 244-316. The financial results of the Company incorporate the results of the Royal Dutch Shell Dividend Access Trust (the "Trust").

The Company's principal activity is being the parent company for Shell, as described in Note 1 to the Consolidated Financial Statements (see page 249).

2. Material accounting policies

The Company's accounting policies follow those of Shell as set out in Note 2 to the Consolidated Financial Statements on pages 249-259. The following are Company-specific policies.

Presentation and functional currency

The Company's presentation and functional currency is US dollars (dollars).

Investments

Investments in subsidiaries are stated at cost, net of any impairment. Investments are tested for impairment whenever events or changes in circumstances indicate that the carrying amounts for those investments may not be recoverable. For the purposes of determining whether impairment of investments in subsidiaries has occurred, and the extent of any impairment loss or its reversal, management performs an assessment of value in use or fair value less costs of disposal. Management's conclusion may be determined by using one or both of these methodologies as appropriate. For key judgements applied in reaching management's conclusion, please see Note 4.

The original cost of the Company's investment in Royal Dutch Petroleum Company (Royal Dutch) was based on the fair value of the shares transferred to the Company by the former shareholders of Royal Dutch in exchange for A shares in the Company during the public exchange offer in 2005. The original cost of the Company's investment in The "Shell" Transport and Trading Company p.l.c., now The Shell Transport and Trading Company Limited (Shell Transport), was the fair value of the shares held by the former shareholders of The "Shell" Transport and Trading Company p.l.c., transferred in consideration for the issuance of B shares as part of the Scheme of Arrangement in 2005. The Company's investments in Royal Dutch and Shell Transport subsequently became an investment in Shell Petroleum N.V., now Shell Petroleum B.V. (Shell Petroleum); this change had no impact on the cost of investments in subsidiaries. On February 15, 2016, the Company acquired all the voting rights in BG Group plc via the issuance of shares and cash payments of a total fair value of \$53,086 million. In September 2016, the Company's shares in BG Group Limited (BG), formerly BG Group plc, were exchanged for an increased investment in Shell Petroleum. This change had no impact on the cost of investment in subsidiaries.

On October 16, 2023, the Company contributed its investment in Shell Petroleum to another subsidiary, Shell Group Holding Limited, in exchange for the issuance of 99 shares with a nominal value of \$1 issued at a premium of \$257,493 million by Shell Group Holding Limited to the Company, reflecting the carrying amount of the Company's investment in Shell Petroleum. This transaction had no impact on the cost of investment in subsidiaries.

Dividend income

Dividends are recognised on a paid basis unless the dividend has been confirmed by a general meeting of Shell Petroleum, in which case income is recognised on the date at which receipt is deemed virtually certain.

Share-based compensation plans

The fair value of share-based compensation for equity-settled plans granted to employees of subsidiaries under the Company's plans is recognised as an investment in subsidiaries from the date of grant over the vesting period with a corresponding increase in equity.

In the year of vesting of a plan, the costs for the actual deliveries are charged to the relevant employing subsidiaries. This is recognised as a realisation of the investment originally booked. If the actual vesting costs are higher than the cumulatively recognised share-based compensation charge, the difference is recognised in income.

See Note 27 to the Consolidated Financial Statements (see page 309) for information on the Company's principal plan.

Taxation

The Company is tax-resident in the UK (see Note 7).

Notes to the Parent Company Financial Statements continued

2. Material accounting policies continued

Tax is recognised in profit or loss, except that tax attributable to an item of income or expense recognised as other comprehensive income is also recognised directly in other comprehensive income or directly in equity.

On December 20, 2021, the Organisation for Economic Co-operation and Development (OECD)/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) released the Pillar Two Model Rules (Pillar Two or Pillar Two income taxes) aimed to address the tax challenges of the digitalisation of the economy. The Pillar Two rules are designed to ensure large multinational enterprises (meeting certain conditions) pay a minimum level of tax on the income arising in each jurisdiction where they operate.

In May 2023, amendments to IAS 12 were published and adopted from that date. The amendments introduce a temporary mandatory relief from accounting for deferred taxes arising from the jurisdictional implementation of the OECD/G20 Inclusive Framework on BEPS Pillar Two Model Rules.

On June 20, 2023, the UK substantively enacted Pillar Two. Shell has established a Group-wide Pillar Two Project, with oversight from senior executives, to prepare and implement these new tax rules. Shell has applied the exception, as set out in the amendment to IAS 12, to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes. The adoption of Pillar Two by the jurisdictions in which Shell operates is not expected to have a significant impact.

The current income tax charge is calculated on the basis of tax rates and laws that have been enacted, or substantively enacted, by the balance sheet date. This represents income tax payable to tax authorities, or income tax loss Group relief to be surrendered to or to be received from other Group undertakings, and for which payment is expected.

Provisions for uncertain income tax positions/treatments are measured at the most likely amount or the expected value, whichever method is more appropriate. Generally, uncertain tax treatments are assessed on an individual basis, except where they are expected to be settled collectively. It is assumed that taxing authorities will examine positions taken if they have the right to do so and that they have full knowledge of the relevant information.

Deferred tax is recognised on temporary differences arising between the tax bases of assets and liabilities, and their carrying amounts in the financial statements at the balance sheet date. Deferred tax assets are recognised to the extent that it is probable that future taxable profits will be available against which the deductible temporary differences, unused tax losses and credits carried forward can be utilised. Deferred tax assets and liabilities are measured using corporation tax rates that are expected to apply in the periods in which the temporary differences are expected to reverse and are based on tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred income tax assets and liabilities are presented separately except where there is a legally enforceable right and an intention to settle such balances on a net basis.

IAS 12 amendments, published in May 2021, were adopted as from January 1, 2023. These amendments require companies to recognise deferred tax on particular transactions that, on initial recognition, give rise to equal amounts of taxable and deductible temporary differences. The amendments typically apply to transactions where assets and liabilities are recognised from a single transaction, such as leases for the lessee and decommissioning and restoration provisions. The amendments had no impact on the on the financial statements of the Company.

Amounts relating to deferred tax are undiscounted.

3. Interest and other income/expense

	\$ million	
	2023	2022
Interest and other income:		
Interest income	320	114
Foreign exchange gains	1	3
Total	321	117
Interest and other expenses:		
Interest expense	—	(2)
Foreign exchange losses	—	—
Total	—	(2)

4. Investments in subsidiaries

	\$ million	
	2023	2022
At January 1	257,455	256,953
Share-based compensation	705	805
Recovery of vested share-based compensation	(466)	(303)
At December 31	257,694	257,455

Notes to the Parent Company Financial Statements continued

4. Investment in subsidiaries continued

As at December 31, 2023, the market capitalisation of the Company and its subsidiaries (collectively referred to as the "Group") was less than the Company's carrying value of its investment in the Group. Management has therefore performed an impairment test to determine whether recoverable amount exceeded the cost of investment recognised.

Recoverable amount was assessed by reference to fair value less costs of disposal. This was calculated by comparing the cost of investment with the Group's market capitalisation, adjusted to reflect a control premium. In determining the premium and costs of disposal, available data from recent market transactions in comparable industries, conducted at arm's length for similar assets, have been taken into account.

This resulted in a recoverable amount exceeding the cost of investment recognised and is consistent with management's expectation of the future recoverability of the Company's investment in the Group. As fair value less costs of disposal exceeded cost, no separate value in use calculation was undertaken.

The recoverability of the Company's investment in the Group may be influenced by the risk factors of the Group, including commodity prices, market supply and demand, expected production volumes and developments related to climate change and the energy transition (see Note 4 to the Consolidated Financial Statements on pages 259-269).

On October 16, 2023, the Company contributed its investment in Shell Petroleum to another subsidiary, Shell Group Holding Limited (see Note 2).

5. Accounts receivable

	\$ million	
	Dec 31, 2023	Dec 31, 2022
Amounts due from subsidiaries (see Note 14)	11,633	6,074
Other receivables	5	3
Total	11,638	6,077

6. Accounts payable and accrued liabilities

	\$ million	
	Dec 31, 2023	Dec 31, 2022
Amounts due to subsidiaries (see Note 14)	920	1,088
Accruals and other liabilities	943	989
Unclaimed dividends	11	10
Total	1,874	2,087

Accruals and other liabilities at December 31, 2023, principally comprise commitments for share repurchases undertaken on the Company's behalf under irrevocable, non-discretionary arrangements of \$904 million (2022: \$947 million).

7. Taxation

	\$ million	
	2023	2022
Current tax:		
Charge/(credit) in respect of current period	16	(21)
(Credit)/charge in respect of prior period	(1)	—
Total	15	(21)
Deferred tax:		
Relating to the origination and reversal of temporary differences	(1)	(1)
Relating to changes in tax rates and legislation	—	—
Total	(1)	(1)
Taxation charge/(credit)	14	(22)

In 2023, a current tax charge of \$15 million has been recognised in the Company's accounts. It primarily comprises a \$4 million receipt from other UK Group companies for tax losses surrendered and \$19 million payment to the tax authorities in respect of profits apportioned under UK Controlled Foreign Companies regulations which cannot not be offset by losses.

Notes to the Parent Company Financial Statements continued

7. Taxation continued

Reconciliation of applicable tax charge at statutory tax rate to taxation charge

	\$ million	
	2023	2022
Income before taxation	28,479	19,989
Applicable tax charge at the statutory tax rate of 23.52% (2022: 19%)	6,698	3,798
Derecognition of deferred tax assets	—	—
Tax effects of:		
Income not subject to tax at statutory rates	(6,703)	(3,837)
Expenses not deductible for tax purposes	1	2
Controlled Foreign Companies charge	19	15
Adjustments in respect of prior periods	(1)	—
Other	—	—
Taxation charge/(credit)	14	(22)

Deferred tax assets

	\$ million	
	2023	2022
At January 1	1	—
Recognised in income statement	1	1
Other movements	—	—
At December 31	2	1

The UK corporate income tax rate applicable for the year ended December 31, 2023, is 23.52%. Deferred taxes on the Balance Sheet have been measured at 25%, which represents the future corporate income tax rate that was enacted at the balance sheet date. The Finance Act 2021 (enacted on May 24, 2021) increased the main rate of UK corporate income tax to 25% with effect from April 1, 2023.

8. Financial instruments

Financial assets and liabilities measured at amortised cost in the Company's Balance Sheet comprise amounts due from subsidiaries (see Note 14) and certain amounts reported within accounts payable and accrued liabilities (see Note 6). The fair value of financial assets and liabilities measured at amortised cost at December 31, 2023, and December 31, 2022, approximates their carrying amount.

Information on financial risk management is presented in Note 25 to the Consolidated Financial Statements (see pages 302-305). Foreign currency derivatives are used by the Company to manage foreign exchange risk, which arises when certain transactions are denominated in a currency that is not the Company's functional currency. No derivative financial instruments were held at December 31, 2023, or December 31, 2022.

9. Share capital

Issued and fully paid ordinary shares of €0.07 each [A]

	Number of shares			Nominal value \$ million			
	A	B	Ordinary shares	A	B	Ordinary shares	Total
At January 1, 2023	—	—	7,003,503,393	—	—	584	584
Repurchases of shares	—	—	(479,394,344)	—	—	(40)	(40)
At December 31, 2023	—	—	6,524,109,049	—	—	544	544
At January 1, 2022	4,101,239,499	3,582,892,954	—	345	296	—	641
Repurchases of shares before assimilation	—	(34,106,548)	—	—	(3)	—	(3)
Assimilation of ordinary A and B shares into ordinary shares	(4,101,239,499)	(3,548,786,406)	7,650,025,905	(345)	(293)	638	—
Repurchases of B shares on January 27 and 28, 2022, cancelled as ordinary shares on February 2 and 3, 2022	—	—	(507,742)	—	—	—	—
Repurchases of shares after assimilation	—	—	(646,014,770)	—	—	(54)	(54)
At December 31, 2022	—	—	7,003,503,393	—	—	584	584

[A] Share capital at December 31, 2022, also included 50,000 issued and fully paid sterling deferred shares of £1 each, which were redeemed on March 27, 2023. Upon redemption, the sterling deferred shares were treated as cancelled and the Company's issued share capital was reduced by the nominal value of the shares redeemed in accordance with section 688 of the UK Companies Act 2006.

Notes to the Parent Company Financial Statements continued

9. Share capital continued

On January 29, 2022, as part of the simplification announced on December 20, 2021, the Company's A and B shares were assimilated into a single line of ordinary shares. This is reflected in the above table.

At the Company's Annual General Meeting (AGM) on May 23, 2023, the Board was authorised to allot ordinary shares in the Company, and to grant rights to subscribe for or to convert any security into ordinary shares in the Company, up to an aggregate nominal amount of approximately €161 million (representing approximately 2,307 million ordinary shares of €0.07 each), and to list such shares or rights on any stock exchange. This authority expires at the earlier of the close of business on August 22, 2024, and the end of the AGM to be held in 2024, unless previously renewed, revoked or varied by the Company in a general meeting.

At the May 23, 2023 AGM, shareholders granted the Company the authority to repurchase (i) up to 692 million ordinary shares "on-market" (excluding any treasury shares), less the number of ordinary shares purchased or committed to be purchased under the buyback contracts ("off-market"), made under the authority in (ii); and (ii) up to 692 million ordinary shares off-market, less any on-market purchases made under the authority in (i).

In the case of both on-market and off-market purchases of the ordinary shares, the minimum price, exclusive of expenses, which may be paid for an ordinary share is €0.07 and the maximum price, exclusive of expenses, which may be paid for an ordinary share is the higher of: (i) an amount equal to 5% above the average market value for an ordinary share for the five business days immediately preceding the date of the purchase; and (ii) the higher of the price of the last independent trade and the highest current independent bid in relation to ordinary shares on the trading venues where the purchase is carried out. The authorities for both on-market and off-market purchases of the ordinary shares will expire at the earlier of the close of business on August 22, 2024, and the end of the AGM of the Company to be held in 2024. Ordinary shares purchased by the Company pursuant to these authorities will either be cancelled or held in treasury. Treasury shares are shares in the Company which are owned by the Company itself.

All shares repurchased in 2023 under the Company's share buyback programme were cancelled except for repurchases on December 28 and December 29 which were cancelled in January 2024.

For information on the number of shares in the Company held by Shell employee share ownership trusts and trust-like entities to meet delivery commitments under employee share plans, see Note 27 to the Consolidated Financial Statements (see page 309).

Assimilation of A and B shares

On January 29, 2022, the Company completed the assimilation of A and B shares into a single class of share, following the change in tax residence to the UK with effect from December 31, 2021. After this date, dividend payments made by the Company with the use of the dividend access mechanism were restricted to the settlement of amounts unclaimed in respect of dividends declared on Class B shares prior to assimilation.

Description of dividend access mechanism prior to the assimilation of A and B shares

Shell Transport and BG have each issued a dividend access share to Computershare Trustees (Jersey) Limited as Trustee. The Company, Shell Transport and BG can procure the termination of the dividend access mechanism at any time. Pursuant to a declaration of trust, the Trustee arranges for disbursement of dividends to holders of B shares when claimed. Interest and other income earned on unclaimed dividends will be for the account of Shell Transport and BG and any dividends which are unclaimed after 12 years will revert to Shell Transport and BG once forfeited. Holders of B shares did not have any interest in either dividend access share and did not have any rights against Shell Transport and BG as issuers of the dividend access shares. The only assets held on trust for the benefit of the holders of B shares were dividends paid to the Trustee in respect of the dividend access shares.

The declaration and payment of dividends on the dividend access shares required board action by Shell Transport and BG (as applicable) and was subject to any applicable limitations in law or in the Shell Transport or BG (as appropriate) articles of association in effect. In no event was the aggregate amount of the dividend paid by Shell Transport and BG under the dividend access mechanism for a particular period to exceed the aggregate of the dividend announced by the Board of the Company on B shares in respect of the same period (after giving effect to currency conversions).

In particular, under their respective articles of association, Shell Transport and BG were each only able to pay a dividend on their respective dividend access shares which represented a proportional amount of the aggregate of any dividend announced by the Company on the B shares in respect of the relevant period, where such proportions were calculated by reference to, in the case of Shell Transport, the number of B shares in existence prior to completion of the Company's acquisition of BG and, in the case of BG, the number of B shares issued as part of the acquisition, in each case as against the total number of B shares in issue immediately following completion of the acquisition of BG. No further dividends are expected to be declared in respect of the dividend access shares.

Operation of the dividend access mechanism prior to the assimilation of A and B shares

If, in connection with the announcement of a dividend by the Company on B shares, the Board of Shell Transport and/or the Board of BG elected to declare and pay a dividend on their respective dividend access shares to the Trustee, the holders of B shares were beneficially entitled to receive their share of those dividends pursuant to the declaration of trust (and arrangements were made to ensure that the dividend was paid in the same currency in which they would have received a dividend from the Company).

Notes to the Parent Company Financial Statements continued

9. Share capital continued

If any amount was paid by Shell Transport or BG by way of a dividend on the dividend access shares and paid by the Trustee to any holder of B shares, the dividend which the Company would otherwise have paid on B shares was reduced by an amount equal to the amount paid to such holders of B shares by the Trustee.

The Company would have had a full and unconditional obligation, in the event that the Trustee did not pay an amount to holders of B shares on a cash dividend payment date (even if that amount had been paid to the Trustee), to pay immediately the dividend announced on B shares. The right of holders of B shares to receive distributions from the Trustee would have been reduced by an amount equal to the amount of any payment actually made by the Company on account of any dividend on B shares.

If for any reason no dividend was paid on the dividend access shares, holders of B shares would only have received dividends from the Company directly.

Operation of the dividend access mechanism subsequent to the assimilation of A and B shares

As a result of the assimilation of each A share and each B share into one ordinary share of the Company the dividend access mechanism no longer operates to pay dividends to the holders of B shares and amounts paid through the dividend access mechanism will be limited to the settlement of amounts unclaimed in respect of dividends declared prior to assimilation of B shares.

At the Company's Annual General Meeting (AGM) on May 23, 2023, the Articles of Association were amended to reduce the period after which unclaimed dividends are forfeited, from 12 years to six years. This change is reflected in the unclaimed dividend liability as at December 31, 2023.

10. Other reserves

					\$ million
	Merger reserve	Share premium reserve	Capital redemption reserve	Share plan reserve	Total
At January 1, 2023	234,231	154	196	1,140	235,721
Repurchases of shares	—	—	40	—	40
Share-based compensation	—	—	—	168	168
At December 31, 2023	234,231	154	236	1,308	235,929
At January 1, 2022	234,231	154	139	964	235,488
Repurchases of shares	—	—	57	—	57
Share-based compensation	—	—	—	176	176
At December 31, 2022	234,231	154	196	1,140	235,721

The merger reserve was established as a consequence of the Company becoming the single parent company of Royal Dutch and Shell Transport and represented the difference between the cost of the investment in those companies and the nominal value of shares issued in exchange for those investments as required by the prevailing legislation at that time, section 131 of the Companies Act 1985. On February 15, 2016, the Company acquired all shares in BG Group plc by means of a Scheme of Arrangement under Part 26 of the Act, via the issuance of 218.7 million A shares and 1,305.1 million B shares and cash payments. This resulted in an increase in the merger reserve, representing the difference between the fair value and the nominal value of the shares issued by the Company.

On January 6, 2006, loan notes were converted into 4,827,974 A shares. The difference between the carrying value of the loan notes and the nominal value of the new shares issued was credited to the share premium reserve. The capital redemption reserve was established in connection with repurchases of shares of the Company. The share plan reserve is in respect of equity-settled share-based compensation plans (see Note 27 to the Consolidated Financial Statements) and movement in share-based compensation for the year is the net of the charge to equity and the release as a result of vested awards.

11. Dividends

See Note 29 to the Consolidated Financial Statements (see page 312).

12. Legal proceedings and other contingencies

See Note 31 to the Consolidated Financial Statements (see pages 312-314).

13. Directors and Senior Management

See Note 33 to the Consolidated Financial Statements (see page 315) for the remuneration of Directors of the Company. In 2023, the Company recognised \$14 million (2022: \$14 million) in administrative expenses for the compensation of Directors and Senior Management.

Notes to the Parent Company Financial Statements continued

14. Related parties

Information about the Company's subsidiaries, and whether these are held directly or indirectly, and other related undertakings (all of which are held indirectly), at December 31, 2023, is set out in "Appendix 1: Significant subsidiaries and other related undertakings (audited)".

	Amounts due from subsidiaries (see Note 5)		Amounts due to subsidiaries (see Note 6)	
	2023	2022	2023	2022
Shell Petroleum	–	–	820	797
Shell Treasury Centre Limited	11,625	6,066	–	–
The Shell Transport and Trading Company Limited	–	–	94	291
Other	8	8	6	–
Total	11,633	6,074	920	1,088

The amount due from Shell Treasury Centre Limited (STCL) comprises call deposits and overdrafts in dollars, sterling and euros. Interest is calculated using arm's-length benchmark 3-day median quotes on dollar, sterling and euro balances. Net interest income in 2023 from STCL was \$320 million (2022: \$114 million).

Other transactions and balances

The Company periodically enters into forward and spot foreign currency contracts with Treasury companies, which are subsidiaries. There were no open foreign currency contracts at December 31, 2023, or December 31, 2022.

The Company settles general and administrative expenses of the Trust, including the auditor's remuneration.

The Company has guaranteed contractual payments totalling \$48,356 million at December 31, 2023 (December 31, 2022: \$50,981 million), and related interest, in respect of listed debt issued by Shell International Finance B.V. The fair value of this guarantee was considered to be immaterial at initial recognition and since the likelihood of default is considered remote no subsequent expected credit losses have been recognised.

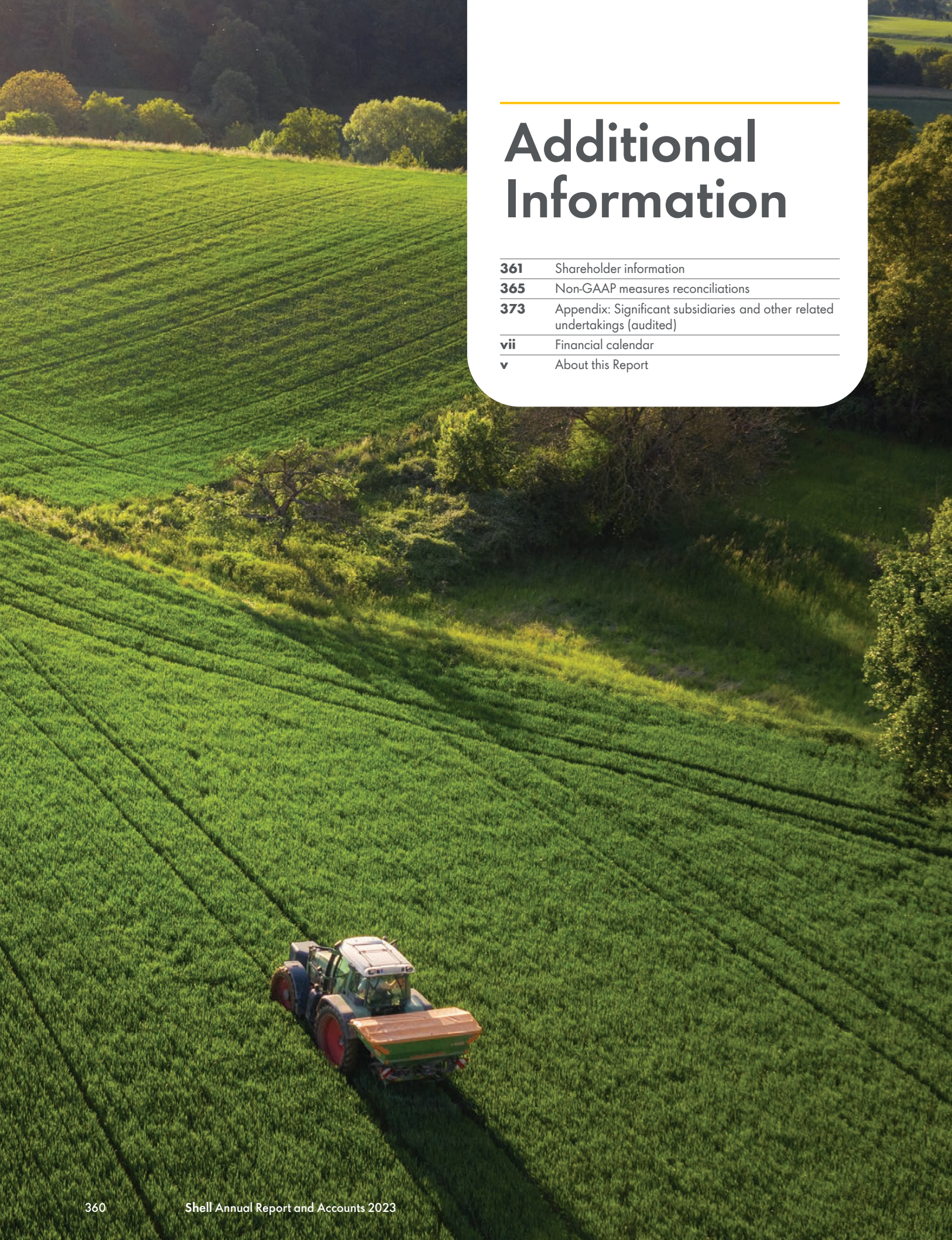
On January 11, 2023, the Company has guaranteed contractual payments totalling \$2,932 million at December 31, 2023, and related interest, in respect of listed debt issued by BG Energy Capital plc, in place of the previous guarantor, BG Energy Holdings Limited. Both entities are subsidiaries of the Company. The fair value of this guarantee was considered to be immaterial at initial recognition and since the likelihood of default is considered remote no subsequent expected credit losses have been recognised.

15. Auditor's remuneration

See Note 34 to the Consolidated Financial Statements (see page 316).

16. Post-balance sheet events

On February 1, 2024, Shell announced the commencement of a \$3,500 million share buyback programme covering an aggregate contract term of approximately three months (the "programme"). The purpose of the programme is to reduce the issued share capital of the Company. All shares repurchased as part of the programme will be cancelled. It is intended that, subject to market conditions, the programme will be completed prior to the Company's first quarter 2024 results announcement, scheduled for May 2, 2024. The Company has entered into an arrangement with a single broker consisting of three irrevocable, non-discretionary contracts, to enable the purchase of ordinary shares.

An aerial photograph of a vast, green agricultural field, likely a cornfield, with distinct rows of crops. In the lower foreground, a blue tractor with a yellow implement is visible, moving through the field. The background shows a line of trees and a forested hill under a clear sky.

Additional Information

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Shareholder information

Shell plc (the Company) was incorporated in England and Wales on February 5, 2002, as a private company under the Companies Act 1985, as amended. On October 27, 2004, the Company was re-registered as a public company limited by shares and changed its name from Forthdeal Limited to Royal Dutch Shell plc. On January 21, 2022, the Company changed its name from Royal Dutch Shell plc to Shell plc. The Company is registered at Companies House, Cardiff, under company number 4366849. The Legal Entity Identifier (LEI) issued by the London Stock Exchange is 21380068P1DRHMJ8KU70. The business address for the Directors and Senior Management is Shell Centre, London, SE1 7NA.

On December 31, 2021, the Company became tax resident in the United Kingdom. Its primary objective is to carry on the business of a holding company. It is not directly or indirectly owned or controlled by another corporation or by any government and does not know of any arrangements that may result in a change of control of the Company.

Nature of trading market

On January 29, 2022, the Company established one single line of ordinary shares, each having a nominal value of €0.07. All shares are listed and able to trade at Euronext Amsterdam and the London Stock Exchange. Furthermore, all shares are transferable between these two markets. This makes both these exchanges primary exchanges for the ordinary shares.

Ordinary shares are traded in registered form.

The Company's American Depositary Shares (ADSs) are listed on the New York Stock Exchange [A]. A depositary receipt is a certificate that evidences ADSs. Depositary receipts are issued, cancelled and exchanged at the office of JP Morgan Chase Bank, N.A., 383 Madison Avenue, New York, New York 10179, USA, as depositary (the Depositary), under Second Amended and Restated Deposit Agreement and Amendment No. 1 thereto (Deposit Agreement) between the Company, the Depositary and the holders of ADSs. Each ADS is equivalent to two ordinary shares of Shell plc deposited under the Deposit Agreement. All ordinary shares are capable of being deposited with the Depositary in exchange for the corresponding amount of ADSs which may be traded at the New York Stock Exchange. This makes the New York Stock Exchange the primary exchange for the Company's American Depositary Receipts (ADRs). More information relating to ADSs is given on page 362.

[A] At February 19, 2024, 552,715,284 ADSs were outstanding, representing 17.07% of the ordinary share capital, held by holders of record with an address in the USA. In addition to holders of ADSs, at February 19, 2024, 888,197 ordinary shares of €0.07 each were outstanding, representing 0.0137% of the ordinary share capital, held by 2,993 holders of record registered with an address in the USA.

Listing information

	Euronext Amsterdam	London Stock Exchange	NYSE
Identifiers	Ordinary share	Ordinary share	ADS [A]
Market	Primary	Primary	Primary
Ticker symbol	SHELL	SHEL	SHEL
ISIN	GB00BP6MXD84	GB00BP6MXD84	US7802593050
SEDOL	BP6MXT4	BP6MXD8	BPK3CG3
CUSIP	G80827 101	G80827 101	780259 305
Index weight at December 31, 2023	AEX: 14.72%	FTSE: 8.77%	—

[A] Each ADS represents two ordinary shares of €0.07 each.

Share capital

Below we provide information on our share capital as at December 31, 2023.

Share capital as at December 31, 2023

The issued and fully paid share capital of the Company at December 31, 2023, was as follows:

	Issued and fully paid	
	Number	Nominal value
Ordinary shares of €0.07 each	6,524,109,049	€456,687,633

Share capital as at February 19, 2024

The issued and fully paid share capital of the Company at February 19, 2024, was as follows:

	Issued and fully paid	
	Number	Nominal value
Ordinary shares of €0.07 each	6,477,243,319	€453,407,032

The Directors may only allot new ordinary shares if they have authority from shareholders to do so. The Company seeks to renew this authority annually at its AGM. Under the resolution passed at the Company's 2023 AGM, the Directors were granted authority to allot ordinary shares up to an aggregate nominal amount equivalent to approximately one-third of the issued ordinary share capital of the Company (in line with the guidelines issued by institutional investors).

The following is a summary of the material terms of the Company's ordinary shares, including brief descriptions of the provisions contained in the Articles of Association (the Articles) and applicable laws of England and Wales in effect on the date of this document. This summary does not purport to include complete statements of these provisions:

- upon issuance, the ordinary shares are fully paid and free from all liens, equities, charges, encumbrances and other interest of the Company and not subject to calls of any kind;
- all ordinary shares rank equally for all dividends and distributions on ordinary share capital; and
- all ordinary shares are admitted to the Official List of the UK Financial Conduct Authority and to trading on the market for listed securities of the London Stock Exchange. Ordinary shares are also admitted to trading on Euronext Amsterdam. ADSs are listed on the New York Stock Exchange.

At December 31, 2023, trusts and trust-like entities holding shares for the benefit of employee share plans of Shell held (directly and indirectly) 38 million shares of the Company with an aggregate market value of \$1,244 million and an aggregate nominal value of €3 million.

Shareholder information continued

Significant shareholdings

The Company's ordinary shares have voting rights on all matters that are subject to shareholder approval, including the election of directors. The Company's major shareholders do not have different voting rights.

Notification of major shareholdings

The Company received three notifications pursuant to Disclosure Guidance and Transparency Rule (DTR) 5 during the year and up to February 19, 2024, (being a date not more than one month prior to the date of the Company's Notice of Annual General Meeting).

Investor

	Ordinary shares	
	Number	%
Norges Bank [A]	197,118,319	2.98

[A] The Company received three notifications from Norges Bank relating to its voting rights on November 1, 2023: Notification 1 - as a result of an acquisition of shares with the percentage of voting rights in Shell exceeding 3% on August 15, 2022; Notification 2 - correcting errors in Notification 1; and Notification 3 - notifying that Norges Bank's shareholding had fallen below a notifiable threshold (below 3% of the voting rights in Shell) on October 30, 2023). The Company announced receipt of such notifications on November 3, 2023.

Designation of the Netherlands as EU Home Member State for regulatory purposes

Following the exit of the UK from the EU and the end of the transition period, the Company announced that the EU Home Member State of the Company for the purposes of the EU Transparency Directive would be the Netherlands as from January 1, 2021. As a consequence, the Company files Transparency Directive and Market Abuse Regulation-related regulatory information with the Netherlands Authority for the Financial Markets (Autoriteit Financiële Markten, or AFM). Major shareholders are required to report substantial holdings in Shell to the AFM in accordance with applicable Dutch law, in addition to their ongoing disclosure obligations under the UK Disclosure Guidance and Transparency Rules (DTR).

Method of holding shares or an interest in shares

There are several ways in which Shell plc registered shares or an interest in these shares can be held, including:

- directly as registered shares either in uncertificated form or in certificated form in a shareholder's own name;
- indirectly through Euroclear Nederland (in respect of which the Dutch Securities Giro Act (Wet giraal effectenverkeer) is applicable);
- through the Shell Corporate Nominee Service;
- through another third-party nominee or intermediary company; and
- as a direct or indirect holder of either ADS with the Depositary.

American Depositary Shares

The Depositary is the registered shareholder of the shares underlying the ADSs and enjoys the rights of a shareholder under the Articles. Holders of ADSs will not have shareholder rights. The rights of the holder of an ADS are specified in the Deposit Agreement with the Depositary and are summarised below.

The Depositary will receive all cash dividends and other cash distributions made on the deposited shares underlying the ADSs and, where possible and on a reasonable basis, will distribute such dividends and distributions to holders of ADSs. Rights to purchase additional shares will also be made available to the Depositary who may make such rights available to holders of ADSs. All other distributions made on the Company's shares will be distributed by the Depositary in any means that the Depositary thinks is equitable and practical. The Depositary may deduct its fees and expenses and the amount of any taxes owed from any payments to holders and it may sell a holder's deposited shares to pay any taxes owed. The Depositary is not responsible if it decides that it is unlawful or impractical to make a distribution available to holders of ADSs.

The Depositary will notify holders of ADSs of shareholders' meetings of the Company and will arrange to deliver voting materials to such holders of ADSs if requested by the Company. Upon request by a holder, the Depositary will endeavour to appoint such holder as proxy in respect of such holder's deposited shares entitling such holder to attend and vote at shareholders' meetings. Holders of ADSs may also instruct the Depositary to vote their deposited securities and the Depositary will try, as far as practical and lawful, to vote deposited shares in accordance with such instructions. The Company cannot ensure that holders will receive voting materials or otherwise learn of an upcoming shareholders' meeting in time to ensure that holders can instruct the Depositary to vote their shares.

Upon payment of appropriate fees, expenses and taxes:

- (i) shareholders may deposit their shares with the Depositary and receive the corresponding class and amount of ADSs; and (ii) holders of ADSs may surrender their ADSs to the Depositary and have the corresponding class and amount of shares credited to their account.

Further, subject to certain limitations, holders may, at any time, cancel ADSs and withdraw their underlying shares or have the corresponding class and amount of shares credited to their account.

Fees paid by holders of ADSs

The Depositary collects its fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The Depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The Depositary may generally refuse to provide fee-attracting services until its fees for those services are paid. See page 363.

Payments by Depositary to the Company

J.P. Morgan Chase Bank, N.A., as Depositary, has agreed to share with the Company portions of certain fees collected, less ADS programme expenses paid by the Depositary. For example, these expenses include the Depositary's annual programme fees, transfer agency fees, custody fees, legal expenses, postage and envelopes for mailing annual and interim financial reports, printing and distributing dividend cheques, electronic filing of US federal tax information, mailing required tax forms, stationery, postage, facsimile and telephone calls and the standard out-of-pocket maintenance costs for the ADSs. From January 1, 2023, to December 31, 2023, the Company received \$1,405,209.34 from the Depositary.

Shareholder information continued

Persons depositing or withdrawing shares must pay:

\$5.00 or less per 100 ADSs (or portion of 100 ADSs)

For:

- Issuance of ADSs, including those resulting from a distribution of shares, rights or other property;
- Cancellation of ADSs for the purpose of their withdrawal, including if the Deposit Agreement terminates. An additional transaction fee per cancellation request and any applicable delivery expenses may also be charged by the Depositary; and
- Distribution of securities to holders of deposited securities by the Depositary to ADS registered holders.

Registration and transfer fees

- Registration and transfer of shares on the share register to or from the name of the Depositary or its agent when they deposit or withdraw shares.

Expenses of the Depositary

- Cable, telex and facsimile transmissions (when expressly provided in the Deposit agreement); and
- Converting foreign currency into dollars.

Taxes and other governmental charges the Depositary or the custodian has to pay on any ADS or share underlying an ADS, for example, share transfer taxes, stamp duty or withholding taxes

- As necessary.

In addition to the above, the Depositary may charge: (i) a dividend fee of \$5.00 or less per 100 ADSs (or portion of 100 ADSs) for cash dividends or issuance of ADSs resulting from share dividends and (ii) an administrative fee of \$5.00 or less per 100 ADSs (or portion of 100 ADSs) per calendar year. The Company and Depositary have agreed not to charge these fees at this time.

Dividend Reinvestment Plan

Equiniti Financial Services Limited, part of the same group of companies as the Company's Registrar, Equiniti Limited, operates a Dividend Reinvestment Plan (DRIP) which enables Shell plc shareholders to elect to have their dividend payments used to purchase Shell plc ordinary shares. More information can be found at shareview.co.uk/info/drip or by contacting Equiniti.

ABN AMRO Bank N.V. and JP Morgan Chase Bank N.A. also operate dividend reinvestment options. More information can be found by contacting the relevant provider.

Exchange controls and other limitations affecting security holders

Other than restrictions affecting those individuals, entities, government bodies, corporations, or activities that are targeted by European Union (EU) or UK sanctions for example, regarding Syria, Russia or North Korea, and the general EU prohibition to transfer funds to and from for example, North Korea or Syria and the more recent EU financial restrictions affecting Russia, we are not aware of any other legislative or other legal provision currently in force in the UK, the Netherlands, the EU or arising under the Articles restricting remittances to holders of the Company's ordinary shares who are non-residents of the UK, or affecting the import or export of capital.

Taxation

General

The Company is incorporated in England and Wales. The Company changed tax residence from the Netherlands to the UK on December 31, 2021.

As a tax resident of the Netherlands, it is generally required by Dutch law to withhold tax at a rate of 15% on dividends on its ordinary shares and ADSs, subject to the provisions of any applicable tax convention or domestic law. Depending on their particular circumstances, non-Dutch tax-resident holders may be entitled to a full or partial refund of Dutch withholding tax. The following sets forth the operation of other provisions on dividends on the Company's various ordinary shares and ADSs to UK and US holders, as well as certain other tax rules pertinent to holders during or prior to the 2021 financial year. Holders should consult their own tax adviser if they are uncertain as to the tax treatment of any dividend.

Dividends paid on the dividend access shares

As part of the Simplification, the A ordinary shares and B ordinary shares were assimilated into one single line of ordinary shares. Prior to the assimilation, there was no Dutch withholding tax on dividends on B shares or B ADSs, provided that such dividends are paid on the dividend access shares pursuant to the dividend access mechanism (see dividend access mechanism for B shares on page 357). Dividends paid on the dividend access shares are treated as UK-source for tax purposes and there is no UK withholding tax on them.

In 2021, all dividends with respect to B shares and B ADSs were paid on the dividend access shares pursuant to the dividend access mechanism.

Shareholder information continued

Dutch withholding tax

On January 29, 2022, one line of shares was established through assimilation of each A share and each B share into one single line of ordinary shares of the Company. This assimilation had no impact on voting rights or dividend entitlements. Dutch dividend withholding tax, applied previously on dividends on A shares, no longer applies on dividends paid on the now assimilated ordinary shares following the move of the Company's tax residence to the UK.

The following applies to dividends paid in 2021 and prior financial years and is included in the report for reference:

When Dutch withholding tax applies on dividends paid to a US holder (that is, dividends on A shares or A ADSs, or on B shares or B ADSs that are not paid on the dividend access shares pursuant to the dividend access mechanism), the US holder will be subject to Dutch withholding tax at the rate of 15%. A US holder who is entitled to the benefits of the 1992 Double Taxation Convention (the Convention) between the USA and the Netherlands as amended by the protocol signed on March 8, 2004, will be entitled to a reduction in the Dutch withholding tax, either by way of a full or a partial exemption at source or by way of a partial refund or a credit as follows:

- if the US holder is an exempt pension trust as described in article 35 of the Convention, or an exempt organisation as described in article 36 thereof, the US holder will be exempt from Dutch withholding tax; or
- if the US holder is a company that holds directly at least 10% of the voting power in the Company, the US holder will be subject to Dutch withholding tax at a rate not exceeding 5%.

In general, the entire dividend (including any amount withheld) will be dividend income to the US holder and the withholding tax will be treated as a foreign income tax that is eligible for credit against the US holder's income tax liability or a deduction subject to certain limitations. A "US holder" includes, but is not limited to, a citizen or resident of the USA, or a corporation or other entity organised under the laws of the USA or any of its political subdivisions.

When Dutch withholding tax applies on dividends paid to UK tax-resident holders (that is, dividends on A shares or A ADSs, or on B shares or B ADSs that are not paid on the dividend access shares pursuant to the dividend access mechanism), the dividend will typically be subject to withholding tax at a rate of 15%. Such UK tax-resident holder may be entitled to a credit (not repayable) for withholding tax against their UK tax liability. However, certain corporate shareholders are, subject to conditions, exempt from UK tax on dividends. Withholding tax suffered cannot be offset against such exempt dividends. UK tax-resident holders should also be entitled to claim a refund of one-third of the Dutch withholding tax from the Dutch tax authorities in reliance on the tax convention between the Netherlands

and the UK. Pension plans meeting certain defined criteria can, however, be entitled to claim a full refund or exemption at source of the dividend tax withheld. Also, UK tax-resident corporate shareholders holding at least a 5% shareholding and meeting other defined criteria are exempted at source from dividend tax.

For holders who are tax-resident in any other country, the availability of a whole or partial exemption or refund of Dutch withholding tax is governed by Dutch tax law and/or the tax convention, if any, between the Netherlands and the country of the holder's residence.

There may be other grounds on which holders who are tax-resident in the UK, the USA or any other country can obtain a full or partial refund of the Dutch withholding tax, depending on their particular circumstances; see "Taxation: General" above.

Dutch capital gains taxation

Capital gains on the sale of shares of a Dutch tax-resident company by a US holder are generally not subject to taxation by the Netherlands unless the US holder has a permanent establishment therein and the capital gain is derived from the sale of shares that are part of the business property of the permanent establishment.

Dutch succession duty and gift taxes

Shares of a Dutch tax-resident company held by an individual who is not a resident or a deemed resident of the Netherlands will generally not be subject to succession duty in the Netherlands on the individual's death.

A gift of shares of a Dutch tax-resident company by an individual who is not a resident or a deemed resident of the Netherlands is generally not subject to Dutch gift tax.

UK stamp duty and stamp duty reserve tax

Sales or transfers of the Company's ordinary shares within a clearance service (such as Euroclear Nederland) or of the Company's ADSs within the ADS depository receipts system will not give rise to a stamp duty reserve tax (SDRT) liability and should not in practice require the payment of UK stamp duty.

The transfer of the Company's ordinary shares to a clearance service (such as Euroclear Nederland) or to an issuer of depository shares (such as ADSs) will generally give rise to a UK stamp duty or SDRT liability at the rate of 1.5% of consideration given or, if none, of the value of the shares. A sale of the Company's ordinary shares that are not held within a clearance service (for example, settled through the UK's CREST system of paperless transfers) will generally be subject to UK stamp duty or SDRT at the rate of 0.5% of the amount of the consideration, normally paid by the purchaser.

Capital gains tax

For the purposes of UK capital gains tax, the market values [A] of the shares of the former public parent companies of the Shell Group at the relevant dates were:

	£	
	March 31, 1982	July 20, 2005
Royal Dutch Petroleum Company (N.V. Koninklijke Nederlandsche Petroleum Maatschappij) which ceased to exist on December 21, 2005	1.1349	17.6625
The "Shell" Transport and Trading Company, p.l.c. which delisted on July 19, 2005	1.4502	Not applicable

[A] Restated where applicable to reflect all capitalisation issues since the relevant date. This includes the change in the capital structure in 2005, when Shell plc (at the time known as Royal Dutch Shell plc) became the single parent company of Royal Dutch Petroleum Company and of The "Shell" Transport and Trading Company, p.l.c., now The Shell Transport and Trading Company Limited, and one share in Royal Dutch Petroleum Company was exchanged for two Royal Dutch Shell plc A shares and one share in The "Shell" Transport and Trading Company, p.l.c. was exchanged for 0.287333066 Royal Dutch Shell plc B shares.

Non-GAAP measures reconciliations

These non-GAAP measures, also known as alternative performance measures, are financial measures other than those defined in International Financial Reporting Standards, which Shell considers provide useful information.

Earnings on a current cost of supplies basis

Segment earnings are presented on a current cost of supplies basis (CCS earnings), which is the earnings measure used by the Chief Executive Officer for the purposes of making decisions about allocating resources and assessing performance. On this basis, the purchase price of volumes sold during the period is based on the current cost of supplies during the same period after making allowance for the tax effect. CCS earnings therefore exclude the effect of changes in the oil price on inventory carrying amounts. The current cost of supplies adjustment does not impact cash flow from operating activities in the "Consolidated Statement of Cash Flows". For "Reconciliation of CCS earnings to income for the period", please refer to Note 7 to the "Consolidated Financial Statements".

Adjusted Earnings per share

Adjusted Earnings per share were calculated as Adjusted Earnings (see below), divided by the weighted average number of shares used as the basis for basic earnings per share (see Note 30 to the "Consolidated Financial Statements"). Adjusted Earnings per share were \$4.20 in 2023 (2023 Adjusted Earnings: \$28,250 million; 2023 weighted average number of shares 6,733.5 million) and \$5.43 in 2022 (2022 Adjusted Earnings \$39,870 million; 2022 weighted average number of shares: 7,347.5 million).

Adjusted Earnings, Adjusted Earnings Before Interest, Taxes, Depreciation and Amortisation (EBITDA), and Cash flow from operating activities

The "Adjusted Earnings" measure is presented on a CCS basis and aims to facilitate a comparative understanding of Shell's financial performance from period to period by removing the effects of oil price changes on inventory carrying amounts and removing the effects of identified items adjusted for current cost of supplies. These items are in some cases driven by external factors and may, either individually or collectively, hinder the comparative understanding of Shell's financial results from period to period.

The "Adjusted EBITDA" measure is presented on a CCS basis and used by management to evaluate Shell's performance in the period and over time. We define "Adjusted EBITDA" as "Income/(loss) for the period" adjusted for current cost of supplies; identified items; tax charge/(credit); depreciation, amortisation and depletion; exploration well write-offs and net interest expense. All items include the non-controlling interest component.

Adjusted Earnings, Adjusted Earnings Before Interest, Taxes, Depreciation and Amortisation (EBITDA) and Cash flow from operating activities

2023

	\$ million						
	Total	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate
CCS Earnings [A]	20,281	7,046	8,528	2,950	1,530	3,038	(2,811)
Less: Identified items	(8,252)	(6,861)	(1,267)	(229)	(2,160)	2,333	(69)
Adjusted Earnings - segments		13,907	9,794	3,180	3,690	705	(2,742)
Less: CCS earnings attributable to non-controlling interest	273						
Add: Identified items attributable to non-controlling interest	(11)						
Adjusted Earnings	28,250						
Add: Non-controlling interest	284						
Adjusted Earnings plus non-controlling interest	28,534	13,907	9,794	3,180	3,690	705	(2,742)
Add: Taxation charge/(credit) excluding tax impact of identified items	13,674	3,834	8,277	900	303	324	35
Add: Depreciation, depletion and amortisation excluding impairments	23,106	5,756	11,309	1,916	3,714	392	19
Add: Exploration well write-offs	867	121	746				
Add: Interest expense excluding identified items	4,669	146	507	49	61	4	3,902
Less: Interest income	2,313	6	27	9	57	12	2,201
Adjusted EBITDA	68,538	23,759	30,607	6,037	7,710	1,413	(987)
Less: Current cost of supplies adjustment before taxation	848			221	627		
Joint ventures and associates (dividends received less profit)	79	241	(692)	126	300	102	3
Derivative financial instruments	(6,142)	(4,668)	51	(25)	529	(1,988)	(41)
Taxation paid	(13,712)	(3,574)	(8,470)	(744)	(484)	(762)	322
Other	(1,558)	(261)	(374)	42	(1,052)	496	(410)
(Increase)/decrease in working capital	7,838	2,023	329	873	609	3,723	281
Cash flow from operating activities	54,191	17,520	21,450	6,088	6,987	2,984	(832)

[A] See Note 7 to the "Consolidated Financial Statements".

Non-GAAP measures reconciliations continued

2022

\$ million

	Total	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate
CCS Earnings [A]	41,562	22,212	16,222	2,133	4,515	(1,059)	(2,461)
Less: Identified items	1,259	6,075	(1,096)	(622)	(204)	(2,805)	(90)
Adjusted Earnings - segments		16,137	17,319	2,754	4,719	1,745	(2,371)
Less: CCS earnings attributable to non-controlling interest	449						
Add: Identified items attributable to non-controlling interest	15						
Adjusted Earnings	39,870						
Add: Non-controlling interest	434						
Adjusted Earnings plus non-controlling interest	40,304	16,137	17,319	2,754	4,719	1,745	(2,371)
Add: Taxation charge/(credit) excluding tax impact of identified items	18,578	4,704	11,831	952	841	346	(96)
Add: Depreciation, depletion and amortisation excluding impairments	22,393	5,544	11,889	1,573	3,004	365	18
Add: Exploration well write-offs	881	142	738				—
Add: Interest expense excluding identified items	3,181	84	345	45	22	2	2,683
Less: Interest income	1,046	43	22	—	24	(2)	959
Adjusted EBITDA	84,289	26,569	42,100	5,324	8,561	2,459	(725)
Less: Current cost of supplies adjustment before taxation	(1,755)			(568)	(1,187)		
Joint ventures and associates (dividends received less profit)	(2,157)	(522)	(2,650)	233	694	85	4
Derivative financial instruments	624	6,104	(35)	3	(219)	(4,998)	(230)
Taxation paid	(13,120)	(2,824)	(9,423)	(494)	(288)	(27)	(64)
Other	2,456	(223)	486	(185)	2,212	(237)	403
(Increase)/decrease in working capital	(5,435)	(1,412)	(835)	(3,074)	757	(3,676)	2,805
Cash flow from operating activities	68,414	27,692	29,641	2,376	12,906	(6,394)	2,192

[A] See Note 7 to the Consolidated Financial Statements.

2021

\$ million

	Total	Integrated Gas	Upstream	Marketing	Chemicals and Products	Renewables and Energy Solutions	Corporate
CCS Earnings [A]	17,482	8,060	9,603	3,535	404	(1,514)	(2,606)
Less: Identified items	(2,235)	(988)	1,587	68	(1,712)	(1,272)	81
Adjusted Earnings - segments		9,048	8,015	3,468	2,115	(243)	(2,686)
Less: CCS earnings attributable to non-controlling interest	410						
Add: Identified items attributable to non-controlling interest	(19)						
Adjusted Earnings	19,289						
Add: Non-controlling interest	429						
Adjusted Earnings plus non-controlling interest	19,718	9,048	8,015	3,468	2,115	(243)	(2,686)
Add: Taxation charge/(credit) excluding tax impact of identified items	8,482	2,231	5,662	955	277	(55)	(588)
Add: Depreciation, depletion and amortisation excluding impairments	23,071	5,389	12,574	1,575	3,235	281	17
Add: Exploration well write-offs	639	15	624	—	—	—	—
Add: Interest expense excluding identified items	3,607	71	331	26	44	—	3,135
Less: Interest income	511	—	37	3	36	4	431
Adjusted EBITDA	55,004	16,754	27,170	6,021	5,635	(21)	(554)
Less: Current cost of supplies adjustment before taxation	(3,956)			(643)	(3,313)		
Joint ventures and associates (dividends received less profit)	(488)	(64)	(334)	(78)	(58)	47	(1)
Derivative financial instruments	2,633	(1,594)	73	18	83	4,534	(482)
Taxation paid	(5,476)	(747)	(3,832)	(556)	(95)	(94)	(152)
Other	(158)	(44)	(854)	(372)	574	47	491
(Increase)/decrease in working capital	(10,366)	(1,094)	(662)	(657)	(5,744)	(4,063)	1,853
Cash flow from operating activities	45,104	13,210	21,562	5,019	3,709	451	1,154

[A] See Note 7 to the Consolidated Financial Statements.

Non-GAAP measures reconciliations continued

Identified items

The objective of identified items is to remove material impacts on net income/loss arising from transactions which are generally uncontrollable and unusual (infrequent or non-recurring) in nature or giving rise to a mismatch of accounting and economic results, or certain transactions that are generally excluded from underlying results in the industry.

Identified items comprise: divestment gains and losses, impairments, redundancy and restructuring, provisions for onerous contracts, fair value accounting of commodity derivatives and certain gas contracts and the impact of exchange rate movements on certain deferred tax balances, and other items. Identified items in the table below are presented on a net basis.

	2023	2022	\$ million 2021
Identified items included in Income/(loss) before taxation			
Divestment gains/(losses)	257	657	5,996
Impairment reversals/(impairments)	(8,300)	2,260	(3,884)
Redundancy and restructuring	(329)	44	(227)
Provisions for onerous contracts	(24)	(508)	(340)
Fair value accounting of commodity derivatives and certain gas contracts	(419)	3,244	(3,249)
Other	82	(1,519)	(621)
Total identified items included in Income/(loss) before taxation	(8,732)	4,178	(2,326)
Less: total identified items included in Taxation charge/(credit)	(481)	2,919	(91)
Identified items included in Income/(loss) for the period	(8,252)	1,259	(2,235)
Divestment gains/(losses)	277	418	4,632
Impairment reversals/(impairments)	(6,219)	725	(2,993)
Redundancy and restructuring	(241)	43	(140)
Provisions for onerous contracts	(18)	(487)	(299)
Fair value accounting of commodity derivatives and certain gas contracts	(1,284)	3,421	(2,764)
Impact of exchange rate movements on tax balances	(355)	(57)	(128)
Other	(412)	(2,804)	(543)
Impact on CCS earnings	(8,252)	1,259	(2,235)
Of which:			
Integrated Gas	(6,861)	6,075	(988)
Upstream	(1,267)	(1,096)	1,587
Marketing	(229)	(622)	68
Chemicals and Products	(2,160)	(204)	(1,712)
Renewables and Energy Solutions	2,333	(2,805)	(1,272)
Corporate	(69)	(90)	81
Impact on CCS earnings attributable to non-controlling interest	(11)	15	(19)
Impact on CCS earnings attributable to Shell plc shareholders	(8,240)	1,243	(2,216)

The identified items categories above may include after-tax impacts of identified items of joint ventures and associates which are fully reported within "Share of profit of joint ventures and associates" in the Consolidated Statement of Income, and fully reported as identified items included in Income/(loss) before taxation in the table above. Identified items related to subsidiaries are consolidated and reported across appropriate lines of the Consolidated Statement of Income. Only pre-tax identified items reported by subsidiaries are taken into account in the calculation of underlying operating expenses.

Provisions for onerous contracts: Provisions for onerous contracts that relate to businesses that Shell has exited or to redundant assets or assets that cannot be used.

Fair value accounting of commodity derivatives and certain gas contracts: In the ordinary course of business, Shell enters into contracts to supply or purchase oil and gas products, as well as power and environmental products. Shell also enters into contracts for tolling, pipeline and storage capacity. Derivative contracts are entered into for mitigation of resulting economic exposures (generally price exposure) and these derivative contracts are carried at period-end market price (fair value), with movements in fair value recognised in income for the period. Supply and purchase contracts entered into for operational purposes, as well as contracts for tolling, pipeline and storage

capacity, are, by contrast, recognised when the transaction occurs; furthermore, inventory is carried at historical cost or net realisable value, whichever is lower. As a consequence, accounting mismatches occur because: (a) the supply or purchase transaction is recognised in a different period, or (b) the inventory is measured on a different basis. In addition, certain contracts are, due to pricing or delivery conditions, deemed to contain embedded derivatives or written options and are also required to be carried at fair value even though they are entered into for operational purposes. The accounting impacts are reported as identified items.

Impacts of exchange rate movements on tax balances represent the impact on tax balances of exchange rate movements arising on (a) the conversion to dollars of the local currency tax base of non-monetary assets and liabilities, as well as losses (this primarily impacts the Upstream and Integrated Gas segments) and (b) the conversion of dollar-denominated inter-segment loans to local currency, leading to taxable exchange rate gains or losses (this primarily impacts the Corporate segment).

Other identified items represent other credits or charges that based on Shell management's assessment hinder the comparative understanding of Shell's financial results from period to period.

Non-GAAP measures reconciliations continued

Cash capital expenditure

Cash capital expenditure monitors investing activities on a cash basis, excluding items such as lease additions which do not necessarily result in cash outflows in the period. The measure comprises the following lines from the Consolidated Statement of Cash Flows: Capital expenditure, Investments in joint ventures and associates and Investments in equity securities. The reconciliation of "Capital expenditure" to "Cash capital expenditure" is presented in Note 7 to the "Consolidated Financial Statements".

Operating expenses and underlying operating expenses

Operating expenses is a measure of Shell's cost management performance, comprising the following items from the "Consolidated Statement of Income": production and manufacturing expenses; selling, distribution and administrative expenses; and research and development expenses. See Note 7 to the "Consolidated Financial Statements" for reconciliation of total operating expenses.

Underlying operating expenses is a measure aimed at facilitating a comparative understanding of performance from period to period by removing the effects of identified items, which, either individually or collectively, can cause volatility, in some cases driven by external factors.

Operating expenses and underlying operating expenses

	\$ million		
	2023	2022	2021
Operating expenses, of which:	39,960	39,476	35,965
Production and manufacturing expenses	25,240	25,518	23,822
Selling, distribution and administrative expenses	13,433	12,883	11,328
Research and development expenses	1,287	1,075	815
Of which identified items:			
Redundancy and restructuring (charges)/reversal	(325)	46	(226)
(Provisions)/reversal	(434)	77	(254)
Other	—	(143)	(175)
Identified items	(758)	(21)	(655)
Underlying operating expenses	39,201	39,456	35,309

Total spend on goods and services

Total spend on goods and services represents the amounts paid to our suppliers globally and is comprised of both Capital Expenditure and Operating Expenditure. Employee costs are excluded from Operating costs as these do not relate to 3rd party/supplier spend.

The total spend on goods and services is used to demonstrate the company's societal contribution towards suppliers, contractors and communities where Shell operates and is disclosed annually in the Sustainability Report.

The calculation of Total spend on goods and services has changed, with data published in previous years being limited to spend for Operated assets that has been contracted with the support of the Contracting and Procurement team, calculated on a cash payments basis.

Total spend on goods and services

	\$ million		
	2023	2022	2021
Capital Expenditure	22,993	22,600	19,000
Add: Underlying Operating Expenditure [A]	39,201	39,456	35,309
Less: Employee costs [B]	13,629	13,971	12,092
Total spend on goods and services	48,565	48,085	42,217

[A] See "Operating expenses and underlying operating expenses" table above.

[B] See Note 32 to the "Consolidated Financial Statements".

Structural cost reduction

The structural cost reduction target was introduced during Capital Markets Day in 2023 for the purpose of demonstrating how management drives cost discipline across the entire organisation, simplifying our processes, portfolio and streamlining the way we work.

Structural cost reduction describes decrease in underlying operating expenses as a result of operational efficiencies, divestments, workforce reductions and other cost-saving measures that are expected to be sustainable compared with 2022 levels.

The total change between periods in underlying operating expenses will reflect both structural cost reductions and other changes in spend, including market factors, such as inflation and foreign exchange impacts, as well as changes in activity levels and costs associated with new operations.

Estimates of cumulative annual structural cost reduction may be revised depending on whether cost reductions realised in prior periods are determined to be sustainable compared to 2022 levels. Structural cost reductions are stewarded internally to support management's oversight of spending over time. 2025 target reflects annualised saving achieved by end-2025.

Structural cost reduction

	\$ million
Underlying Operating expenses 2023	39,201
Underlying Operating expenses 2022	39,456
Total decrease in Underlying operating expenses	(255)
Of which:	
Structural cost reduction	(987)
Increase of underlying operating expenses except structural cost reduction	732

Return on average capital employed

Return on average capital employed ("ROACE") measures the efficiency of Shell's utilisation of the capital that it employs. Shell uses two ROACE measures: ROACE on a Net income basis and ROACE on an Adjusted Earnings plus Non-controlling interest basis, both adjusted for after-tax interest expense.

Both measures refer to Capital employed which consists of total equity, current debt and non-current debt.

Non-GAAP measures reconciliations continued

ROACE on a Net income basis

	\$ million		
	2023	2022	2021
Income for the period	19,636	42,874	20,630
Interest expense after tax	3,271	2,290	2,741
Income before interest expense	22,909	45,164	23,371
Capital employed - opening	276,392	264,413	266,551
Capital employed - closing	269,902	276,392	264,413
Capital employed - average	273,147	270,402	265,482
ROACE	8.4%	16.7%	8.8%

ROACE on an Adjusted Earnings plus Non-controlling interest (NCI) basis

	\$ million		
	2023	2022	2021
Adjusted Earnings	28,250	39,870	19,289
Add: Income/(loss) attributable to Non-controlling interest	277	565	529
Add: Current cost of supplies adjustment attributable to Non-controlling interest	(5)	(116)	(119)
Less: Identified items attributable to Non-controlling interest	(11)	15	(19)
Adjusted Earnings plus Non-controlling interest excluding identified items	28,534	40,304	19,718
Add: Interest expense after tax	3,271	2,290	2,741
Adjusted Earnings plus Non-controlling interest excluding identified items before interest expense	31,805	42,593	22,459
Capital employed - average	273,147	270,402	265,482
ROACE on an Adjusted Earnings plus Non-controlling interest basis	11.6%	15.8%	8.5%

Net debt and gearing

Net debt is defined as the sum of current and non-current debt, less cash and cash equivalents, adjusted for the fair value of derivative financial instruments used to hedge foreign exchange and interest rate risk relating to debt, and associated collateral balances. Management considers this adjustment useful because it reduces the volatility of net debt caused by fluctuations in foreign exchange and interest rates, and eliminates the potential impact of related collateral payments or receipts. Debt-related derivative financial instruments are a subset of the derivative financial instrument assets and liabilities presented on the balance sheet. Collateral balances are reported under "Trade and other receivables" or "Trade and other payables" as appropriate. See also Note 20 to the "Consolidated Financial Statements".

Gearing is a measure of Shell's capital structure and is defined as net debt (total debt less cash and cash equivalents) as a percentage of total capital (net debt plus total equity).

Net debt and gearing

	\$ million		
	2023	2022	2021
Current debt	9,931	9,001	8,218
Non-current debt	71,610	74,794	80,868
Total debt	81,541	83,795	89,086
Of which lease liabilities	27,709	27,643	27,507
Add: Debt-related derivative financial instruments: net liability / (asset)	1,835	3,071	424
Add: Collateral on debt-related: net liability / (asset)	(1,060)	(1,783)	16
Less: Cash and cash equivalents	(38,774)	(40,246)	(36,970)
Net Debt	43,542	44,837	52,556
Add: Total equity	188,362	192,597	175,326
Total capital	231,902	237,434	227,882
Gearing	18.8%	18.9%	23.1%

Cash flow from operating activities excluding working capital movements

Working capital movements are defined as the sum of the following items in the Statement of Cash Flows: (increase) or decrease in inventories, (increase) or decrease in current receivables, and increase or (decrease) in current payables.

Cash flow from operating activities excluding working capital movements is a measure used by Shell to analyse its operating cash generation over time excluding the timing effects of changes in inventories and operating receivables and payables from period to period.

Cash flow from operating activities excluding working capital movements

	\$ million		
	2023	2022	2021
Cash flow from operating activities	54,191	68,414	45,104
(Increase)/decrease in inventories	6,325	(8,360)	(7,319)
(Increase)/decrease in current receivables	12,401	(8,989)	(20,567)
Increase/(decrease) in current payables	(10,888)	11,915	17,519
(Increase)/decrease in working capital	7,838	(5,435)	(10,366)
Cash flow from operating activities excluding working capital movements	46,354	73,848	55,471

Shareholder distribution and Shareholder distribution as percentage of CFFO

Shareholder distribution is used to evaluate the level of cash distribution to shareholders. It is defined as the sum of Cash dividends paid to Shell plc shareholders and Repurchases of shares, both of which are reported in the Consolidated Statement of Cash Flows.

Shareholder distribution as percentage of CFFO is a new target introduced during Capital Markets Day 2023 that is used to measure the company's progress on increasing returns to shareholders.

This measure is calculated by dividing the Shareholder distribution by the annual CFFO as presented in the Consolidated Statement of Cash Flows.

Non-GAAP measures reconciliations continued

Shareholder distribution and Shareholder distribution as percentage of CFFO

	\$ million		
	2023	2022	2021
Cash dividends paid to Shell plc shareholders	8,393	7,405	6,253
Repurchases of shares	14,617	18,437	2,889
Shareholder distribution	23,010	25,842	9,142
CFFO	54,191	68,414	45,104
Shareholder distribution as % CFFO	42%	38%	20%

Divestment proceeds

Divestment proceeds represent cash received from divestment activities in the period. Management regularly monitors this measure as a key lever to deliver sustainable cash flow.

Divestment proceeds

	\$ million		
	2023	2022	2021
Proceeds from sale of property, plant and equipment and businesses	2,565	1,431	14,233
Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans	474	511	584
Proceeds from sale of equity securities	51	117	296
Divestment proceeds	3,091	2,059	15,113

Free cash flow and organic free cash flow

Free cash flow is used to evaluate cash available for financing activities, including shareholder distributions and debt servicing, after investment in maintaining and growing our business.

Organic free cash flow is defined as Free cash flow excluding the cash flows from acquisition and divestment activities. It is a measure used by management to evaluate generation of cash flow without these activities.

Free cash flow and Organic free cash flow

	\$ million		
	2023	2022	2021
Cash flow from operating activities	54,191	68,414	45,104
Cash flow from investing activities	(17,734)	(22,448)	(4,761)
Free cash flow	36,457	45,965	40,343
Less: Divestment proceeds [A]	3,091	2,059	15,113
Add: Tax paid on divestments (reported under "Other investing cash outflows")	—	17	188
Add: Cash outflows related to inorganic capital expenditure [B]	2,522	4,205	1,658
Organic free cash flow	35,888	48,128	27,076

[A] Cash inflows related to divestments includes Proceeds from sale of property, plant and equipment and businesses, Proceeds from joint ventures and associates from sale, capital reduction and repayment of long-term loans, and Proceeds from sale of equity securities as reported in the "Consolidated Statement of Cash Flows".

[B] Cash outflows related to inorganic capital expenditure includes portfolio actions which expand Shell's activities through acquisitions and restructuring activities as reported in capital expenditure lines in the "Consolidated Statement of Cash Flows".

Price-normalised free cash flow growth and Price-normalised free cash flow growth per share

Price-normalised free cash flow growth (of 6% average growth over the 2022 - 2030 period) and Price-normalised free cash flow growth per share (of 10% average per annum over the 2022 - 2030 period) are business targets introduced during Capital Markets Day (CMD) in 2023 for the purposes of demonstrating progress in value creation towards achieving our Powering Progress strategy, to be reported on an annual basis.

Price-normalisation refers to the process of removing the impact of macroeconomic price movements, so as to determine a more comparable basis for calculating the growth in free cash flow year on year. Shell believes this is a more meaningful basis for investors to be able to assess the Company's performance over time.

Price-normalised cash flow from operating activities (CFFO) is determined by normalising the actual cash flow for the period by applying the price set communicated during CMD of: Brent, Henry Hub and related gas markers on a real term 2022 basis, based on business plan 2022 long term price guidance till 2030 and, historical average Refining Margin \$4-\$6 per tonne (nominal) and historical average Chemicals Margin \$150-\$250 per tonne (nominal). The Price-normalised CFFO is added to Cash flow from Investments to achieve the Price-normalised free cash flow.

The Price-normalised free cash flow growth is determined by comparing the Price-normalised free cash flow of the current year to the previous year.

The Price-normalised free cash flow growth per share is calculated by first dividing the Price-normalised free cash flow for the year by the number of shares outstanding at the end of the period (the number of shares excludes shares held in trust), then comparing the current year Price-normalised free cash flow growth per share to the previous year.

Price-normalised free cash flow growth

	\$ million	
	2023	2022
Cash flow from operating activities	54,191	68,414
Cash flow from investing activities	(17,734)	(22,448)
Free cash flow	36,457	45,965
Price-normalisation [A]	(11,500)	(26,000)
Price-normalised free cash flow	24,957	19,965
Price-normalised free cash flow growth	4,992	
Price-normalised free cash flow growth %	25%	

[A] Rounded to the nearest half billion. See below for explanation of how the Price-normalisation impact is calculated.

Price-normalised free cash flow growth per share

	2023	2022
Price-normalised free cash flow (\$ million)	24,957	19,965
Shares outstanding (million)	6,486	6,971
Price-normalised free cash flow per share (\$)	3.85	2.86
Price-normalised free cash flow growth per share	34%	

Non-GAAP measures reconciliations continued

Shares outstanding

	number of shares (million)	
	2023	2022
Number of shares outstanding as at December 31		
Ordinary shares [A]	6,524	7,004
Less: Shares held in trust [B]	(38)	(33)
Shares outstanding	6,486	6,971

[A] See Note 26 to the "Consolidated Financial Statements".

[B] See Note 27 to the "Consolidated Financial Statements". Each ADS represents 2 ordinary shares.

Calculation of the price-normalisation

For each of the price markers shown in the table below, a comparison is made between the average prices for the period (published on our website Shell.com) against the price set shown below, which is based on the prices published at CMD.

The price sensitivities shown in the table following, indicate the estimated impact in CFFO for the change in each price marker. The price sensitivities are applied to the price variance of each price marker to determine the impact on CFFO.

No price adjustments are made for Marketing and Renewables and Energy Solutions.

Price set applied

	2023	2022
Brent [A]	\$66.3/bbl	\$65/bbl
Henry Hub [A]	\$4.1/MMBtu	\$4/MMBtu
EU TTF [A]	\$7.7/MMBtu	\$7.5/MMBtu
JCC - 3 months [A]	\$64.7/bbl	\$63.5/bbl
Indicative chemical earnings margin [B]	\$200 per tonne	\$200 per tonne
Indicative refining earnings margin [B]	\$5 per tonne	\$5 per tonne

[A] Real term 2022, as per Group business plan 2022 long-term price guidance until 2030.

[B] Mid-point of CMD guidance.

Price sensitivities applied

	\$ million	
	2023	2022
Upstream		
\$10/bbl Brent	2,600	3,000
\$1/MMbtu Henry Hub	150	325
\$1/MMbtu EU TTF	110	150
Integrated Gas		
\$10/bbl Brent	1,300	1,000
\$10/bbl JCC - 3 months	1,400	1,200
Chemicals and Products		
\$30/tonne indicative chemical earnings margin	750	700
\$1/bbl indicative refining earnings margin	400	425

Taxes paid and collected

Taxes paid and collected represents the total taxes paid to governments as disclosed in the annual Tax Contribution Report. It comprises Corporate income tax and government royalties as well as excise duties, sales taxes and similar levies on our fuel and products that are collected on behalf of the governments.

Taxes paid and collected

	\$ million		
	2023	2022	2021
Corporate income tax [A]	14,134	13,411	5,956
Royalties [B]	6,073	8,189	6,551
Excise duties, sales taxes and similar levies [C]	47,160	46,642	46,104
Taxes paid and collected	67,367	68,242	58,611

[A] We paid \$13.7 billion in corporate income taxes and accrued \$0.4 billion of withholding taxes. Withholding tax charge is part of "Other" of (\$0.5) billion in the Consolidated Statement of Cash Flows.

[B] Royalties is part of Purchases of \$212.9 billion as included in the Consolidated Statement of Income.

[C] This amount has been derived from regulatory filings submitted to the relevant governments.

Appendix

Appendix

Significant subsidiaries and other related undertakings (audited)

Significant subsidiaries and other related undertakings at December 31, 2023, are set out below. These are included in the "Consolidated Financial Statements" on pages 244-316. Shell's percentage of share capital is shown to the nearest whole number. Subsidiaries are disclosed separately from all other undertakings. Subsidiaries directly held by the Company are marked with the annotation [a]. A number of the entities listed are dormant or not yet operational. Entities that are proportionately consolidated are identified by the annotation [b]. Shell-owned shares are ordinary (voting) shares unless identified with one of the following annotations against the company name: [c] Membership interest; [d] Partnership capital; [e] Non-redeemable; [f] Ordinary, Partnership capital; [g] Ordinary, Redeemable; [h] Ordinary, Redeemable, Non-redeemable; and [i] Redeemable, Non-redeemable.

Subsidiaries including Shell plc Direct Holdings

Company by country and address of incorporation	%	Company by country and address of incorporation	%
ARGENTINA		QGC Holdings 8 Pty Ltd	100
AVENIDA PTE. ROQUE SÁENZ PENA 788, 2ND FLOOR, CIUDAD DE BUENOS AIRES, 1035		QGC Holdings 9 Pty Ltd	100
Shell Argentina S.A.	100	QGC Midstream Holdings Pty Ltd	100
AUSTRALIA		QGC Midstream Investments Pty Ltd	100
275 GEORGE STREET, BRISBANE		QGC Midstream Land Pty Ltd	100
Condamine 3 Pty Ltd	100	QGC Midstream Limited Partnership	100
QCLNG Pty Ltd	100	QGC Midstream Services Pty Ltd	100
275 GEORGE STREET, BRISBANE, 11000		QGC Northern Forestry Pty Ltd	100
BC 789 Holdings Pty Ltd	100	QGC Pty Limited	100
BG CPS Pty Limited	100	QGC Sales Qld Pty Ltd	100
BNG (SURAT) PTY. LTD.	100	QGC Train 1 Pty Ltd	100
Condamine 1 Pty Ltd	100	QGC Train 1 Tolling Pty Ltd	100
Condamine 2 Pty Ltd	100	QGC Train 1 UJV Manager Pty Ltd	100
Condamine 4 Pty Ltd	100	QGC Train 2 Pty Ltd	100
Condamine Power Station Pty Ltd	100	QGC Train 2 Tolling No.2 Pty Ltd	100
E.R.M. Oakey Power Pty Ltd	100	QGC Train 2 Tolling Pty Ltd	100
ERM Employee Share Plan Administrator Pty Ltd	100	QGC Train 2 UJV Manager Pty Ltd	100
ERM Energy Solutions Holdings Pty Ltd	100	QGC Upstream Finance Pty Ltd	100
ERM Financial Services Pty Ltd	100	QGC Upstream Holdings Pty Ltd	100
ERM Holdings Pty Ltd	100	QGC Upstream Investments Pty Ltd	100
ERM Land Holdings Pty Ltd	100	QGC Upstream Limited Partnership	100
ERM Neerabup Power Pty Ltd	100	QUEENSLAND ELECTRICITY INVESTORS PTY. LTD.	100
ERM Power International Pty Ltd	100	Richmond Valley Solar Thermal Pty Ltd	100
ERM Power Investments Pty Ltd	100	Roma Petroleum Pty Limited	100
ERM Power Utility Systems Pty Ltd	100	Select Carbon Pty Ltd	100
Gangarri Solar Farm Pty Ltd	100	SGA (Queensland) Pty Ltd	100
Greensense Pty Ltd	100	SGAI Pty Limited	100
Lumaled Pty Ltd	100	Shell Energy Australia Pty Ltd	100
NATURE BASED SOLUTIONS PTY LTD	100	Shell Energy Neerabup Pty Ltd	100
New South Oil Pty Ltd	100	Shell Energy Oakey Power Holdings Pty Ltd	100
Oakey Power Holdings Pty Ltd	100	SHELL ENERGY OPERATIONS NO. 2 HOLDINGS PTY LTD	100
PENRITH SMART BATTERY HOLDCO PTY LIMITED	100	Shell Energy Operations No. 2 Pty Ltd	100
Penrith Smart Battery Pty Limited	100	Shell Energy Operations Pty Ltd	100
Petroleum Resources (Thailand) Pty. Limited	100	Shell Energy Power Generation Pty Ltd	100
Powermetric Metering Pty Ltd	100	Shell Energy Retail Finance Pty Ltd	100
Powershop Australia Pty Ltd	100	Shell Energy Retail Pty Ltd	100
Pure Energy Resources Pty Limited	100	Shell Energy Wallerawang 9 BESS Pty Ltd	100
QGC (B7) Pty Ltd	100	Shell New Energies Australia Pty Ltd	100
QGC (Exploration) Pty Ltd	100	Shell QGC Pty Ltd	100
QGC (Infrastructure) Pty Ltd	100	Starzap Pty Ltd	100
QGC Common Facilities Company Pty Ltd	100	Sunshine 685 Pty Limited	100
QGC Holdings 2 Pty Ltd	100	Walloons Coal Seam Gas Company Pty Limited [g]	75
QGC Holdings 3 Pty Ltd	100	275 GEORGE STREET, LEVEL 30, BRISBANE, 11000	
QGC Holdings 4 Pty Ltd	100	ERM Wellington 1 Holdings Pty Ltd	100
QGC Holdings 5 Pty Ltd	100	LEVEL 30, 275 GEORGE STREET, 111 EAGLE STREET, BRISBANE, QLD 4000	
QGC Holdings 6 Pty Ltd	100	QUEENSLAND GAS COMPANY PTY LIMITED	100
QGC Holdings 7 Pty Ltd	100		

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%
AUSTRALIA continued	
LEVEL 30, 275 GEORGE STREET, BRISBANE, 11000	
OME RESOURCES AUSTRALIA PTY. LTD.	100
Shell Energy Retail Markets Pty Ltd	100
LEVEL 30, 275 GEORGE STREET, BRISBANE, QLD 4000	
QCLNG Operating Company Pty Ltd [g]	75
QGC LIMITED, LEVEL 30, 275 GEORGE STREET, BRISBANE, 11000	
CCM Energy Solutions Pty Ltd	100
ERM Braemar 3 Power Pty Ltd	100
ERM Braemar 3 Pty Ltd	100
ERM Innovation Labs Pty Ltd	100
ERM Power Services Pty Ltd	100
Shell Energy BESS 1 Pty Ltd	100
Shell Energy Certificate Trading Pty Ltd	100
Shell Energy Engineering Pty Ltd	100
Shell Energy Environmental Products Australia Pty Ltd	100
Shell Energy Power Developments Pty Ltd	100
Shell Energy Projects Pty Ltd	100
SHELL HOUSE, 562 WELLINGTON STREET, PERTH	
Shell Energy Holdings Australia Limited	100
SHELL HOUSE, 562 WELLINGTON STREET, PERTH, 11000	
North West Shelf LNG Pty Ltd	100
Shell Australia FLNG Pty Ltd	100
Shell Australia Pty Ltd	100
Shell Australia Services Company Pty Ltd	100
Shell Development (PSC19) Pty Ltd	100
Shell Development (PSC20) Pty Ltd	100
Shell Global Solutions Australia Pty Ltd	100
Shell Tankers Australia Pty Ltd	100
Trident LNG Shipping Services Pty Ltd	100
SHELL HOUSE, 562 WELLINGTON STREET, PERTH, WA 6000	
SASF PTY. LTD.	100
TENANCY 6, LIONSGATE BUSINESS PARK, 180 PHILIP HIGHWAY, ELIZABETH SOUTH, SA 5112	
Sonnen Australia Pty Limited	100
AUSTRIA	
FRANZ-JOSEFS-KAI 27, VIENNA, 11000	
Next Kraftwerke AT GmbH	100
SCHULHOF 6/1. STOCK, VIENNA, 11000	
Shell China Holding GmbH	100
TECH GATE, DONAU-CITY-STR, 1 VIENNA, 11000	
Rheinland Kraftstoff Österreich GmbH	100
TECH GATE, DONAU-CITY-STR. 1, VIENNA, 11000	
SHELL AUSTRIA GESELLSCHAFT M.B.H.	100
BAHAMAS	
2 BAYSIDE EXECUTIVE PARK, WEST BAY STREET & BLAKE ROAD, NASSAU, 11000	
Shell Western Supply and Trading Limited	100
400 4TH AVENUE S.V., CALGARY, T2P QJ4	
Shell Bahamas Power Company Inc.	100
BARBADOS	
THE FINANCIAL SERVICES CENTRE, BISHOP'S COURT HILL, ST, MICHAEL, BARBADOS, 11000	
SHELL TRINIDAD AND TOBAGO RESOURCES SRL	100
BELGIUM	
BORSBEEKSEBRUG 34/1, 2600 ANTWERPEN, 11000	
Shell EV Charging Solutions Belgium	100
CANTERSTEEN 47, BRUSSELS, 1000	
Belgian Shell	100

Company by country and address of incorporation	%
PALEIZENSTRAAT 153 RUE DES PALAIS, GEBOUW/BÂTIMENT: LUSTRIERIE, BRUSSELS, 1030	
Next Kraftwerke Belgium BV	100
PANTERSCHIPSTRAAT 331, GENT, 9000	
Shell Catalysts & Technologies Belgium	100
BERMUDA	
3RD FLOOR CONTINENTAL BUILDING, 25 CHURCH STREET, HAMILTON	
Solen Life Insurance Limited	100
3RD FLOOR CONTINENTAL BUILDING, 25 CHURCH STREET, HAMILTON, HM 12	
Gas Investments & Services Company Limited	85
Qatar Shell GTL Limited	100
Shell Holdings (Bermuda) Limited	100
Shell Oman Trading Limited	100
Shell Petroleum (Malaysia) Ltd	100
Shell Saudi Arabia (Refining) Limited	100
Shell Trust (Bermuda) Limited	100
SHELL MARKETS MIDDLE EAST LIMITED FZE	100
BOLIVIA	
ABDON SAAVEDRA N° 2265, SOPOCACHI, LA PAZ	
Pennzoil Bolivia S.A.	100
BRAZIL	
3.311 AVENIDA BRIGADEIRO FARIA LIMA, ITAIM BIBI, SAO PAULO, ITAIM BIBI	
Shell Trading Brasil Ltda.	100
330 AVENIDA REPÚBLICA DO CHILE, RIO DE JANEIRO, 11000	
SHELL BRASIL PETROLEO LTDA.	100
Shell Energy do Brasil Gás Ltda.	100
340 CONJ 182, LETRA B, 18 ANDAR, RUA CINCATO BRAGA, SÃO PAULO	
Prex Participacoes Societarias Ltda.	100
340 CONJ 182, LETRA B, 18 ANDAR, RUA CINCATO BRAGA, SÃO PAULO, 01333-010	
Ativa Energia E Participacoes Societarias Ltda	100
Exata Energia Consultoria e Comercio Ltda.	100
Facite Participacoes Societarias Ltda.	100
Prime Energy Comercializadora de Gas Ltda.	100
Prime Energy Consultoria e Comercio de Energia Ltda.	100
Prime Energy Comercializadora de Energia Ltda.	100
340 CONJ 182, LETRA C, 18 ANDAR, RUA CINCATO BRAGA, SÃO PAULO, 01333-010	
Exata Energia Comercializadora Ltda	100
340, CONJ 181, LETRA C, 18 ANDAR, RUA CINCATO BRAGA, SÃO PAULO, RUA CINCATO BRAGA	
Ativa Operacao, Manutencao e Consultoria Ltda	100
340, CONJ 181, LETRA D, 18 ANDAR, RUA CINCATO BRAGA, SÃO PAULO	
MLE Comercializadora Varejista de Energia Ltda	100
340, CONJ 182, RUA CINCATO BRAGA, SÃO PAULO, 01333-010	
Ativa Esco Servicos de Eficiencia Energetica Ltda.	100
711, RUA DOUTOR JOAO PINHEIRO, JUIZ DE FORA, 36015-040	
Arion Otimizacao Em Energia Ltda.	100
ÁREA RURAL DE JANAÚBA, S/Nº, CITY OF JANAÚBA PROPERTIES, 11000	
BRENERGY GERACAO SOLAR JANAUBA SPE II LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE III LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE IV LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE IX LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE V LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE VI LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE VII LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE VIII LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE X LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE XI LTDA.	100
BRENERGY GERACAO SOLAR JANAUBA SPE XII LTDA.	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
BRAZIL continued		Shell Trading Canada [d]	100
BRENERGY GERACAO SOLAR JANAUBA SPE XIII LTDA.	100	BOUL. LAPINIÈRE, BROSSARD, J4Z3H8	
AV REPUBLICA DO CHILE 330, BLC 2 SAL 3201, RIO DE JANEIRO		Nature Energy Canada New Ventures 2 Inc	100
Shell Brasil Renewables & Energy Solutions Ltda	100	Nature Energy Construction Canada Inc	100
AV REPUBLICA DO CHILE, 330 BLC 2 SAL 2401, RIO DE JANEIRO, 11000		BOUL. LAPINIÈRE, QUEBEC, J4Z3H8	
Seapos Ltda.	100	Nature Energy Canada Inc.	100
AV REPUBLICA DO CHILE, 330, BLC 2 SAL 2301, RIO DE JANEIRO, 11000		Nature Energy Canada New Ventures 3 Inc	100
Pecten Do Brasil Servicos De Petroleo, LTDA.	100	Nature Energy Farnham Inc.	100
AV. REPUBLICA DO CHILE, NO 330, 230 ANDAR PARTE, TORRE 2 - CENTRO, RIO DE JANEIRO, 11000		CAYMAN ISLANDS	
BG PETROLEO & GAS BRASIL LTDA	100	CAMPBELLS, FLOOR 4, WILLOW HOUSE, CRICKET SQUARE, GEORGE TOWN, GRAND CAYMAN, KY1-9010	
AV. REPUBLICA DO CHILE, NO 330, 230 ANDAR, TORRE 2 - CENTRO, RIO DE JANEIRO, TORRE 2 - CENTRO		BG Exploration and Production India Limited	100
BG Comercio e Importacao Ltda.	100	FLOOR 4, WILLOW HOUSE, CRICKET SQUARE, PO BOX 268, GEORGE TOWN, 11000	
AVENIDA BRIGADEIRO FARIA LIMA, 3311, CONJUNTO 82, ITAIM BIBI, SAO PAULO, 11000		BG EGYPT SA	100
Shell Energy do Brasil Ltda.	100	OCORIAN TRUST (CAYMAN), LIMITED OF WINDWARD 3, REGATTA OFFICE PARK, PO BOX 1350, GRAND CAYMAN, 11000	
AVENIDA REPÚBLICA DO CHILE, 330, BLC 2, SAL 2401, RIO DE JANEIRO, 11000		Beryl North Sea Limited	100
Heze Holding II LTDA.	100	Schiehallion Oil & Gas Limited	100
NO 330, ROOM 2301, AVENIDA REPÚBLICA DO CHILE, BUILDING 2, RIO DE JANEIRO, 11000		OCORIAN TRUST (CAYMAN), LIMITED OF WINDWARD 3, REGATTA OFFICE PARK, PO BOX 1350, GRAND CAYMAN, KY1-1108	
Heze I Holding S.A.	100	Shell North Sea Holdings Limited	100
BRUNEI		PICCADILLY CENTRE, 28 ELGIN AVENUE, SUITE 201, P.O. BOX 2570, GEORGE TOWN, GRAND CAYMAN, KY1-1103	
C/O BSP HEAD OFFICE, NDICO BLOCK, GROUND FLOOR, JALAN UTARA, PANAGA SERIA, 11000		Shell Bolivia Corporation	100
Shell Borneo Sendirian Berhad	100	SCORER LIMITED, 5TH FLOOR BERMUDA HOUSE, DR. ROY'S DRIVE, GEORGE TOWN, GRAND CAYMAN	
BULGARIA		Gas Resources Limited	100
48, SITNYAKOVO BLVD., SERDIKA OFFICES, 8TH FLOOR, SOFIA, 1505		CHILE	
Shell Bulgaria Ead	100	C/O CAREY Y CIA ABOGADOS, MIRAFLORES 222, PISO 28, SANTIAGO	
CAMBODIA		Shell Chile S.A.	100
OFFICE NO. 186 C, STREET 155 SANGKAT TOUL TUMPOUNG I, KHAN CHAMKAMORN, PHNOM PENH		CHINA	
Shell Company of Cambodia Limited S.A.	100	186, NO.1, 16TH FLOOR, DONGHUA BUILDING, NO. 5, DONGCHENG EAST ROAD, GANGBEI COMMUNITY, DONGCHENG STREET, DONGGUAN CITY, 11000	
CANADA		DONGGUAN SHELL YADI CHARGING TECHNOLOGY CO., LTD	80
2100-855 2 ST SW, CALGARY, T2P 4J8		198 TIMES CITY, 263 HONGMING ROAD, LILIAN STREET, HUANGPU DISTRICT, GUANGZHOU, 11000	
1745844 Alberta Ltd.	50	GUANGZHOU SHELL YADI NEW ENERGY CO., LTD	80
400 4TH AVENUE S.W., CALGARY, 11000		30/F, CHINA WORLD TOWER B, NO.1 JIAN GUO MEN WAI AVENUE, BEIJING	
10084751 Canada Limited	100	Shell (China) Limited	100
7026609 Canada Inc.	100	401 FLOOR 4, BUILDING 1, YARD 1, ZHONGHE ROAD, BEIJING, 11000	
7645929 Canada Limited	100	Beijing Shell Information Technology Co., Ltd.	100
Cansolv Technologies Inc.	100	50 DONGHAI WEST ROAD, QINGDAO	
Coral Cibola Canada Inc.	100	Qingdao Shell Oil Co., Ltd.	100
Shell Canada Services Limited	100	8/F, BUILDING 1, NO. 818 SHENCHANG ROAD, MINHANG DISTRICT, SHANGHAI, 201106	
Shell Catalysts & Technologies Canada Inc.	100	Shell Management and Consulting Company Limited	100
Shell Energy North America (Canada) Inc.	100	Shell Ventures Company Limited	100
Shell Global Solutions Canada Inc.	100	8TH FLOOR, NO. 1 BUILDING, NO. 818 OF SHENCHANG ROAD, MINHANG DISTRICT, SHANGHAI, 11000	
Zeco Systems (Canada) Inc.	100	Shell (Shanghai) Petroleum Company Limited	100
400 4TH AVENUE S.W., CALGARY, T2P QJ4		BUILDING 4, JIN CHUANG BUILDING, NO. 4560, JIN KE ROAD, PILOT FREE TRADE ZONE, SHANGHAI, 11000	
Shell Americas Funding (Canada) Limited	100	Shell (Shanghai) Technology Limited	100
Shell Canada BROS Inc.	100	F7, NO. 1 BUILDING, HEADQUARTER PARK, CAIJIA FREE TRADE ZONE, NO. 60 SHENGHE ROAD, CHONGQING CITY, 11000	
400 BOUL DE MAISONNEUVE OUEST, MONTREAL, 11000		Chongqing Shell Energy Company Limited	100
Shell Quebec Limitee	100	FLOOR 23, CHINA LIFE INSURANCE ANHUI FINANCIAL CENTER, LUZHOU AVENUE, BAOBINHU NEW AREA, HEFEI CITY, 11000	
400, 4 AVENUE SOUTHWEST, CALGARY, 11000		Anhui Shell Energy Company Limited	100
Canadian Mobility Services Limited	100	FLOOR 27, BUILDING A, SHANDONG CHAMBER OF COMMERCE BUILDING, NO.51, WEI SECOND ROAD, SHIZHONG DISTRICT, JINAN CITY, 250001	
4000 - 500 CENTRE STREET SE, CALGARY, 11000		Shandong Shell Oil Co., Ltd.	100
SCL Pipeline Inc.	100	FLOOR 56 AND 57, PHASE 1 OF XIN DI CENTER, NO. 188, LUSHAN ROAD, JIANYE DISTRICT, NANJING CITY, 11000	
Shell Canada Energy [c]	100	Jiangsu Shell Energy Company Limited	100
Shell Canada Limited	100		
Shell Canada OP Inc.	100		
Shell Canada Products [d]	100		
Shell Chemicals Canada [d]	100		

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
CHINA continued		DENMARK	
LONGSHAN SEVENTH ROAD, WEST DAYA BAY, HUIZHOU, 11000		ØRBÆKVEJ 260, 5220 ODENSE SØ, DENMARK, ODENSE, 5220	
HUIZHOU SHELL YADI CHARGING TECHNOLOGY CO., LTD	80	Nature Energy Hemmet ApS	100
NANJIN WAN, GAOLAN DAO, ZHUHAI, 11000		Nature Energy Sdr. Vium ApS	100
Shell (Zhuhai) Lubricants Company Limited	100	ØRBÆKVEJ 260, 5220 ODENSE SØ, DENMARK, 11000	
NO. 1 WANGJIABA, XINMIAOZHI VILLAGE, PIYUAN TOWN, TONGXIANG, JIAXING, ZHEJIANG, 314502		Nature Energy Denmark ApS	100
Shell (Zhejiang) Petroleum Trading Limited	100	ØRBÆKVEJ 260, 5220 ODENSE SØ, ODENSE, 11000	
NO. 286 NANSAN ROAD, TIANJIN HARBOR NANJIANG DEV. ZONE, TIANJIN, 11000		Nature Energy Falster ApS	100
Shell (Tianjin) Oil and Petrochemical Company Limited	100	ØRBÆKVEJ 260, 5220 ODENSE SØ, ODENSE, 5220	
NO. 3, SOUTHERN RING ROAD, ZHENJIANG DISTRICT, SHAOGUAN CITY, 11000		Nature Energy Bånlev A/S	80
SHAOGUAN SHELL YADI CHARGING TECHNOLOGY CO., LTD	80	Nature Energy Bånlev Transport A/S	100
NO. 304-5, 3RD FLOOR, BUILDING B AND OTHER 3 INNER PODIUMS, NUMBER A2,WORKERS STADIUM NORTH ROAD, BEIJING, 11000		Nature Energy Korskro A/S	100
Shell (Beijing) New Energy Technology Co., Ltd	100	Nature Energy Kvær A/S	100
NO. 4, 5, 12/F, UNIT A, OCEANWIDE INTERNATIONAL CENTER OFFICE, WUHAN, 11000		ØRBÆKVEJ 260, ODENSE, 11000	
Hubei Shell Energy Company Limited	100	Nature Energy Vaarst A/S	100
NO.19 OF DAGANG HANQIAO ROAD, ZHENJIANG NEW DISTRICT, JIANGSU, 11000		Nature Energy Videbæk A/S	100
Shell Road Solutions (Zhenjiang) Co. Ltd	100	NGF Denmark Holding ApS	100
NO.723, BUILDING A1, CHUANGGU INDUSTRIAL PARK, 568 QUEYUAN ROAD, TIANXIN DISTRICT, CHANGSHA CITY, 11000		ØRBÆKVEJ 260, ODENSE, 5220	
CHANGSHA SHELL YADI NEW ENERGY CO., LTD	80	Nature Energy 1 A/S	100
NORTH TO GANG BEI ROAD & EAST TO HAI GANG ROAD, NANGANG INDUSTRIAL ZONE, TIANJIN ECONOMIC-TECHNOLOGICAL DEVELOPMENT AREA, TIANJIN, 11000		Nature energy Biogas A/S	100
Shell (Tianjin) Lubricants Company Limited	100	Nature Energy Construction A/S	100
RM 1503, BUILDING 2, PLAZA OF ZBA, NO. 939 MINHE ROAD, NINGWEI STREET, XIAOSHAN, HANGZHOU, ZHEJIANG, 311215		Nature Energy Glansager A/S	100
Zhejiang Shell Energy Development Company Limited	100	Nature Energy Green Gas Sales A/S	100
ROOM 2407-2409, BUILDING 15, FANGMAOYUAN (PHASE II), CHANGSHA, 11000		Nature Energy Green Hydrogen A/S	100
Hunan Shell Energy Company Limited	100	Nature Energy Green Transport A/S	100
ROOM 327, OFFICE BUILDING NO. 2, YADI ROAD, NEW INDUSTRIAL PARK, XILIU STREET, HIGH-TECH ZONE, XI 'AN, SHAANXI, 11000		Nature Energy Holbæk ApS	100
XI'AN SHELL YADI CHARGING TECHNOLOGY CO., LTD	80	Nature Energy International A/S	100
ROOM 530, 5TH FLOOR, BUILDING 1, NO. 239 GANG'AO ROAD, SHANGHAI, 11000		Nature Energy Løgumkloster ApS	100
Shell Energy (China) Limited	100	Nature Energy Lolland ApS	100
ROOM 611,6TH FLOOR, BUILDING B, VITALITY BUSINESS SQUARE, SUZHOU, 215100		Nature Energy Månsson A/S	60
Suzhou Yiwei NewEnergy Technology Company Limited	100	Nature Energy Midtlyn A/S	100
ROOM A1503-1504, INNOVATION PLAZA, IULIAN COMMUNITY, PINGSHAN SUB-DISTRICT, PINGSHAN DISTRICT, SHENZHEN, 11000		Nature Energy Nordfyn A/S	80
Shenzhen Shell and BYD Electric Vehicle Investment Company Limited	80	Nature Energy Ørbæk A/S	100
RUNXIANG BUSINESS CENTER A707D, ZHELU STREET, JINGHU DISTRICT, WUHU, 241000		Nature Energy Trekanten A/S	100
Wuhu Shell Energy Company Limited	100	Nordliq A/S	100
THE PORT OF ZHAPU, JIAXING MUNICIPALITY, ZHEJIANG		ØRBÆKVEJ, ODENSE, 5220	
Zhejiang Shell Oil and Petrochemical Company Limited	100	Nature Energy Holsted A/S	80
UNIT 01, 32/F, NO. 16 BUILDING, NO. 1 COURTYARD, JIAN GUO MEN WAI AVENUE, CHAOYANG DISTRICT, BEIJING, 100004		EGYPT	
Shell (Beijing) Real Estate Consulting Ltd.	100	BUILDING 79, ROAD 90 SOUTH, FIFTH SETTLEMENT- NEW CAIRO, CAIRO, 11000	
UNIT 01-08, LEVEL 31, NO. 16 BUILDING, NO. 1 JIAN GUO MEN WAI AVENUE, BEIJING, 11000		Shell Egypt Trading	100
Shell (China) Projects & Technology Limited	100	Shell Lubricants Egypt	100
UNIT 1502 BUILDING A, ZHONGCHU PLAZA, XINHUA DISTRICT, SHIJIAZHUANG, 11000		EL SALVADOR	
Hebei Shell Oil Sales Co., Ltd.	100	BLVDLOS PROCERES FRENTEA REPARTO, LOS HEROES, E/S SHELL MONUMENTAL, SAN SALVADOR, SV	
COLOMBIA		Shell Química de El Salvador S.A.	100
CALLE 90 NO. 19 - 41, OFICINA 702- EDIFICIO QUANTUM, BOGOTA, 11000		FINLAND	
Shell Comercializadora Colombia S.A.S.	100	TEKNOBULEVARDI 3-5, VANTAA, 11000	
CL 90 NO. 19 - 41 OF 702, EDIFICIO QUANTUM, BOGOTÁ D.C., 11000		Shell Aviation Finland Oy	100
Shell Colombia S.A.	100	FRANCE	
CZECH REPUBLIC		10 PLACE DE CATALOGNE, PARIS, 75014	
ANTALA STAŠKA 2027/77, PRAGUE, 11000		Centrale Photovoltaïque Bouches-du-Rhône 1	100
Shell Czech Republic a.s.	100	Ferme Eolienne Flottante Stenella Rhône	100
		Parc Eolien Côtes Armor 1	100
		4 RUE DE MARIVAUX, PARIS, 11000	
		Volta France SARL	100
		75 AVENUE PARMENTIER, PARIS, 75544	
		Centrales Next S.A.S	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%
FRANCE continued	
TERRA INNOVA 1, BUREAU 102 ETAGE 1, 10 ALLÉE GEORGES NOÉ, SAINT AIGNAN GRANDJEU, 44860	
Nature Energy Chamarandes Choignes SAS	100
Nature Energy Construction France SAS	100
Nature Energy France SAS	100
TOUR PACIFIC, 11/13 COURS VALMY - LA DÉFENSE, PUTEAUX, 91000	
Shell EV Charging Solutions France SAS	100
TOUR PACIFIC, 11/13 COURS VALMY - LA DÉFENSE, PUTEAUX, 92800	
Avitair SAS	100
Shell France SAS	100
Shell Retraites SAS	100
Société de Gestion Mobilière et Immobilière SAS	100
GERMANY	
IO_3 BREUNINGER STRASSE, SACHSENHEIM, 74343	
enersol GmbH	100
24 IM GEWERBEPARK, OBERKRÄMER, 16727	
Energieinsel GmbH	100
ALTER KIRCHENWEG 83, HANDEWITT, 24983	
Nature Energy Germany GmbH	100
AM HAUPTTOR, GEBÄUDE 8322, LEUNA, 11000	
CRI Deutschland GmbH	100
Shell Catalysts & Technologies Leuna GmbH	100
AM RIEDBACH 1, WILDPOLDSRIED, 87499	
Sonnen eServices Deutschland GmbH	100
Sonnen eServices GmbH	100
Sonnen GmbH	100
Sonnen Holding GmbH	100
AUF DEM SCHOLLBRUCH 24-26, GELSENKIRCHEN, 45899	
Rheinland Kraftstoff Gesellschaft mit beschränkter Haftung	100
C/O THE FACTORY, LOHMÜHLENSTRASSE 65, BERLIN, 11000	
Volta Charging Germany GmbH	100
EUREF-CAMPUS 7-8, BERLIN, 10829	
Ubimeter GmbH	100
Ubitricity Gesellschaft für verteilte Energiesysteme mbH	100
HOHE-SCHAAR-STRASSE 36, HAMBURG, 21107	
Shell Global Solutions (Deutschland) GmbH	100
HÜNXER STRASSE 149, DINSLAKEN, 11000	
SBRS Consulting GmbH	100
HÜNXER STRASSE, DINSLAKEN, 46537	
SBRS GmbH	100
KÖPERNIKUSSTRASSE 35, BERLIN, 11000	
Shell EV Charging Solutions Germany GmbH	100
LICHTSTRASSE 43G, KOELN, 50825	
Next Kraftwerke GmbH	100
ST-LEONHARD-STRASSE 26, BALZHAUSEN, 86483	
Energeticum Energiesysteme GmbH	100
SUHRENKAMP 71 - 77, HAMBURG, 22335	
Shell Deutschland GmbH	100
SUHRENKAMP 71-77, D-22335, HAMBURG, 11000	
Carissa Verwaltungsgesellschaft mbH	100
Deutsche Shell Holding GmbH	100
euroShell Deutschland GmbH & Co. KG	100
euroShell Deutschland Verwaltungsgesellschaft mbH	100
Shell Deutschland Additive GmbH	100
Shell Deutschland RES GmbH	100
Shell Deutschland Wasserstoff GmbH	100
Shell Energy Deutschland GmbH	100
Shell Erdgas Beteiligungsgesellschaft mbH	100

Company by country and address of incorporation	%
Shell Erdgas Marketing GmbH & Co. KG	75
Shell Exploration and Production Colombia GmbH	100
Shell Exploration and Production Libya GmbH	100
Shell Exploration New Ventures One GmbH	100
Shell Hydrogen Deutschland GmbH	100
Shell Tunisia Offshore GmbH	100
Shell Verwaltungsgesellschaft für Erdgasbeteiligungen mbH	100
SUHRENKAMP 71-77, D-22335, HAMBURG, D-22335	
Shell Exploration et Production du Maroc GmbH	100
WILLINGHUSENER WEG 5 D - E, OSTSTEINBEK, 11000	
CARISSA GmbH	100
GHANA	
8TH FLOOR, ONE AIRPORT SQUARE, AIRPORT BYPASS ROAD, AIRPORT, ACCRA, 11000	
Shell Energy Ghana Limited	100
BLOCK 13, SECTION 103, TEMA MOTORWAY INDUSTRIAL AREA EXTENSION, ACCRA, 6217	
Daystar Power Group Ltd (Ghana)	100
GUAM	
643 CHALAN SAN ANTONIO, SUITE 100, TAMUNING, GU 96911	
Shell Guam, Inc.	100
HONG KONG	
35/F AIA KOWLOON TOWER, LANDMARK EAST, 100 HOW MING STREET, KWUN TONG, KOWLOON	
Ocean Century Tf Limited [g]	100
35/F AIA KOWLOON TOWER, LANDMARK EAST, KWUN TONG, KOWLOON, 11000	
Fulmart Limited	100
Shell Developments (HK) Limited [g]	100
Shell Hong Kong Limited	100
Shell Korea Limited	100
Shell Macau Limited	100
HUNGARY	
BOCSKAI ÚT 134-146., BUDAPEST, 11000	
Shell Mobility Hungary Korlátolt Felelősségű Társaság "végelszámolás alatt"	100
BOCSKAI ÚT 134-146., BUDAPEST, 1113	
Shell Hungary Zrt.	100
INDIA	
2ND FLOOR, CAMPUS 4A, RMZ MILLENIA BUSINESS PARK II, 143 DR MGR ROAD, KANDHANCHAVADI, PERUNGUDI, CHENNAI, 11000	
Shell India Markets Private Limited	100
301 WORLD TRADE TOWER, BARAKHAMBA LANE, NEW DELHI, 11000	
BG India Energy Private Limited	100
BG India Energy Services Private Limited	100
BG India Energy Solutions Private Limited	100
BG LNG Regas India Private Limited	100
7, BANGALORE HARDWARE PARK, DEVANAHALLI INDUSTRIAL PARK, BANGALORE, 11000	
Shell Pahal Social Welfare Association	100
8-2-293/82/A/732 SASI ICON, ROAD NO.36, JUBILEE HILLS, HYDERABAD, TELANGANA, 500033	
Machine Max India Private Limited	100
OFFICE NO 2008, WESTGATE - D BLOCK, NR YMCA CLUB, AHMEDABAD, GUJARAT, 11000	
Hazira Port Private Limited	100
Shell Energy India Private Limited	100
OMAXE SQUARE, PLOT NO.14, JASOLA DISTRICT CENTRE, NEW DELHI, 110025	
Sprng Agnitra Private Limited	100
Sprng Akshaya Urja Private Limited	100
Sprng Green Power Private Limited	100
Sprng Photovoltaic Private Limited	100
Sprng Renewable Energy Private Limited	100
Sprng Soura Kiran Vidyut Private Limited	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%
INDIA continued	
Sprng Suryoday Energy Private Limited	100
Sprng Ujvala Energy Private Limited	100
Sprng Wind Energy Private Limited	100
Sprng Transform Sun Energy Private Limited	100
PLATINA TOWER MG ROAD, NEAR SIKANDARPUR METRO STATION, SECTION, HARYANA, GURUGRAM, 122001	
SHELL EV CHARGING SOLUTION ASIA LLP	100
SHELL CENTRE, COMMERZONE , BLOCK II, NO.2,200 FEET RADIAL ROAD, PALLIKARANAI, KANCHIPURAM, TAMBARAM, , INDIA, 600100, CHENNAI, TAMIL NADU, 11000	
Sprng Energy Private Limited	100
UNIT NO 811, 8TH FLOOR, LOGIX CITY CENTRE, SECTOR 2, GAUTAM BUDDH NAGAR, NOID, P-201301	
M&I Materials India Private Ltd.	100
UNIT NO FF-48 A, FIRST FLOOR, OMAXE SQUARE, PLOT NO.14, JASOLA DISTRICT CENTRE, INDIA, NEW DELHI, 110025	
Sprng Vayu Vidyut Private Limited	100
UNIT NO FF-48 A, FIRST FLOOR, OMAXE SQUARE, PLOT NO.14, JASOLA DISTRICT CENTRE, NEW DELHI, 110025	
Arinsun Clean Energy Private Limited	100
Sprng Natural Power Source Private Limited	100
Sprng Ojas Private Limited	100
Sprng Pavana Urja Private Limited	100
Sprng Power Earth Private Limited	100
Sprng Power Private Limited	100
Sprng Powerinfra Private Limited	100
Sprng Renewable Resources Private Limited	100
Sprng Solar Energy Private Limited	100
Sprng Solar India Private Limited	100
Sprng Solar Plus Private Limited	100
Sprng Solren Private Limited	100
Sprng Urja Private Limited	100
Sprng Vaayu Urja Private Limited	100
Sprng Vayu Kiran Private Limited	100
UNIT NO FF-48 A, FIRST FLOOR, OMAXE SQUARE, PLOT NO.14, JASOLA DISTRICT CENTRE, , INDIA, NEW DELHI, 11000	
Sprng Alt Energy Private Limited	100
UNIT NOS. 401 TO 1401, BLOCK 2 COMMERZONE PALLIKARANAI, NO.2, 200 FEET RADIAL ROAD, PALLIKARANAI, PALLIKARANAI, CHENNAI, 11000	
Shell Energy Marketing and Trading India Private Limited	100
INDONESIA	
TALAVERA OFFICE PARK 22-26TH FLOOR, JL. LETJEN. TB SIMATUPANG KAV. 22-26, JAKARTA SELATAN, JAKARTA, 12430	
PT. Gresik Distribution Terminal	100
PT. Shell Solar Indonesia	100
TALAVERA OFFICE PARK 22-26TH FLOOR, JL. LETJEN. TB SIMATUPANG KAV. 22-26, JAKARTA, 11000	
PT. Shell Manufacturing Indonesia	100
TALAVERA OFFICE PARK 22-26TH FLOOR, JL. LETJEN. TB SIMATUPANG KAV. 22-26, JAKARTA, 12430	
PT. Shell Indonesia	100
WISMA GKBI, 39TH FLOOR, JL. JENDERAL SUDIRMAN KAV. 28, BENDUNGAN HIJIR, TANAH ABANG, CENTRAL JAKARTA, 11000	
PT EcoOils Jaya Indonesia	100
IRELAND	
1ST FLOOR, TEMPLE HALL, TEMPLE ROAD, BLACKROCK, DUBLIN, A94 K3K0	
Asiatic Petroleum Company (Dublin) Limited	100
Irish Shell Trust Designated Activity Company	100
ISLE OF MAN	
EUROMANX HOUSE, FREEPORT, BALLASALLA, IM9 2AP	
Shell Marine Personnel (I.O.M.) Limited	100
Shell Ship Management Limited	100

Company by country and address of incorporation	%
FIRST NAMES HOUSE, VICTORIA ROAD, DOUGLAS, IM2 4DF	
Petrolon Europe Limited	100
Petrolon International Limited	100
ITALY	
137 VIA VITTORIO VENETO, ROVIGO, 11000	
Elios Energy S.r.l.	100
55, VIA GIOVANNI GIOIUTTI, TORINO, 10123	
MSTS Consorzio [c]	100
GALLERIA VINTLER 17, BOLZANO, 39100	
Anagni S.r.l.	100
Barberio S.r.l.	100
Baroni S.r.l.	100
Baroninuovi S.r.l.	100
GENOVA (GE) VIA FELICE ROMANI 9/5, GENOVA, 11000	
Ego Data S.r.l.	100
Ego Energy S.r.l.	100
Ego S.r.l.	100
PIAZZA SAN SILVESTRO 8, ROME, 11000	
Shell Italia E&P S.p.A.	100
VIA AUTOSTRADA 32, BERGAMO, 24126	
Sonnen eServices Italia S.R.L.	100
Sonnen S.R.L.	100
VIA CLELIA BERTINI ATTIIJ 34/D, ROME, 11000	
Centrali Next Srl	100
VIA SUSÀ 40, TORINO, 10138	
Shell Fleet Solutions Consorzio	100
VIA VITTOR PISANI 16, MILANO (MI), 11000	
Adria Solar S.r.l.	100
Alle S.R.L.	100
Aquila S.p.A.	100
Civita Solar S.r.l.	100
Cumiana Solar S.r.l.	100
Development S.R.L.	100
Marco Polo Solar 2 S.R.L.	100
Marco Polo Solar S.R.L.	100
Ramacca Solar S.R.L.	100
Sardinia Solar Energy S.R.L.	100
Shell Energy Italia S.R.L.	100
Shell Italia Holding S.p.A.	100
Shell Italia Oil Products S.R.L.	100
Shell Mobility Italia S.r.l.	100
Suncore 5 Amaranto 1 S.r.l.	100
VIALE AMEDEO DUCA D'AOSTA 51, BOLZANO, 11000	
Bonacaro S.r.l.	100
Carlucci S.r.l.	100
Colangelo S.r.l.	100
Depalma S.r.l.	100
Dimassa S.r.l.	100
Guarini S.r.l.	100
Mesagne S.r.l.	100
Natuzzi S.r.l.	100
Ottobiano S.r.l.	100
Paliano S.r.l.	100
Ricchiuti S.r.l.	100
Rotello S.r.l.	100
Sanfrancesco S.r.l.	100
Sasso S.r.l.	100
Serracapriola S.r.l.	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%
ITALY continued	
Sicilia S.r.l.	100
Teodoro S.r.l.	100
Tuturano S.r.l.	100
Vulci S.r.l.	100
Zamboni S.r.l.	100
VIALE EDISON 110, SESTO SAN GIOVANNI, MILANO	
BG Italia Power S.r.l	100
JAPAN	
1-11-1 MARUNOUCHI, CHIYODA-KU, TOKYO	
Nagaoka Power Generation Limited	100
12F PACIFIC CENTURY PLACE MARUNOUCHI, 1-11-1, MARUNOUCHI, CHIYODA-KU, TOKYO, 100-6212	
Shell Lubricants Japan K.K.	100
12F PACIFIC CENTURY PLACE MARUNOUCHI, 1-11-1, MARUNOUCHI, CHIYODA-KU, TOKYO, 11000	
Shell Japan Limited	100
Sonnen Japan Kabushiki Kaisha	100
13F FUKOKU SEIMEI BUILDING, 2-2-2 UCHISAIWAI-CHO, CHIYODA-KU, TOKYO, 100-0011	
K.K. Red and Yellow	100
2-1-13, MOTOAZABU, MINATO-KU, TOKYO, 106-0046	
Fukuoka Offshore Wind Power No. 1 K.K	80
4052-2 NAKATSU, AIKAWA-CHO, KANAGAWA, 11000	
K.K. SVC Tokyo	100
PACIFIC CENTURY PLACE MARUNOUCHI, 1-11-1 MARUNOUCHI, CHIYODA-KU, TOKYO, 11000	
Shell Solar Japan G.K.	100
JERSEY	
13 CASTLE STREET, ST HEIER, JERSEY, 11000	
Shell Service Station Properties Limited	100
KENYA	
LR 209/4266 KAMPALA ROAD, P.O. BOX 46644, NAIROBI, 100	
Shell Bitumen East Africa Limited	100
SHELL & BP HOUSE, HARAMBEE AVENUE, P.O. BOX 43561, NAIROBI, 100	
Shell Chemicals East Africa Limited	100
LUXEMBOURG	
7, RUE DE L'INDUSTRIE, BERTRANGE, LUXEMBOURG, L-8005	
Shell Luxembourgeoise Sarl	100
MACAO	
876 AVENIDA DA AMIZADE, EDIFICIO MARINA GARDENS, MACAU, 11000	
Shell Macau Petroleum Company Limited	100
MALAYSIA	
400 4TH AVENUE S.W., CALGARY, T2P 0J4	
Shell Timur Sdn. Bhd.	70
KENSINGTON GARDENS, NO. U1317, LOT 7616, JALAN JUMIDAR BUYONG, LABUAN, 11000	
Shell Treasury Malaysia (L) Limited	100
LEVEL 11, MENARA TH 1 SENTRAL, JALAN RAKYAT, KUALA LUMPUR SENTRAL, 50470 KUALA LUMPUR, WILAYAH PERSEKUTUAN, KUALA LUMPUR, 11000	
EcoInnovation Sdn. Bhd.	100
EcoOils (Negeri Sembilan) Sdn. Bhd.	100
Pertini Vista Sdn. Bhd.	100
Provista Ventures Sdn. Bhd.	100
Sarawak Shell Berhad	100
Shell Brunei Operations Sdn Bhd.	100
Shell Business Service Centre Sdn. Bhd.	100
Shell Global Solutions (Malaysia) Sdn. Bhd.	100
Shell Malaysia Trading Sdn Bhd	100
Shell People Services Asia Sdn. Bhd.	100
Shell Sabah Selatan Sendirian Berhad	100

Company by country and address of incorporation	%
LEVEL 11, MENARA TH 1 SENTRAL, JALAN RAKYAT, KUALA LUMPUR SENTRAL, KUALA LUMPUR, WILAYAH PERSEKUTUAN, 11000	
EcoOils Sdn. Bhd.	100
Shell MDS (Malaysia) Sendirian Berhad	72
LEVEL 11, MENARA TH 1 SENTRAL, JALAN RAKYAT, KUALA LUMPUR SENTRAL, WILAYAH PERSEKUTUAN, KUALA LUMPUR, 50470	
Shell New Ventures Malaysia Sdn. Bhd. [g]	100
MAURITIUS	
33 EDITH CAVELL STREET, PORT LOUIS, 11324	
Pennzoil Products International Company	100
C/O IMARA TRUST COMPANY (MAURITIUS) LIMITED, LEVEL 2, ALEXANDER HOUSE, SILICON AVENUE, EBENE CYBERCITY	
Daystar Power Group	100
C/O OCORIAN CORPORATE SERVICES LTD, 6TH FLOOR TOWER A, 1 CYBERCITY, EBENE, 11000	
BG Mauritius LNG Holdings Ltd	100
BG Mumbai Holdings Limited	100
LES CASCADES EDITH CAVELL STREET, PORT LOUIS	
Solenergi Power Private Limited	100
LEVEL 2, ALEXANDER HOUSE, SILICON AVENUE, EBENE CYBERCITY, 72201	
Daystar Power Mauritius	100
MEXICO	
AV. PASEO DE LAS PALMAS 340, 1ST FLOOR, COLONIA LOMAS DE CHAPULTEPEC, DELEGACIÓN MIGUEL HIDALGO, CIUDAD DE MÉXICO, 11000	
Gas Del Litoral, S. de R.L. de C.V.	75
Shell Energy Mexico, S.A. de C.V	100
Shell México Gas Natural, S. de R.L. de C.V.	100
Shell México, S.A. de C.V.	100
Shell Servicios México, S.A. de C.V.	100
Shell Solutions Mexico S.A. de C.V.	100
Shell Trading México, S. de R.L. de C.V.	100
Shell Exploracion y Extraccion de Mexico, S.A. de C.V.	100
AVENIDA EJÉRCITO NACIONAL NO. 125, AHUEHUETES ANÁHUAC, MIGUEL HIDALGO, MEXICO CITY, 11000	
GPDC Estaciones de Servicio, S.A. de C.V.	100
BOULEVARD JOSE MARIA MORELOS 3702, CAÑADA DE ALFARO, LEON, GUANAJUATO, 11000	
Operadora de Combustibles NMG, S.A. de C.V.	100
NETHERLANDS	
601, VONDELINGENWEG, VONDELINGENPLAAT ROTTERDAM, 11000	
Shell MSPO 2 Holding B.V.	100
CAREL VAN BYLANDTLAAN 16, THE HAGUE, 11000	
Shell International Exploration and Production B.V.	100
CAREL VAN BYLANDTLAAN 30, GRAVENHAGE, 2596 HR	
Aramis CCS B.V.	100
Aramis S1 B.V.	100
CAREL VAN BYLANDTLAAN 30, S-GRAVENHAGE	
BJSA Exploration and Production B.V.	100
Chosun Shell B.V.	100
Pottendijk Zon B.V.	100
Shell Albania Block 4 B.V.	100
Shell E and P Offshore Services B.V.	100
Shell EP Russia Investments (III) B.V.	100
Shell EP Russia Investments (V) B.V.	100
Shell Exploration and Production (82) B.V.	100
Shell Exploration and Production (LXXI) B.V.	100
Shell HKW-A LP 2 B.V.	100
Shell HKW-B LP 6 B.V.	100
CAREL VAN BYLANDTLAAN 30, S-GRAVENHAGE, 11000	
Attiki Gas B.V.	100
B.V. Dordtsche Petroleum Maatschappij	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
NETHERLANDS continued		Shell Exploration and Production Services (RF) B.V.	100
B.V. Petroleum Assurantie Maatschappij	100	Shell Exploration and Production South Africa B.V.	100
BG Gas Brazil E&P 12 B.V.	100	Shell Exploration and Production Ukraine Investments (I) B.V.	100
BG Gas Brazil Holdings B.V.	100	Shell Exploration and Production Ukraine Investments (II) B.V.	100
BG GAS INTERNATIONAL HOLDINGS BV	100	Shell Exploration B.V.	100
BG Gas Netherlands Holdings B.V.	100	Shell Exploration Company (West) B.V.	100
BG Gas Sao Paulo Investments B.V.	100	Shell Exploration Company B.V.	100
Energiepark Pottendijk B.V.	100	Shell Exploration Venture Services B.V.	100
Jordan Oil Shale Company B.V.	100	Shell Finance (Netherlands) B.V.	100
LNG Shipping Operation Services Netherlands B.V.	100	Shell Gas & Power Developments B.V.	100
Netherlands Alng Holding Company B.V.	100	Shell Gas (LPG) Holdings B.V.	100
NoordzeeWind B.V.	100	Shell Gas B.V.	100
NoordzeeWind C.V. [d]	100	Shell Gas Iraq B.V.	100
Pottendijk Energie B.V.	100	Shell Gas Nigeria B.V.	100
Pottendijk Wind B.V.	100	Shell Gas Venezuela B.V.	100
POWER LINE UTILISING GRID B.V.	100	Shell Generating (Holding) B.V.	100
PTC Kampen B.V.	100	Shell Geothermal B.V.	100
RESCO B.V.	100	Shell Global Solutions (Eastern Europe) B.V.	100
Rotterdam Hydrogen Company B.V.	100	Shell Global Solutions International B.V.	100
Shell Abu Dhabi B.V.	100	Shell Global Solutions Services B.V.	100
Shell Additives Holdings (I) B.V.	100	Shell HKW-A LP 1 B.V.	100
Shell Additives Holdings (II) B.V.	100	Shell HKW-A LP 3 B.V.	100
Shell Brazil Holding B.V.	100	Shell HKW-A LP 4 B.V.	100
Shell Business Development Central Asia B.V.	100	Shell HKW-A LP 5 B.V.	100
Shell Caspian B.V.	100	Shell HKW-A LP 6 B.V.	100
Shell Caspian Pipeline Holdings B.V.	100	Shell HKW-A LP 7 B.V.	100
Shell China B.V.	100	Shell HKW-B B.V.	100
Shell China Holdings B.V.	100	Shell HKW-B LP 1 B.V.	100
Shell Deepwater Tanzania B.V.	100	Shell HKW-B LP 3 B.V.	100
Shell Development Iran B.V.	100	Shell HKW-B LP 4 B.V.	100
Shell Energy Europe B.V.	100	Shell HKW-B LP 7 B.V.	100
Shell EP Holdings (EE&ME) B.V.	100	Shell Information Technology International B.V.	100
Shell EP Middle East Holdings B.V.	100	Shell Integrated Gas Oman B.V.	100
Shell EP Somalia B.V.	100	Shell International B.V.	100
Shell EP Wells Equipment Services B.V.	100	Shell Internationale Research Maatschappij B.V.	100
Shell Exploration and Production (100) B.V.	100	Shell Internet Ventures B.V.	100
Shell Exploration and Production (101) B.V.	100	Shell Iraq Petroleum Development B.V.	100
Shell Exploration and Production (102) B.V.	100	Shell Iraq Services B.V.	100
Shell Exploration and Production (103) B.V.	100	Shell Kazakhstan B.V.	100
Shell Exploration and Production (84) B.V.	100	Shell Kazakhstan Development B.V.	100
Shell Exploration and Production (89) B.V.	100	Shell Kuwait Exploration and Production B.V.	100
Shell Exploration and Production (92) B.V.	100	Shell LNG Bunkering B.V.	100
Shell Exploration and Production (93) B.V.	100	Shell LNG Port Spain B.V.	100
Shell Exploration and Production (94) B.V.	100	Shell Manufacturing Services B.V.	100
Shell Exploration and Production (96) B.V.	100	Shell Mozambique B.V.	100
Shell Exploration and Production (99) B.V.	100	Shell Namibia Upstream B.V.	100
Shell Exploration and Production (LI) B.V.	100	Shell Nanhai B.V.	100
Shell Exploration and Production (LVIII) B.V.	100	Shell Nederland B.V.	100
Shell Exploration and Production (LXI) B.V.	100	Shell New Energies NL B.V.	100
Shell Exploration and Production (LXII) B.V.	100	Shell Offshore (Personnel) Services B.V.	100
Shell Exploration and Production (LXV) B.V.	100	Shell Offshore Services B.V.	100
Shell Exploration and Production (LXVI) B.V.	100	Shell Offshore Upstream South Africa B.V.	100
Shell Exploration and Production (LXXV) B.V.	100	Shell OKLNG Holdings B.V.	100
Shell Exploration and Production Brunei B.V.	100	Shell Oman Exploration and Production B.V.	100
Shell Exploration and Production Holdings B.V.	100	Shell Overseas Investments B.V.	100
Shell Exploration and Production Investments B.V.	100	Shell Project Development (VIII) B.V.	100
Shell Exploration and Production Mauritania (C10) B.V.	100	Shell RDS Holding B.V.	100
Shell Exploration and Production Mauritania (C19) B.V.	100	Shell Renewables and Energy Solutions Europe B.V.	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
NETHERLANDS continued			
Shell Sakhalin Holdings B.V.	100	VONDELINGENWEG 601, VONDELINGENPLAAT, VONDELINGENPLAAT ROTTERDAM, 11000	
Shell Sakhalin Services B.V.	100	Shell Nederland Raffinaderij B.V.	100
Shell Salym Development B.V.	100	WEENA 505, ROTTERDAM, 11000	
Shell Sao Tome and Principe B.V.	100	Euroshell Cards B.V.	100
Shell Services Oman B.V.	100	MS Europe B.V.	100
Shell Shared Services (Asia) B.V.	100	Shell Chemicals Europe B.V.	100
Shell Trademark Management B.V.	100	Shell Downstream Services International B.V.	100
Shell Trading Russia B.V.	100	Shell Lubricants Supply Company B.V.	100
Shell Upstream Albania B.V.	100	Shell TapUp B.V.	100
Shell Upstream Development B.V.	100	Shell Trading Rotterdam B.V.	100
Shell Upstream Indonesia Services B.V.	100	Snijders Olie B.V.	100
Shell Upstream Turkey B.V.	100	WEENA 505, ROTTERDAM, 3013 AL	
Shell Ventures Investments B.V.	100	Shell Energy Retail B.V.	100
Shell Western LNG B.V.	100	Shell Nederland Verkoopmaatschappij B.V. [c]	100
Shell Windenergy Netherlands B.V.	100	WEESPERSTRAAT 61, AMSTERDAM, 11000	
Shell Windenergy NZW I B.V.	100	Rakko Holding B.V.	100
Solar-EP I B.V.	100	Volta Rakko B.V.	100
Solar-EP II B.V.	100	NEW ZEALAND	
The Green Near Future 5 B.V.	100	C/O BAKER TILLY STAPLES RODWAY TARANAKI LIMITED, 109-113 POWDERHAM STREET, P.O. BOX 146, NEW PLYMOUTH, TARANAKI, 4340	
CAREL VAN BYLANDT LAAN 30, THE HAGUE, 2596 HR		Energy Holdings Offshore Limited	100
HKN LP 1 B.V.	100	Shell (Petroleum Mining) Company Limited	100
HKN LP 2 B.V.	100	C/O BAKER TILLY STAPLES RODWAY TARANAKI, 109-113 POWDERHAM STREET, P.O. BOX 146, NEW PLYMOUTH, 11000	
HKN LP 3 B.V.	100	Energy Finance NZ Limited	100
HKN LP 4 B.V.	100	Shell Energy Asia Limited	100
HKN LP 5 B.V.	100	Shell Investments NZ Limited	100
HKN LP 6 B.V.	100	Southern Petroleum No Liability	100
KE STP Company B.V.	100	MERCER (N.Z.) LIMITED, FLOOR 2, 20 CUSTOMHOUSE QUAY, WELLINGTON, 6011	
KE Suriname B.V.	100	Shell New Zealand Pensions Limited	100
Portfolio Holdings B.V.	100	NIGERIA	
Shell Deepwater Borneo B.V.	100	ADEYEMI BERO CRESCENT, ILUPEJU INDUSTRIAL ESTATE, LAGOS	
Shell Egypt N.V. [e]	100	Daybreak Power Solutions Limited	100
Shell EP Oman B.V.	100	FREEMAN HOUSE, 21/22 MARINA, LAGOS	
Shell Exploration and Production (107) B.V.	100	BG Exploration and Production Nigeria Limited	100
Shell Exploration Company (East) B.V.	100	BG Upstream A Nigeria Limited	100
Shell Low Carbon Fuels B.V.	100	FREEMAN HOUSE, 21/22 MARINA, LAGOS, P.M.B. 2418	
Shell Netherlands Canada Financing B.V.	100	Shell Nigeria Infrastructure Development Limited	100
Shell New Energies Holding Europe B.V.	100	Shell Nigeria Upstream Ventures Limited	100
Shell Olie OG Gas Holding B.V. [i]	100	FREEMAN HOUSE, 21/22 MARINA, LAGOS, P.M.B. 2418	
Shell Overseas Holdings (Oman) B.V.	100	SHELL NIGERIA SUPPORT SERVICES LTD	100
Shell South Syria Exploration B.V.	100	FREEMAN HOUSE, 21/22 MARINA, P.M.B. 2418, LAGOS	
Syria Shell Petroleum Development B.V. [h]	65	Delta Business Development Limited	100
SHELL HYDROGEN OPERATIONS & PRODUCTION B.V.	100	Shell Exploration and Production Africa Limited	100
SHELL VENTURES B.V.	100	Shell Nigeria Business Operations Limited	100
Shell International Finance B.V. [a]	100	Shell Nigeria Closed Pension Fund Administrator Ltd	100
Shell Petroleum B.V.	100	Shell Nigeria Exploration and Production Company Ltd	100
CHEMIEWEG 25, P.O. BOX 6060, MOERDIJK, 4780 LN		Shell Nigeria Exploration Properties Charlie Limited	100
Shell Nederland Chemie B.V. [g]	100	Shell Nigeria Gas Ltd (SNG)	100
GRAAF ENGELBERT LAAN 75, BREDA, 4837DS		Shell Nigeria Oil Products Limited (SNOP)	100
Next Kraftwerke Benelux B.V.	100	Shell Nigeria Ultra Deep Limited	100
PAPENDORPSEWEG 100, UTRECHT, 3528 BJ		Shell Thrift & Loan Fund Trustees Nig Ltd	99
Nature Energy Construction Netherlands B.V.	100	FREEMAN HOUSE, NO 21/22 MARINA, LAGOS	
Nature Energy Netherlands B.V.	100	All on Partnerships for Energy Access Limited by Guarantee	100
RIGAKADE 20, 1013 BC AMSTERDAM, AMSTERDAM, 11000		SHELL INDUSTRIAL AREA, P.O. BOX 263, RIVERS STATE, PORT HARCOURT, 500272	
Shell EV Charging Solutions B.V.	100	The Shell Petroleum Development Company of Nigeria Limited	100
SIGNATURE BY REGUS CENTRAL PARK, 27-29 STADSPLATEAU, OFFICE 10.01, UTRECHT, NL-3521 AZ		NORWAY	
Groen Gas Almere B.V.	100	LØKKEVEIEN 103, STAVANGER, 11000	
Nature Energy Coevorden B.V.	100	A/S Norske Shell	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%
OMAN	
P O BOX 38, MINA AL FAHAL, MINA AL FAHAL, 11000	
Shell Oman Marketing Company SAOG	49
P.O. BOX 398, SOHAR FREE ZONE, NORTH AL BATINAH GOVERNORATE, SOHAR, 11000	
Sohar Solar Qabas (FZC) LLC	100
P.O. BOX 74, BAIT SALAM, SALAM SQUARE, MUSCAT, 11000	
Shell Development Oman LLC	100
PAKISTAN	
SHELL HOUSE, 6 CH. KHAUQUZZAMAN ROAD, KARACHI, 75530	
Shell Energy Pakistan (Private) Limited	100
Shell Pakistan Limited	77
PERU	
CALLE DEAN VALDIVIA 111, OFICINA 802, SAN ISIDRO, LIMA, 11000	
Shell GNL Peru S.A.C.	100
Shell Operaciones Peru S.A.C.	100
PHILIPPINES	
41ST FLOOR, THE FINANCE CENTER, 26TH STREET CORNER 9TH AVENUE, BONIFACIO GLOBAL CITY, TAGUIG, MANILA, 11000	
Shell Chemicals Philippines, Inc.	100
Shell Energy Philippines Inc	100
Shell Gas and Energy Philippines Corporation	100
Shell Pilipinas Corporation	55
SUBIC BAY FREE PORT ZONE, OLANGAPO CITY, 11000	
Shell Gas Trading (Asia Pacific), Inc.	100
POLAND	
ASTORIA, PRZESKOK 2, WARSAW, 00-032	
Next Kraftwerke Sp. z o.o.	100
BITWY WARSZAWSKIEJ 1920 ROKU 7A, WARSAW, 02-366	
Amber Baltic Wind 1 Sp z o.o.	100
Amber Baltic Wind 10 Sp z o.o.	100
Amber Baltic Wind 11 Sp z o.o.	100
Amber Baltic Wind 2 Sp z o.o.	100
Amber Baltic Wind 3 Sp z o.o.	100
Amber Baltic Wind 4 Sp z o.o.	100
Amber Baltic Wind 5 Sp z o.o.	100
Amber Baltic Wind 6 Sp z o.o.	100
Amber Baltic Wind 7 Sp z o.o.	100
Amber Baltic Wind 8 Sp z o.o.	100
Amber Baltic Wind 9 Sp z o.o.	100
UL BITWY WARSZAWSKIEJ 1920 R. NR 7A, WARSAW, 02-366	
Shell Polska Sp. z o.o.	100
UL BITWY WARSZAWSKIEJ 1920R. 7A, WARSAW, 02-366	
Shell Mobility Polska Sp. z o.o.	100
PUERTO RICO	
P.O. BOX 186, YABUCOA, PR 00767-0186	
Station Managers of Puerto Rico, Inc.	100
QATAR	
400 4TH AVENUE S.W., CALGARY, T2P 0J4	
Qatar Shell Service Company W.L.L.	100
QATAR SCIENCE & TECHNOLOGY PARK TECH1, OFFICE 101, DOHA, 11000	
Qatar Shell Research & Technology Centre QSTP-ILC	100
ROMANIA	
ING. GEORGE CONSTANTINESCU STREET, NO. 4B AND 2-4, BUILDING A, FLOOR 7, BUCHAREST, 11000	
Shell Romania S.R.L.	100
RUSSIA	
LETNIKOVSKAYA ST. 2, BLD. 1, MOSCOW, 11000	
Limited Liability Company "Shell Neftegaz Development (V)"	100
LLC Shell NefteGaz Development	100

Company by country and address of incorporation	%
SAINT KITTS AND NEVIS	
TRIDENT TRUST COMPANY (NEVIS) LIMITED, MAIN STREET, SUITE 556, HUNKINS WATERFRONT PLAZA, CHARLESTOWN, 11000	
Shell Oil & Gas (Malaysia) LLC	90
SAINT LUCIA	
MERCURY COURT, CHOC ESTATE, CASTRIES	
BG Atlantic 2/3 Holdings Limited	100
SENEGAL	
SUITE 302-IMMEUBLE ALIOUNE DIOP, HANN-MARISTE, DAKAR	
Daystar Power Senegal SUARL	100
SINGAPORE	
1 COMMONWEALTH LANE, #09-30, ONE COMMONWEALTH, SINGAPORE, 149544	
Zeco Systems Pte. Ltd.	99
9 NORTH BUONA VISTA DRIVE, 45298, THE METROPOLIS, SINGAPORE, 11000	
EcoOils Pte. Ltd.	100
Shell Gas Marketing Pte. Ltd.	100
9 NORTH BUONA VISTA DRIVE, THE METROPOLIS, SINGAPORE, 11000	
BG Asia Pacific Services Pte. Ltd.	100
9 NORTH BUONA, VISTA DRIVE, THE METROPOLIS, SINGAPORE, 11000	
BG INSURANCE COMPANY (SINGAPORE) PTE. LTD.	100
THE METROPOLIS TOWER 1, 9 NORTH BUONA VISTA DRIVE, #07-01, #07-01, SINGAPORE, #07-01	
Shell Myanmar Energy Pte. Ltd.	100
THE METROPOLIS TOWER 1, 9 NORTH BUONA VISTA DRIVE, #07-01, #07-01, SINGAPORE, 11000	
Shell Catalysts & Technologies Pte. Ltd.	100
Shell Chemicals Seraya Pte. Ltd.	100
Shell Integrated Gas Thailand Pte. Limited	100
Shell International Shipping Services (Pte) Ltd	100
Shell Tankers (Singapore) Private Limited	100
Shell Treasury Centre East (Pte) Ltd	100
THE METROPOLIS TOWER 1, 9 NORTH BUONA VISTA DRIVE, #07-01, SINGAPORE, 138588	
SHELL SINGAPORE PTE. LTD. [g]	100
Shell Eastern Trading (Pte) Ltd	100
THE METROPOLIS, 9 NORTH BUONA VISTA DRIVE, #07-01, SINGAPORE, 11000	
BG ASIA PACIFIC HOLDINGS PTE. LIMITED	100
BG Exploration & Production Myanmar Pte. Ltd.	100
BG Myanmar Pte. Ltd.	100
SLOVAKIA	
EINSTEINOVA 23, BRATISLAVA, 851 01	
SHELL Slovakia s.r.o.	100
SLOVENIA	
BRAVNICARJEVA ULICA 13, LJUBJANA, 1000	
Shell Adria d.o.o.	100
SOUTH AFRICA	
2 ALEXANDRA AVENUE, CRAIGHALL, SANDTON, GAUTENG 2196	
M&I Materials South Africa Proprietary Ltd.	100
57 SLOANE STREET, TWICKENHAM BUILDING, THE CAMPUS, BRYANSTON, JOHANNESBURG, 11000	
K2022822444 (SOUTH AFRICA)	72
Shell Downstream South Africa (Pty) Ltd	72
Shell South Africa Energy (Pty) Ltd	100
Shell South Africa Exploration (Pty) Limited	100
Shell South Africa Holdings (Pty) Ltd	100
57 SLOANE STREET, TWICKENHAM BUILDING, THE CAMPUS, BRYANSTON, JOHANNESBURG, 2021	
Daystar Power South Africa (PTY) LTD	100
TWICKENHAM, THE CAMPUS, 57 SLOANE STREET, EPSOM DOWNS, BRYANSTON, 2021	
STISA (Pty) Limited	72

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
SOUTH KOREA		Panolin New Holding AG	100
164 JANGCHUN-RO, JUNG-GU, ULSAN, 11000		STEIGERHUBELSTRASSE 8, BERN, 3008	
MunmuBaram Co.,Ltd.	80	Shell Lubricants Switzerland AG	100
7FL, CHONGKUNDANG BUILDING, 8, CHOONGJEONG-RO, SEOUL, 3742		TAIWAN	
Shell Renewables Korea Co., Ltd.	100	333 KEELUNG ROAD SECTION 1, TAIPEI, 110, 11000	
NO. 250, SINSUN-RO, NAM-GU, BUSAN, 48561		Shell Taiwan Limited	100
Hankook Shell Oil Co., Ltd	54	TANZANIA	
SPAIN		1ST FLOOR KILWA HOUSE, PLOT 369, TOURE DRIVE, OYSTER BAY, P.O. BOX 105833, DAR ES SALAAM	
2 FLOOR 18 TORRE SEVILLA, PLAZA ALCALDE SANCHEZ MONTESEIRIN, SEVILLA		Shell Tanzania Limited	100
SHELL DESARROLLO 4, S.L.U.	100	1ST FLOOR KILWA HOUSE, PLOT 369, TOURE DRIVE, OYSTER BAY, PO BOX 105833, DAR ES SALAAM, 11000	
2 FLOOR 18 TORRE SEVILLA, PLAZA ALCALDE SANCHEZ MONTESEIRIN, SEVILLA, 41092		Tanzania LNG Limited	100
Shell Desarrollo 5, S.L.	100	MJINI MAGHARIBI, UNGUJA, URBAN, NEARBY A'RAHMA HOSPITAL, KILUMANI	
SHELL DESARROLLO 7, S.L.U.	100	Daystar Power Zanzibar Limited	100
SHELL DESARROLLO 10, S.L.U.	100	PLOT NO 193, 14112 MIKOCHEI, KINONDONI DISTRICT, DAR ES SALAAM	
SHELL DESARROLLO 11, S.L.U.	100	Daystar Power Tanzania Limited	100
SHELL DESARROLLO 14, S.L.U.	100	THAILAND	
SHELL DESARROLLO 1, S.L.U.	100	10 SOONTHORNKOSA ROAD, KLONGTOEY, KLONGTOEY, 10110	
SHELL DESARROLLO 2, S.L.U.	100	Pattanaadhorn Company Limited	42
2 FLOOR 18 TORRE SEVILLA, PLAZA ALCALDE SANCHEZ MONTESEIRIN, SEVILLA, PLAZA ALCALDE SANCHEZ MONTESEIRIN		Sahapanichkijphun Company Limited	42
Shell Desarrollo 3 S.L.	100	Unitas Company Limited	43
6TH FLOOR, PASEO DE LA CASTELLANA 257, MADRID, 11000		10 SOONTHORNKOSA ROAD, KLONGTOEY, KLONGTOEY, 11000	
BG ENERGY IBERIAN HOLDINGS S.L.	100	Shell Global Solutions (Thailand) Limited	100
Shell Dev 15 S.L.	100	Shell Global Solutions Holdings (Thailand) Limited	100
Shell Dev 16 S.L.	100	Shell Global Solutions Service (Thailand) Company Limited	100
Shell Dev 17 S.L.	100	90 CYBERWORLD TOWER A, ROOM A 2401, 24TH FLOOR, RATCHADAPISEK ROAD KWAENG HUAYKWANG, KHET HUAY KWANG, BANGKOK METROPOIS, 11000	
Shell Dev 18 S.L.	100	Thai Energy Company Limited	100
Shell Dev 19 S.L.	100	TOGO	
Shell Dev 20 S.L.	100	27, RUE KHRA, 06 B.P., 62210 LOME, QUARTIER DES ETOILES, LOME, 62210	
Shell Dev 21 S.L.	100	Daystar Power Group SARL U	100
Shell Dev 22 S.L.	100	TRINIDAD AND TOBAGO	
Shell Dev 23 S.L.	100	5 ST CLAIR AVENUE, PORT OF SPAIN, TRINIDAD AND TOBAGO, 11000	
Shell Dev 24 S.L.	100	SHELL RENEWABLES CARIBBEAN LIMITED	100
Shell Dev 25 S.L.	100	5 ST SAINT CLAIR AVENUE, PORT OF SPAIN	
Shell Dev 26 S.L.	100	Shell Trinidad Central Block Limited	100
Shell España, S.A.	100	5 ST SAINT CLAIR AVENUE, PORT OF SPAIN, 11000	
Shell Spain LNG, S.A.U.	100	Shell Gas Supply Trinidad Limited	100
SHELL DESARROLLO 12, S.L.U.	100	Shell LNG T&T Ltd	100
AVENIDA DE GIRONA 2, 17800 OLOT, GIRONA		Shell Manatee Limited	100
SONNEN IBÉRICA, S.L.	100	Shell Trinidad North Coast Limited	100
SECOND FLOOR, 11 ESCLUSA, SEVILLA, 11000		5 ST. CLAIR AVENUE, PORT OF SPAIN, TRINIDAD	
Exanergia, S.L.U.	100	TRINLING Limited	100
SWEDEN		5 ST. CLAIR AVENUE, PORT OF SPAIN, TRINIDAD, 11000	
28 VASAGATAN, STOCKHOLM, 11000		Shell T&T Investments Limited	100
Shell Aviation Sweden AB	100	SHELL ENERGY HOUSE, 5 ST. CLAIR AVENUE, PORT OF SPAIN	
BOX 5747 GERANDT & DANIELSSON ADVOKATBYRÅ KB, STOCKHOLM, 11187		Shell Trinidad Ltd	100
Nature Energy Sweden AB	100	TUNISIA	
SWITZERLAND		MOVENPICK HOTEL, RUE DU LAC HURON LES BERGES DU LAC, LES BERGES DU LAC, TUNIS, 1053	
BAARERMATTE, BAAR		Shell Tunisia LPG S.A.	100
Evpass SA	100	Tunisian Processing S.A.	100
Shell (Switzerland) AG	100	TURKEY	
Solen Versicherungen AG	100	B, 18 KARAMANCILAR IS MERKEZI, SALIH TOZAN SK, ŞİŞLİ/İSTANBUL, 11000	
BAARERMATTE, BAAR, 6340		Shell Petrol A.S.	70
Shell Brands International AG	100	GULBAHAR MAH.SALIH TOZAN SOK., KARAMANCILAR IS MERKEZI B BLOK NO:18, ESENTEPE, SISI, ISTANBUL, 34394	
Shell Trading Switzerland AG	100	Shell & Turcas Petrol A.S.	70
BAHNHOFSTR. 10, ZÜRICH, 8001		Shell Enerji A.S.	100
Suisse Next GmbH	100		
BLASIMUHL 2-6, MADETSWIL, 11000			
Panolin Distribution AG	100		

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
UK		BG Kenya L108 Limited	100
1 ALTENS FARM ROAD, NIGG, ABERDEEN, 11000		BG LNG Investments Limited	100
Shell Trustee Solutions Limited	100	BG Mongolia Holdings Limited	100
10 YORK ROAD, LONDON, 11000		BG North Sea Holdings Limited	100
Shell EV Charging Solutions UK Limited	100	BG OKLNG Limited	100
16 GREAT QUEEN STREET, COVENT GARDEN, LONDON, 11000		BG Overseas Holdings Limited	100
Ubitricity Distributed Energy Systems UK Limited	100	BG Rosetta Limited	100
16 GREAT QUEEN STREET, LONDON, WC2B 5AH		BG South East Asia Limited	100
SONNEN UK LIMITED	100	BG Tanzania Holdings Limited	100
30 FINSBURY SQUARE, LONDON, 11000		BG Trinidad LNG Limited	100
BG CENTRAL HOLDINGS LIMITED	100	BG UK Holdings Limited	100
BG Group Employee Shares Trustees Limited	100	Brazil Shipping I Limited	100
BG Norge Limited	100	CRI Catalyst Company Europe Limited	100
BG Subsea Well Project Limited	100	Derivatives Trading Atlantic Limited	100
B-Snug Limited	100	Enterprise Oil Limited	100
Corallian Energy Limited	100	Enterprise Oil Middle East Limited	100
Glossop Limited	100	Enterprise Oil Norge Limited	100
Limejump Intermediate 1 Limited	100	Enterprise Oil U.K. Limited	100
Limejump Virtual 10 Limited	100	First Telecommunications Limited	100
Limejump Virtual 11 Limited	100	First Utility Limited	100
Limejump Virtual 13 Limited	100	Gainrace Limited	100
Limejump Virtual 3 Limited	100	GGOB Limited	100
Limejump Virtual 4 Limited	100	Impello Limited	100
Limejump Virtual 5 Limited	100	Limejump Energy Limited	100
Limejump Virtual 6 Limited	100	Limejump Virtual 1 Limited	100
Limejump Virtual 7 Limited	100	Limejump Virtual 14 Limited	100
Limejump Virtual 8 Limited	100	Limejump Virtual 15 Limited	100
Limejump Virtual 9 Limited	100	Limejump Virtual 2 Limited	100
SHELL COMPANY (HELLAS) LIMITED	100	Machine Max Limited	100
The Shell Company of Hong Kong Limited	100	Methane Services Limited	100
The Shell Company of India Limited	100	Murphy Schiehallion Limited	100
823 SAUSBURY HOUSE, 29 FINSBURY CIRCUS, LONDON, EC2M 5QQ		Private Oil Holdings Oman Limited	85
Nature Energy UK Ltd	100	Sabah Shell Petroleum Company Limited	100
HIBERNIA WAY, TRAFFORD PARK, MANCHESTER, 11000		Saxon Oil Limited	100
Dielectric Fluids Holdings Ltd.	100	Saxon Oil Miller Limited	100
M&I Materials Development Ltd,	100	SELAP LIMITED	100
SHELL CENTRE, LONDON		SHELL AIRCRAFT LIMITED	100
BG Energy Capital Plc	100	Shell Aviation Limited	100
BG Great Britain Limited	100	Shell Business Development Middle East Limited	100
BG Overseas Limited	100	Shell Caribbean Investments Limited	100
Shell Pension Reserve Company (SIPF) Limited	100	Shell Catalysts & Technologies Limited	100
Shell Pension Reserve Company (SOCPF) Limited	100	Shell Chemical Company of Eastern Africa Limited	100
Shell Trading International Limited	100	Shell Chemicals Limited	100
SHELL CENTRE, LONDON, 11000		Shell Chemicals U.K. Limited	100
BG Cyprus Limited	100	Shell China Exploration and Production Company Limited	100
BG Delta Limited	100	Shell Clair UK Limited	100
BG Energy Holdings Limited	100	Shell Club Corringham Limited	100
BG Energy Marketing Limited	100	Shell Company (Pacific Islands) Limited	100
BG Equatorial Guinea Limited	100	SHELL COMPANY OF TÜRKİYE LIMITED	100
BG Gas Services Limited	100	Shell Corporate Director Limited	100
BG General Holdings Limited	100	Shell Corporate Secretary Limited	100
BG GROUP LIMITED	100	Shell Distributor (Holdings) Limited	100
BG Group Pension Trustees Limited	100	Shell Employee Benefits Trustee Limited	100
BG Group Trustees Limited	100	Shell Energy Europe Limited	100
BG Intellectual Property Limited	100	Shell Energy Investments Limited	100
BG International Limited	100	Shell EP Offshore Ventures Limited	100
BG Karachaganak Limited	100	Shell Exploration and Production Tanzania Limited	100
BG Kenya L10A Limited	100	Shell Finance GB Limited	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
UK continued			
Shell Gas Holdings (Malaysia) Limited	100	Iddenshall Solar Limited	100
Shell Gas Marketing U.K Limited	100	Limejump Virtual 12 Limited	100
Shell Global LNG Limited	100	Shell Energy UK Limited	100
Shell Group Holding Limited [a]	100	Shell Group Limited	100
Shell Hasdrubal Limited	100	Shell Holdings (U.K.) Limited	100
Shell Information Technology International Limited	100	Shell New Energies UK Ltd	100
Shell International Gas Limited	100	Shell Upstream Overseas Services (I) Limited	100
Shell International Limited	100	The Anglo-Saxon Petroleum Company Limited	100
Shell International Petroleum Company Limited	100	The Shell Petroleum Company Limited	100
Shell International Trading and Shipping Company Limited	100	SHELL CENTRE, LONDON, 11000	
Shell Malaysia Limited	100	Limejump Ltd	100
Shell Marine Products Limited	100	UKRAINE	
Shell New Energies Holding Limited	100	100 CHERVONOARMYSKA STR, 8TH FLOOR, KYIV, 11000	
Shell Overseas Holdings Limited	100	Shell Energy Ukraine LLC	100
Shell Overseas Services Limited	100	MYKOLY HRINCHENKA STR, 4-B, KYIV, 11000	
Shell Pension Reserve Company (UK) Limited	100	Shell Oil Products Ukraine [c]	100
Shell Pensions Trust Limited	100	UNITED ARAB EMIRATES	
Shell Property Company Limited	100	LB10032, JEBEL ALI FREEZONE, DUBAI, 11000	
Shell QGC Midstream 2 Limited	100	Shell International Trading Middle East Limited FZE	100
Shell QGC Upstream 1 Limited	100	URUGUAY	
Shell QGC Upstream 2 Limited	100	LA CUMPARSITA, 1373 4TH FLOOR, MONTEVIDEO, 11000	
Shell Research Limited	100	BG (URUGUAY) S.A.	100
Shell Response Limited	100	USA	
Shell South Asia LNG Limited	100	1013 CENTRE ROAD, COUNTY OF NEW CASTLE, DELAWARE, WILMINGTON, DE 19805	
Shell Supplementary Pension Plan Trustees Limited	100	Zeco Holdings, Inc.	100
Shell Tankers (U.K.) Limited	100	Zeco Systems, Inc.	100
Shell Treasury UK Limited	100	11111 WILCREST GREEN, SUITE 100, HOUSTON, TX 77042	
Shell Trinidad 5(A) Limited	100	Texas Petroleum Group, LLC [c]	100
Shell Trinidad and Tobago Limited	100	1209 ORANGE STREET, COUNTY OF NEWCASTLE, DELAWARE, WILMINGTON, 19801	
Shell Trinidad Block E Limited	100	Nature Energy Construction US LLC	100
Shell Tunisia Upstream Limited	100	126 HYDE STREET, SAN FRANCISCO, 94102	
Shell U.K. Limited	100	Thermotest, Inc.	100
Shell U.K. North Atlantic Limited	100	1501 S MOPAC EXPY, SUITE 220, AUSTIN, 78746	
Shell U.K. Oil Products Limited	100	M&I Materials Inc.	100
Shell Ventures New Zealand Limited	100	2048 WEEMS ROAD, BLDG C, TUCKER, GA 30084	
Shell Ventures U.K. Limited	100	SONNEN INC.	100
Synthetic Chemicals (Northern) Limited	100	210 S. WEST STREET, LEBANON, 45036	
Telegraph Service Stations Limited	100	Allied Reliability Inc.	100
The Mexican Eagle Oil Company Limited	100	3202 MERCER, HOUSTON	
The Shell Company (W.I.) Limited	100	T. F. Hudgins, Incorporated	100
The Shell Company of Nigeria Limited	100	422 ADMIRAL BLVD, KANSAS CITY	
The Shell Company of Thailand Limited	100	CATTLE STAR ENERGY CENTER, LLC [c]	100
The Shell Company of The Philippines Limited	75	GOLDEN SPIRIT ENERGY CENTER, LLC [c]	100
The Shell Marketing Company of Borneo Limited	100	MCI WESTLAKE ENERGY CENTER, LLC [c]	100
Thermocomfort Limited	100	THREEFORKS LAND HOLDINGS, LLC [c]	100
UK Shell Pension Plan Trust Limited	100	422 ADMIRAL BLVD, KANSAS CITY, MO 64106	
SHELL CENTRE, LONDON, SE1 7NA		ACADIAN SUN ENERGY CENTER, LLC [c]	100
Shell QGC Midstream 1 Limited [g]	100	Adams Creek Solar Project, LLC [c]	100
STT (Das Beneficiary) Limited [a]	100	ADMIRAL BLVD LAND GROUP, LLC [c]	100
ASIATIC PETROLEUM COMPANY (THE)	100	East Setauket Energy Storage, LLC [c]	100
Winterton Solar Limited	100	FALCON PALM ENERGY CENTER, LLC [c]	100
Shell QGC Holdings Limited	100	Farm Bell Energy Center, LLC [c]	100
Shell Treasury Centre Limited	100	Five Oaks Solar Project, LLC [c]	100
Shell Treasury Dollar Company Limited	100	Golden Cactus Developments, LLC [c]	100
The Shell Transport and Trading Company Limited	100	Golden Grass Energy Center, LLC [c]	100
SHELL CENTRE, YORK ROAD, LONDON, 11000		JUMPING CACTUS ENERGY CENTER, LLC [c]	100
CSE23 Limited	100	Keller Solar Project, LLC [c]	100
		MADISON FIELDS CLASS B MEMBER, LLC [c]	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
USA continued		Crane Brook Solar Project, LLC [c]	100
MADISON FIELDS TAX EQUITY HOLDCO, LLC [c]	100	CRAY FIELDS ENERGY CENTER, LLC [c]	100
Marengo Starr Solar Project, LLC [c]	100	Cumberland Road North Solar Project, LLC [c]	100
MOONLIT BAYOU ENERGY CENTER, LLC [c]	100	Cumberland Road South Solar Project, LLC [c]	100
NEW SHEPHERD ENERGY CENTER, LLC [c]	100	DAKOTA PRAIRIE ENERGY CENTER, LLC [c]	100
North Hill Land Holdings, LLC [c]	100	Dale County Solar Project, LLC [c]	100
OXBOW ENERGY CENTER, LLC [c]	100	Dove Run Solar Project, LLC [c]	100
Painted Rock Solar Project, LLC [c]	100	EASTSIDE PLAINS ENERGY CENTER, LLC [c]	100
Pilot Range Energy Center, LLC [c]	100	Elkhart County Solar Project, LLC [c]	100
Port Jefferson Energy Storage, LLC [c]	100	EMERGENT VALLEY SOLAR PROJECT, LLC [c]	100
PRAIRIE NOON ENERGY CENTER, LLC [c]	100	Energy Pastures Solar Project, LLC [c]	100
RED BATON ENERGY CENTER, LLC [c]	100	Escambia County Solar Project, LLC [c]	100
RED BRANCH ENERGY CENTER, LLC [c]	100	FALKIRK FIELDS ENERGY CENTER, LLC [c]	100
RIVER TURN ENERGY CENTER, LLC [c]	100	Farnham Solar Project, LLC [c]	100
Sand Flat Energy Center, LLC [c]	100	Fentress Energy Storage, LLC [c]	100
Sandy Loam Energy Center, LLC [c]	100	Flickertail Solar Project, LLC [c]	100
Saratoga Solar Project, LLC [c]	100	FOGHORN ENERGY CENTER, LLC [c]	100
Savannah Oaks Solar Project, LLC	100	Free State Solar Project, LLC [c]	100
SAVION CONSTRUCTION HOLDCO, LLC [c]	100	Gold Harvest Solar Project, LLC [c]	100
Savion Construction Management, LLC [c]	100	Goose Creek Solar Project, LLC [c]	100
SAVION EQUITY, LLC [c]	100	GOOSE QUILL ENERGY CENTER, LLC [c]	100
Savion LLC [c]	100	Great River Solar Project, LLC [c]	100
Savion Solar Equipment, LLC	100	GRID BALANCE ENERGY CENTER, LLC [c]	100
SILVER THUNDER ENERGY CENTER, LLC [c]	100	Gsd Farming Co. LLC [c]	100
SILVERBELL ENERGY CENTER, LLC [c]	100	Gunlock Solar Project, LLC [c]	100
SOLSTICE SUN ENERGY CENTER, LLC [c]	100	Hancock County Solar Project, LLC [c]	100
Southwest Michigan Solar Project, LLC [c]	100	Haycraft Solar Project, LLC [c]	100
Sugar Tree Solar Project, LLC	100	Headland-Wiregrass Solar Project, LLC [c]	100
Sun Cactus Solar Project, LLC	100	Herman Solar Project, LLC [c]	100
SUN FLATS ENERGY CENTER, LLC [c]	100	HERRINGTON SOLAR PROJECT, LLC [c]	100
Superior Solar Project, LLC [c]	100	High Oasis II Solar Project, LLC [c]	100
TANNIN VINE ENERGY CENTER, LLC [c]	100	Hill Tucker Solar Project, LLC [c]	100
WILD PEACH ENERGY CENTER, LLC	100	Holbrook Energy Storage, LLC [c]	100
WILD VIOLET ENERGY CENTER, LLC [c]	100	Holtville Energy Storage, LLC [c]	100
422 ADMIRAL BLVD, KANSAS CITY, MO/64106		Huckleberry Line Solar Project, LLC [c]	100
ANABRANCH ENERGY CENTER, LLC [c]	100	Irwin Solar I, LLC [c]	100
ATHENS CREEK ENERGY CENTER, LLC [c]	100	K RIVER ENERGY CENTER, LLC [c]	100
Bankson Solar Project, LLC [c]	100	Kcr Rto Da, LLC [c]	100
BELL BRANCH SOLAR PROJECT, LLC [c]	100	Kidman Solar Project, LLC [c]	100
Between The Rows, LLC [c]	100	Kings Fork Solar Project, LLC [c]	100
Black Hawk Solar Project, LLC [c]	100	Kiowa County Solar Project, LLC [c]	100
BLACKS CREEK ENERGY CENTER, LLC [c]	100	KLAMATH FALLS ENERGY CENTER, LLC [c]	100
Bluegrass Plains Solar Project, LLC [c]	100	Lake County Solar Project, LLC [c]	100
Bogalusa West Pv i, LLC [c]	100	Lawrence County Solar Project, LLC [c]	100
Bronx Shores Energy Storage, LLC [c]	100	Levy Solar I, LLC [c]	100
Buchanan County Solar Project, LLC [c]	100	Liberty Creek Energy Center, LLC [c]	100
BUFFALO GRASS ENERGY CENTER, LLC [c]	100	LITTLEJOHNS ENERGY CENTER, LLC [c]	100
BUFFALO MEADOW ENERGY CENTER, LLC [c]	100	LIZARD SPIN ENERGY CENTER, LLC [c]	100
CALLOWAY ENERGY CENTER, LLC [c]	100	Longnecker Solar Project, LLC [c]	100
CANADIAN COUNTY SOLAR PROJECT, LLC [c]	100	LOPEZ CANYON ENERGY CENTER, LLC [c]	100
Cane Flats Solar Project, LLC [c]	100	Macon Parkway Solar Project, LLC [c]	100
CASS COUNTY SOLAR PROJECT, LLC [c]	100	Madison County Solar Project, LLC [c]	100
Centennial Sky Solar Project, LLC [c]	100	Madison Fields Solar Project, LLC [c]	100
Centerville Pike Solar Project, LLC [c]	100	Manor River Energy Storage, LLC [c]	100
Choctaw County Solar Project, LLC [c]	100	Maple Pv I, LLC [c]	100
Choctaw Fields Solar Project, LLC [c]	100	Marion County Solar Project, LLC [c]	100
CLEAR MOUNTAIN ENERGY CENTER, LLC [c]	100	Marquette County Solar Project, LLC [c]	100
Crab Run Solar Project, LLC [c]	100	MARTHA FIELDS ENERGY CENTER, LLC [c]	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
USA continued		Stamp Bainbridge Solar Project, LLC [c]	100
Martin County II Solar Project, LLC [c]	100	Stamp Hilltop Solar Project, LLC [c]	100
Martin County Solar Project, LLC [c]	100	STEADY GRID ENERGY CENTER, LLC [c]	100
MASAVA ENERGY CENTER, LLC [c]	100	Steel Branch Solar Project, LLC [c]	100
May Valley Solar Project, LLC [c]	100	STEEL RAIL ENERGY CENTER, LLC [c]	100
Mchenry County Solar Project, LLC [c]	100	STILLY WAY ENERGY CENTER, LLC [c]	100
Mercer County II Solar Project, LLC [c]	100	STOCKGROWER ENERGY CENTER, LLC [c]	100
Mercer County III Solar Project, LLC [c]	100	Stony Landing Energy Storage, LLC [c]	100
Mercer County Solar Project, LLC [c]	100	Stony Run Solar Project, LLC [c]	100
MICHAELS CREEK ENERGY CENTER, LLC [c]	100	STORING ENERGY CENTER, LLC [c]	100
MIDLAND VALLEY SOLAR PROJECT, LLC [c]	100	STRAWBERRY ACRES ENERGY CENTER, LLC [c]	100
Muscatine County Solar Project, LLC [c]	100	Sturgeon Solar Project, LLC [c]	100
Mustang Country Solar Project, LLC [c]	100	Su Ranch Solar Project, LLC [c]	100
NEW MOON ENERGY CENTER, LLC [c]	100	Suffolk County Energy Storage II, LLC [c]	100
Nicholas County Solar Project, LLC [c]	100	Suffolk County Energy Storage, LLC [c]	100
NORTH ALMOND ENERGY CENTER, LLC [c]	100	Sugar Harvest Solar Project, LLC [c]	100
North Seneca Solar Project, LLC [c]	100	Sun Park Solar, LLC [c]	100
Oak Ridge Solar Project, LLC [c]	100	Sunflower Sky Solar Project, LLC [c]	100
Oak Run Solar Project, LLC [c]	100	Sunflower Solar Project, LLC [c]	100
ONNERUD ENERGY CENTER, LLC [c]	100	Sunny Plains Energy Center, LLC [c]	100
Orangeburg South Solar Project, LLC [c]	100	SUNSET PRAIRIE SOLAR PROJECT, LLC [c]	100
Orangeburg West Solar Project, LLC [c]	100	Sutherland Solar Project, LLC [c]	100
ORCHARD GROVE ENERGY CENTER, LLC [c]	100	Sweeney Run Solar Project, LLC [c]	100
ORCHARD STAND ENERGY CENTER, LLC [c]	100	SWEET VALLEY ENERGY CENTER, LLC [c]	100
OZARK PRAIRIE ENERGY CENTER, LLC [c]	100	The Bootheel Solar Project, LLC [c]	100
Page Street Development, LLC [c]	100	The Panhandle Solar Project, LLC [c]	100
Payne County Solar Project, LLC [c]	100	Thibodaux Solar Project, LLC [c]	100
Pike County Solar Project, LLC [c]	100	TONTOGANY PLAINS SOLAR PROJECT, LLC [c]	100
Pine Flats Solar Project, LLC [c]	100	Tri-State II Solar Project, LLC [c]	100
PLANO SKIES ENERGY CENTER, LLC [c]	100	Tri-State Solar Project, LLC [c]	100
Portage County Solar Project, LLC [c]	100	TWENTY-SIX MILE ENERGY CENTER, LLC [c]	100
POWERS BUTTE ENERGY CENTER, LLC [c]	100	VALERIA ENERGY CENTER, LLC [c]	100
Prairie Canyon Solar Project, LLC [c]	100	Washington Vines Solar Project, LLC [c]	100
Qmb 1 Energy Storage, LLC [c]	100	West Babylon Energy Storage, LLC [c]	100
Qmb 2 Energy Storage, LLC [c]	100	WHISTLE STOP ENERGY CENTER, LLC [c]	100
Queen Flats Solar Project, LLC [c]	100	White Moon Solar Project, LLC [c]	100
Quogue Energy Storage, LLC [c]	100	WIDGEON FLATS ENERGY CENTER, LLC [c]	100
Randolph County Solar Project, LLC [c]	100	WILD PLUM ENERGY CENTER, LLC [c]	100
RANEGRAS PLAINS ENERGY CENTER, LLC [c]	100	Wild Rose Solar Project, LLC [c]	100
Rayos Del Sol II Solar Project, LLC [c]	100	Wild Rye Energy Center, LLC [c]	100
Red Clover Solar Project, LLC [c]	100	Wildwood Energy Storage, LLC [c]	100
RED CYPRESS ENERGY CENTER, LLC [c]	100	Wolfe County Solar Project, LLC [c]	100
RIVER DUNE ENERGY CENTER, LLC [c]	100	Yaphank Energy Storage, LLC [c]	100
ROLLING BLUFF ENERGY CENTER, LLC [c]	100	YELLOW FEATHER ENERGY CENTER, LLC [c]	100
SAGE MEADOW ENERGY CENTER, LLC [c]	100	YELLOW ROSEBUSH ENERGY CENTER, LLC [c]	100
SARAH LAKE SOLAR PROJECT, LLC [c]	100	C T CORPORATION SYSTEM, 1999 BRYAN STREET, SUITE 900, DALLAS, 11000	
Savion Chesapeake Solar Project, LLC [c]	100	DGSP2 LLC	100
Setauket Energy Storage, LLC [c]	100	Distributed Generation Solutions LLC	100
Sherburne County Solar Project, LLC [c]	100	Distributed Generation Solutions Prime LLC	100
Sheridan Solar Project, LLC [c]	100	C T CORPORATION SYSTEM, 1999 BRYAN STREET, SUITE 900, DALLAS, 75201-3136	
SHIPBUILDER ENERGY CENTER, LLC [c]	100	EPP LLC [c]	100
SOSA ENERGY CENTER, LLC [c]	100	MP2 Energy LLC [c]	100
SOUTH HILL SOLAR PROJECT, LLC [c]	100	MP2 Energy NE LLC [c]	100
South Peak Land Holdings, LLC [c]	100	MP2 Energy NY LLC [c]	100
South Suffolk Energy Storage, LLC [c]	100	MP2 Energy Retail Holdings LLC [c]	100
Southern Plains Solar Project, LLC [c]	100	MP2 Energy Texas LLC [c]	100
Spinning Reel Energy Center, LLC [c]	100	MP2 Generation LLC [c]	100
St. Clair County Solar Project, LLC [c]	100	MP2 Mesquite Creek Wind LLC [c]	100
		Noble Assurance Company	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
USA continued		BG North America, LLC [c]	100
C T CORPORATION SYSTEM, 1999 BRYAN STREET, SUITE 900, DALLAS, SUITE 900		BG US Services, Inc.	100
Shell Legacy Holdings LLC [c]	100	California Western Grid Development, LLC [c]	100
C T CORPORATION SYSTEM, 1999 BRYAN STREET, SUITE 900, DALLAS, TX 75201		Concha Chemical Pipeline LLC [c]	100
ERM Business Energy LLC [c]	100	Pecten Brazil Exploration Company	100
Source Operations Group LLC [c]	100	Pecten Midstream LLC [c]	100
Source Power & Gas LLC [c]	100	Pecten Orient Company LLC [c]	100
SPG Energy Group LLC [c]	100	Pecten Producing Company	100
C T CORPORATION SYSTEM, 1999 BRYAN STREET, SUITE 900, DALLAS, TX 75201-3136		Pecten Trading Company	100
Mpower2 LLC [c]	100	Pecten Victoria Company	100
Oryx Caspian Pipeline L.L.C. [c]	100	Pecten Yemen Masila Company	100
C/O ALLIED SERVICES GROUP, 6730 ROOSEVELT BLVD., FRANKLIN, 45005		Sand Dollar Pipeline LLC [c]	100
Allied Services Group LLC [c]	100	Shell Downstream Inc.	100
CORPORATE SERVICE COMPANY, 2711 CENTERVILLE ROAD, SUITE 400, WILMINGTON, 19808		Shell International Exploration and Production Inc.	100
Allied Reliability Group, Inc.	100	Shell Marine Products (US) Company	100
ARG Acquisition Company, Inc.	100	Shell Midstream LP Holdings LLC [c]	100
CORPORATION SERVICE COMPANY, 251 LITTLE FALLS DRIVE, WILMINGTON, DELAWARE, 11000		Shell New Energies US LLC [c]	100
ADAMS BROOK ENERGY CENTER, LLC [c]	100	Shell Trading (US) Company	100
ANGEL CITY ENERGY CENTER, LLC [c]	100	TFH Reliability Group, LLC [c]	100
BADGER PAW ENERGY CENTER, LLC [c]	100	Triton Terminals LLC [c]	100
BEAVER BAY ENERGY CENTER, LLC [c]	100	Ventura Reliability Project LLC [c]	100
Blackjack Plains Solar Project, LLC	100	THE CORPORATION TRUST COMPANY, 1209 ORANGE STREET, CORPORATION TRUST CENTER, WILMINGTON, 9801	
BLUE FROST ENERGY CENTER, LLC [c]	100	Shell Pipeline GP LLC [c]	100
BUCK HOLLOW ENERGY CENTER, LLC [c]	100	THE CORPORATION TRUST COMPANY, 1209 ORANGE STREET, CORPORATION TRUST CENTER, WILMINGTON, CORPORATION TRUST CENTER	
BUFFALO PRAIRIE ENERGY CENTER, LLC [c]	100	Shell Energy Holding GP LLC [c]	100
COYOTE DEN ENERGY CENTER, LLC [c]	100	Shell Mobility & Convenience US LLC [c]	100
COYOTE FLATS ENERGY CENTER, LLC [c]	100	THE CORPORATION TRUST COMPANY, 1209 ORANGE STREET, CORPORATION TRUST CENTER, WILMINGTON, DE 19801	
COYOTE RUN ENERGY CENTER, LLC [c]	100	RK Caspian Shipping Company, LLC [c]	100
DEEP LAKE ENERGY CENTER, LLC [c]	100	THE CORPORATION TRUST COMPANY, 1209 ORANGE STREET, CORPORATION TRUST CENTER, WILMINGTON, DE, 19801	
DESERT SENNA ENERGY CENTER, LLC [c]	100	Sonoma Reliability Project LLC [c]	100
DIABLO CAMPO ENERGY CENTER, LLC [c]	100	THE CORPORATION TRUST COMPANY, 209 ORANGE STREET, CORPORATION TRUST CENTER, WILMINGTON, 19801	
DOVE WING ENERGY CENTER, LLC [c]	100	Shell Midstream Operating LLC [c]	100
CORPORATION SERVICE COMPANY, 251 LITTLE FALLS DRIVE, WILMINGTON, NEW CASTLE, DE, 19808		THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, 1209 ORANGE STREET, WILMINGTON	
Volta Inc.	100	Shell NA Gas & Power Holding Company	100
CORPORATION SERVICE COMPANY, 2711 CENTERVILLE ROAD, SUITE 400, WILMINGTON, NEW CASTLE, 19808		THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, 1209 ORANGE STREET, WILMINGTON, 1209 ORANGE STREET	
Allied Reliability Group Intermediate Holdings, Inc.	100	Shell Lake Charles Operations, LLC [c]	100
CORPORATION TRUST CENTER, 1209 ORANGE STREET, NEW CASTLE COUNTY, WILMINGTON, DE 19801		THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, 1209 ORANGE STREET, WILMINGTON, 19801	
Shell Thailand E&P Inc.	100	Equilon Enterprises LLC [c]	100
CT CORPORATION SYSTEM, 1200 SOUTH PINE ISLAND ROAD, PLANTATION, 33324		Impact Recon, LLC [c]	100
Shell MS Fuel Card, LLC [c]	100	PQS Recycled Lubes LLC [c]	100
CT CORPORATION SYSTEM, 701 S. CARSON ST, SUITE 200, CARSON CITY, NV 89701		TFH Reliability, LLC [c]	100
Pennzoil-Quaker State Nominee Company	100	Volta Charging Industries, LLC [c]	100
CT CORPORATION SYSTEM, 7700 E ARAPAHOE RD, STE 220, CENTENNIAL, CO 80112-1268		Volta Charging, LLC [c]	100
Positive Energies, LLC [c]	100	Volta Media LLC [c]	100
THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, 1209 ORANGE STREET, WILMINGTON, 19801		Maricopa Energy Center, LLC [c]	100
Volta Charging Services LLC [c]	100	THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, 1209 ORANGE STREET, WILMINGTON, DE 19801	
THE CORPORATION TRUST COMPANY, 1209 ORANGE STREET, CORPORATION TRUST CENTER, WILMINGTON		BG LNG Trading, LLC	100
Pecten Orient Company	100	CRI Sales and Services Inc.	100
THE CORPORATION TRUST COMPANY, 1209 ORANGE STREET, CORPORATION TRUST CENTER, WILMINGTON, 19801		CRI Zeolites Inc.	100
BG Brasilia, LLC [c]	100	Ellwood Land Holdings, LLC [c]	100
BG Energy Merchants, LLC [c]	100	Enterprise Oil North America Inc.	100
BG Gulf Coast LNG, LLC [c]	100	Hyder Energy Center, LLC [c]	100
BG LNG Services, LLC [c]	100	Inspire Digital Services California, LLC [c]	100
		Inspire Digital Services PJM, LLC [c]	100

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
USA continued		Shell Trading Risk Management, LLC [c]	100
Inspire Digital Services USA, LLC [c]	100	Shell Trading Services Company	100
Inspire Energy Capital, LLC	100	Shell Transportation Holdings LLC [c]	100
Inspire Energy Holdings, LLC [c]	100	Shell Treasury Center (West) Inc.	100
Inspire Energy Technologies, LLC [c]	100	Shell US E&P Investments LLC [c]	100
Jiffy Lube International, Inc.	100	Shell US Gas & Power LLC [c]	100
Odyssey Pipeline L.L.C. [c]	71	Shell US Hosting Company	100
Pennzoil-Quaker State Company	100	Shell US LNG, LLC [c]	100
Pennzoil-Quaker State International Corporation	100	Shell Ventures LLC [c]	100
Power Limited Partnership [d]	100	Shell WindEnergy Inc.	100
PR Microgrids LLC [c]	100	Shell WindEnergy Services Inc.	100
Premium Velocity Auto LLC [c]	100	SOI Finance Inc.	100
Pulse Power, LLC [c]	100	SOPC Holdings East LLC [c]	100
Quaker State Investment Corporation	100	SOPC Holdings West LLC [c]	100
S T Exchange, Inc.	100	SOPC Southeast Inc. (f/k/a Motiva Company)	100
SCOGI GP [d]	100	SWEPI LLC [c]	100
Shell (US) Gas & Power M&T Holdings, Inc.	100	Tejas Coral GP, LLC [c]	100
Shell California Pipeline Company LLC [c]	100	Tejas Coral Holding, LLC [c]	100
Shell Catalysts & Technologies Americas LP [d]	100	Tejas Power Generation, LLC [c]	100
Shell Catalysts & Technologies Company	100	Texas-New Mexico Pipe Line Company	100
Shell Catalysts & Technologies Holdings Inc.	100	The Valley Camp Coal Company	100
Shell Catalysts & Technologies LP [d]	100	TMR Company LLC [c]	100
Shell Catalysts & Technologies US LP [d]	100	Triton Diagnostics Inc.	100
Shell Catalysts Ventures Inc.	100	Triton West LLC [c]	100
Shell Chemical Appalachia LLC [c]	100	Zydeco Pipeline Company LLC [c]	100
Shell Chemical LP [d]	100	Think Onward LLC [c]	100
Shell Chemicals Arabia L.L.C. [c]	100	Shell Petroleum Inc.	100
Shell Communications, Inc.	100	Shell USA, Inc.	100
Shell Deepwater Royalties Inc.	100	THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, ORANGE STREET, WILMINGTON, NEW CASTLE, HOUSTON, 19801	
Shell Energy Company	100	TFH Buyer, Inc.	100
Shell Energy North America (US), L.P. [d]	100	TFH TopCo, Inc.	100
Shell Energy Resources Company	100	VENEZUELA	
Shell Enterprises LLC [c]	100	AV. ORINOCO, EDIF.CENTRO EMPRESARIAL, PREMIUM PISO 2 OFICINA 2-B, URBANIZACIÓN LAS MERCEDES, CARACAS, 11000	
Shell EP Holdings Inc.	100	Shell Venezuela Productos, C.A.	100
Shell Expatriate Employment US Inc.	100	AV. ORINOCO, EDIF.CENTRO EMPRESARIAL, PREMIUM PISO 2 OFICINAS 2-A Y 2-B, URBANIZACIÓN LAS MERCEDES, CARACAS, 11000	
Shell Exploration & Production Company	100	Shell Venezuela, S.A.	100
Shell Exploration Company Inc.	100	VIETNAM	
Shell Frontier Oil & Gas Inc.	100	GO DAU INDUSTRIAL ZONE, PHUOC THAI COMMUNE, LONG THANH DISTRICT, DONG NAI PROVINCE	
Shell Gas Gathering Corp. #2	100	Shell Vietnam Ltd	100
Shell Global Solutions (US) Inc.	100		
Shell GOM Pipeline Company LLC [c]	100		
Shell Gulf of Mexico Inc.	100		
Shell Information Technology International Inc.	100		
Shell Leasing Company	100		
Shell Midstream Partners GP LLC [c]	100		
Shell Midstream Partners, L.P.	100		
Shell NA LNG LLC [c]	100		
Shell North America Gas & Power Services Company	100		
Shell Offshore and Chemical Investments Inc.	100		
Shell Offshore Inc.	100		
Shell Offshore Response Company LLC [c]	100		
Shell Oil Company Investments Inc.	100		
Shell Oil Products Company LLC [c]	100		
Shell Pipeline Company LP [d]	100		
Shell Retail and Convenience Operations LLC [c]	100		
Shell RSC Company	100		
Shell Trademark Management Inc.	100		
Shell Trading North America Company	100		

Significant subsidiaries and other related undertakings (audited) continued

Other related undertakings

Company by country and address of incorporation	%	Company by country and address of incorporation	%
ARGENTINA		199 BAY STREET, 5300 COMMERCE COURT WEST, COMMERCE COURT WEST, TORONTO, M5L 1B9	
AVENIDA PTE. ROQUE SÁENZ PEÑA 788, 2ND FLOOR, CIUDAD DE BUENOS AIRES, 1035		SFJ Inc.	50
Bandurria Sur Investments S.A.	50	400 4TH AVENUE S.W., CALGARY, ALBERTA, T2P 0J4	
DON BOSCO 3672, 6TH FLOOR, CIUDAD AUTONOMA DE BUENOS AIRES		LNG Canada Development Inc. [b]	40
Gas Link S.A.	26	400 4TH AVENUE S.W., CALGARY, T2P 0J4	
AUSTRALIA		FP Solutions Corporation	33
5 TULLY ROAD, EAST PERTH, 6004		4600 8TH AVE PLACE EAST, 525 8TH AVE SW, CALGARY, ALBERTA, T2P 1G1	
OVIDRIVE APPLABS PTY LTD	50	FORGE Hydrocarbons Corporation	37
C/- FORESIGHT AUSTRALIA FUNDS MANAGEMENT, SUITE 3, LEVEL 5, 20 HUNTER STREET, SYDNEY, 2000		5305 MCCALL WAY N.E., CALGARY, ALBERTA, T2E 7N7	
Kondinin Renewables Holdings Pty Ltd ATF Kondinin Renewables Holdings Trust	50	Alberta Products Pipe Line Ltd.	20
C/O JEFFERY ZIVIN, UNIT 4, 4 GEORGE STREET, CAMBERWELL, VIC 3124		830 HIGHWAY NO. 6 NORTH, FLAMBOROUGH, ONTARIO, L0R 2H0	
Salpod Pty Ltd	24	Sun-Canadian Pipe Line Company Limited	45
INFRASTRUCTURE CAPITAL GROUP, LEVEL 15 MARTIN PLACE, SYDNEY, NSW 2000		VOGEL ROAD, RICHMOND HILL, ONTARIO, RICHMOND HILL, ONTARIO, L4B 3P6	
NewGen Neerabup Pty Ltd [b]	50	Trans-Northern Pipelines Inc.	33
NewGen Power Neerabup Pty Ltd [b]	50	CHINA	
LEVEL 16 ALLUVION, 58 MOUNTS BAY ROAD, PERTH, WA 6000		18TH FLOOR, TOWER 1, YONGLI INTERNATIONAL FINANCE CENTRE, JINYE NO. 1 ROAD, HIGH-TECH DISTRICT, XI'AN, 710075	
North West Shelf Gas Pty Ltd	20	Yanchang and Shell Petroleum Company Limited	45
LEVEL 16, 25 BLIGH STREET, SYDNEY, NSW 2000		23F, YANLORD SQUARE, SECTION 2, RENMIN SOUTH ROAD, CHENGDU, SICHUAN, 610016	
Corporate Carbon Group Pty Ltd	25	Yanchang and Shell (Sichuan) Petroleum Company Limited	45
LEVEL 39, 111 EAGLE STREET, BRISBANE, QLD 4000		39TH FLOOR, LEATOP PLAZA, NO. 32 EAST ZHUJIANG ROAD, ZHUJIANG NEW TOWN, TIANHE DISTRICT, GUANGDONG, ZHUJIANG NEW TOWN, TIANHE DISTRICT	
Arrow Energy Holdings Pty Ltd	50	Yanchang and Shell (Guangdong) Petroleum Co., Ltd.	49
LEVEL 4, 459 LITTLE COLLINS STREET, MELBOURNE, VIC 3000		BAISHA, HEKOU, SANSHUI DISTRICT, FOSHAN, GUANGDONG, 528133	
1st Energy Pty Ltd	30	Shell Road Solutions Xinyue (Foshan) Co. Ltd.	60
OFFICE 4, 17 GOODE STREET, GISBORNE, VIC 3437		BLOCK 10, NO.860 XINYANG ROAD, LINGANG SPECIAL AREA, PILOT FREE TRADE ZONE, SHANGHAI, 201413	
WestWind Energy Development Pty Ltd	49	Shanghai Shenergy and Shell New Energy Company Limited	50
AUSTRIA		BUILDING NO. 2, HEBEI GUOKONG NORTHERN SILICON VALLEY HIGH-TECH NEW CITY, NO. 28 EAST ZHANQIAN STREET, QIAODONG DISTRICT, ZHANGJIAKOU, 75000	
INNSBRÜCKER BUNDESSTRASSE 95, SALZBURG, 5020		Zhangjiakou City Transport and Shell New Energy Co., Ltd	48
Salzburg Fuelling GmbH	33	DAYAWAN PETROCHEMICAL INDUSTRIAL PARK, HUIZHOU, GUANGDONG, 516086	
KIENBURG 11, MATREI IN OSTTIROL, 9971		CNOOC and Shell Petrochemicals Company Limited	50
Transalpine Ölleitung in Österreich GmbH	15	NO. 1 DONGXIN ROAD, JIANGSU YANGTZE RIVER INTERNATIONAL, CHEMICAL INDUSTRY PARK, ZHANGJIAGANG, JIANGSU, 215600	
RETENLACKSTRASSE 3, SALZBURG, 5020		Infineum (China) Co. Ltd.	50
TBG Tanklager Betriebsgesellschaft m.b.H.	50	NO. 100, XINGANG DADAO, NANJING ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE, NANJING, JIANGSU, 210000	
BERMUDA		Sinopec and Shell (Jiangsu) Petroleum Marketing Company Limited	40
CLARENDON HOUSE, 2 CHURCH STREET, HAMILTON HM 11, HAMILTON, 11000		NO. 358 ZHUHUI ROAD, SUZHOU, 215000	
Egypt LNG Shipping Limited	25	Suzhou Liyuan Retail Site Management Co., Ltd.	50
MELBOURNE HOUSE, 3RD FLOOR, 11 PARLIAMENT STREET, HAMILTON, 11000		ROOM 2103, NORTH TOWER, YEFENG MODERN CENTER, NO. 161, SHAOXING ROAD, XIACHENG DISTRICT, HANGZHOU, ZHEJIANG, 310004	
Sakhalin Energy Investment Company Ltd	28	Zhejiang Shell Fuels Company Limited	49
BRAZIL		ROOM 518, 5TH FLOOR, OFFICE BUILDING, TIANJIN FOOD GROUP COMPANY LTD, NO. 96, QIXIANGTAI ROAD, HEXI DISTRICT, TIANJIN, 300074	
AV IBIRAPUERA 2907, CONJ 109 PARTE, INDIANOPOLIS, SÃO PAULO, 04029-200		Shell Huabei Petroleum Group Co., Ltd.	49
CARBONEXT HOLDING S.A	25	ROOM 609, BUILDING NO. 1, NO. 388 NORTH MU HUA ROAD, FENGXIAN DIST, SHANGHAI, 200120	
AVENIDA DAS ALMIRANTE BARROSO, N° 81, 36° ANDAR, SALA 36A104, RIO DE JANEIRO, 20031-004		Climate Bridge (Shanghai) Ltd.	49
Raizen S.A.	50	UNIT 1101-1104, LEVEL 11, BUILDING 1, NO. 19 CHAOYANG PARK ROAD, CHAOYANG DISTRICT, BEIJING, 100125	
AVENIDA PAULISTA, 1274, 8° ANDAR, CONJUNTO 23, SALA B, BEIA VISTA, SÃO PAULO, 01310-100		Beijing Shell Petroleum Company Ltd.	49
Marlim Azul Energia S.A.	30	UNIT 604, 6/F, BUILDING C, NO. 3 YUNAN FOURTH ROAD, FTPZ XIAMEN SUB-ZONE (TARIFF-FREE ZONE), XIAMEN, 361000	
BRUNEI		Fujian Xiangyu and Shell Petroleum Company Limited	49
BRUNEI LNG SDN BHD, LUMUT, KUALA BELAIT, KC2935		CÔTE D'IVOIRE	
Brunei LNG Sendirian Berhad	25	14, BLVD CARDE, IMM. LES HEVEAS, PLATEAU, ABIDJAN, BP V 194	
BRUNEI SHELL PETROLEUM COMPANY, SENDIRIAN BERHAD, SERIA, KB2933		Cote d'Ivoire GNL	15
Brunei Shell Marketing Company Sendirian Berhad	50		
JALAN UTARA, PANAGA, SERIA, KB2933			
Brunei Shell Petroleum Company Sendirian Berhad	50		
CANADA			
1400, HOLLIS STREET, HALIFAX, NOVA SCOTIA, B3J 3M8			
Sable Offshore Energy Inc.	33		

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%
CYPRUS	
METOCHIOU STR, 37, AGIOS ANDREAS, NICOSIA, CY-1101	
Rosneft-Shell Caspian Ventures Limited	49
DENMARK	
BREDGADE 30, KØBENHAVN K, 1260	
TetraSpar Demonstrator ApS	66
KOLDINGVEJ 19, RIBE, 6760	
Ribe Biogas A/S	20
NÆRUM HOVEDGADE 8, NÆRUM, 2850	
DCC & Shell Aviation Denmark A/S	49
EGYPT	
28 ROAD 270, MAADI, CAIRO	
Burullus Gas Company S.A.E. [b]	25
38 STREET NO. 270, MAADI, CAIRO	
Rashid Petroleum Company S.A.E. [b]	50
CITY OF RASHID, EL BEHERA GOVERNORATE	
El Behera Natural Gas Liquefaction Company S.A.E.	36
IDKU Natural Gas Liquefaction Company S.A.E.	38
The Egyptian LNG Company S.A.E.	36
THE EGYPTIAN OPERATING COMPANY FOR NATURAL GAS LIQUEFACTION PROJECTS S.A.E.	36
FRANCE	
10 PLACE DE CATALOGNE, PARIS, 75014	
Eolfi Offshore France	10
Ferme Eolienne Flottante de Groix & Belle-Ile	30
135, BD BINEAU, NEUILLY SUR SEINE, 92200	
Soc. de. Part. Dans "SPITP" Sarl	53
3 RUE DES VIGNES, A, TREMBLAY EN FRANCE, 93290	
Societe Immobilière Petroliere de Gestion	13
4 BOULEVARD DE BEAUREGARD, LONGVIC, 21600	
SAS Sécalia Chatillonais	60
AÉROPORT ROISSY CHARLES DE GAULLE, ZONE DE FRÊT 1, 3 RUE DES VIGNES, TREMBLAY-EN-FRANCE, 93290	
Groupeement Pétrolier Aviation SNC	20
CHEMIN DE LIVRY, CHENNEVIÈRES-LES-LOUVRES, 95380	
Societe De Manutention De Carburants Aviation (S.A.)	17
CHEMIN DEPARTMENTAL 54, 13130, BERRE L'ETANG, 13130	
Infineum France	50
DOMAINE DE LALAUS, RIOM, 63200	
Bio Valo SAS	20
LA VERGNIERE, COUCUÉ SUR LOGNE, 44650	
SAS Metha Herbauges Corcoué	40
ORLY SUD NO. 144 - BAT. 438, ORLY AEROGARES, 94541	
Service Aviation Paris SNC	33
ROUTE D'ARLES, LA FENOUILLE, FOSS-SUR-MER, 13270	
Ste du Pipeline Sud Européen S.A.	21
GERMANY	
BERGHAUSENER STRAÙE 96, LANGENFELD, 40764	
AGES Maut System GmbH & Co. KG	25
BROOK 2, BLOCK H, HAMBURG, 20457	
OLF Deutschland GmbH	50
BRUEHLER STR. 95, WESSELING, 50389	
Wasserbeschaffungsverband Wesseling-Hersel	35
CAFFAMACHERRIE 5, HAMBURG, 20335	
BEB Holding GmbH [b]	50
DEA-SCHOLVEN-STR., KARLSRUHE, 76187	
Mineraloelraffinerie Oberrhein Verwaltungs GmbH	32
Oberrheinische Mineraloelwerke GmbH [b]	42
EUREF-CAMPUS 10-11, BERLIN, 10829	
H2 Mobility Deutschland GmbH and Co. KG	17

Company by country and address of incorporation	%
FRANZÖSISCHE STRAÙE 33 A-C, BERLIN, 10117	
Toll4Europe GmbH	15
GODORFER HAUPTSTRASSE 186, KÖLN, 50997	
Rhein-Main-Rohrleitungstransportgesellschaft mbH [b]	63
NEUSSER LANDSTRAÙE 16, KÖLN, 50735	
Deutsche Infineum GmbH & Co. KG	50
Infineum Deutschland Verwaltungsgesellschaft mbH	50
PASSOWER CHAUSSEE 111, SCHWEDT/ODER, 16303	
PCK Raffinerie GmbH [b]	38
PAUL WASSERMANN STR. 3, MUNICH, 81829	
Deutsche Transalpine Oelleitung GmbH	19
VAHRENWALDER STRASSE 238, HANNOVER, 30179	
BEB Erdgas und Erdoel GmbH & Co. KG [b]	50
Erdoel-Raffinerie Deurag-Nerag GmbH	50
ZUM OELHAFEN 207, WILHELMSHAVEN, 26384	
Nord-West Oelleitung GmbH [b]	20
GIBRALTAR	
57/63 LINE WALL ROAD, GIBRALTAR	
Shell LNG Gibraltar Limited	51
GREECE	
151 KIFISIAS AVE., MAROUSI, ATHENS, 15124	
Shell & MOH Aviation Fuels A.E.	51
HONG KONG	
3 SCENIC ROAD, CHEK LAP KOK, LANTAU	
AFSC Operations Limited	11
AFSC Refuelling Limited	11
ESSO TSING YI TERMINAL, LOT 46 TSING YI ROAD, TSING YI ISLAND, NEW TERRITORIES	
Hong Kong Response Limited	25
INDIA	
102, PRESTIGE SIGMA, VITTAL MALLYA ROAD, BANGALORE, 560001	
Shell MRPL Aviation Fuels and Services Limited	50
ENKING EMBASSY, PLOT 48, SCHEME 78 PART-2, VIJAY NAGAR, INDORE, 452010	
Amrut Nature Solutions Private Limited	49
TIKI TAR INDUSTRIES VILLAGE ROAD, NEAR BHANDUP VILLAGE, BHANDUP WEST MUMBAI, MUMBAI, MH 400078	
Tiki Tar and Shell India Private Limited	50
IRAQ	
KHOR AL ZUBAIR, BASRAH	
Basrah Gas Company	44
IRELAND	
SUITE 7 NORTHWOOD HOUSE, NORTHWOOD BUSINESS PARK, SANTRY, DUBLIN, 9	
Shell and Topaz Aviation Ireland Limited	50
ISRAEL	
DERECH ABA HILEL 16, RAMAT GAN, 5250608	
Ravin AI Ltd.	36
ITALY	
STRADA DI SCORRIMENTO 2, VADO LIGURE, SAVONA, 17047	
Infineum Italia S.R.L.	50
VIA ANTONIO MALFANTE 73, ROMA, 147	
Bloomfleet S.p.A.	40
VIA GIORGIO RIBOTTA 51, ROME, 144	
Societa' Oleodotti Meridionali S.p.A.	30
VIA MUGGIA #1, SAN DORLIGO DELLA VALLE, TRIESTE, 34147	
Societa Italiana per l'Oleodotto Transalpino S.p.A.	19
JAPAN	
1-1-5 WAKAMIYA-CHO, SUMA-KU, KOBE-SHI, HYOGO, 654-0049	
Y.K. Nishi-Kobe Bosai Center	33
72-34, HORIKAWA-CHO, SAIWAI-KU, KAWASAKI, KAWASAKI, 212-8585	
Next Kraftwerke Toshiba Corporation	49

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
JAPAN continued		HERIKERBERGWEG 238, AMSTERDAM, 1101 CM	
7F KOKURYU SHIBA KOEN BUILDING 2-6-15, SHIBA KOEN, MINATO-KU, TOKYO, 105-0011		Infineum Holdings B.V.	50
CO2-free Hydrogen Energy Supply-chain TRA	25	HOPPLEIN 20, ROTTERDAM, 3032AC	
KAZAKHSTAN		CrossWind Beheer B.V. [b]	80
PROMZONA, BURUNSKI DISTRICT, AKSAI TOWN, WEST KAZAKHSTAN OBLAST		Crosswind C.V. [b] [d]	80
Karachaganak Petroleum Marketing, LLP	29	LAAN VAN BARCELONA 800, DORDRECHT, 3317 DD	
LUXEMBOURG		GeoThermie Delft B.V.	15
412F, ROUTE D'ESCH, LUXEMBOURG, L-2086		LAARDERHOOGTWEG 18, AMSTERDAM, 1101 EA	
Denham International Power SCSp [d]	32	Aecorsis B.V.	23
MALAYSIA		MUIDERSTRAAT 1, AMSTERDAM, 1011 PZ	
LEVEL 11, MENARA TH 1 SENTRAL, JALAN RAKYAT, KUALA LUMPUR SENTRAL, 50470 KUALA LUMPUR, KUALA LUMPUR, 46200		Caspi Meruerty Operating Company B.V. [b]	40
P S Terminal Sendirian Berhad	35	OOSTDUINLAAN 2, THE HAGUE, 2596 JM	
LEVEL 30, TOWER 1, PETRONAS TWIN TOWERS, KLCC, KUALA LUMPUR/FEDERAL TERRITORY, KLCC		North Caspian Operating Company N.V. [b]	17
P S Pipeline Sendirian Berhad	50	OOSTERHORN 36, FARMSUM, 9936 HD	
LEVEL 8, SYMPHONY HOUSE, BLOCK D13, PUSAT DAGANGAN DANA 1, JALAN PJU 1A/46, SELANGOR, 46200		Zeolyst C.V.	50
Bonuskad Loyalty Sdn. Bhd. [g]	33	P.O. BOX 477, GRONINGEN, 9700 AL	
LOT 7689 AND LOT 7690, SECTION 64, KUCHING TOWN LAND DISTRICT, JALAN PENDING, KUCHING, SARAWAK, 93450		Gasterra B.V.	25
IOT Management Sdn. Bhd.	7	POLARIS AVENUE 81, P.O. BOX 2047, HOOFFDORP, 2132 JH	
NO. 20 & 21, WISMA KAFAZ, JALAN TUN DATUK PATINGGI HAJI ABDUL RAHMAN, YA'KUB, KUCHING, SARAWAK, YA'KUB, KUCHING		Loyalty Management Netherlands B.V.	40
Tanjung Manis Oil Terminal Management Sdn. Bhd.	14	REACTORWEG 301, UNIT 1.3, UTRECHT, 3542 AD	
SUITE 13.03, 13 FLOOR, MENARA TAN & TAN, 207 TUN RAZAK, KUALA LUMPUR/FEDERAL TERRITORY, 50400		Paqell B.V.	50
Kebabangan Petroleum Operating Company Sdn. Bhd. [b]	30	SCHEPERSMAAT 2, ASSEN, 11000	
WISMA GOSHEN, 2ND FLOOR, 60, 62 & 64, JALAN SS22/21, DAMANSARA JAYA, 47400 PETALING JAYA, SELANGOR, PETALING JAYA, 47400		Nederlandse Aardolie Maatschappij B.V.	50
Pixelbyte Sdn Bhd	50	SCHEPERSMAAT 2, ASSEN, 9405 TA	
MEXICO		NAM Offshore B.V.	50
AVENIDA CERRO GORDO DEL CAMPESTRE, NUMBER 201, INTERIOR 202, OF COLONIA LAS QUINTAS, LEÓN, GUANAJUATO, 37125		STATIONSPLEIN 45, 4TH FLOOR, ROTTERDAM, 3013 AK	
Mega Gasolineras SA de CV	50	Investancia Group B.V. [b]	30
GUILLERMO GONZÁLEZ CAMARENA NO. 400, SANTA FE, IVARO OBREGÓN, CIUDAD DE MÉXICO, 1210		Quadriz B.V	56
Concilia S DE RL DE CV	50	STRAWINSKYLAAN 1343, AMSTERDAM, 1077 XX	
PROLONGACION PAESO DE LA REFORMA NO. 600, SANTA FE, ALVARO OBREGÓN, CIUDAD DE MÉXICO, 1210		Shell & AMG Recycling B.V [d]	50
COMERCIAL IMPORTADORA S DE RL DE CV	50	STRAWINSKYLAAN 1725, AMSTERDAM, 1077 XX	
NETHERLANDS		Karachaganak Petroleum Operating B.V. [b]	29
AMSTERDAMSEWEG 55, 1182 GP AMSTELVEEN, P.O. BOX 75650, IJCHTHAVEN SCHIPHOL, 1118 ZS		VONDELINGENWEG 601, VONDELINGENPLAAT, VONDELINGENPLAAT ROTTERDAM, 11000	
Amsterdam Schiphol Pijpleiding Beheer B.V.	40	Ellba B.V. [b]	50
ANTARESIAAN 39, P.O. BOX 3068, HOOFFDORP, 2132 JE		Ellba C.V. [b] [d]	50
Multi Tank Card B.V.	30	VOORSTRAAT 67, GROOT-AMMERS, 2964AJ	
BUTAANWEG 215, VONDELINGPLAAT, ROTTERDAM, 3196 KC		BlueAlp Holding B.V.	21
N.V. Rotterdam-Rijn Pijpleiding Maatschappij [b]	56	WEENA 762, 9E VERDIEPING, ROTTERDAM, 3014 DA	
CAREL VAN BYLANDTIAAN 30, S-GRAVENHAGE, 11000		Guara B.V.	30
BJS Oil Operations B.V.	80	Iara B.V.	4
Bogstone Holding B.V.	97	Lapa Oil & Gas B.V.	30
Cicerone Holding B.V.	97	Libra Oil & Gas B.V.	20
Shell and Vivo Lubricants B.V.	50	Tupi B.V.	23
CAREL VAN BYLANDTIAAN 30, THE HAGUE, 2596 HR		WEENA 788, ROTTERDAM, 3014 DA	
Ecowende Beheer B.V. [b]	60	Blauwwind II C.V. [b] [d]	20
Ecowende C.V. [b]	60	Blauwwind Management II B.V. [b]	20
Geocombinatie Leeuwarden B.V.	30	WIJNAND VAN ARNHEMVEG 8, OOSTERBEEK, 6862 XM	
Tamba B.V.	50	iLNG B.V.	28
DR. HUB VAN DOORNEWEG 183, TILBURG, 5026RD		ZEELANDSESTRAAT 1, MILLINGEN AAN DE RIJN, 6566 DE	
Travis Road Services International B.V.	34	SolarNow B.V.	47
EUROPAWEG 975, MAASVLAKTE, ROTTERDAM, 3199 LC		NIGERIA	
Maasvlakte Olie Terminal C.V. [d]	16	CORPORATE OFFICE, INTELS ABA ROAD ESTATE, KM16 ABA EXPRESSWAY, PORT HARCOURT, 500211	
		Nigeria LNG Limited	26
		NLNG Shipping Management Limited	20
		NORWAY	
		BYFJORDPARKEN 15, STAVANGER, 4007	
		Northern Lights JV DA [d]	33

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
NORWAY continued		50 RAFFLES PLACE #06-00, SINGAPORE LAND TOWER, SINGAPORE, 48623	
KRISTIAN AUGUSTS GATE 13, OSLO, 164		Orb Energy Pte Ltd.	24
Aviation Fuelling Services Norway AS	50	THE METROPOLIS TOWER 1, 9 NORTH BUONA VISTA DRIVE, #07-01, #07-01, SINGAPORE, 138588	
MONGSTAD 71A, MONGSTAD, 5954		Connected Freight Pte. Ltd.	80
Technology Centre Mongstad DA	9	QPI and Shell Petrochemicals (Singapore) Pte Ltd	51
NYHAMNA, AUKRA, 6480		SOUTH AFRICA	
Ormen Lange Eiendom DA	18	HONSHU ROAD, DURBAN, 4001	
OMAN		Blendcor (Pty) Ltd. [b]	36
P.O. BOX 560, MINA AL FAHAL, MUSCAT, 116		INANDA GREENS BUSINESS PARK, ST ANDREWS BUILDING 9, 1ST FLOOR, 54 WIERDA ROAD WEST SANDTON, GAUTENG, 2196	
Oman LNG LLC	30	Sekelo Oil Trading (Pty) Limited	43
P.O. BOX 81, MINA AL FAHAL, MUSCAT, 113		REUNION, DURBAN, 4001	
Petroleum Development Oman LLC	33	Shell & BP South African Petroleum Refineries (Pty) Limited [b]	36
PAKISTAN		TWICKENHAM, THE CAMPUS, 57 SLOAN STREET, EPSOM DOWNS, BRYANSTON, 2021	
OFFICE NO 8, LEVEL 3, GROUND FLOOR, SERENA BUSINESS COMPLEX, KHAYABAN-E-SUHRDWARDY, G-5/1, ISLAMABAD, 44000		Bituguard Southern Africa (Pty) Ltd	36
Pak Arab Pipeline Company Limited	20	SOUTH KOREA	
PHILIPPINES		#704-3, TOWER B.HYUNDAI KNOWLEDGE INDUSTRIAL CENTER, 70 DUSAN-RO, GEUMCHEON-GU, SEOUL, 8584	
2ND FLOOR, BONIFACIO TECHNOLOGY CENTER, 31ST STREET CORNER 2ND AVENUE, BONIFACIO GLOBAL CITY, TAGUIG, MANILA, 1635		Korea Impact Carbon Corporation	40
Bonifacio Gas Corporation	24	640-6, DAEJUK-RI, DAESAN-EUP, SEOSAN-SHI, CHUNGCHONGNAM-DO, 356-713	
LEVEL 3B, 111 PASEO DE ROXAS BLDG., PASEO DE ROXAS AVE, IEGASPI VILLAGE, SAN LORENZO, MAKATI CITY, IEGASPI VILLAGE, SAN LORENZO		Hyundai and Shell Base Oil Co., Ltd	40
Tablas Strait Offshore Wind Power Corporation [b]	39	SPAIN	
NDC BLDG., 116 TORDESILLAS ST., SALCEDO VILLAGE, MAKATI CITY, METRO MANILA, 1227		CALLE SAN LUCAS, 6, SANTA CRUZ DE TENERIFE, 38003	
Kamayay Realty Corporation	22	CMD Aeropuertos Canarios, S.L.	10
UNIT 1, 9TH FLOOR, ORE CENTRAL TOWER, 31ST STREET CORNER 9TH AVENUE, BONIFACIO GLOBAL CITY, TAGUIG CITY, FOURTH DISTRICT, FORT BONIFACIO		SWEDEN	
Greenlight Renewables Holding Inc [b]	40	P.O. BOX 135, STOCKHOLM, 190 46	
UNIT D 9TH FLOOR INOZA TOWER, 40TH STREET, NORTH BONIFACIO, BONIFACIO GLOBAL CITY, TAGUIG, MANILA, 1634		A Flygbänslehantering Aktiebolag	25
Tabangao Realty, Inc.	40	P.O. BOX 2154, GOTHENBURG, 438 14	
QATAR		Gothenburg Fuelling Company AB	33
1ST FLOOR, AL-MIRQAB TOWER, DOHA		P.O. BOX 85, STOCKHOLM-ARLANDA, 190 45	
Marine LNG Solutions LLC [b]	50	Stockholm Fuelling Services AB	25
P.O. BOX 22666, DOHA		STURUP FLYGLATS, P.O. BOX 22, MALMÖ, 230 32	
QatarEnergy LNG N(4)	30	Malmö Fuelling Services AB	33
QATARENERGY HQ TOWER 4, PODIUM LEVEL, BUILDING NO. 4, STREET NO. 951, DOHA, ZONE 63		SWITZERLAND	
QatarEnergy LNG NFE(2)	25	AUTOSTRADA A2 [DIREZIONE GOTTARDO], HOTEL BELLINZONA SUD, MONTE CARASSO, 6513	
QatarEnergy LNG NFS(2) [f]	25	Stazioni Autostradali Bellinzona SA	50
SAUDI ARABIA		ROUTE DE PRÉ-BOIS 17, COINTRIN, 1216	
P.O. BOX 41467, RIYADH, 11521		Saraco SA	20
Al Jomaih and Shell Lubricating Oil Co.Ltd.	50	ROUTE DE VERNIER 132, VERNIER, 1214	
SINGAPORE		SOGEP Société Genevoise des Pétales SA	34
1 HARBOURFRONT AVENUE, #08-01/08, KEPPEL BAY TOWER, SINGAPORE, 98632		ZWÜSCHETEICH, RÜMLANG, 8153	
Infinium Singapore LLP	50	UBAG - Unterflurbetankungsanlage Flughafen Zürich AG	20
100 AYER MERBAU ROAD, SINGAPORE, 628277		SYRIA	
PCS Pte Ltd	26	CHAM CENTRE COMPLEX, MAYSALOON STREET, P.O. BOX 7660, DAMASCUS	
100 PECK SEAH STREET, #10-18 PS100, SINGAPORE, 79333		Al Furat Petroleum Company	20
LRDTECH PTE LTD	50	DAMASCUS NEW SHAM WESTERN DUMMAR, ISLAND NO. 1 - PROPERTY 2299, P.O. BOX 7660, DAMASCUS	
15, AIRLINE ROAD, SINGAPORE, 819828		Al Badiah Petroleum Company	22
Changi Airport Fuel Hydrant Installation Pte. Ltd.	11	TAIWAN	
160 TUAS SOUTH AVENUE 5, SINGAPORE, 637364		NO. 2, TSO-NAN ROAD, NAN-TZE DISTRICT, P.O. BOX 25-30, KAOHSIUNG, 811	
Singapore Lube Park Pte. Ltd. [b]	44	CPC Shell Lubricants Co. Ltd	51
25 CHURCH STREET, 03-04 CAPITAL SQUARE THREE, SINGAPORE, 49482		TANZANIA	
Cleantech Renewable Assets Pte Ltd	49	1ST FLOOR KILWA HOUSE, PLOT 369, TOURE DRIVE, OYSTER BAY, PO BOX 105833, DAR ES SALAAM, 11000	
5 BENOI PLACE, #02, SINGAPORE, 629926		Fahari Gas Marketing Company Limited	53
Best Petrol and Diesel Supply Pte. Ltd. [d]	45	Ruvuma Pipeline Company Limited	53
50 GUL ROAD, SINGAPORE, 629351		1ST FLOOR, KILWA HOUSE, PLOT 369 TOURE DRIVE, OYSTERBAY, P.O BOX 105833, DAR ES SALAAM, 11000	
Fuelng Pte. Ltd [b]	50	Mzalendo Gas Processing Company Limited	53

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%	Company by country and address of incorporation	%
TRINIDAD AND TOBAGO		Manchester Airport Storage and Hydrant Company Limited	25
1 INTERNATIONAL DRIVE, WESTMOORINGS		The Consolidated Petroleum Company Limited	50
The International School of Port of Spain Limited	25	SHELL INTERNATIONAL PETROLEUM CO LTD, SHELL CENTRE, 8 YORK ROAD, LONDON, 11000	
5 ST. CLAIR AVENUE, PORT OF SPAIN		SM Realisations Limited	60
Point Fortin LNG Exports Limited	81	UKRAINE	
PRINCES COURT, CORNER OF KEATE AND PEMBROKE STREETS, PORT OF SPAIN		M. HRINCHENKO, 4, KYIV, 11000	
Atlantic LNG 2/3 Company of Trinidad and Tobago Unlimited	58	Alliance Holding LLC [d]	97
TUNISIA		Invest-Region LLC [d]	97
IMMEUBLE MEZGHENNI, RUE DU LAC WINDERMERE, LES BERGES DU LAC, TUNIS, 1053 - BP 36		UNITED ARAB EMIRATES	
Amilcar Petroleum Operations S.A.	50	EMDAD AVIATION FUEL STORAGE FZCO, P.O. BOX 261781, JEBEL ALI, DUBAI, JEBEL ALI	
TURKEY		Emdad Aviation Fuel Storage FZCO	33
DILOVASI ORGANIZE SANAYI BOLGESI I.KISIM, 1004 SOKAK NO:10, DILOVASI, KOCAELI		P.O. BOX 665, ABU DHABI	
Samsun Akaryakıt VE Depolama A.S.	35	Abu Dhabi Gas Industries Limited (GASCO)	15
LIMAN MAHALLESİ 60. SOKAK NO. 25, KONYAALTI, ANTALYA, 7070		URUGUAY	
Cekisan Depolama Hizmetleri Ltd. Sti.	46	LA CUMPARSITA, 1373 4TH FLOOR, MONTEVIDEO	
SULTANKOY MAHALLESİ MALTEPE SOKAK NO:66, MARMARA EREGÜSİ, TEKİRDAĞ, 59750		Dinarel S.A.	50
Marmara Depoculuk Hizmetleri A.S.	35	Gasoducto Cruz del Sur S.A.	40
YAKUPLU MAH. GENCOSMAN CAD. NO:7, BEYLİKDUZU, İSTANBUL, 34524		USA	
Ambarlı Depolama Hizmetleri Ltd. Sti.	35	1013 CENTRE ROAD SUITE 403B, WILMINGTON, DE 19805	
UK		Statiq Mobility, Inc.	28
50 LOTHIAN ROAD, FESTIVAL SQUARE, EDINBURGH, EH3 9WJ		10346 BRECKSVILLE RD, BRECKSVILLE, OH 44141	
CAMPIONWIND LIMITED [b]	50	True North Energy LLC	50
MARRAMWIND LIMITED [b]	50	1191 2ND AVE, SUITE 1900, SEATTLE, WA 98101	
5-7 ALEXANDRA ROAD, HEMEL HEMPSTEAD, HERTFORDSHIRE, HP2 5BS		Airbiquity Inc.	20
West London Pipeline and Storage Limited [b]	38	150 N. DAIRY ASHFORD, HOUSTON, TX, 77079	
5-7 ALEXANDRA ROAD, SHELL-MEX HOUSE, HEMEL HEMPSTEAD, HERTFORDSHIRE, HP2 5BS		Brazos Wind Holdings, LLC [b] [c]	40
British Pipeline Agency Limited	50	15445 INNOVATION DRIVE, SAN DIEGO, CA, 92128	
United Kingdom Oil Pipelines Limited [b]	48	Mid-Atlantic Offshore Development, LLC [c]	50
Walton-Gatwick Pipeline Company Limited [b]	52	1740 ED TEMPLE BLVD, NASHVILLE, TN 37208	
ATHENA HOUSE, TACHBROOK PARK, WARWICK, CV34 6RL		Tri Star Energy LLC	33
Autogas Limited	50	1900 EAST LINDEN AVENUE, LINDEN, NJ 07036	
BUILDING 1204, SANDRINGHAM ROAD, HEATHROW AIRPORT, HOUNSLOW, MIDDLESEX, TW6 3SH		Infineum USA Inc	50
Heathrow Airport Fuel Company Limited	14	2050 PLAINFIELD PIKE, CRANSTON, RI 02921	
BUILDING 1204, SANDRINGHAM ROAD, HEATHROW AIRPORT, HOUNSLOW, MIDDX, LONDON, TW6 3SH		Colbea Enterprises, LLC	50
Heathrow Hydrant Operating Company Limited	10	2100 GENG ROAD, SUITE 210, SANTA CLARA, PALO ALTO, CA 94303	
EXXONMOBIL HOUSE, ERMYN WAY, LEATHERHEAD, LEATHERHEAD, KT22 8UX		D.Light Design Inc.	34
Stansted Fuelling Company Limited	17	2237 HATCHER HILL ROAD, BACONTON, GA 31716	
JOHNSTON CARMICHAEL OFFICE, G08 (GROUND FLOOR) BIRCHIN COURT, 20 BIRCHIN LANE, LONDON, EC3V9DU		Baconton Power LLC [c]	35
Kite Power Systems Limited	34	3450 E. COMMERCIAL CT., MERIDIAN, ID 83642	
LEVEL 39, ONE CANADA SQUARE, LONDON, E14 5AB		Pacwest Energy, LLC.	50
Applied Blockchain Ltd	22	3500 S DUPONT HWY, DOVER, 19901	
MAIN ROAD, WATERSTON, MILFORD HAVEN, PEMBROKESHIRE, SA73 1DR		Carbon Informatics LLC [c]	49
Dragon LNG Group Limited [b]	50	4080 WEST JONATHAN MOORE PIKE, COLUMBUS, IN 47201	
Dragon LNG Limited [b]	50	RDK Ventures, LLC	50
ONE BARTHOLOMEW CLOSE, LONDON, EC1A 7BL		41805 ALBRAE STREET, FREMONT, CA 94538	
Gatwick Airport Storage and Hydrant Company Limited	13	Au Energy, LLC	50
PANNONE CORPORATE LLP, 378-380 DEANSGATE, CASTLEFIELD, MANCHESTER, M3 4LY		850 NEW BURTON ROAD, SUITE 201, DOVER, DE 19904	
Steamia Company Limited	33	Eleox LLC [c]	17
PO BOX 1, MILTON HILL, ABINGDON, OXFORDSHIRE, OX13 6BB		930 WHITMORE DRIVE, ROCKWALL, 75087	
Infineum International Limited	50	Shell & Whitmore Reliability Solutions, LLC [c]	50
SHELL CENTRE, LONDON, 11000		BECHTEL ENTERPRISES, 12011 SUNSET HILLS ROAD, RESTON, VA 20190	
SHELL MEX AND B.P. LIMITED	60	Maple Power Holdings LLC [b]	68
SHELL CENTRE, LONDON, SE1 7NA		CORPORATION SERVICE COMPANY, 251 LITTLE FALLS DRIVE, DELAWARE, DE 19808	
Eastham Refinery Limited [b]	50	West Shore Pipe Line Company	19
		CORPORATION SERVICE COMPANY, 251 LITTLE FALLS DRIVE, WILMINGTON, DE 19808	
		Atlantic Shores Offshore Wind, LLC [c]	50
		Bengal Pipeline Company LLC	58
		Colonial Pipeline Company	16

Significant subsidiaries and other related undertakings (audited) continued

Company by country and address of incorporation	%
USA continued	
CORPORATION SERVICE COMPANY, 251 LITTLE FALLS DRIVE, WILMINGTON, DELAWARE, 19808	
Quantico Energy Solutions, Inc.	28
Vision Bioenergy Oilseeds LLC [b]	66
CORPORATION SERVICE COMPANY, 251 LITTLE FALLS DRIVE, WILMINGTON, DELAWARE, DE 19808	
Cumulus Digital Systems, Inc.	21
CORPORATION SERVICE COMPANY, 2711 CENTERVILLE ROAD, SUITE 400, WILMINGTON, DE 19808	
Infineum USA L.P. [f]	50
CORPORATION TRUST CENTER, 1209 ORANGE STREET, 1209 ORANGE STREET, WILMINGTON, DELAWARE, 19801	
Blue Tide Environmental LLC [d]	51
CT CORPORATION SYSTEM, 330 N. BRAND BLVD., SUITE 700, GLENDALE, 91203-2336	
Cabazon Wind Partners, LLC [c]	50
RL&F SERVICE CORP, 920 N. KING STREET, FLOOR 2, WILMINGTON, DE 19801	
Atlantic 1 Holdings LLC [c]	51
Atlantic 2/3 Holdings LLC [c]	58
Atlantic 4 Holdings LLC [c]	51
THE CORPORATION TRUST COMPANY, 1209 ORANGE STREET, CORPORATION TRUST CENTER, WILMINGTON, 19801	
Amberjack Pipeline Company LLC [c]	63
Caesar Oil Pipeline Company, LLC [c]	15
Endymion Oil Pipeline Company, LLC [c]	10
Mattox Pipeline Company LLC [c]	79
Proteus Oil Pipeline Company, LLC [c]	10
Ship Shoal Pipeline Company LLC [c]	43
URSA Oil Pipeline Company LLC [c]	45
Brazos Wind Ventures, LLC [b] [c]	40
THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, 1209 ORANGE STREET, WILMINGTON, 19801	
Explorer Pipeline Company	39
Southcoast Wind Energy LLC [c]	50
THE CORPORATION TRUST COMPANY, CORPORATION TRUST CENTER, 1209 ORANGE STREET, WILMINGTON, DE 19801	
Crestwood Permian Basin LLC	50
Diamond Energy. LLC [c]	50
Husk Power Systems, Inc.	20
LOCAP LLC	41
LOOP LLC	46
Mars Oil Pipeline Company LLC [c]	72
Peru LNG Company LLC [c]	20
Poseidon Oil Pipeline Company, LLC	36
Rock River I, LLC [c]	50
Silicon Ranch Corporation	44
Three Wind Holdings, LLC [c]	50
Whitewater Hill Wind Partners, LLC [c]	50
VENEZUELA	
AVENIDA LEONARDO DA VINCI, EDIFICIO PDV SERVICIOS, CARACAS, DISTRITO CAPITAL	
Sucre Gas, S.A.	30
ZAMBIA	
7TH FLOOR, NATIONAL SAVINGS & CREDIT BANK BUILDING, NORTH END, CAIRO ROAD, LUSAKA	
Shell Zambia Limited	72
ZIMBABWE	
BLOCK 1, TENDESEKA OFFICE PARK, CNR SAMORA MACHEL AVENUE, RENFREW ROAD, HARARE	
Central African Petroleum Refineries (Private) Limited	21

Financial calendar in 2024

The Annual General Meeting will be held on May 21, 2024.

	2023 Fourth quarter [A]	2024 First quarter [B]	2024 Second quarter [B]	2024 Third quarter [B]
Results announcements	February 1	May 2	August 1	October 31
Interim dividend timetable				
Announcement date	February 1 [C]	May 2	August 1	October 31
Ex-dividend date for SHEL ADS [D]	February 15	May 16	August 16	November 15
Ex-dividend date for SHEL ordinary shares	February 15	May 16	August 15	November 14
Record date	February 16	May 17	August 16	November 15
Closing of currency election date [E]	March 1	June 3	September 2	November 29
Pounds sterling and euro equivalents announcement date	March 11	June 10	September 9	December 9
Payment date	March 25	June 24	September 23	December 19

[A] In respect of the financial year ended December 31, 2023.
[B] In respect of the financial year ended December 31, 2024.
[C] The Directors do not propose to recommend any further distribution in respect of 2023.
[D] On February 15, 2023, the SEC published its final rule, Shortening the Securities Transactions Settlement Cycle, reducing the standard U.S. trade settlement cycle for Depository Trust Company (DTC) eligible securities to T+1 from T+2 and setting the compliance date to May 28, 2024. European markets will keep the current T+2 settlement cycle. As a result, beginning with Q2 2024, ex-dividend date and record date for SHEL ADSs will be the same date. Ex-dividend date for SHEL shares will be a day prior to ex-dividend date for and SHEL ADSs. Record dates will not change. The timings of these are detailed above.
[E] A different currency election date may apply to shareholders holding shares in a securities account with a bank or financial institution ultimately through Euroclear Nederland. This may also apply to other shareholders who do not hold their shares either directly on the Register of Members or in the corporate sponsored nominee arrangement. Shareholders can contact their broker, financial intermediary, bank or financial institution for the election deadline that applies.

Contact Us

The best way to get in touch is via the "Contact us" section of the Shell website shell.com/investors. From here questions are properly directed to the Shell team that can assist. In addition, we have introduced an automated question response tool to assist with the most popular questions that we receive and reviewed and updated the "Frequently asked Questions" section of our website to provide the most time efficient information for our investors.

Registered Office and HQ Shell plc Shell Centre London SE1 7NA United Kingdom Registered in England and Wales Company number 4366849	Share registration Equiniti Aspect House Spencer Road Lancing West Sussex BN99 6DA United Kingdom 0800 169 1679 customer@equiniti.com For online information about your holding and to change the way you receive your company documents: shareview.co.uk	Investor Relations Shell plc PO Box 162 2501 AN The Hague The Netherlands or Shell Oil Company Investor Relations 150 N Dairy Ashford Houston, TX 77079 USA shell.com/investors
American Depositary Shares (ADSs) JPMorgan Chase Bank, N.A. Shareowner Services P.O. Box 64504 St. Paul, MN 55164-0504 USA Overnight correspondence to: Shareowner Services 1110 Centre Pointe Curve, Suite 101 Mendota Heights, MN 55120-4100 USA +1 888 737 2377 (USA only) +1 651 453 2128 (International) Email: shareowneronline.com/informational/contact-us/ adr.com/shareholder		Report ordering shell.com/order Annual Report/20-F service for US residents +1 888 301 0504

About this Report

The Shell plc Annual Report (this "Report") serves as the Annual Report and Accounts in accordance with UK requirements for the year ended December 31, 2023, for Shell plc (the "Company") and its subsidiaries (collectively referred to as "Shell"). This Report presents the Consolidated Financial Statements of Shell (pages 244-316) and the Parent Company Financial Statements of Shell (pages 350-359). Except for these Financial Statements, the numbers presented throughout this Report may not sum precisely to the totals provided and percentages may not precisely reflect the absolute figures due to rounding.

The Consolidated Financial Statements of Shell plc and its subsidiaries contained in this Report have been prepared in accordance with international accounting standards in conformity with the requirements of the UK Companies Act 2006 (the "Act"), and therefore in accordance with UK-adopted international accounting standards. As applied to Shell, there are no material differences from International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB); therefore, the Consolidated Financial Statements have been prepared in accordance with IFRS as issued by the IASB. IFRS as defined above includes interpretations issued by the IFRS Interpretations Committee. Financial reporting terms used in this Report are in accordance with IFRS.

This Report contains certain forward-looking non-GAAP measures such as cash capital expenditure. We are unable to provide a reconciliation of these forward-looking non-GAAP measures to the most comparable GAAP financial measures because certain information needed to reconcile those non-GAAP measures to the most comparable GAAP financial measures is dependent on future events some of which are outside the control of Shell, such as oil and gas prices, interest rates and exchange rates. Moreover, estimating such GAAP measures with the required precision necessary to provide a meaningful reconciliation is extremely difficult and could not be accomplished without unreasonable effort. Non-GAAP measures in respect of future periods which cannot be reconciled to the most comparable GAAP financial measure are calculated in a manner which is consistent with the accounting policies applied in Shell plc's consolidated financial statements.

The companies in which Shell plc directly and indirectly owns investments are separate legal entities. In this report "Shell", "Shell Group" and "Group" are sometimes used for convenience where references are made to Shell plc and its subsidiaries in general. Likewise, the words "we", "us" and "our" are also used to refer to Shell plc and its subsidiaries in general or to those who work for them. These terms are also used where no useful purpose is served by identifying the particular entity or entities. "Subsidiaries", "Shell subsidiaries" and "Shell companies" as used in this report refer to entities over which Shell plc either directly or indirectly has control. The term "joint venture", "joint operations", "joint arrangements", and "associates" may also be used to refer to a commercial arrangement in which Shell has a direct or indirect ownership interest with one or more parties. The term "Shell interest" is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in an entity or unincorporated joint arrangement, after exclusion of all third-party interest.

As used in this Report, "Accountable" is intended to mean: required or expected to justify actions or decisions. The Accountable person does not necessarily implement the action or decision (implementation is usually carried out by the person who is Responsible) but must organise the implementation and verify that the action has been carried out as required. This includes obtaining requisite assurance from Shell companies that the framework is operating effectively. "Responsible" is intended to mean: required or expected to implement actions or decisions. Each Shell company and Shell-operated venture is responsible for its operational performance and compliance with the Shell General Business Principles, Code of Conduct, Statement on Risk Management and Risk Manual, and Standards and Manuals. This includes responsibility for the operationalisation and implementation of Shell Group strategies and policies.

Shell's "net carbon intensity" referred to in this Report includes Shell's carbon emissions from the production of our energy products, our suppliers' carbon emissions in supplying energy for that production, and our customers' carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions. The use of

the term "Net Carbon Intensity" is for convenience only and not intended to suggest these emissions are those of Shell plc or its subsidiaries.

Shell's operating plan, outlook and budgets are forecasted for a 10-year period and are updated every year. They reflect the current economic environment and what we can reasonably expect to see over the next ten years. Accordingly, they reflect our Scope 1, Scope 2 and NCI targets over the next 10 years. However, Shell's operating plans cannot reflect our 2050 net-zero emissions target, as this target is currently outside our planning period. In the future, as society moves towards net-zero emissions, we expect Shell's operating plans to reflect this movement. However, if society is not net zero in 2050 as of today, there would be significant risk that Shell may not meet this target.

Except where indicated, the figures shown in the tables in this Report are in respect of subsidiaries only, without deduction of any non-controlling interest. However, the term "Shell share" is used for convenience to refer to the volumes of hydrocarbons that are produced, processed or sold through subsidiaries, joint ventures and associates. All of a subsidiary's production, processing or sales volumes (including the share of joint operations) are included in the Shell share, even if Shell owns less than 100% of the subsidiary. In the case of joint ventures and associates, however, Shell-share figures are limited only to Shell's entitlement. In all cases, royalty payments in kind are deducted from the Shell share.

Except where indicated, the figures shown in this Report are stated in US dollars. As used herein all references to "dollars" or "\$" are to the US currency.

This Report contains forward-looking statements concerning the financial condition, results of operations and businesses of Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as "aim", "ambition", "anticipate", "believe", "could", "estimate", "expect", "goals", "intend", "may", "milestones", "objectives", "outlook", "plan", "probably", "project", "risks", "schedule", "seek", "should", "target", "will" and similar terms and phrases. There are a number of factors that could affect the future operations of Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this Report, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, judicial, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; (m) risks associated with the impact of pandemics, such as the COVID-19 (coronavirus) outbreak, regional conflicts, such as Russia's invasion of Ukraine, and a significant cyber security breach; and (n) changes in trading conditions. Also see "Risk factors" on pages 14-28 for additional risks and further discussion. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this Report are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Each forward-looking statement speaks only as of the date of this Report. Neither the Company nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new

About this Report continued

information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this Report.

Past performance cannot be relied on as a guide to future performance.

This Report contains references to Shell's website, the Shell Sustainability Report, Shell Energy Transition Strategy 2024 Report, Tax Contribution Report, Shell Climate and Energy Lobbying Report 2023 and our report on Payments to Governments. These references are for the readers' convenience only. Shell is not incorporating by reference into this Report any information posted on [shell.com](https://www.shell.com) or in the Shell Sustainability Report, Shell Energy Transition Strategy 2024 Report, Tax Contribution Report, Shell Climate and Energy Lobbying Report or our report on Payments to Governments. The content of any other websites referred to in this Report does not form part of this Report.

With effect from January 29, 2022, Shell's A shares and B shares were assimilated into a single line of ordinary shares. Shell's A and B American Depositary Shares (ADSs) were assimilated into a single line of ADSs on the same date. This Report continues to refer to A shares, B shares, A ADSs and B ADSs when describing the position prior to January 29, 2022.

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- Report on our progress in contributing to sustainable development
- Report on how Shell has progressed with its energy transition
- Energy Transition Strategy 2024