



CLIMATE REPORT 2023

FOREWORD

As companies navigate the evolving landscape of societal and environmental responsibility, they're integrating these values into their daily decisions and business models. This shift is driven both by internal motives and external pressures, including heightened expectations from end customers and regulatory mandates. Consequently, 'sustainability in supply chain management' is emerging as a pivotal component of the value chain, demanding strategic integration. A company demonstrates ecological sustainability by operating in a resource-efficient manner, controlling emissions, and actively contributing to climate protection efforts. In doing so, it safeguards nature and the environment, ensuring their preservation for future generations.

Our climate targets prioritize actions aimed at preventing and reducing emissions rather than simply offsetting them. We strive for the responsible utilization of resources in our services and environmentally conscious sourcing of materials.

In 2023, we globally transitioned to renewable electricity, achieving a 50% reduction in Scope 1 and 2 emissions compared to 2018. Further efforts included the 'Paperless' initiative, Industry 4.0 technology research, and local environmental projects. We also developed our 'Sustainable Building Policy'.

We are grateful to our clients for their ongoing support and trust. Together, we can make meaningful progress in terms of emissions reduction across our supply chains.



Frank Schirrmeister

Frank Schirrmeister
CEO Arvato

INTRODUCTION TO ARVATO

Arvato is an innovative and leading international service provider in the field of supply chain management and e-commerce. By combining deep industry expertise with the right technologies, Arvato develops innovative supply chain management and e-commerce solutions for its clients. We focus on Consumer Products, Tech, Healthcare, Industrial and Publisher industries and have aligned our organizational structure to the needs of our global clients and their industries. More than 17,000 employees work together at over 100 locations. This enables us to provide our clients with the best possible support for their growth objectives. Our daily work is clearly aligned with our vision: Our ambition is to be the most client-oriented international supply-chain company with the strongest focus on people and technology.

BRANDS TRUST IN US



KEY FIGURES

€ 2.3 bn
revenue

17,000
employees

~3.0 m
sqm footprint
worldwide

17
countries

OUR REPORT AT A GLANCE

STRATEGY & REVIEW 2023

- Arvato is a solution group of Bertelsmann SE & Co. KGaA, and headquartered in Gütersloh, Germany. We fully support Bertelsmann's Science Based Target to reduce greenhouse gas emissions by 50% from a 2018 baseline and reach climate neutrality by 2030.
- Transparency and reliable data are the foundation for our climate targets and actions. Since 2008, we have been collecting and analyzing environmental data across our warehouse sites, and since 2018, we have been leveraging our Environmental Data Management platform green.screen. This is the third Climate Report published by Arvato.
- A number of sustainability initiatives have been kicked off in 2023. Among those, Arvato has started the 'Paperless' initiative to reduce physical paper both in warehouse processes as well as in the distributed packages. We have done further research on how industry 4.0 technology interacts with sustainability ambitions, and a number of local environmental projects have been conducted to raise employee awareness.
- A highlight of 2023 is the successful finalization of our global project to switch to renewable electricity procurement worldwide.
- We were able to achieve our target to reduce Scope 1 and 2 emissions by 50% compared to 2018 ahead of time. While the switch to renewable electricity sources heavily contributed, a reduction of natural gas usage turned the scale.
- With our new 'Sustainable Building Policy' we aim to define key aspects of our facilities. The first chapter 'Sustainable Buildings', which specifies standards on how we plan, design, construct and fit our own warehouses, has been finalized in 2023. Further chapters are currently at work.

CLIMATE TARGET DEVELOPMENT

STATUS 2023

- | | |
|---|--------------------------|
| 1. 100% green electricity worldwide as of January 2023 | 100% |
| 2. Scope 1 & 2: 50% absolute reduction until 2030 (base line 2018) | - 52% |
| 3. Scope 1-3: 50% relative reduction per package until 2030 (base line 2018) | <i>no data available</i> |
| 4. 100% offsetting of remaining unavoidable emissions (excluding Scope 3 service-related emissions) | <i>as of 2030</i> |

KEY FINDINGS

By switching to renewable electricity procurement worldwide, we were able to reduce the electricity related emissions by 86% compared to 2022, and the overall Scope 2 emissions by 79%.

At the same time, Scope 3 emissions rose, mostly due to an increase of customer business, which is shown in rising emissions for e.g. packaging material, waste, and transportation emissions.

SCOPE	METRIC TONNES CO2E			DELTA 2018 VS. 2023
	2018	2022	2023	
1	18,600	19,100	19,800	+7%
2	36,800	18,600	7,600	- 79%
3	135,600	177,600	239,700	+ 77%
Total	191,000	215,300	267,100	+ 40%

GOVERNANCE

WHAT DOES ESG MEAN TO US?

At Arvato, ESG is our commitment to maximizing the positive impact of our business activities on our people, the environment and society, and to our responsibility along the entire value chain.



WHAT IS OUR APPROACH TO WORK WITH SUPPLIERS?

Although Arvato does not manufacture its own products, we do procure a variety of products and services, among others packaging materials and transport services. Following the German Supply Chain Act, we recognize our responsibility to improve social and ecological aspects of value chains. Our suppliers are required to sign the [Supplier Code of Conduct](#).



WHICH ARE OUR ESG FOCUS TOPICS?

The results of the last relevance analysis showed that five ESG topics (environmental, social, governance) are of prime importance to Arvato stakeholders: 'Fair Working Conditions', 'Diversity, Equity & Inclusion', 'Learning', 'Health, Well-being & Safety', and 'Climate Change'. If you are interested to learn more about the different ESG topics relevant for Bertelsmann, please visit this [link](#). This report focuses on the topic of 'Climate Change'.



GOVERNANCE

ANCHORING SUSTAINABILITY IN THE ORGANIZATION

BERTELSMANN

As a fully integrated subsidiary of Bertelsmann, Arvato functions within a decentralized corporate framework.

Executives across Bertelsmann divisions convene in the Bertelsmann Corporate Responsibility Council, led by the Chief Human Resources Officer, to discuss the evolution of ESG priorities that support the corporate strategy, integrate corporate responsibility within divisions, and coordinate ESG activities across divisions. For more information, click [here](#).

ARVATO

The Arvato ESG Council implements a strategic framework across all industries, meeting at least eight times annually to discuss actions, analyze outcomes, and ensure ESG efforts align with the overall strategy.

The Arvato Central Environment team oversees the topic 'Climate Change', one of the focus points of the Arvato ESG strategy. The team works closely with the senior management and with Bertelsmann to set milestones, manage central projects, and harmonize the environmental strategy across Arvato locations.

At the industry and country levels, 27 local Green Leads disseminate the strategy, educate employees, and assist in its implementation throughout the organization.

Our Global Green Community, comprising over 100 members, links the Environment team with quality managers, project leads, and site directors globally to ensure local implementation of our program.



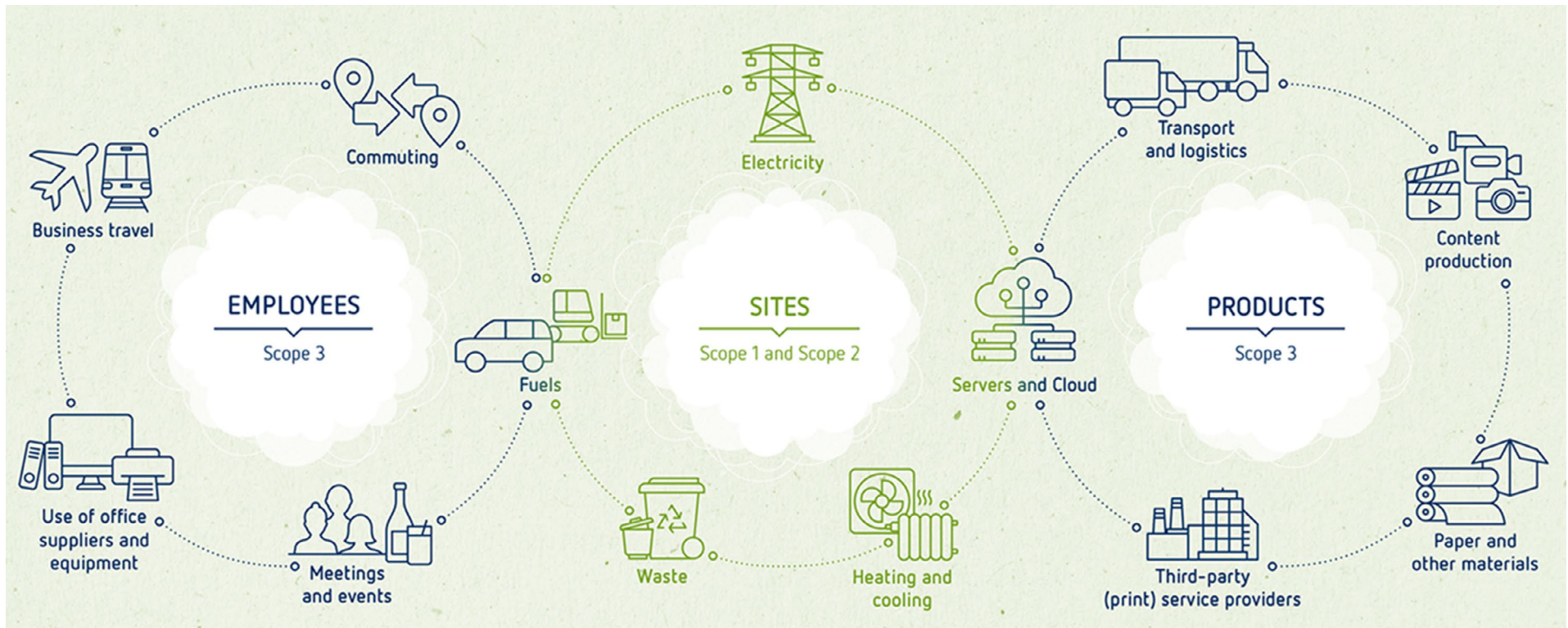
STRATEGY

OUR CLIMATE TARGET

Arvato is committed to achieving climate neutrality by 2030 by prioritizing the reduction of greenhouse gas emissions. This approach supports Bertelsmann's broader climate goal to cut emissions by 50 percent from 2018 levels.

Compensating for unavoidable emissions will be considered as a last resort, focusing on high-quality, voluntary climate-protection projects. Selected projects for compensation will be long-term, designed to ensure CO2 is not re-

emitted into the atmosphere, and must adhere to rigorous standards (e.g., Gold Standard, Verified Carbon Standard), while also offering additional environmental and social benefits. For more information, click [here](#).



The Bertelsmann approach on how to cluster corporate emissions.

STRATEGY

RENEWABLE ELECTRICITY

By switching globally to renewable electricity since January 2023, we have achieved an important goal in our sustainability strategy. In some countries like Germany, the UK, or France it has been achieved through a tariff with the energy provider. In countries such as Türkiye, China or Poland, however, such a simple change is often not possible. Here, we have purchased so-called 'Renewable Energy Certificates' (RECs), which document that the purchased electricity comes from renewable sources. The certificates must be sourced as locally as possible, i.e. in the same energy market or in neighboring countries, and they must meet defined qualitative standards.



**RENEWABLE ELECTRICITY
CONTRACTS**



**RENEWABLE ENERGY
CERTIFICATES
(RECs)**



**PHOTOVOLTAIC
SYSTEMS**

Using the roofs of our warehouse facilities is another convenient way to generate electricity with the sun's power. On all locations worldwide, we produced around 16,800 MWh electricity of which we have used ourselves 9,500 MWh.

In 2023, we commissioned the first solar power plant in the U.S. on the roof of the distribution center in Ontario, California. The solar power plant has 1,160 solar panels and generates more than 800,000 kilowatt hours (kWh) of green electricity per year. Learn more by clicking [here](#).

Moreover, we have joined the U.S. Environmental Protection Agency's (EPA) Green Power Partnership program, which is a voluntary program that helps increase the use of green power among U.S. organizations to promote the U.S. market for green power and the development of these sources.



STRATEGY

SUSTAINABLE BUILDINGS

CREATING NEW BUILDING STANDARDS GLOBALLY

In 2023, we set out to create a new set of rules for our buildings – a collection of binding documents that is to become a holistic 'Sustainable Building Policy', with various chapters on different aspects of sustainability in the warehouse.

As a first step, we defined new standards for our owned logistics buildings worldwide in a chapter named 'Sustainable Buildings'. The idea was simple: by setting minimum requirements on how we plan, design, construct and fit out our warehouse space, we could do the right things, directly from the start. This first chapter includes standards on electricity-based heating, PV systems, charging stations, insulation, lighting, and air conditioning.

It applies to all new buildings and modules that are planned by Arvato and not rented from a third party, with the aim to decouple our growth in space from increase in site-related carbon emissions.

WHAT ARE THE NEXT STEPS?

We are not only focused on how to operate our warehouses in a climate-neutral way, but also on ensuring accessibility for people with disabilities. We are currently working on an addition to our Policy named 'Inclusion', which will help us to remove obstacles from our warehouse in the planning stage and outline measures to reduce barriers for inclusion in our existing facilities, both owned and rented.

Moreover, we are already planning an update of our first chapter to not only include new technical developments, but to also extend to rented buildings. We also hope to be able to start working on a third chapter in the course of the year, which will focus on sustainable building materials that should be used in the construction phase of a new warehouse facility.



FURTHER INITIATIVES AND PROGRAMS FOSTERING ECOLOGICAL SUSTAINABILITY



PAPERLESS LOGISTICS

An interview with our colleague **Dr. Jens Muth-Böhm** from the Digital Acceleration Team.



Find the full article [here](#).

What exactly is the paperless logistics initiative?

Our Paperless Logistics Initiative aims to digitize all high-volume documents that are printed repetitively and optimize related logistic processes. This includes end customer documents, e.g. invoices and delivery notes, as well as documents used in warehouse processes, e.g. picklists or loading lists.

Can you name a few examples of paperless first movers at Arvato? And can you give us some figures that show the impact of paperless logistics?

One of our clients, a German shoe manufacturer serving the European market, has switched completely to paperless. Another client, a European market leader in fashion, went fully digital for end customer communication, saving 2.2 tons of paper - per week!



TELEKOM REFRUBISHMENT SOLUTION

In 2009, Deutsche Telekom introduced a rental model for routers and media receivers to promote environmental sustainability. The initial remanufacturing process, managed internally and manually, proved costly and time-consuming. The centerpiece of our solution is an advanced automated testing system, strategically designed to simultaneously and efficiently test multiple devices.

By reusing over one million devices annually in Germany and Austria, our solution has resulted in substantial savings across refurbishment, spare parts, transport, and disposal costs. Most importantly, this initiative has contributed to saving more than 300,000 metric tons of CO2 equivalents, with an average of over 44kg of CO2e saved per refurbished device.

Do you want to learn more about our solution?

Download our paper ["Refurbishment Solution for Deutsche Telekom AG: A Sustainable Approach to Saving Resources"](#).



MULTIUSE TRANSPORT PACKAGING

Growing volumes of packaging waste is more and more becoming an issue. So why not use packaging that is designed to be returned and reused? In 2023 we have started to thoroughly screen the market to match the offering with our clients' business demands, considering cost, reusability, durability, safety and handling. Our aim is to offer integrated reusable packaging solutions and are excited to pilot the first trial runs with our first mover clients.



STRATEGY

INDUSTRY 4.0 INNOVATION AND SUSTAINABILITY



Supply-chain companies face the challenge of balancing competitiveness, sustainability, and meeting customer expectations amidst growing order volumes and peak demands. Embracing innovation, particularly through Industry 4.0 technologies, offers a strategic approach to tackle these challenges head-on. Decision-makers must comprehend the hidden interdependencies and mechanisms of relevant technologies on sustainability performance to effectively navigate these complexities.

Industry 4.0 technologies support an organization by providing intelligence to production processes, providing transparency for managerial decision-making, increasing space utilization, improving customer experience, and increasing (network) collaboration, agile pricing, and service quality. Examples of I4.0 technologies are advanced robotics, big data, AI, cyber-physical-systems, Internet of things, and simulation.

ECONOMIC SUSTAINABILITY

Embracing Industry 4.0 technologies can lead to a lower total cost of ownership by reducing costs, improving efficiencies, providing stability and predictability to costs, enabling effective planning and budgeting, and streamlining operations, ultimately ensuring economic sustainability and long-term success.

ECOLOGICAL SUSTAINABILITY

Ecological sustainability leads to reduced CO2 emissions through enhanced resource efficiency, smarter resource use and less waste via intelligent decision-making, the introduction of new services like circular economy options, and improved environmental transparency facilitated by product tracking in the supply chain.

SOCIAL SUSTAINABILITY

Industry 4.0 technologies serve as a potent tool for fostering social sustainability. They contribute to a positive brand image characterized by innovation and forward-thinking, increase attractiveness to customers and employees, elevate shareholder evaluation, provide a more appealing workplace, and offer transparency for stakeholders.

HOW DO INNOVATION TECHNOLOGIES IMPACT SUSTAINABILITY?



Sensors, RFID tags, and IT systems to track the order through every step from order placement to delivery and return increase transparency for customers and consumers.



Using robotic solutions such as Robot arms for picking and (de)palletizing heavy boxes or containers aims to reduce repetitive, non-ergonomic tasks and minimize time spent in hazardous environments.



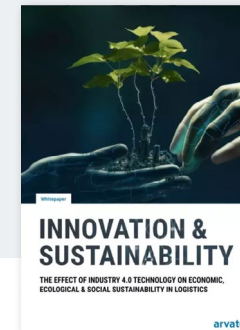
Automated dense storage systems such as Autostore and Shuttle Systems operate efficiently without the need for additional heating and lighting. In certain instances, these systems generate significant heat output, effectively negating the need for heating in the facility during winter months.



Leveraging big data, AI, machine learning tools and digital control towers for workflow and route planning ensures optimal planning of driving and picking routes, resulting in reduced total kilometers driven and decreased emissions.



Using the CXC, which is a Customer online portal to track orders and announce returns, diminishes the need for paper and toner during the return processes, saving trees, water, and energy.



Click [here](#) to download our white paper on Innovation & Sustainability.

STRATEGY

EMPLOYEE ENGAGEMENT AROUND THE WORLD

ARVATO ZERO HERO AWARD

Arvato once again presented and awarded the Zero Hero Award, celebrating outstanding sustainability achievements across our logistic sites. After Hong Kong secured the first-ever trophy in 2022, our Dutch colleagues in Heijen won the award in 2023. Congratulations! With the prize money, the site is planning to install the ever-first wind energy capturing system at Arvato.

In the assessment process, a variety of criteria is considered and rated, for instance absolute energy consumption and carbon emission data as well as reductions achieved in comparison to the previous year.



SUSTAINABLE PACKAGING MATERIAL IN CHINA

Our colleagues in China have introduced environmentally friendly packaging alternatives. Wrapping film is replaced by reusable fabric straps, and traditional pallets are giving way to green, compostable versions. Water-soluble adhesive tape is used and old cardboard boxes are turned into filling material.

BAMBOO PLANTING IN HONG KONG

Our colleagues hosted a bamboo planting event and educated themselves on sustainable agriculture. Moreover, the site has established a rooftop garden to foster organic vegetation. Experts have been invited to provide valuable insights into gardening techniques. The garden boasts a wide variety of plants, including sunflowers, aloe vera, and even pineapples.



EARTH DAY IN THE US

The Ontario Distribution Center ignited Earth Day spirit with a t-shirt design competition. On Earth Day, our colleagues proudly wore these unique t-shirts, showcasing their collective commitment in style. Additionally, we encouraged green thumbs with succulent giveaways and showcased our commitment through a wall tree decoration, where each leaf represented a donation to an environmental non-profit. Nearly 400 leaves were collected, marking a significant contribution to conservation efforts.



ENVIRONMENT DAY AROUND THE WORLD

At our headquarters in Gütersloh, we celebrated World Environment Day with an 'Tree of Ideas', collecting suggestions on how to reduce plastic consumption at the work place. In France, a photo treasure hunt was organized, and in Spain, the kids of our employees were invited to participate in a drawing contest. Also, our colleagues in Ireland and Poland could benefit from extensive communication campaigns to raise awareness on the issue of plastic consumption.



PERFORMANCE

OVERALL EMISSIONS DEVELOPMENT

TRENDS & CHALLENGES

Following the latest developments of carbon accounting best practice, we have added several Scope 3 categories for the reporting year 2023. Among others, upstream transportation, and upstream leased assets categories were added. Overall, Arvato sees an increase in Scope 3 emissions compared to previous years while the reduction initiatives regarding Scope 2 show their effect. Collecting and calculating downstream transportation emissions still poses a significant challenge as we have identified massive inconsistencies across the past years. A holistic project has been kicked off to improve data transparency and reduce input data related errors until 2024.

KEY DRIVERS OF EMISSION DEVELOPMENT

SCOPE 1

Overall, Scope 1 emissions from stationary fuels, refrigerant losses and mobile fuels were unchanged compared to 2022. A reduction of 20% of mobile fuels compared to 2022 was levelled out by a slight increase in stationary fuels emissions, a result of an increase in warehouse space by 20% vs. 2022.

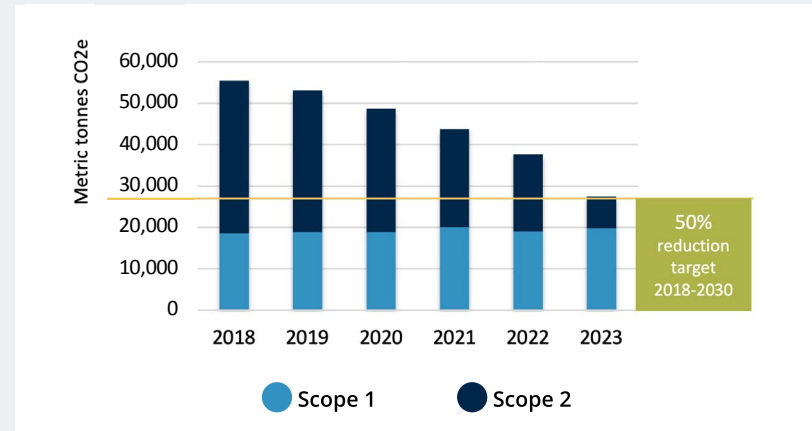
SCOPE 2

We have achieved our goal to switch to renewable electricity worldwide by January 2023, which led to a substantial reduction of Scope 2 emissions compared to 2022. Considerable reductions of natural gas usage especially in the US and the Netherlands accounted for further -42% in Scope 2 Heat emissions.

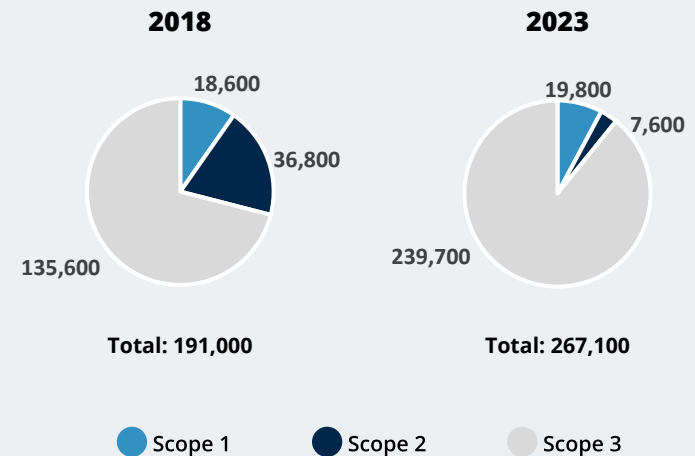
SCOPE 3

Growing customer businesses resulted in an increase in packaging and waste related emissions. At the same time, upstream and downstream transportation emissions rose. This shows that in the logistics sector, a decoupling of business growth and directly related Scope 3 emissions is yet to be achieved. Similarly, travel activity has seen a sharp increase, surpassing pre-Covid levels for the first time.

EMISSIONS DEVELOPMENT OF SCOPE 1 & 2



TOTAL EMISSIONS PER SCOPE (METRIC TONNES CO2E)



PERFORMANCE

KEY KPI DEVELOPMENT

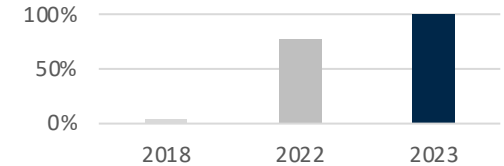
CLIMATE TARGETS

1. 100% green electricity purchase worldwide as of January 2023

STATUS 2023

We successfully finalized our global project to switch our procured electricity to renewable sources (solar, wind, hydro power) worldwide excl. Russia as of January 2023.

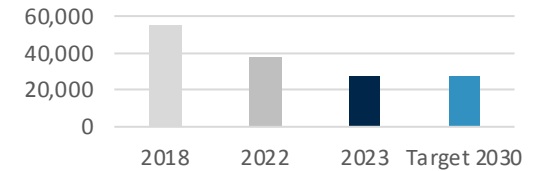
RENEW. ELECTRICITY (% OF GRID ELECTRICITY)



2. Scope 1 & 2: 50% absolute reduction until 2030 (*base line 2018*)

The reduction of electricity related emissions resulted in an absolute reduction of Scope 1 and 2 emissions by 52% compared to 2018, achieving our target ahead of time.

SCOPE 1 & 2 (T CO2E)



3. Scope 1-3: 50% relative reduction per package until 2030 (*base line 2018*)

After finding significant inconsistencies of reported transportation data the past years, we have decided to suspend the reporting of this KPI until a running project to improve data quality is finalized in 2024.

4. 100% offsetting of remaining unavoidable emissions as of 2030 (*excl. Scope 3 service-related emissions*)

We will start to compensate unavoidable emissions as of 2030, following our approach to invest into solutions that help us to avoid and reduce emissions before achieving neutrality.

PERFORMANCE

EXTERNAL ESG RATINGS

Our commitment to sustainability is continuously assessed by ESG rating agencies and supplier platforms. As Arvato is a fully owned subsidiary of Bertelsmann, our contributions to these evaluations are integrated into the broader corporate-level analysis, underscoring our role within Bertelsmann's comprehensive sustainability strategy. You can find the details [here](#).



DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Bertelsmann has set the following commitment, which was validated by the Science Based Targets Initiative (SBTi) in March 2021:

'Bertelsmann commits to reduce absolute scope 1, 2 and 3 GHG emissions 50% by 2030 from a 2018 base year.'

The SBTi confirmed that Bertelsmann's climate target is ambitious and in line with the 1.5° C target of the Paris Climate Agreement.

ESG RATING AGENCY

BERTELSMANN PERFORMANCE



C+ (PRIME)



68 (SILVER)



B



A



9.1

APPENDIX

REPORTING APPROACH

This report presents the development of relevant environmental indicators for Arvato for the calendar year 2023 including the following types: energy consumption, business travel, commuting, paper, packaging, distribution and waste. The data in this report covers logistics sites and office buildings with about 3 million m² of space in 17 countries worldwide. The data forms part of Bertelsmann’s annual environmental data collection which is reported online on the [Bertelsmann homepage](#). Bertelsmann is a participant in the UN Global Compact since 2008 and has followed the international standards of the Global Reporting Initiative (GRI) since 2011.

Reliable data is the backbone to achieve our climate targets. We continuously strive to improve our data base which means that from time to time, we add new data types and emission sources. This makes data comparison across different years difficult but helps us to understand underlying effects. For example, in 2022, we reported end of life-related emissions resulting from the packaging material that we procure on behalf of our customers for the first time. In 2023, we refined and specified the calculation of these emissions by considering different disposal methods in the individual regions, which created a more than fourfold emissions increase. This report sees new emission categories as well, which we have implemented to prepare for compliance with will come into force in 2025. All necessary changes will be shown and communicated in next year’s report.

For Scope 2 Electricity emissions, we follow the market-based reporting approach. To report on Scope 3 emissions that result from transportation as well as the usage of packaging material, we have defined the reporting boundaries as follows: We include in our calculations only transport activities and packaging material that Arvato is organizing, purchasing, and managing on behalf of our customers.

SCOPE	EMISSION TYPE	ARVATO EMISSION LENS
1	Direct emissions	Site related emissions
2	Indirect emissions	Site related emissions
3	Indirect emissions	Site related emissions Employee related emissions Service related emissions



APPENDIX

OVERVIEW ON CO2E EMISSION DATA, IN T CO2E

SITE RELATED EMISSIONS	2018	2022	2023	2023 VS. 2018
Scope 1 Stationary Fuels	14,800	15,400	16,800	+14%
Scope 1 Refrigerant Losses	800	1,000	1,000	+29%
Scope 2 Electricity	26,700	7,200	1,000	-96%
Scope 2 Heat	10,100	11,400	6,600	-35%
Total Scope 1 & 2 Site related	52,400	35,100	25,400	-52%
Total Scope 3 Site related	10,000	11,100	20,800	+107%
Total Scope 1,2 & 3 Site related	62,400	46,200	46,200	-35%
EMPLOYEE RELATED EMISSIONS	2018	2022	2023	2023 VS. 2018
Scope 1 Mobile Fuels	3,100	2,600	2,100	-33%
Total Scope 3 Employee related	28,300	25,700	30,200	+6%
<i>thereof Scope 3 Business Travel</i>	<i>4,700</i>	<i>3,400</i>	<i>6,400</i>	<i>+36%</i>
<i>thereof Scope 3 Employee Commuting</i>	<i>20,300</i>	<i>18,500</i>	<i>21,000</i>	<i>+4%</i>
Total Scope 1 & 3 Employee related	31,400	28,300	32,300	+3%
SERVICE RELATED EMISSIONS	2018	2022	2023	2023 VS. 2018
Total Scope 3 Service related	97,300	140,800	188,700	+94%
Total Emissions	191,000	215,300	267,100	+40%

Please note that rounded values may result in inaccurate delta calculations.

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