Greenhouse Gas Emissions Report 2024-25

Birmingham Airport

INTRODUCTION

Birmingham Airport is an international airport located eight miles to the east of Birmingham city centre in the West Midlands region of the United Kingdom. The Airport is jointly owned by the seven Metropolitan Boroughs of the West Midlands and private investors.

In 2024/25, the Airport welcomed 13 million passengers, serving around 40 airlines and directly connecting the region to more than 140 global destinations.

We remain firmly committed to achieving net zero carbon operations by 2033, with a focus on eliminating emissions from activities under our direct control and minimising reliance on carbon offsets. Since setting this ambition in 2019, Birmingham Airport has continued to drive forward decarbonisation, building on more than a decade of investment, innovation, and learning. Our Net Zero Carbon Plan, launched in April 2022, sets out the roadmap to 2033 and continues to guide our actions today.

The Airport plays a critical role in both leading by example in managing our own emissions and influencing wider industry partners including airlines, handling agents, tenants, and concessions to accelerate their own carbon reduction efforts.

Following the recovery from the COVID-19 pandemic, passenger numbers have grown strongly, surpassing pre-pandemic levels. This growth presents both challenges and opportunities: the need to accommodate more passengers while continuing to cut emissions. Since 2019, we have already achieved a 30% reduction in carbon emissions, demonstrating tangible progress on our journey.

Birmingham Airport's carbon management efforts have been independently recognised by the Airports Council International (ACI) through its Airport Carbon Accreditation (ACA) scheme. We currently hold Level 3 – Optimisation status, reflecting our commitment to reducing emissions through targeted, measurable action.

Our strategy prioritises on-site and operational carbon reductions, investing in infrastructure and energy efficiency rather than relying on offsets. This approach ensures long-term credibility and resilience as we work towards ACA Level 4 and our ultimate goal of net zero carbon operations by 2033.

This report presents Birmingham Airport's greenhouse gas (GHG) emissions and calculation methodology for the financial year 2024/25 (01 April 2024 to 31 March 2025). The report covers assurance and a narrative description of the principal measures taken for the purpose of increasing the Airport's energy efficiency during the financial year. It is the fourth year of our commitment to report a full Scope 1, 2 and 3 GHG emissions footprint for the Airport annually.

Any comments or questions in relation to the report should be directed to: Sustainability@birminghamairport.co.uk.

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Highlights 2024-25

airport carbon accredited
OPTIMISATION

Achieved Level 3 Airport Carbon Accreditation three years in a row

↓30%

Carbon emissions in 2024/25 30% less than 2019/20, achieved through energy demand reduction, efficiency interventions and on-site renewables

The Airport ran its second Sustainability Week in 2024, a series of events and activities for the Airport's employees and business partners to raise awareness of energy management and the organisation's Sustainability Strategy

Installed two solar PV systems, a 6.8 MW array on the airfield, and a 90 kW array on the terminal roof, meeting 20% of our annual electricity requirements

92%

92% of aircraft operating continuous decent approach

↓9%

Through the installation of automated meter reading (AMR) devices on our incoming water meters, we identified and fixed a leak on the Elmdon side of the Airport, reducing water consumption by 9%

100,000

100,000 customers used the 97A bus service, just nine months after extending the route to Birmingham Airport. National Express and BHX launched the extended 97A route in July 2024

543,000

kWh of energy saved through ongoing energy demand reduction activities

Streamlined Energy and Carbon Reporting (SECR) Policy

The UK's Streamlined Energy and Carbon Reporting (SECR) policy was implemented on 1st April 2019 under the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations (SI 2018/1155).

Birmingham Airport meets the definition of a 'large unquoted company' under the Companies Act 2006 and is therefore required to produce the following SECR report which includes:

- **UK energy use** (to include as a minimum purchased electricity, gas and transport)
- The associated **greenhouse gas emissions**
- At least one **intensity ratio** (for Birmingham Airport, CO_2/passenger is used)
- The **previous year figures** for energy use and GHG emissions
- Information about **energy efficiency** action taken during the reporting period
- Methodologies used in the calculation of **disclosures**

The SECR report can be found in the 2024/25 financial statements

Setting the Operational Boundary

In setting the operational boundary and calculating the GHG emissions footprint, Birmingham Airport followed UK Government guidance (HM Government, 2019), the GHG Protocol Corporate Standard (WBCSD/WRI, 2004), GHG Protocol Scope 3 Standard (WBCSD/WRI, 2011) and sector-specific requirements of Airport Carbon Accreditation (ACI, 2023).

Birmingham Airport adopted the 'operational control' approach (WBCSD/WRI, 2004). As such, this report presents energy usage and associated GHG emissions from all Birmingham Airport operations as tonnes of carbon dioxide equivalent (t/CO2e). To convert raw information on a company's activities into GHG emissions, the Department for Energy Security and Net Zero (DESNZ) provides annually updated conversion factors. The 2024 GHG conversion factors published 08 July 2024 have been applied to this 2024/25 footprint following UK Government guidance (DESNZ, 2024).

Birmingham Airport's GHG emissions footprint consists of three emissions 'Scopes'. Scope 1 and 2 emissions form the basis of standard practice and are the minimum requirement for reporting under SECR. Companies are encouraged to go beyond the minimum requirements and voluntarily include any other material source of energy use or GHG emissions, classed as Scope 3, indirect emissions. Birmingham Airport has voluntarily calculated and reported Scope 3 emissions every three years since 2012/13 and committed to do so on an annual basis as of 2021/22. This year, we have added several new categories to our Scope 1, 2 & 3 emissions inventory in line with ACA Level 4 guidelines. The new emission source categories will have zero emissions reported prior to this financial year.

Scope 1 Emissions

Scope 1 emissions are direct GHG emissions that occur from sources that are owned or controlled by Birmingham Airport, including:

- Gas consumption (excluding tenant and concession usage)
- LPG consumption
- Fuel consumption (owned and leased fleet)
- Diesel fuel used in generators
- Refrigerants
- De-icer
- CO2 fire extinguishers

Scope 2 Emissions

Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. Although Scope 2 emissions physically occur at the facility where they are generated, they are accounted for in Birmingham Airport's GHG emissions inventory because they are a result of the organisation's energy use. Birmingham Airport includes the following Scope 2 emission sources within the GHG inventory:

Consumption of purchased electricity (excluding tenant and concession electricity)

"Birmingham Airport calculates and publishes a full GHG emissions inventory annually, to be open and transparent about its direct and indirect carbon footprint and changes over time"

Manuel Sarauz
Sustainability Co-Ordinator

Scope 3 Emissions

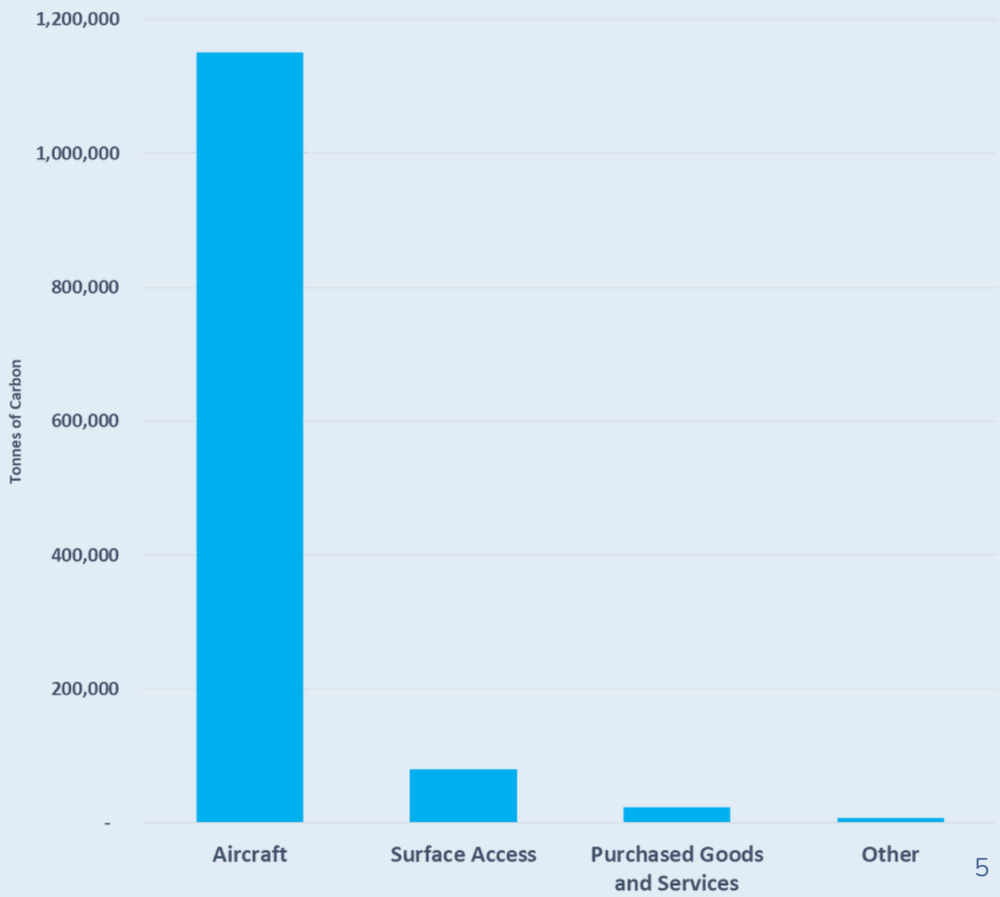
Scope 3 emissions are indirect emissions that are a result of operations associated with Birmingham Airport, but which occur from sources not owned or controlled by it.

As a minimum, the Airport follows Level 4 Airport Carbon Accreditation guidance (ACI, 2023) to determine which Scope 3 emission sources to include within the GHG emissions footprint. In addition, the Airport reports sources included in the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (WBCSD/WRI, 2011).

The Airport will continue to assess the Scope 3 emission sources it reports on annually to ensure activities that are important to our stakeholders, activities we can guide and influence and activities with the greatest impact are included within the carbon footprint. The Airport endeavours to continuously improve the calculation methodology to provide an emissions total that is as accurate as is practical.

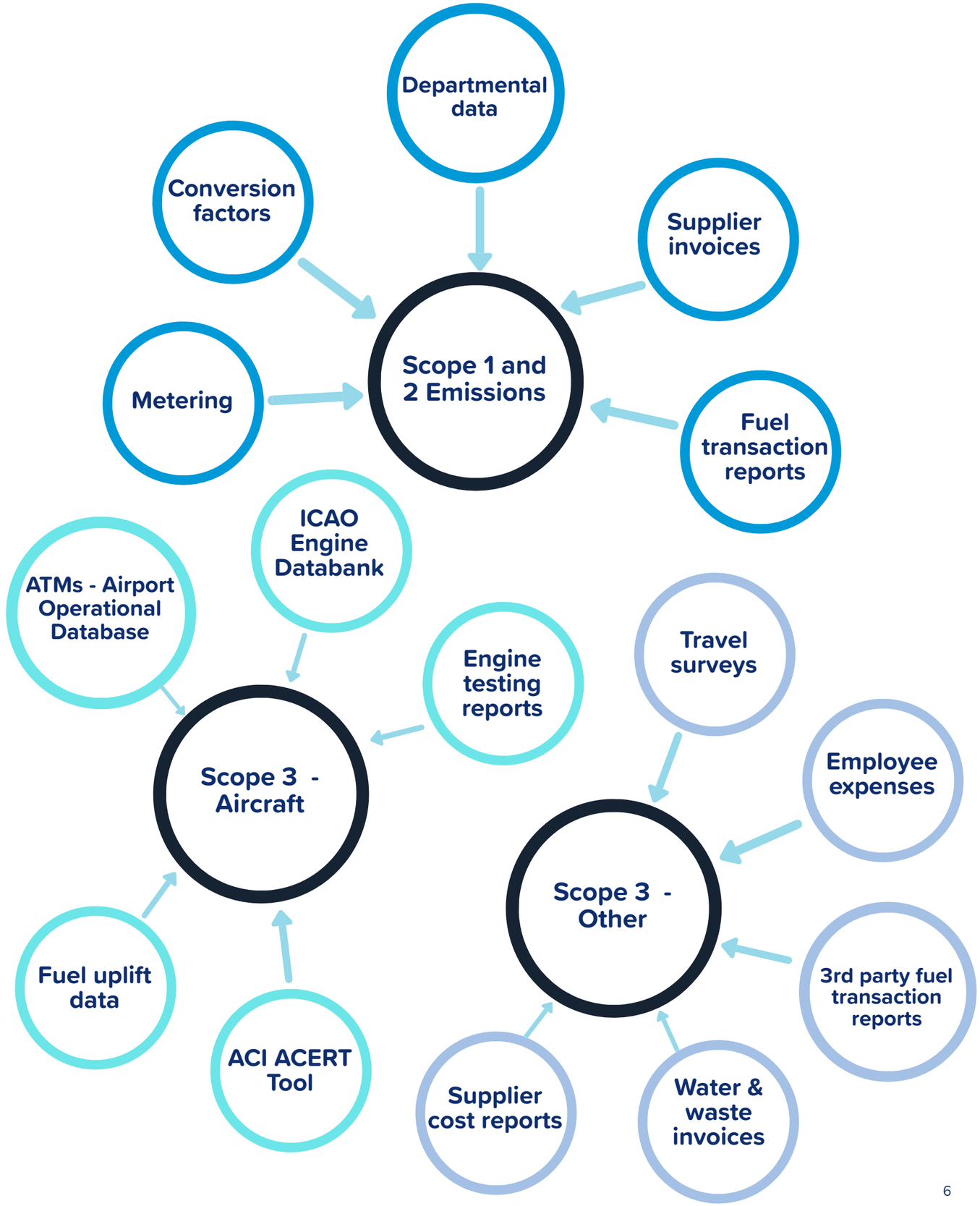
The Airport reports emissions from the following sources (a full breakdown is detailed on page 8):

Scope 3 Emissions Breakdown 2024-25



Methodology

Emissions are calculated using the latest 2024 conversion factors provided by the Department for Energy Security and Net Zero (DESNZ, formerly BEIS). Scope 1, 2 and 3 boundaries align with the requirements of Airport Carbon Accreditation Level 4. Data sources are detailed to the right.



SECR Report

Our location-based greenhouse gas (GHG) emissions in 2024/25 (7,253 t/CO2e) decreased by 8% compared to the previous year (7,845 t/CO2e), despite passenger numbers increasing by 10%. Gas consumption and carbon emissions decreased by 5% from 2023/24, despite the number of heating degree days (HDDs; a measure of temperature over the year) increasing by 8%, highlighting the impact of ongoing energy demand reduction activities. Grid electricity consumption and carbon emissions decreased by 12%, reflecting new onsite electricity generation from our Alpha Bund solar PV array which was operational from August 2024. Total site consumption, including grid electricity (18,995,469 kWh) plus solar generation (2,719,092kWh) was 21,714,561kWh, 1% higher than 2023/24 (21,512,300 kWh). Lower temperatures on average, and the associated reduction in HVAC consumption was offset by higher passenger numbers, more air traffic movements, and the opening of our new passenger search area in the North Terminal and passenger queueing area in the South Terminal.

Our market-based GHG emissions in 2024/25 (3,321 t/CO2e) decreased by 2% from 2023/24 (3,391 t/CO2e) with lower than forecast gas consumption, reduced generator usage and no refrigerant leaks, offset by an increase in diesel usage in Birmingham Airport owned vehicles (correlated to passenger volumes) and an increase in de-icer consumption. This was due to substantial cold spells compared to the previous year.

Relative to pre-COVID, as the airport re-opened, we have retained the majority of the energy and carbon emission reductions achieved whilst there were fewer passengers and our GHG emissions are c.3,150 t/CO2e less than 2019/20, a 30% reduction.

The SECR report, as detailed in the Airport's annual report, is presented in the below table.

Energy Usage & Tonnes of CO2e by Emissions Type							
Emissions Type	**2023/24**			**2024/25**			**% Change Tonnes of CO2e**
	Consumption	**Unit**	**Tonnes of CO2e**	**Consumption**	**Unit**	**Tonnes of CO2e**	
Scope 1 (Gas)*	13,263,095	kWh	2,426	12,637,878	kWh	2,311	-5%
Scope 1 (Fuel – Owned Transport)	244,182	litres	612	284,249	litres	724	18%
Scope 1 (Fuel – Diesel Generators)	90,280	litres	227	51,959	litres	131	-42%
Scope 1 (De-icer)	49,100	litres	41	120,500	litres	132	220%
	13,525	kg		51,968	kg		
Scope 1 (LPG)	2,092	litres	3	4,658	litres	7	123%
Scope 1 (CO2 Fire Extinguishers)	0	kg	0	20	kg	0	-
Scope 1 (Refrigerants)	40	kg	65	0	kg	0	-100%
Scope 1 (Total)	-		**3,374**	-		**3,305**	
Scope 2 (Purchased Electricity; Location-Based)*	21,512,300	kWh	4,455	18,995,469	kWh	3,933	-12%
Scope 2 (Purchased Electricity; Market-Based)**			0.7			1	38%
Total (Scope 1 & 2; Location-Based)	-		**7,829**	-		**7,238**	**-8%**
Total (Scope 1 & 2; Market-Based)	-		**3,375**	-		**3,306**	**-2%**
Scope 3 (Business Car Travel)***	10,986	miles	16	7,910	miles	15	-5%
	6,006	litres		6,066	litres		
Total (Scope 1, 2 & 3; Location-Based)	-		**7,845**	-		**7,253**	**-8%**
Total (Scope 1, 2 & 3; Market-Based)	-		**3,391**	-		**3,321**	**-2%**

*Gas and electricity used by tenants and retail concessions are excluded as they are reported under SECR by these third-party companies.

**100% of electricity procured through the Airport's group power contract is green, generated by renewable sources such as solar and wind power. Electricity used by the Airport's community noise monitors and community lighting are not part of the group contract, nor is electricity from public EV charging points used in personal/hire cars on business use.

***Business car travel emissions were calculated using both mileage claims (miles) and fuel receipts (cost converted into litres). These were added together for an overall business car travel emissions figure.

Full GHG Emissions Inventory

Birmingham Airport's full GHG emissions inventory is presented in the table. Our total GHG emissions footprint was 1,269,435 tCO2e in 2024/25.

GHG Emissions Inventory (tCO_2e)		
Emissions Type	**2023/24**	**2024/25**
Scope 1 (Gas)	2,426	2,311
Scope 1 (Fuel – Owned Transport)	612	724
Scope 1 (Fuel – Diesel Generators)	227	131
Scope 1 (De-icer)	41	132
Scope 1 (LPG)	3	7
Scope 1 (CO2 Fire Extinguishers)	0	0
Scope 1 (Refrigerants)	65	0
Scope 1 (Total)	**3,374**	**3,305**
Scope 2 (Purchased Electricity; Location-Based)	4,455	3,933
Scope 2 (Purchased Electricity; Market-Based)	1	1
Total (Scope 1 & 2; Location-Based)	**7,829**	**7,238**
Total (Scope 1 & 2; Market-Based)	**3,375**	**3,306**
Scope 3 (Aircraft Full Flight)	-	1,053,704
Scope 3 (LTO Cycle)	79,317	92,314
Scope 3 (Passenger Surface Access)	62,438	67,135
Scope 3 (Purchased Goods and Services, inc. Construction)	-	23,723
Scope 3 (Third-party Surface Access)	7,643	11,919
Scope 3 (On-stand Power (APU))	3,952	4,035
Scope 3 (Tenant and Concession - Electricity)	2,816	2,958
Scope 3 (Staff Surface Access)	1,202	1,412
Scope 3 (Third-party GSE Fuel)	977	1,035
Scope 3 (Aircraft Engine Testing)	813	915
Scope 3 (Tenant and Concession - Gas)	830	844
Scope 3 (Well-to-Tank Fuel)	-	591
Scope 3 (Third-party De-icer)	247	494
Scope 3 (Tenant and Concession - Refrigerants)	291	354
Scope 3 (Electricity Transmission and Distribution)	385	348
Scope 3 (Water Use and Treatment)	135	182
Scope 3 (Business Travel - Air)	92	107
Scope 3 (Home Working)	73	97
Scope 3 (Waste Management)	42	11
Scope 3 (Business Travel - Car)	16	15
Scope 3 (Goods Deliveries)	4	4
Scope 3 (Business Travel - Train)	1	1
Scope 3 (Business Travel - Taxi)	1	1
Scope 3 (Total)	**161,275**	**1,262,197**
Total (Scope 1, 2 & 3; Location-Based)	**169,104**	**1,269,435**
Total (Scope 1, 2 & 3; Market-Based)	**164,650**	**1,265,503**

Scope 3 Emissions

In 2024/25, we calculated full flight emissions for the first time, alongside purchased goods and services and well-to-tank fuel. Like-for-like emissions increased by 14%. Air traffic movements (ATMs) rose by 17% compared with 2023/24, which resulted in higher emissions from the landing and take-off cycle and on-stand power, as the aircraft mix remained broadly unchanged. Passenger surface access emissions increased by 8%, driven by a 10% rise in passenger numbers. Modal splits were largely consistent with previous years, though electric vehicle use continued to grow.

Third-party surface access emissions rose by 56%, reflecting a greater number of people employed at the airport and increased reliance on private vehicles, coupled with reduced public transport use. In contrast, BAL employee surface access emissions increased by 18%, despite a 32% growth in employee numbers, due to a shift away from car travel toward buses and trains. Tenant and concession electricity use increased in line with passenger growth. Emissions from waste fell significantly, from 42 tCO_2e to 11 tCO_2e, a 73% reduction, due to the new onsite Material Segregation Unit, which improved waste sorting and boosted recycling rates.

Progress Summary - Scope 1 & 2 Emissions

We have continued to monitor and deliver energy savings through a combination of energy demand reduction, investment in more energy efficient equipment, onsite renewables, and colleague engagement with energy and carbon management.

Energy Demand Reduction

- The greenest energy is the energy we don't use, that's why the Airport has continued to focus on energy demand reduction.
- Managing energy consumption using sub-metering, energy walkarounds and meetings of the Operational Energy and Cost Reduction Group, the Airport made 241 interventions, delivering savings of c. 543,000kWh of energy. This included HVAC optimisation and switching off assets not in use.
- 'You can't manage what you can't measure'.
  - The Airport has continued to invest in our metering this year with 63 new meters installed as part of the Next Generation Security project, and we have continued working to reconnect meters that have lost communication with our energy management system.

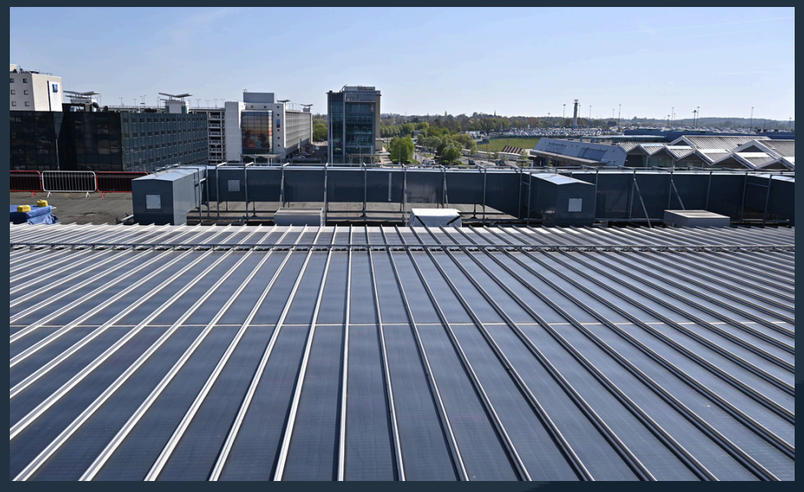
- In addition to energy efficiency, water conservation was also a focus this year:
  - We identified and fixed a water leak on the Elmdon side of the airport, reducing water consumption by 9%.
- A focus on engaging colleagues.
  - The Airport's Sustainability team ran our second Sustainability Week in 2024, a series of events and activities for the Airport's employees and business partners to raise awareness of energy management and our Sustainability Strategy.
  - We also unveiled our new Sustainability Walls in the South Terminal and International Pier, highlighting the key themes and actions that drive our sustainability strategy. It's a great way for both colleagues and customers to learn more about the steps we're taking for a greener future.
  - Finally, we ran a winter saving campaign, empowering our employees to better control energy consumption.

Energy Efficiency Investments

- High Mast LED floodlights have been upgraded on stands 40 to 57, delivering a c.50% reduction in energy use. The remaining LED upgrades on stands 58 through to 86 are due to take place in the upcoming financial year.
- Moving away from gas for space heating and hot water is a priority for the Airport. This year we have started on our HVAC strategy to 2033, commissioning a thermal modelling study of the terminal to understand current heating and cooling loads and opportunities to improve the building fabric. This will feed into the HVAC design project in 2025/26.

Renewables

- Our 6.8MW 'Alpha Bund' solar PV array started generating electricity in August 2024. The array generated 2,717MWh of electricity in 2024/25, saving c.560 t/CO2e.
- The Airport then installed a third solar installation of 90kW light-weight solar film on the roof of the North Terminal in February 2025 to maximise solar energy generation.



Management

- The Airport achieved Level 3 (optimisation) of the Airport Carbon Accreditation (ACA) scheme for a third year. The ACA scheme, overseen by Airports Council International (ACI), is a global carbon management standard for airports. The scheme brings the Airport's decarbonising activities and reporting under ACI's framework of scrutiny, including comparison with other airports worldwide.
- We have continued to develop and implement an ISO50001 aligned energy management system.
- The Airport has continued to embed energy and carbon performance evaluation during procurement and the design stage of capital projects.

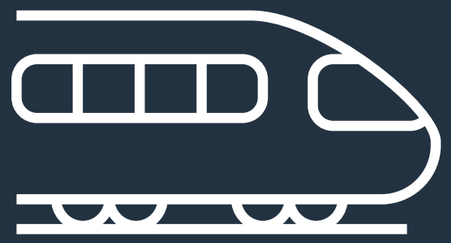
Progress Summary - Scope 3 Emissions

Sustainable Aviation

The vast majority of emissions associated with aviation come from aircraft in flight. The industry is taking steps to minimise this impact through smarter flight operations, new aircraft and engine technology, modernised airspace, the use of SAF and significant investment in carbon reductions. We continue to work with Sustainable Aviation and its Net Zero Roadmap to support these initiatives. We are supporting airlines to reduce emissions during flight through efficient airspace design and facilitating procedures for lower-carbon take-off and landing, including providing renewable electricity for use by aircraft when on stand. We have recently upgraded our Fixed Electrical Ground Power at the stand. We continue to pursue the implementation of a range of initiatives through 'Operation Pathfinder' aimed at supporting more efficient aircraft operations at the Airport, including feeding back Continuous Decent Approach (CDA) compliance with our airline partners. The introduction of differential landing charges in 24/25 for cleaner and quieter aircraft provides an incentive for airlines to operate next generation aircraft at the Airport.

Surface Access

The second largest proportion of our Scope 3 emissions is associated with passenger and visitor travel to the Airport, and we have produced a dedicated Surface Access Strategy, to manage these through the setting of robust targets to increase the proportion of journeys to and from the Airport made by public transport. 100,000 customers used the 97A bus service, just nine months after extending the route to Birmingham Airport. National Express and Birmingham Airport launched the extended 97A route in July 2024. The Airport also upgraded the cycle storage facility onsite to promote cycling and invested in improved public transport information points.



Resource Management

Most of our waste is Scope 3 related, from passengers and concessions. In order to improve our waste recycling rates, in 2023 we embarked on a fresh approach to waste management leading to the introduction of a world-leading mobile segregation unit, to enable us to segregate waste and maximise recycling and reuse.

We won two International Excellence CSR awards which recognise our efforts and commitment towards industry-leading waste management, prioritising reducing, re-using and improving our recycling rates and being proactive in making increased local charitable donations.

Year-on-year since that time, we have increased our recycling rates towards our target of 90% and made sure that none of our operational waste goes to Landfill.

Future Aviation Fuels

We are developing our position on future aviation fuels and are in discussion with the relevant industries and decision-makers, including airlines, fuel providers and other airports, regarding the use of SAF – Sustainable Aviation Fuel. As a future fuel, SAF offers up to 80% lower lifecycle carbon emissions compared to conventional jet fuel, playing a crucial role in our journey towards net-zero aviation.

In the UK, the Jet Zero Strategy (2022) continues to set the pathway to achieving Net Zero aviation by 2050. Progress has accelerated with the introduction of the UK SAF Mandate, which came into force on 1 January 2025 and requires fuel suppliers to deliver 2% Sustainable Aviation Fuel (SAF) in 2025, increasing to 10% by 2030 and 22% by 2040. Birmingham Airport fuel suppliers are committed to operating to the mandate target.

We continue to be a part of the Hydrogen Valley consortium, working across the Midlands to develop the hydrogen economy.

In 2023, the Airport entered a Memorandum of Understanding with ZeroAvia to make hydrogen refuelling and domestic flights of zero-emission aircraft a reality.

Assurance

Birmingham Airport recognises the importance of transparency, credibility, and comparability in climate disclosures. Our GHG emissions data is prepared in accordance with the GHG Protocol Corporate Standard (WBCSD/WRI, 2004), the GHG Protocol Scope 3 Standard (WBCSD/WRI, 2011), and the UK Government Environmental Reporting Guidelines (HM Government, 2019).

- Methodology: Emissions are calculated using the latest 2024 conversion factors provided by the Department for Energy Security and Net Zero (DESNZ, formerly BEIS). Scope 1, 2 and 3 boundaries align with the requirements of Airport Carbon Accreditation Level 4.
- Operational Control Approach: The Airport reports emissions from all operations under its direct control, consistent with UK and international GHG accounting practice.
- Internal Assurance: Data is collected under the Airport's ISO 14001-certified Environmental Management System and ISO 50001-aligned Energy Management System. Sustainability team members apply documented operating procedures for emissions calculations, which are reviewed by Finance.
- External Audit: GHG data and methodologies disclosed under the UK's Streamlined Energy and Carbon Reporting (SECR) requirements are independently audited annually as part of the Airport's statutory accounts, as well as by an independent third-party as part of the the Airport Carbon Accreditation Scheme verification process.
- Comparability: We benchmark performance against UK and European peers through the ACA programme and voluntarily expand Scope 3 reporting to align with leading UK airports.

This assurance process provides confidence that Birmingham Airport's carbon footprint is prepared on a consistent, accurate, and transparent basis, supporting our stakeholders in assessing progress towards Net Zero 2033.

References

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Birmingham Airport

Birmingham Airport Limited

Diamond House
Birmingham Airport
Birmingham B26 3QJ

Telephone +44 (0)871 222 0072

www.birminghamairport.co.uk

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