Greenhouse Gas Emissions Report 2022/23

Contents

1. 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 led by Ontario Teachers' Pension Plan.

The Airport welcomed nearly 10.5 million passengers last year, servicing around 50 airlines to directly connect with more than 140 destinations.

Birmingham Airport is committed to becoming a net zero carbon Airport by 2033, prioritising zero carbon Airport operations and minimising carbon offsets. Having first announced our ambition in 2019, we remain steadfast in achieving our 2033 target despite the impact of the pandemic. In April 2022, we launched our Net Zero Carbon Plan, which sets out our roadmap to 2033, building on a decade of learning and investments that have already delivered a reduction in emissions that the airport directly controls.

Birmingham Airport has a critical role to play in co-ordinating internal and external stakeholders' collective efforts to use energy more efficiently, and in moving towards lower carbon operations. This involves both leading by example in how we manage those emission sources that we control, and guiding and influencing others, for example airlines, handling agents, tenants, and concessions, in how they manage the emissions within their control.

Following the lifting of Covid travel restrictions in March 2022, the Airport has seen strong growth in passenger numbers to near 2019 levels as we emerged from the Covid deep-freeze. We seized this unique opportunity to learn lessons presented by the pandemic - to adjust, reprioritise and improve. Last year we made significant progress and have achieved a 25% reduction in carbon emissions.

Our carbon management plan was independently recognised by the Airports Council International (ACI), which categorised us at Level 3 on its Airport Carbon Accreditation (ACA) scheme. ACA is the only voluntary global carbon management standard for airports. The purpose of ACA is to encourage and enable airports to implement best practice energy and carbon management to reduce greenhouse gas emissions. Key requirements include an annual carbon footprint calculation, having a net zero carbon target and decarbonisation plan, evidencing actions to reduce emissions and engaging with industry partners to guide and influence them to reduce their own emissions. Achieving Level 3 brings our decarbonising activities and reporting under ACI Europe's framework of scrutiny, including comparison with over 500 airports worldwide. In the UK, 22 airports have achieved Level 1 ACA or above and 14 (including Birmingham) have achieved Level 3 or above. To achieve Level 3+ airports must offset their Scope 1 and 2 emissions. Birmingham Airport's current strategy is to invest capital in projects that will directly reduce our carbon emissions, as opposed to paying for an equivalent reduction to be made elsewhere. We will review this periodically should we wish to achieve a higher level of ACA.

This report presents Birmingham Airport's energy use, the associated greenhouse gas (GHG) emissions and calculation methodology for the financial year 2022/23 (01 April 2022 to 31 March 2023). 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 second 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.

1.1 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, passenger numbers are 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 2022/23 financial statements, once they are published.

2. 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/CO_2e). To convert raw information on a company's activities into GHG emissions, the Department for Business, Energy and Industrial Strategy (BEIS) and the Department for Energy Security and Net Zero (DESNZ) provides annually updated conversion factors. The 2022 GHG conversion factors published 22 June 2022 have been applied to this 2022/23 footprint following UK Government guidance (BEIS/DESNZ, 2022).

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.

2.1 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

2.2 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)

2.3 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 3 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 on Scope 3 emissions from waste management and water use and treatment in line with other major UK airports and 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 specific sources:

- Landing & Take-off (LTO) Cycle
- On-stand Power
- Engine Testing
- Passenger Surface Access
- Staff Surface Access
- Business Travel – Air
- Business Travel – Train
- Business Travel – Car (SECR requirement)
- Business Travel – Taxi
- Waste Management
- Water Use and Treatment
- Electricity Transmission and Distribution
- Third-party Ground Service Equipment (GSE)
- Tenant and Concession – Gas
- Tenant and Concession – Electricity

3. Methodology

Scope	Emission Source	Description	Department(s) with Key Responsibility	Data Source and Calculation Methodology	Accuracy of Data
Scope 1	Fuel - Vehicle Fleet	Diesel and petrol used in Birmingham Airport owned or leased airside and landside vehicles. The fleet of electric vehicles are charged on Birmingham Airport's premises. To avoid double-counting, emissions are accounted for under Scope 2 Electricity consumption.	Finance Sustainability	Birmingham Airport operates two airside diesel refuelling stations and administers a system where pump use is controlled by card access and the user identified. Only the fuel used by the directly controlled fleet of Birmingham Airport has been accounted for in the GHG emissions footprint. For petrol fleet vehicles, fuel usage is obtained from fuel card reports.	High level of confidence as the data is drawn from transaction reports.
Scope 1	Fuel - Generators	Birmingham Airport operates diesel generators for two main purposes: under Civil Aviation Authority regulations, airfield generators are operated in low visibility conditions; back-up generators are operated in the terminal buildings for stand-by use.	Airfield Infrastructure Terminal Infrastructure Sustainability	Fuel consumption was calculated using the number of hours the generators run multiplied by the hourly fuel consumption. An hourly fuel consumption figure was calculated on a generator-by-generator basis dependent on the size of the generator and the load demand.	High level of confidence as the data is based on generator run time.
Scope 1	Gas	Gas consumption includes gas burned in boilers which provides space heating and hot water for all terminal areas and other onsite buildings. It also includes gas burned in the on-site CHP plant.	Airfield Infrastructure Terminal Infrastructure Finance Sustainability	Consumption data has been obtained from meter readings and has been verified against financial invoices from the supplier. The data includes gas meters at the following locations: • Fire Station • Cargo Primary • Terminal Buildings • Multi Modal Interchange • Control Tower • STS Hanger • Consolidation Centre The gas consumed and recharged to tenants and retail concessions has been excluded and is instead accounted for as part of Birmingham	High level of confidence as data is drawn from metering information.

				Airport's Scope 3 emissions. This data was obtained from metering and billing information held by Birmingham Airport's Finance department.	
Scope 1	Refrigerants	All buildings within Birmingham Airport's site boundary have chillers and air conditioning units which require a refrigerant medium. They range from medium commercial sized to small stand-alone units. The emissions recorded were based on refrigerant used to service existing equipment.	Terminal Infrastructure Sustainability	The Birmingham Airport Terminal Infrastructure department hold records of any equipment containing refrigerant and the type and quantity used. These records were used to calculate the emissions total.	High level of confidence as the data is from audited inventory.
Scope 1	Fuel - Fire Training	LPG used at fire training facility.	Finance Sustainability	Fuel consumption is based on transaction reports provided by the Finance department.	High level of confidence as the data is drawn from transaction reports.
Scope 2	Electricity	Electricity purchased by Birmingham Airport and used in airport terminals, airfield and auxiliary infrastructure. This includes electricity consumed by battery electric and plug-in hybrid electric vehicles owned or leased by Birmingham Airport when charging on-site.	Finance Sustainability	Electricity consumption information was obtained from supplier invoices and verified against consumption recorded through the energy software from the Airport's metering, where possible: • Incomer 1 • Incomer 2 • Incomer 3 • Pumping Station 1 • Pumping Station 2 • Consolidation Centre The electricity consumed and recharged to tenants and retail concessions has been excluded and is instead accounted for as part of Birmingham Airport's Scope 3 emissions. This data was obtained from billing information held by Birmingham Airport's Finance department.	High level of confidence as data is drawn from metering information.

				The Airport reports both market-based and location-based Scope 2 emissions, reflecting our decision to switch to a renewable power contract in April 2022.	
Scope 3	Fuel - Business Car Travel	Diesel and petrol fuel used in company cars, employee-owned vehicles used for business travel, or hire cars on business use.	Finance Sustainability	Data was obtained from fuel and mileage expense records from the Finance department. For fuel claims, an assumption was made about the split between petrol and diesel vehicle ratios using the most recent DVLA Vehicle Licencing Statistics.	Good level of confidence as the data is drawn from expense receipts and actual driven distances but an assumption is made on the split between petrol and diesel vehicles.
Scope 3	Fuel - Business Taxi Travel	Taxi used for business travel.	Finance Sustainability	Expense information obtained from Finance department. Due to the volume of claims and lack of information, an average miles per trip figure was used and multiplied by the total number of trips. Conversion factor for 'black cab' used in the calculations.	Low level of confidence as most claims only included a taxi fare. Due to the volume of claims, an average distance per trip was used.
Scope 3	LTO Cycle	The LTO cycle to a height of 3,000 feet. This includes emissions generated during approach, taxi and ground idle (in), taxi and ground idle (out), take off and climb. It covers emissions from all aircraft using the airport, including commercial airlines, private aviation, helicopters and cargo, but excluding military flights.	Sustainability	Information on ATMs is downloaded from the airport operational database. Emissions are calculated using the ACERT tool provided by ACI.	High level of confidence of the accuracy of the ATM data obtained from the airport operational database. Low level of confidence in the emissions total as it is calculated using the ICAO simple approach, through the ACERT tool provided by ACI.
Scope 3	On-Stand Power (APU)	System used to power aircraft whilst parked on stands. This relates to fuel used in APUs only.	Sustainability Finance	Information on ATMs is downloaded from the airport operational database. Assumptions are made on FEGP usage based on Birmingham Airport's charging mechanism. APU usage time is based on ICAO guidance and best estimates based on Birmingham Airport's turnaround times. Emissions are calculated using the ACERT tool provided by ACI.	High level of confidence of the accuracy of the ATM data obtained from the airport operational database. Low level of confidence due to the number of assumptions made in the calculations.

Scope 3	Engine Testing (Run-ups)	Aircraft ground idle and high-power engine tests.	Airport Control Centre Sustainability	Information on all engine testing is sent to the Sustainability team each month. For all high-power tests, emissions are calculated for each individual test based on engine type, fuel flow and testing time. For idle tests, an average test time is applied to all tests each month along with a representative engine and corresponding fuel flow. For engine type, the Airport refers to the ICAO Airport Air Quality Manual Doc 9889. The Airport refers to the latest version of the ICAO Aircraft Engine Emission Databank to find the fuel flow for each engine type and mode.	High level of confidence as data is drawn from logs of high-power and idle engine tests. Medium level of confidence in emissions calculations as some assumptions are used.
Scope 3	Passenger Surface Access	Land surface access emissions for passengers traveling both to and from the Airport for all modes of transport that emit carbon i.e. car, bus, train and taxi.	Aviation Development Sustainability	Passenger surface access emissions are calculated using results of the annual passenger survey undertaken by the Civil Aviation Authority. The survey results are be extrapolated to the number of passengers for the reporting period. Passenger numbers are obtained from the airport operational database.	High level of confidence in the passenger numbers as this is drawn from the airport operational database. Medium level of confidence in the mode of transport and average distance data used in the calculations as it is based on a survey of 4,181 passengers in 2022.
Scope 3	Business Train Travel	Airport company staff business travel on train network.	Finance Sustainability	Expense information obtained from Finance department which includes departure station and destination and journey type (i.e. one-way or return). 'National rail' conversion factor used.	Good level of confidence as the data is drawn from expense receipts. However, a small number were incomplete, and assumptions used accordingly.
Scope 3	Business Air Travel	Airport company staff business air travel.	Finance Sustainability	Expense information obtained from Finance department, corroborated through discussions with key airport employees likely to travel by air. Using the departure and arrival location, the great circle distance was calculated and multiplied by the appropriate GHG conversion factor either domestic, short-haul or long-haul. Broadly speaking the definition of domestic	High level of confidence as the data is drawn from expense receipts.

				flights, are those within the UK, short-haul are those within Europe and long-haul are outside of Europe.	
Scope 3	Waste Management	Recycling or disposal of waste from Birmingham Airport operations.	Sustainability	Emissions from waste management were calculated using tonnage data by waste type multiplied by the appropriate GHG conversion factor. This does not include aircraft waste which is the responsibility of the airlines.	Good level of confidence as the data is based on lifted bins. However, some weights are estimated.
Scope 3	Water use and Treatment	Water supply to the airport and wastewater treatment.	Finance Sustainability	Emissions associated with water supply and wastewater treatment. Invoices obtained from Finance. Supply volumes, sewerage volumes and trade effluent volumes were used to calculate emissions by multiplying by the appropriate GHG conversion factor.	High level of confidence as the data is drawn from meter readings.
Scope 3	Electricity Transmission and Distribution	Transmission and distribution (T&D) losses (generation of electricity, steam, heating and cooling that is consumed (i.e., lost) in a T&D system).	Finance Sustainability	Electricity consumption information was obtained from supplier invoices and verified against consumption recorded through the energy software from the Airport's metering, where possible: • Incomer 1 • Incomer 2 • Incomer 3 • Pumping Station 1 • Pumping Station 2 • Consolidation Centre The amount of electricity consumed by tenants and retail concessions has been excluded and is instead accounted for as part of Birmingham Airport's Scope 3 emissions. This data was obtained from billing information held by Birmingham Airport's Finance department. Total site electricity consumption was multiplied by the appropriate GHG conversion factor.	High level of confidence as data is drawn from metering information.

Scope 3	Staff Surface Access	Land surface access emissions for staff traveling both to and from the Airport for all modes of transport that emit carbon i.e. car, bus, train and taxi.	Planning, Transport, Surface Access and Strategy HR Sustainability	Staff surface access emissions are calculated using results of the annual staff travel survey undertaken by Birmingham Airport. The survey results are be extrapolated to the number of staff for the reporting period. Staff numbers are obtained from HR. The 'average-data' method was used for the calculations.	Good level of confidence for staff mode of transport based on 2022 survey data.
Scope 3	Third-party Fuel	Fuel used in ground service equipment and vehicles belonging to third parties necessary to handle the aircraft during the turnaround at the stand (e.g., ground power units, air climate units, aircraft tugs, conveyer belts, passenger stairs, forklifts, tractors, cargo loaders).	Finance Sustainability	Birmingham Airport operates two airside diesel refuelling stations and administers a system where pump use is controlled by card access and the user identified. Only the fuel used by third parties has been accounted for.	High level of confidence as the data is drawn from transaction reports.
Scope 3	Tenant and Concession - Gas	Tenant and Concession gas consumption includes gas burned in boilers which provides space heating and hot water and gas used in catering operations.	Property Services Finance Sustainability	Meter reads are sent through by Property Services quarterly and in some instances, monthly. The Finance department confirm recharge costs at the end of the financial year.	High level of confidence as data is drawn from metering information.
Scope 3	Tenant and Concession - Electricity	Electricity supplied by Birmingham Airport to Tenants and Concessions.	Property Services Finance Sustainability	Meter reads are sent through by Property Services quarterly and in some instances, monthly. The Finance department confirm recharge costs at the end of the financial year.	High level of confidence as data is drawn from metering information.

4. SECR Report

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

Our location-based GHG emissions in 2022/23 (7,797 t/CO2e) increased by 3%, despite passenger numbers increasing by 185% and reopening areas within the terminal that were closed during 2021/22. 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.2,500 t/CO2e less than 2019/20, a reduction of 25%. We have continued to monitor and deliver energy savings through a combination of energy efficiency interventions and colleague engagement with energy and carbon management. From April 2022, the Airport moved to a green power tariff meaning 100% of electricity procured is generated by renewable sources such as solar and wind power. The addition of market-based reporting this year, reflects this change.

Energy Usage & Tonnes of CO_2e by Emissions Type				
Emissions Type	**2021/22**		**2022/23**	
	Energy Usage	**Tonnes of CO_2e**	**Energy Usage**	**Tonnes of CO_2e**
Scope 1 (Gas)	15,973,085 kWh**	2,926	13,765,338 kWh**	2,513
Scope 1 (Fuel – Owned Transport)	145,861 litres	366	213,511 litres	544
Scope 1 (Fuel – Diesel Generators)	56,562 litres	142	60,200 litres	154
Scope 1 (Refrigerants)	64 kg	114	184 kg	350
Scope 1 (LPG)	2,000 litres	3	6,659 litres	10
Scope 1 (Total)	**-**	**3,550**	**-**	**3,572**
Scope 2 (Purchased Electricity; Location-Based)	18,642,220 kWh**	3,958	21,717,207 kWh**	4,200
Scope 2 (Purchased Electricity; Market-Based)***	18,642,220 kWh**	3,958	21,717,207 kWh**	0
Total (Scope 1 & 2; Location-Based)	**-**	**7,508**	**-**	**7,772**
Total (Scope 1 & 2; Market-Based)	**-**	**7,508**	**-**	**3,572**
Scope 3 (Business Car Travel)	1,787 miles*	31	6,392 miles*	25
	13,587 litres*		10,437 litres*	
Total (Scope 1, 2 & 3; Location-Based)	**-**	**7,540**	**-**	**7,797**
Total (Scope 1, 2 & 3; Market-Based)	**-**	**7,540**	**-**	**3,597**

*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.

**Gas and electricity used by tenants and retail concessions are excluded as they are reported under SECR by these third-party companies. 21/22 electricity and gas consumption has been updated to reflect the incorporation of additional tenant electricity and gas data. Overall BAL consumption has reduced in 21/22 from data reported last year.

***From 01 April 2023, 100% of electricity procured is green, generated by renewable sources such as solar and wind power.

Gas and electricity used by tenants and retail concessions are excluded from these figures to prevent double counting as they are reported under SECR by these third-party companies. The 2021/22 electricity and gas consumption figure has been updated to reflect the incorporation of additional tenant data that was not included in report last year. This means that Birmingham Airport's reported consumption has reduced in 2021/22 from the data reported last year.

Birmingham Airport reports on carbon emissions per passenger, which is a widely used metric throughout the aviation industry. In 2022/23, carbon emissions per passenger decreased by 64% compared to 2021/22. However, the industry has been one of the worst affected by the COVID-19 pandemic and in 2021/22, passenger numbers were significantly less than pre-pandemic. Given the low passenger numbers in 2021/22, the link between passenger numbers and carbon emissions has been somewhat disestablished and the results reported in the table below should be viewed in this context.

kg CO_2 per passenger – Scope 1, 2 & 3 emissions (Location-based)					
Year	**Passenger Numbers**	**Scope 1**	**Scope 2**	**Scope 3**	**Total**
2021/22	3,673,356	0.97	1.08	0.01	**2.05**
2022/23	10,456,126	0.34	0.40	0.00	**0.75**

5. Full GHG Emissions Inventory

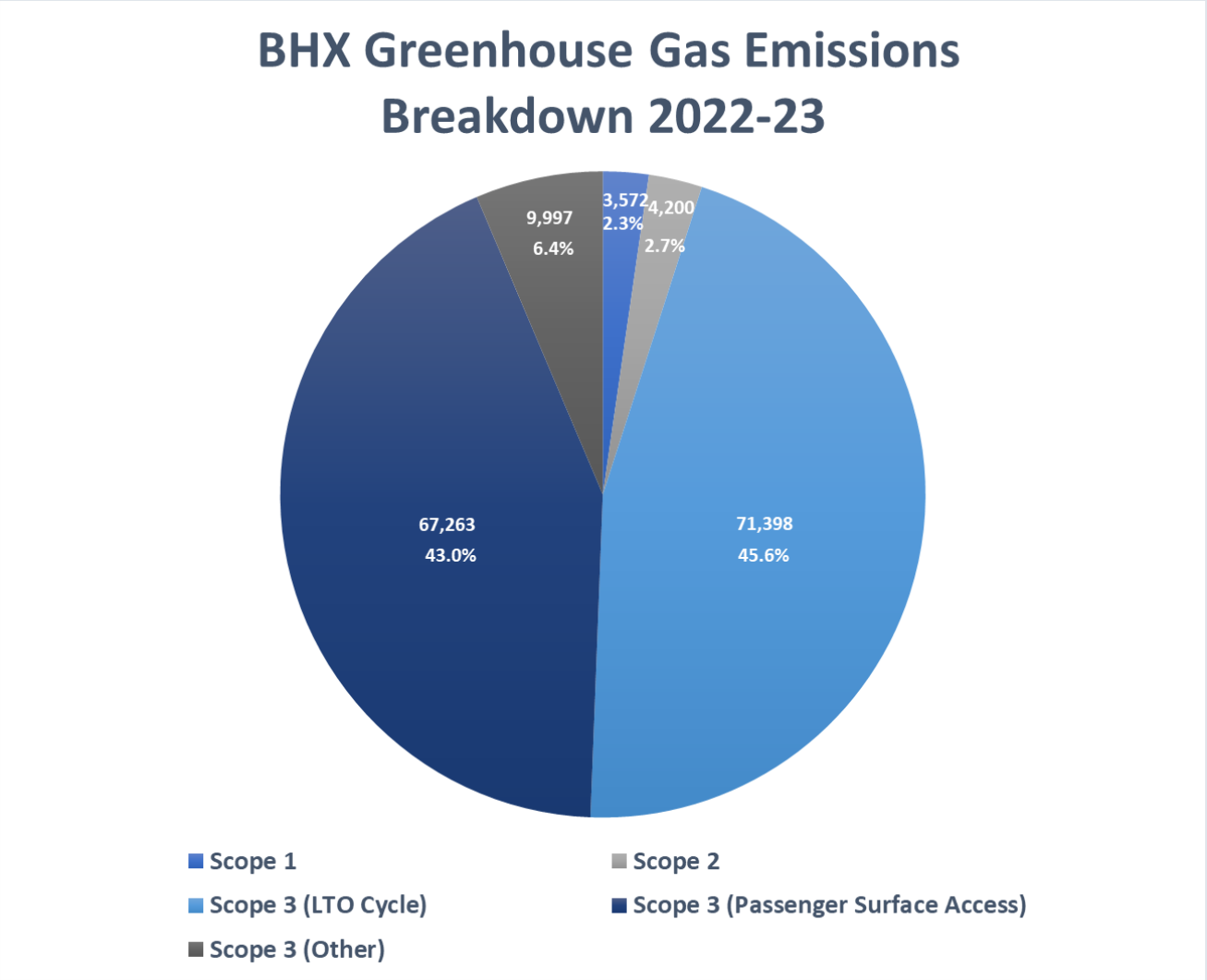
Birmingham Airport's full GHG emissions inventory is presented in the below table. Our Scope 3 emissions in 2022/23 (148,658 t/CO2e) increased by 88%, from 2021/22. Emissions from aircraft landing and taking off and from passenger surface access accounted for much of this increase. However, passenger and air traffic movements were significantly less in 2021/22, and the increase in emissions should be viewed in this context. Compared to 2018/19, the last year before COVID that the Airport calculated a full carbon footprint, our Scope 3 emissions in 2022/23 were 43% less.

GHG Emissions Inventory (t/CO_2e)		
Emissions Type	**2021/22**	**2022/23**
Scope 1 (Gas)	2,926	2,513
Scope 1 (Fuel – Owned Transport)	366	544
Scope 1 (Refrigerants)	114	350
Scope 1 (Fuel – Diesel Generators)	142	154
Scope 1 (LPG)	3	10
Scope 1 (Total)	**3,550**	**3,572**
Scope 2 (Purchased Electricity; Location-Based)	3,958	4,200
Scope 2 (Purchased Electricity; Market-Based)***	3,958	0
Total (Scope 1 & 2; Location-Based)	**7,508**	**7,772**
Total (Scope 1 & 2; Market-Based)	**7,508**	**3,572**
Scope 3 (LTO Cycle)	36,823	71,398
Scope 3 (Passenger Surface Access)	33,991	67,263
Scope 3 (On-stand Power (APU))	1,713	3,185
Scope 3 (Tenant and Concession - Electricity)**	2,226	2,623
Scope 3 (Tenant and Concession - Gas)**	805	939
Scope 3 (Staff Surface Access)	1,071	907
Scope 3 (Third-party GSE Fuel)	444	829
Scope 3 (Aircraft Engine Testing)	1,342	811
Scope 3 (Electricity Transmission and Distribution)	400	384
Scope 3 (Water Use and Treatment)	160	165
Scope 3 (Business Travel - Air)	12	87
Scope 3 (Waste Management)	6	40
Scope 3 (Business Travel - Car)*	31	25
Scope 3 (Business Travel - Train)	0	1
Scope 3 (Business Travel - Taxi)	0	0
Scope 3 (Total)	**79,026**	**148,658**
Total (Scope 1, 2 & 3; Location-Based)	**86,534**	**156,430**
Total (Scope 1, 2 & 3; Market-Based)	**86,534**	**152,230**

*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.

**Gas and electricity used by tenants and retail concessions are excluded as they are reported under SECR by these third-party companies. 21/22 electricity and gas consumption has been updated to reflect the incorporation of additional tenant electricity and gas data. Overall BAL consumption has reduced in 21/22 from data reported last year.

***From 01 April 2023, 100% of electricity procured is green, generated by renewable sources such as solar and wind power



6. Energy and Carbon Management Actions

6.1 Progress Summary – Scope 1 and 2 Emissions

Energy demand reduction – Birmingham Airport has continued to focus on energy demand reduction and cost control. Through monitoring our energy consumption using submetering, overnight energy walkarounds and monthly meetings of the Operational Energy and Cost Reduction Group, Birmingham Airport actioned 207 energy efficiency interventions in 2022/23 saving c. 364,000 kWh of energy. This included small scale LED replacements and installation of better controls, HVAC optimisation (set points, outside air temperature hold off points and time zone review) and switching off assets.

Journey to Net Zero – Birmingham Airport launched its Net Zero Carbon Plan in April 2022, which sets out a roadmap to net zero by 2033. Progress is being made across all workstreams within the Plan including LED lighting, solar PV and electric vehicle charge point installations. The Airport's Next Generation Security project epitomises our approach to reducing embodied and operational carbon emissions. The Sustainability team were involved at an early stage of design, the approach was 'fabric first' and to re-use as much of existing building as possible, keeping new build to a minimum. A lower carbon concrete (by-product of the steel industry) is being used to reduce embodied carbon. The

terminal's original polycarbonate atrium roof is being replaced with a highly insulated solution, incorporating solar PV to remove considerable seasonal energy inefficiencies. Space heating and cooling will be delivered by upgrading air handling units, connected to existing centralised heating and cooling, whilst preparing for the future installation of air source heat pumps with a new plant deck, in line with our low-carbon HVAC strategy.

Airport Carbon Accreditation – Birmingham Airport's decarbonisation efforts have been benchmarked by an international aviation body. The Airport achieved Level 3 (Optimisation) ACA from ACI Europe this year. This brings Birmingham Airport's decarbonising activities and reporting under ACI Europe's framework of scrutiny, including comparison with other airports worldwide. To achieve Level 3+ airports must offset their Scope 1 and 2 emissions. Birmingham Airport's current strategy is to invest capital in projects that will directly reduce our carbon emissions, as opposed to paying for an equivalent reduction to be made elsewhere. We will review this periodically should we wish to achieve a higher level of ACA.

6.2 Progress Summary – Scope 3 Emissions

We view collaboration with external stakeholders as key to achieving our net zero carbon ambitions and addressing our Scope 3 emissions.

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 electricity for use by aircraft when at the stand.

We are a member of the Airport Operators Association, and we work with Sustainable Aviation, who have a long-term strategy with the aim of making aviation a cleaner, quieter and smarter industry. Sustainable Aviation is a coalition of UK airlines, airports, manufacturers and air navigation service providers. Their website can be found at https://www.sustainableaviation.co.uk/.

Our vision for surface access is to make Birmingham Airport the most accessible Airport in the UK by providing integrated and accessible multi-modal transport options for all. They key objectives for the Airport are to enhance accessibility, improve public transport connections including improving access through the day, i.e. earlier and later public transport, and meet increases in demand as our passenger numbers grow. Our next Surface Access Strategy for 2024 onwards, which will set out how Birmingham Airport will meet these objectives, is currently in development.

The Airport has established an Electric Vehicle Charging Steering Group, and sub-working groups, to facilitate the development of a medium to long-term electric vehicle charging strategy for Airport owned vehicles, Airport business partners, passengers and staff. This builds on the 25 charging points and 17 electric vehicles, including 6 passenger transport buses, currently in operation.

Birmingham Airport is a member of the Solihull Sustainability Visioning Group (SSVG). The SSVG is led by senior business representatives and stakeholders from the local area, and the vision is to help Solihull be at the forefront of sustainable business development.

In 2023, the Airport joined the Hydrogen Valley Consortium, exploring what a hydrogen economy might look like in the West and East Midlands including producers of hydrogen, suppliers and end-users. Furthermore, we have partnered with ZeroAvia and signed a MoU to develop the technological, operational and commercial aspects of hydrogen powered flights to and from the Airport.

7. Assurance

The emission calculation methodologies are aligned with UK Government guidance and the GHG Protocols.

Internally, the Airport's Environmental Management System aligns to ISO 14001, ensuring robust processes are in place for the collection of data and reporting of energy use and associated emissions. The Energy and Carbon Manager has responsibility for collection of data and emissions calculations following the Sustainability team's local operating procedures. All the data and calculations are scrutinised by Sustainability team members and a final review is undertaken by the Finance department.

The GHG emissions data and calculations reported under SECR, and included within the Airport's annual report, are audited by an external company as part of the financial audit.

8. References

ACI (2023) Airport Carbon Accreditation Application Manual – Issue 13. Airports Council International. [Online] [Accessed on April 25th 2023] https://www.airportcarbonaccreditation.org/airport/technical-documents.html

BEIS/DESNZ (2022). Greenhouse gas reporting: conversion factors 2022. Department for Business, Energy and Industrial Strategy / Department for Energy Security and Net Zero. [Online] [Accessed on March 16th 2023] Greenhouse gas reporting: conversion factors 2022 - GOV.UK (www.gov.uk)

HM Government (2019) Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance. [Online] [Accessed on April 25th 2023] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/850130/Env-reporting-guidance_inc_SECR_31March.pdf

WBCSD/WRI (2004) The Greenhouse Gas Protocol Corporate Standard. World Business Council for Sustainable Development and World Resources Institute Geneva. [Online] [Accessed on March 20th 2023] https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf

WBCSD/WRI (2011) Corporate Value Chain (Scope 3) Accounting and Reporting Standard. World Business Council for Sustainable Development and World Resources Institute Geneva. [Online] [Accessed on March 14th 2023] https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf