



Glasgow International Airport Ltd

Qualifying explanatory statement in support of PAS 2060 self-certification

Table of contents

1 Introduction	1
2 About Glasgow Airport.....	1
3 General information	1
4 Declaration of achievement of carbon neutrality	2
4.1 Methodology	3
4.2 Carbon emissions	3

Appendix 1: Carbon footprint emissions sources

Appendix 2: Methodology

Appendix 3: Carbon management plan

Appendix 4: Carbon offset strategy

Appendix 5: Scope 3 emissions


1 Introduction

PAS 2060 requires that an entity making a declaration in respect to carbon neutrality in accordance with its provisions, make a qualifying explanatory statement (QES) that includes the evidence substantiating the declaration. This document forms the QES that demonstrates Glasgow Airport's commitment to achieving carbon neutrality, which includes evidence substantiating the declaration under PAS 2060. All information is believed to be correct at the time of issue. Should any information come to light that would affect the validity of the statements herein, this document will be updated to accurately reflect the current status of any carbon neutral statement made by Glasgow Airport.

2 About Glasgow Airport

Glasgow Airport, Scotland, is a major transport hub in Scotland. The airport is owned by AGS Airports (also owners of Aberdeen and Southampton Airports) and operates 24 hours, 365 days a year. In 2020 the airport reported a total of just under 2 million passengers, directly employing around 180 staff, with approximately 5,000 jobs supported by the airport, and more than 7,300 jobs across Scotland overall. As a result, Glasgow Airport makes the largest contribution of any airport to Scotland's economy.

3 General information

Information required under PAS 2016 guidance	Glasgow Airport response
Individual(s) responsible for the evaluation and provision of data necessary for the substantiation of the declaration.	Kirsty Webster Sustainability Assurance Manager
Entity responsible for making the declaration	Glasgow International Airport Ltd
Subject of PAS 2060 declaration	The Scope 1, 2 and Scope 3 business travel operational emissions of Glasgow International Airport Ltd.
Rationale for the selection of the subject.	The scope and subject of this PAS 2060 includes all emissions based on the operational control principle defined in the WBCSD / WRI GHG Protocol – Corporate Standard.
Type of conformity assessment that has been undertaken	Self-certification
Application period	01/01/20 - 31/12/20
Commitment period	01/01/21 - 31/12/21
Senior representative: Signature	
Name and Position:	Ronald Leitch – Operations Director
Date:	17/11/2021

4 Declaration of achievement of carbon neutrality

Table 1 demonstrates that Glasgow Airport has met the requirement to self-assess as carbon neutral under the PAS 2060 specification for 1st January to 31st December 2020, and have offset residual Scope 1 and 2 emissions as well as Scope 3 business travel emissions. Details of the carbon offsets purchased can be found in Appendix 3. Note that this declaration only applies to the scope and boundary of the subject, and period indicated, and should Glasgow Airport intent to extend its claim then future offsetting will be required.

A carbon management plan has also been set up to target carbon reduction within Glasgow Airport's scope and boundary (summarised in Appendix 3). The purpose of the plan is to demonstrate the meaningful efforts made by Glasgow Airport to reduce its emission in line with their targets and policy statement, and details the route by which they aim to achieve their net zero carbon ambition.

Additional efforts will be undertaken to address any remaining Scope 3 emissions (and for which the airport has no direct influence over) that arise within the operational boundary of the airport. This will be achieved through Level 3+ of the Airport Carbon Accreditation scheme, which the airport are currently working towards, and through stakeholder engagement plans. More details can be found in Appendix 5.

Glasgow Airport's wider sustainability strategy is anchored in the United Nations' 17 Sustainable Development Goals (SDGs). The SDGs are recognised as the blueprint for achieving a better and more sustainable future for all, based on the three pillars of sustainable development – social inclusion, environmental protection and economic growth. In addition to ensuring adherence to the stringent requirements of the Quality Assurance Standard (QAS) for carbon offsetting, the UN SDGs were a key consideration when it came to identifying an appropriate high quality, international carbon reduction project for the airport to support. The airport identified and reviewed several offsetting schemes before choosing one that best aligned with Glasgow Airport's sustainability goals. Ades Solar and Efficient Stoves in Madagascar provides solar cookers and efficient wood stoves for cooking to people in the South of Madagascar (former province of Tulear) and is certified to of the United Nations' SDG's.

SUSTAINABLE DEVELOPMENT GOALS



4.1 Methodology

Glasgow Airport's carbon footprint has been calculated by Ricardo Energy & Environment in accordance with the principles of the Greenhouse Gas Protocol Standard for Corporate Accounting and Reporting produced by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI). This is a globally recognised standard and is best practice for carbon footprint calculation. The carbon emissions figures have been calculated using the UK government conversion factors for company reporting, and emissions have been expressed in terms of Carbon Dioxide Equivalent (CO₂e).

The methodology meets the principles set out by PAS 2060 where 'Entities shall confirm and record their application of the methodology selected for quantification of the greenhouse gas emissions from the subject, conforms to those principles' and is outlined in more detail in Appendix 2.

4.2 Carbon emissions

The total Scope 1 & 2 emissions and Scope 3 business travel covering operations at Glasgow International Airport for 1st January to 31st December 2020 are 2,944 tCO₂e. The emissions sources included are outlined in Appendix 1.

Table 1: Checklist for QES supporting declaration of achieving carbon neutrality.

Information required under guidance	Response
Define standard and methodology used to determine its GHG emissions reduction.	Methodology & Appendix 2
Confirm that the methodology used was applied in accordance with its provisions and the principles set out in PAS 2060 were met.	Methodology & Appendix 2
Provide justification for the selection of the methodologies chosen to quantify reductions in the carbon footprint, including all assumptions and calculations made and any assessments of uncertainty. (The methodology employed to quantify reductions shall be the same as that used to quantify the original carbon footprint. Should an alternative methodology be available that would reduce uncertainty and yield more accurate, consistent and reproducible results, then this may be used provided the original carbon footprint is re-quantified to the same methodology, for comparison purposes. Recalculated carbon footprints shall use the most recently available emission factors, ensuring that for purposes of comparison with the original calculation, any change in the factors used is taken into account).	Methodology & Appendix 2
Describe the means by which reductions have been achieved and any applicable assumptions or justifications.	Appendix 3
Describe the actual reductions achieved in absolute and intensity terms and as a percentage of the original carbon footprint. (Quantified GHG emissions reductions shall be expressed in absolute terms and shall relate to the application period selected and/or shall be expressed in emission intensity terms (e.g. per specified unit of product or instance of service)).	Appendix 3
State the baseline/qualification date.	General Information
Record the percentage economic growth rate for the given application period used as a threshold for recognising reductions in intensity terms.	-9.8% GDP growth (UK)
Provide an explanation for circumstances where a GHG reduction in intensity terms is accompanied by an increase in absolute terms for the determined subject.	Appendix 3
Select and document the standard and methodology used to achieve carbon offset.	Methodology & Appendix 2
Confirm that:	
a) Offsets generated or allowance credits surrendered represent genuine, additional GHG emission reductions elsewhere.	Appendix 4
b) Projects involved in delivering offsets meet the criteria of additionality, permanence, leakage and double counting. (See the WRI Greenhouse Gas Protocol for definitions of additionality, permanence, leakage and double counting).	Appendix 4
c) Carbon offsets are verified by an independent third-party verifier.	Appendix 4

d) Credits from Carbon offset projects are only issued after the emission reduction has taken place.	Appendix 4
e) Credits from Carbon offset projects are retired within 12 months from the date of the declaration of achievement.	Appendix 4
f) Provision for event related option of 36 months to be added here.	Appendix 4
g) Credits from Carbon offset projects are supported by publicly available project documentation on a registry which shall provide information about the offset project, quantification methodology and validation and verification procedures.	Appendix 4
h) Credits from Carbon offset projects are stored and retired in an independent and credible registry.	Appendix 4
Document the quantity of GHG emissions credits and the type and nature of credits actually purchased including the number and type of credits used and the time period over which credits were generated including:	Appendix 4
a) Which GHG emissions have been offset.	Appendix 4
b) The actual amount of carbon offset.	Appendix 4
c) The type of credits and projects involved.	Appendix 4
d) The number and type of carbon credits used and the time period over which the credits have been generated.	Appendix 4
e) For events, a rationale to support any retirement of credits in excess of 12 months including details of any legacy emission savings, taken into account.	Appendix 4
f) Information regarding the retirement/cancellation of carbon credits to prevent their use by others including a link to the registry or equivalent publicly available record, where the credit has been retired.	Appendix 4
Specify the type of conformity assessment.	General Information
Date the QES and have it signed by the senior representative of the entity concerned (e.g. CEO of a corporation; Divisional Director, where the subject is a division of a larger entity; the Chairman of a town council or the head of the household for a family group).	General Information
Make QES publicly available and provide a reference to any freely accessible information upon which substantiation depends.	Completed

Appendix 1: Carbon footprint emission sources

Below is a list of all carbon emissions sources that have been offset as part of this declaration of carbon neutrality. Remaining Scope 3 emissions that the airport does not have direct influence over are detailed in Appendix 5.

Scope 1

- Combustion of fuels
 - Boilers & AHUs (natural gas)
 - Standby / back-up generators (gas oil)
 - Fire training (kerosene, LPG, gas oil, wood, etc.)
 - Fire suppression (CO₂)
 - Glycol-based De-Icer
- Airport owned transport
 - Operational vehicles (Airport fire trucks, Airport snow fleet, etc.)
 - Non-operational vehicles (Airport pool vehicles, car park buses, airside buses, etc.)
 - Airport owned GPU and air start units, etc.
- Fugitive emissions
 - Refrigerant gases (e.g. HFC, HCFC, SF₆)

Scope 2

- Consumption of purchased electricity
 - Airport electricity use (i.e. not tenant/service partner use)

Scope 3

- Transport-related activities
 - Airport business travel (national and international, all transport modes)

Emissions source	Scope 1 emissions	Scope 2 emissions	Scope 3 emissions	Total emissions (tCO ₂ e)	% of emissions
Utilities	2,641	0	-	2,641	89.71%
Operational vehicles	264	-	-	264	8.97%
Fire training	11	-	-	11	0.37%
Business travel	0	-	28	28	0.95
Total emissions	2,916		28	2,944	100%

Appendix 2: Methodology

Standard and methodology used

The quantification, reduction and offsetting of Glasgow's Airport has been achieved through the calculation of its carbon footprint, which has been calculated in accordance with the principles of the Greenhouse Gas Protocol Standard for Corporate Accounting and Reporting produced by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI). The Standard provides requirements and guidance for companies and other organisations calculating their emissions and has been specifically designed to:

- Help companies prepare a GHG inventory that represents a true and fair account of their emissions using standardized approaches and principles
- Simplify and reduce the costs of compiling an emissions inventory
- Provide business with information that can be used to build an effective strategy to manage and reduce emissions
- Increase consistency and transparency in GHG accounting and reporting among various companies and GHG programmes

The UK government conversion factors for company reporting have been utilised in the calculations, and emissions have been expressed in terms of Carbon Dioxide Equivalent (CO₂e).

Justification

The methodology has been chosen since it is a globally recognised standard and is considered best practice for carbon footprint calculation. It offers a robust framework for calculating GHG emissions that has been applied in accordance with its provisions and that the principles set out in PAS 2060 have been met.

Given the increasing regulation surrounding climate change, it is necessary for companies to be able to understand and manage their environmental risks effectively. Especially if they want to ensure long term success in a competitive business environment, not to mention potential future government intervention through climate policy.

All Scope 1 and Scope 2 emissions relevant to the subject have been included when determining the carbon footprint. In addition to this, all Scope 1, 2 and 3 emission sources calculated to be material have been considered in determining the carbon footprint. This shows that Glasgow Airport has demonstrated a true and fair representation of its emissions, therefore meeting the requirements of PAS 2060 and offering an enhanced level of transparency in its carbon footprinting.

Data Quality

Data from directly metered sources was used in the calculation of carbon emissions where available (e.g. electricity, natural gas, water, operational vehicle fuel use), and industry standard methodologies were used where directly metered sources were not available (e.g. Landing take-off cycle fuel use was calculated based on ICAO methodology). In all cases, appropriate UK government conversion factors for company reporting were applied to convert fuel use to carbon emissions. This allows for a high confidence in the data.

Appendix 3: Carbon management plan

Historical emission reduction progress

Glasgow airport have already implemented several energy efficiency projects over the last 10 years that have had a significant effect on the airport's energy consumption and carbon emissions. The following projects have either been completed or are ongoing:

- Heat Pumps
- District heating solutions
- Gas CHP
- LED lighting
- Improved controls of systems
- Increased automated submetering
- Renewable energy procurement
- Chiller Plant and Domestic Hot Water Optimisation

Ongoing emissions reduction plan

Proposed small scale projects

Within Glasgow Airport's Carbon Management Plan, there are proposed renewable / carbon reduction projects which can be implemented in the short term:

Initiative	Implementation Plan	Estimated Energy/Carbon Savings
Energy digitisation and optimisation	<p>Start implementation in 2021, monitoring of results over 12 months to identify additional projects for investment.</p> <p>Ongoing monitoring to identify energy waste across site.</p>	<p>10% of site electricity</p> <p>20% of site natural gas.</p>
Replacement of Fluorescent/SON Light Fittings with LEDs	Part of ongoing maintenance plans within the, baggage hall and multi storey car park and runway lighting.	70%+ of replaced lighting electricity consumption.
Implementation of a Behavioural Change Programme Designed to Reduce Small Power Consumption Associated with Office Equipment	This initiative will, subject to internal approval at the sustainability board, be incorporated as a formal objective for 2020 and attached to the Sustainability Assurance Manager's annual targets.	5-10% of office equipment electricity consumption.
Decarbonisation of heating and hot water systems	<p>Several options for the decarbonisation of the natural gas fired heating and hot water systems at the airport are being investigated, including:</p> <ul style="list-style-type: none"> • Solar thermal • Heated air barriers with BMS and smart controls 	Eventual 100% divestment from natural gas and move to renewable electricity either from on-site renewables or purchased zero carbon electricity.

	<ul style="list-style-type: none"> • Connection to a local ambient heat loop utilising heat from local sewerage works <p>Ground source heat/cool storage utilising boreholes.</p> <p>Planned phased roll out starting in 2024</p>	
Replace generators with battery backup/UPS	Start phased replacement in 2025.	Eventual 100% replacement of generator fuel use with renewable electricity.
Install High Energy Germicidal UVC for use in the HVAC system to improve air quality and reduce energy consumption from eliminating mould and bacteria.	Look to implement in 2022	20% saving in HVAC energy use

There are proposed energy efficiency / carbon reduction projects which can be financed by Glasgow Airport and are longer term and provide a higher potential carbon saving over time.

Initiative	Implementation Plan	Estimated Energy/Carbon Savings
Solar PV	<p>Roof mounted solar is the priority with plans to install in 2020, with car port solar also planned for 2022.</p> <p>Ground mounted solar is planned for installation in 2022, and the roof mounted solar in Glasgow City for 2023.</p>	No carbon savings will be realised by these measures (under market-based reporting of Scope 2) as the airport already sources 100% renewable electricity from their energy supplier. On-site solar and private wire wind with rather provide several other benefits, including commercial, security of supply, and grid resilience.
Wind	TBC.	
EV charging infrastructure	Phased over several years, starting 2021.	Savings come from moving from fossil fuel powered vehicles to 100% renewable electricity powered vehicles.
Decarbonisation of operational vehicles	Phased over several years, starting 2021.	
Decarbonisation of passenger surface access	<p>Buses: The contract for bus companies with routes to site is up for renewal in 2021, and electric buses will be a stipulation in the new contract.</p> <p>Taxis: Schemes to incentivise use of EVs is under review and will require investment in charging infrastructure. Expected to be a phased change over several years.</p>	Savings come from moving from fuel powered vehicles to 100% renewable electricity powered vehicles, or hydrogen produced using 100% renewable electricity.
Decarbonisation of employee commute	Busses: See above.	

	Cars: Expected to be a phased change over several years, starting in 2021.	
Replace GPUs with FEGPs	At present, gas oil powered ground power units are used to start aircraft on stands without FEGP. This uses a significant amount of gas oil, and these could be replaced with fixed electric ground power connections (100% renewable electricity). Continue phased roll-out to all stands over several years starting in 2021.	Savings come from moving from fossil fuel powered GPUs to 100% renewable electricity powered FEGPs.
Aircraft Taxiing	Autonomous electric aircraft tugs have been trialled at other airports and can remove the requirement for aircraft to taxi under their own power. This measure requires significant infrastructure works and changes to the operation of the airport and is currently under review. Expected to be a phased change over several years starting in 2025.	12% of aircraft LTO emissions.
Sustainable Aviation Fuel	The potential for SAF is huge and could reduce the emissions from aviation fuel used in aircraft significantly. However, current production is still very low, and this will be a long-term change in the aviation industry.	Unknown

Conformance to the Carbon Management Plan

Understanding and managing the environmental impact is a high priority at Glasgow Airport. The Carbon Management Plan details how the airport intends to deliver carbon reduction works, set to continue the airport objective of carbon neutrality from 2020 and beyond, and the Scottish Government objective for net zero emissions by 2045.

Glasgow Airport will utilise their CMP going forward to enable the identification and development of carbon management initiatives; strategic planning; implementing; operating; monitoring; reviewing; exercising and improving carbon management at the Airport. The strategy is fully aligned to Glasgow Airport's overall business objectives and targets outlined below and ensures the ability to meet internal standards, stakeholders' needs and commitments to robust carbon management and results.

The progress of the CMP will be monitored through monthly progress reports which shall be reviewed by the Leadership Team. Performance in this area will be measured by:

- Airport carbon management plans being delivered on budget; and
- Achievement against AGS carbon management targets.

This will also include monitoring performance and progress of the commitments as set out in the table below:

Action	Impact	Timescale
GLA will maintain a robust carbon foot printing methodology to measure and monitor the carbon footprint.	Scope 1, 2 and 3 Emissions.	Ongoing
GLA will report on the Carbon Footprint annually.	Scope 1, and 2 Emissions.	Annually
GLA will review the Carbon Management Plan every three years.	Scope 1, 2 and 3 Emissions.	2023
GLA will invest in systems and equipment across the infrastructure to enable the airport to understand the energy consumption. Including investment in smart metering and intelligent computer software	Scope 1 and 2 Emissions.	Ongoing
GLA will dedicate resources to monitoring and measuring the energy consumption and auditing improvements.	Scope 1 and 2 Emissions.	Ongoing
GLA will review energy reporting processes to provide a better focus for improvement.	Scope 1 and 2 Emissions.	Ongoing
GLA will appraise energy efficiency for all major capital projects.	Scope 1 and 2 Emissions.	Ongoing
GLA will work to improve methodologies for measuring operations.	Scope 3 emissions.	Ongoing

Justification for increase in absolute emissions

Glasgow Airport had a marginal increase in Scope 1 emissions in 2020. This was primarily due to the inclusion of glycol-based de-icer as required under the Airport Carbon Accreditation scheme which hadn't been included in previous years. There was also a slight increase in the consumption of gas for heating and hot water due to the COVID-19 pandemic advising against the recirculation of air in favour of bringing in fresh air. As this fresh air is colder, it required additional heating to bring the terminal building to a comfortable temperature.

Carbon reduction targets

Glasgow Airport is showing its commitment to managing and reducing their carbon footprint by achieving ACA Level 2 Accreditation in 2020, and becoming carbon neutral at the end of 2020, primarily through offsetting. Glasgow Airport will continue to maintain its Carbon Neutrality status while implementing its Carbon Management Plan to further reduce its emissions in line with its Net Zero 2045 target. The Carbon Management Plan has established a means by which Glasgow Airport will meet this target and outline further reductions to become Net Zero by 2045, particularly through its ACA Level 2 requirements, demonstrating the meaningful efforts made by the airport to reduce its emissions in line with the set target and policy statement.

Appendix 4: Carbon offset strategy

CO₂e emissions to be offset – 2,944 tCO₂e

The carbon credits have been purchased from the following scheme, and have all been retired:

Scheme 1:

Credits: 2,944

Scheme Name: ADES Solar and efficient stoves in Madagascar (GS464) (Gold Standard VERs)

Timeframe for credit generation: Jan 01, 2019 – Dec 31, 2019

Public registry with link to credits: <https://registry.goldstandard.org/credit-blocks/details/195181>

Commitment to carbon neutrality

The entity will commit to monitor, reduce, and declare all its carbon equivalent emissions for the commitment period 01/01/21 - 31/12/21. Glasgow Airport will subsequently offset the declared emissions using a genuine source of carbon credits.

Scope	Definition	Total (tCO ₂ e)
1	Direct emissions (consumption of fuel, airport owned transport, fugitive emissions) arising from operational control at Glasgow Airport	2,916
2	Emissions arising from the consumption of electricity at Glasgow Airport	3,101
3	Emissions arising from business travel at Glasgow Airport	28
	Location-based Total	6,045
	Credits resulting from the procurement of renewable electricity (REGO certificated)	3,101
	Market-based Total	2,944

Appendix 5: Scope 3 emissions

In preparing the organizational GHG inventory Glasgow Airport adopted a traditional organisational boundary that includes all Scope 1, 2 and several Scope 3 emission sources. The Scope 3 emissions included in the carbon footprint are those required under Level 3/3+ of the Airport Carbon Accreditation (ACA) scheme.

Scope 3 emissions have not been included in this declaration of carbon neutrality as the airport does not have direct influence over these emissions sources. However, these will be the focus of future efforts for carbon reduction initiatives through stakeholder engagement as the airport aims to achieve net zero carbon emissions by 2045.

This is in line with the level 3+ requirements of the ACA scheme, where all Scope 1 and 2 emissions, as well as Scope 3 business travel, are required to be offset to achieve carbon neutral status. Glasgow Airport are working towards Level 3+ of the ACA scheme, and as part of this will look to reduce their Scope 3 emissions through stakeholder engagement activities that incentivise the reduction of Scope 3 emissions over which the airport do not have direct influence.

The Scope 3 emissions that are included in Glasgow Airport's carbon footprint, and will be the focus of future carbon reduction schemes, are as follows:

Scope 3

- Transport-related activities
 - Staff commuting
 - Tenant commuting (who use airport car parks)
 - Passenger surface access
 - 3rd party operational vehicle fuel use
 - 3rd party glycol based de-icer
- Purchased materials and fuels
 - Water use
 - Wastewater treatment
- Waste disposal
 - Waste
 - Recycling
- Tenants & concessionaires (on airport supply)
 - Airport supplied gas and electricity
- Aircraft
 - Aircraft LTO (aircraft arriving, departing and taxiing – up to 3,000ft / 1,000m)
 - Aircraft engine testing
 - Aircraft APU usage

Emissions source	Scope 3 emissions
Staff commute (Airport and tenants)	2,134
Passenger surface access	6,776
3 rd party operational vehicle fuel use	303
Water and wastewater treatment	115
Waste	275
Utilities (Tenant energy use (electricity and natural gas) and T&D Losses)	559
Aircraft (LTO, engine testing and APU)	23,453

3 rd party glycol based de-cier	320
Total Scope 3 emissions	33,963

Impact of COVID19 on Scope 3 Emissions

2020 saw a dramatic reduction in airside activity due to the global COVID-19 pandemic. From mid-March 2020, both flights and passenger numbers had dramatically reduced. This is reflected in our carbon footprint with emissions from aircraft and passenger surface access dropping by 68% and 86% respectively. With business recovery from the COVID-19 pandemic in 2021, we will expect a rise in emissions due to increased flights and passenger numbers in particular, however, we will continue to work towards a stakeholder engagement policy, in line with ACA Level 3+ to ensure a sustainable recovery from the pandemic.