Wick Airport
Carbon Footprint 2024

Report for Highland and Islands Airports Limited (HIAL)
November 2024

Wick John O'Groats Airport
Port-adhair Inbhir Ùige Taigh Iain Ghròt

Contents

Introduction

This is the 2024 Annual Carbon Footprint Report for Wick Airport. Wick Airport is operated by Highlands and Islands Ltd (HIAL), a public corporation owned by the Scottish Ministers and subsidised by the Scottish Government. HIAL operates and manages 11 airports across northern Scotland - Barra, Benbecula, Campbeltown, Dundee, Inverness, Islay, Kirkwall, Stornoway, Sumburgh, Tiree and Wick.

This report has been prepared by Waterman Infrastructure & Environment Ltd (Waterman), in collaboration with HIAL staff. The report covers the operations of Wick Airport for the 2024 financial year (1 April 2023 to 31 March 2024). During the reporting, period, Wick Airport welcomed 11,224 passengers (an increase of 22% on the previous year), however aircraft movements have decreased by 5% (to 3,177).

This report identifies the emissions associated with the operation of Wick Airport for the 2024 financial year and trends over recent years, to help identify opportunities to target emissions reduction actions. As this is the first year that Waterman has completed HIAL's carbon footprint reporting, there have been some changes in methodologies compared to previous years. Recommendations to improve data quality for future reporting years have been communicated to HIAL.

Waterman would like to thank the staff at HIAL for their co-operation and input into this project and report.

Methodology overview

All emissions have been calculated in line with the Greenhouse Gas (GHG) Protocol and ISO 14064-1 to ACA Level 3 standard. Wick Airport has aspirations to achieve Level 1 ACA accreditation in future. While previous reports have included aspects of ACA Level 4 standard, HIAL has decided to scale back reporting in 2024 to focus on improved data collection and accuracy for the foundation levels (1-3) of ACA accreditation. Therefore, some emissions sources previously reported, such as Climb, Cruise, Descent (CCD) emissions, are excluded from this report.

The emissions sources included are shown in the adjacent boxes. This report is primarily presented based on the location-based calculation methodology, with a market-based emissions profile towards the end of this report (further explanation on page 8). A detailed explanation of the methodology and assumptions can be found in Annex 1.

SCOPE 1

"Direct Emissions"

- Fuel used in: Vehicles and ground support equipment owned by the Airport, generators and other equipment
- Refrigerant gases lost to atmosphere from chillers and air conditioners
- De-icer used on ground by the Airport

SCOPE 2

"Indirect Emissions"

- Electricity used by the Airport

SCOPE 3

"Indirect Emissions"

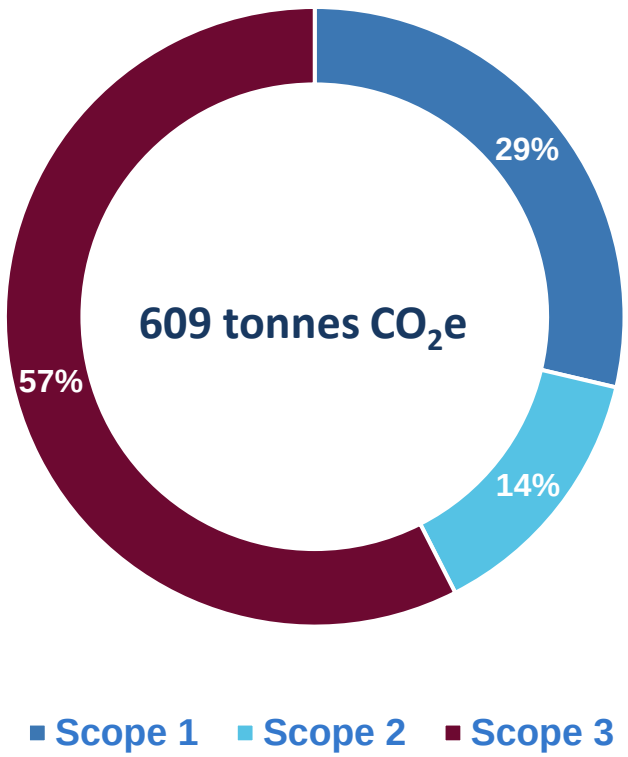
- Aviation emissions: LTO, engine testing
- Passenger surface access
- Fuel used in vehicle and ground support equipment owned by third parties
- Staff commute & business travel
- Tenant electricity
- Electricity well-to-tank and transmission and distribution losses
- Waste: disposal
- De-icer used on aircraft by third parties
- Water supply and wastewater treatment

OUTSIDE OF SCOPES

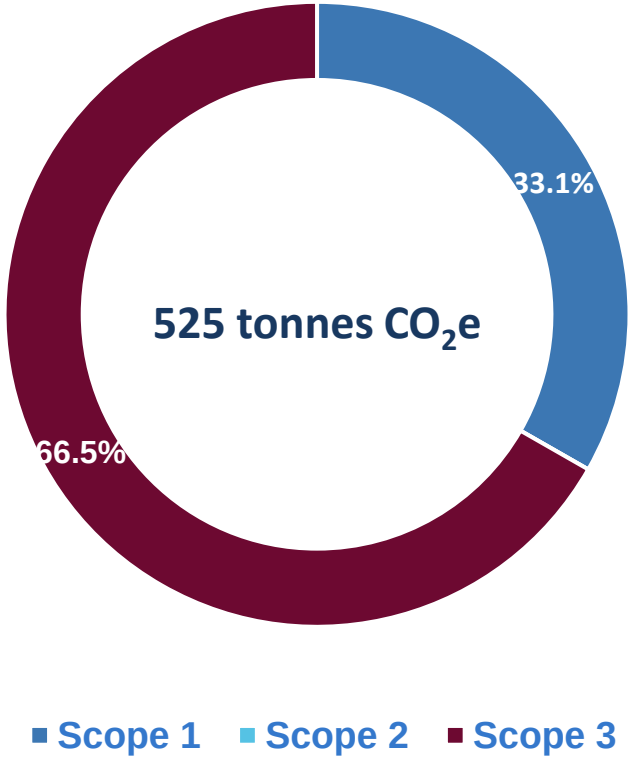
- Burning biomass and biofuels

Wick Airport 2024 Footprint - Summary

Location-Based emissions



Market-Based emissions



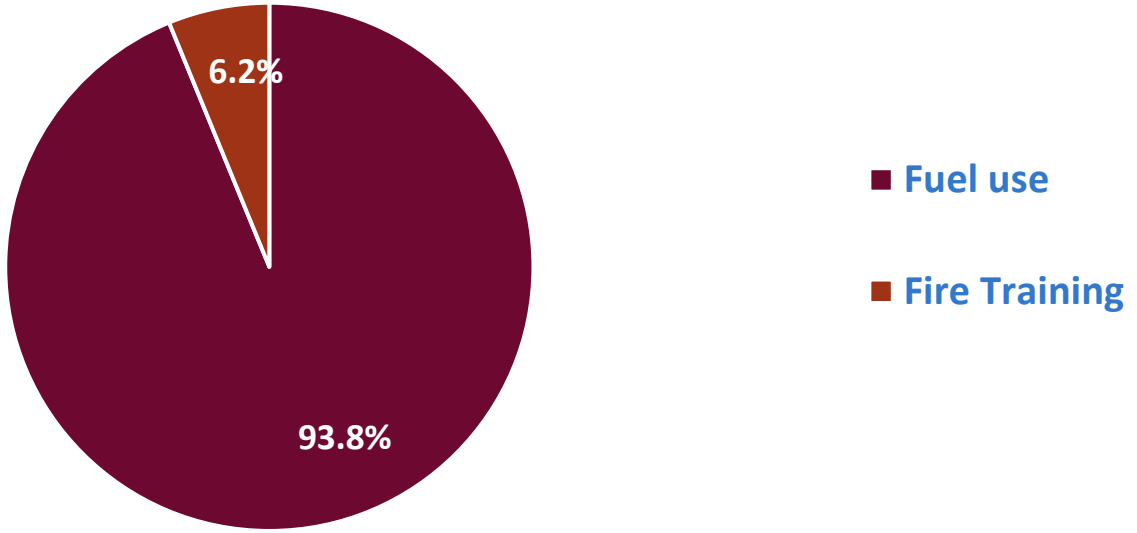
Wick Airport 2024 Footprint – By emissions source

	Emissions (tCO2e)	% of Scope	% of Total Emissions
Scope 1 – Total	**174**		**28.6%**
Natural gas	0	0.0%	0.0%
Fuel (heating, power, GSE)	163	93.8%	26.8%
Business travel	0	0.0%	0.0%
Refrigerants	0	0.0%	0.0%
Airport de-icer	0	0.0%	0.0%
Fire training	11	6.2%	1.8%
Scope 2 – Total	**84**		**13.8%**
Airport electricity	84	100.0%	13.8%
Scope 3 - Total	**347**		**57.2%**
Landing Take-off (LTO)	193	55.4%	31.7%
Passenger surface access	40	11.6%	6.6%
Tenant electricity	0	0.0%	0.0%
Electricity WTT (reported since 2021)	20	5.8%	3.3%
Electricity T&D	7	2.1%	1.2%
Fuels WTT	35	10.1%	5.8%
Waste	24	7.0%	4.0%
Staff commute	11	3.0%	1.7%
Third party de-icer	0	0.0%	0.0%
Aircraft engine tests	0	0.0%	0.0%
Water	0	0.0%	0.0%
Business travel	17	4.9%	2.8%
Out of Scopes – Total	**2**		**0.4%**
Diesel	2	N/A	0.40%
Petrol	0	N/A	0.00%
Wood	0	N/A	0.00%
Total	**609**		**100.0%**

Wick Airport 2024 Footprint – Scope 1

Scope 1 emissions are direct greenhouse gas emissions that occur from sources owned or controlled by HIAL. For Wick Airport, the major emissions source in this category is fuels used for power, heating, and the operation of ground support equipment (GSE). Fuel burnt during fire training is also captured under Scope 1.

Total Scope 1 emissions – 174 tonnes CO_2e



- Scope 1 emissions have decreased by 35% this year.
- GSE emissions have been re-classified from Scope 3 to Scope 1 this year due to a lack of data.

Wick Airport 2024 Footprint – Scope 2

Scope 2 emissions are those associated with the consumption of electricity at the airport. Electricity emissions are reported under 2 approaches:

Location-based: reflecting the average emissions intensity of electricity grids where energy consumption occurs. Under this approach, emissions are calculated used the National Grid average emission factor, sourced from the UK Government GHG Conversion factors for Company Reporting 2024.

Market-based: reflecting the emissions from HIAL's purchasing arrangements for electricity and the fuel mix associated with their energy tariff. During the reporting period (1 April 2023 – 31 March 2024), all of HIAL's purchased electricity was covered by renewable energy guarantees of origin (REGO) certificates. Therefore, electricity emissions are reported as zero carbon under the market-based methodology.

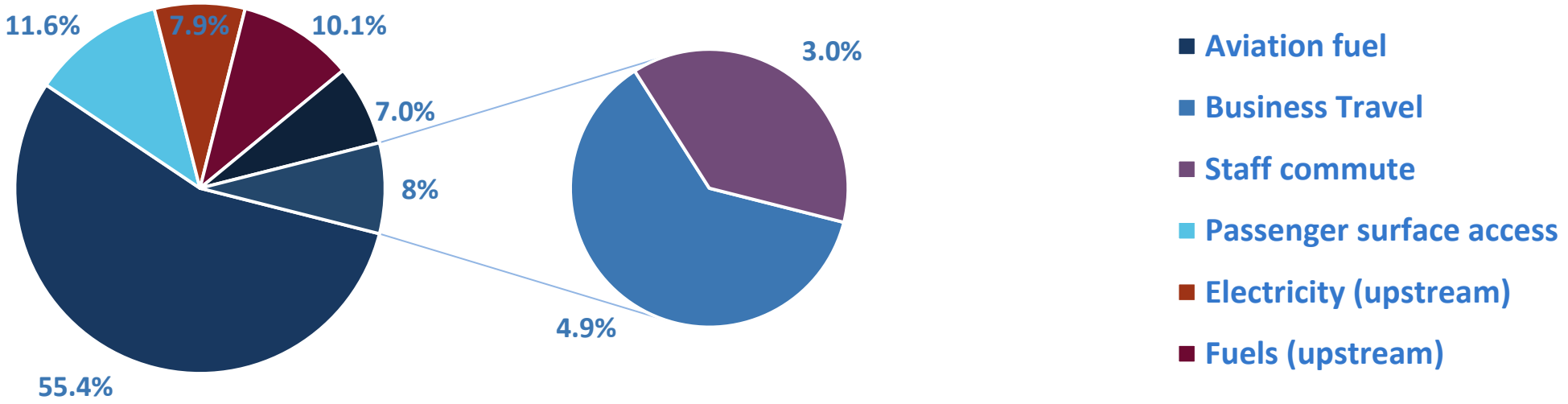
Location-Based electricity emissions (tCO_2e)	Market-Based electricity emissions (tCO_2e)
84	0

- Scope 2 emissions have continued to increase this year, which is partly due to a continued increase in passenger numbers post-Covid – passenger numbers have increased 22% this reporting year, though aircraft movements have reduced by 5%.
- Some data challenges were identified and recommendations to improve data accuracy in future years have been identified.

Wick Airport 2024 Footprint – Scope 3

Scope 3 emissions are indirect greenhouse gas emissions that arise as a consequence of the activities of HIAL, but occur from sources not owned or controlled by the company. For Wick Airport, the major emission source in this category is from aircrafts' aviation fuel. As an airport operator, HIAL reports on the emissions associated with aircraft movements around the airport, i.e. taxi-ing, take-off, landing and time spent on APU. Other sources in Scope 3 include passenger surface access, staff commute and business travel, waste, water and wastewater treatment.

Total Scope 3 emissions - 347 tonnes CO_2e



For Publication

Wick Airport 2024 Footprint – Market based emissions

	Emissions (tCO2e)	% of Scope	% of Total Emissions
Scope 1 – Total	**174**		**33.2%**
Natural gas	0	0.0%	0.0%
Fuel (heating, power, GSE)	163	93.8%	31.1%
Business travel	0	0.0%	0.0%
Refrigerants	0	0.0%	0.0%
Airport de-icer	0	0.0%	0.0%
Fire training	11	6.2%	2.1%
Scope 2 – Total	**0**		**0.0%**
Airport electricity	0	100.0%	0.0%
Scope 3 - Total	**347**		**66.4%**
Landing Take-off (LTO)	193	55.4%	36.8%
Passenger surface access	40	11.6%	7.7%
Tenant electricity	0	0.0%	0.0%
Electricity WTT (reported since 2021)	20	5.8%	3.9%
Electricity T&D	7	2.1%	1.4%
Fuels WTT	35	10.1%	6.7%
Waste	24	7.0%	4.6%
Staff commute	11	3.0%	2.0%
Third party de-icer	0	0.0%	0.0%
Aircraft engine tests	0	0.0%	0.0%
Water	0	0.0%	0.0%
Business travel	17	4.9%	3.3%
Out of Scopes – Total	**2**		**0.4%**
Diesel	2	N/A	0.4%
Petrol	0	N/A	0.0%
Wood	0	N/A	0.0%
Total	**525**		**100.0%**

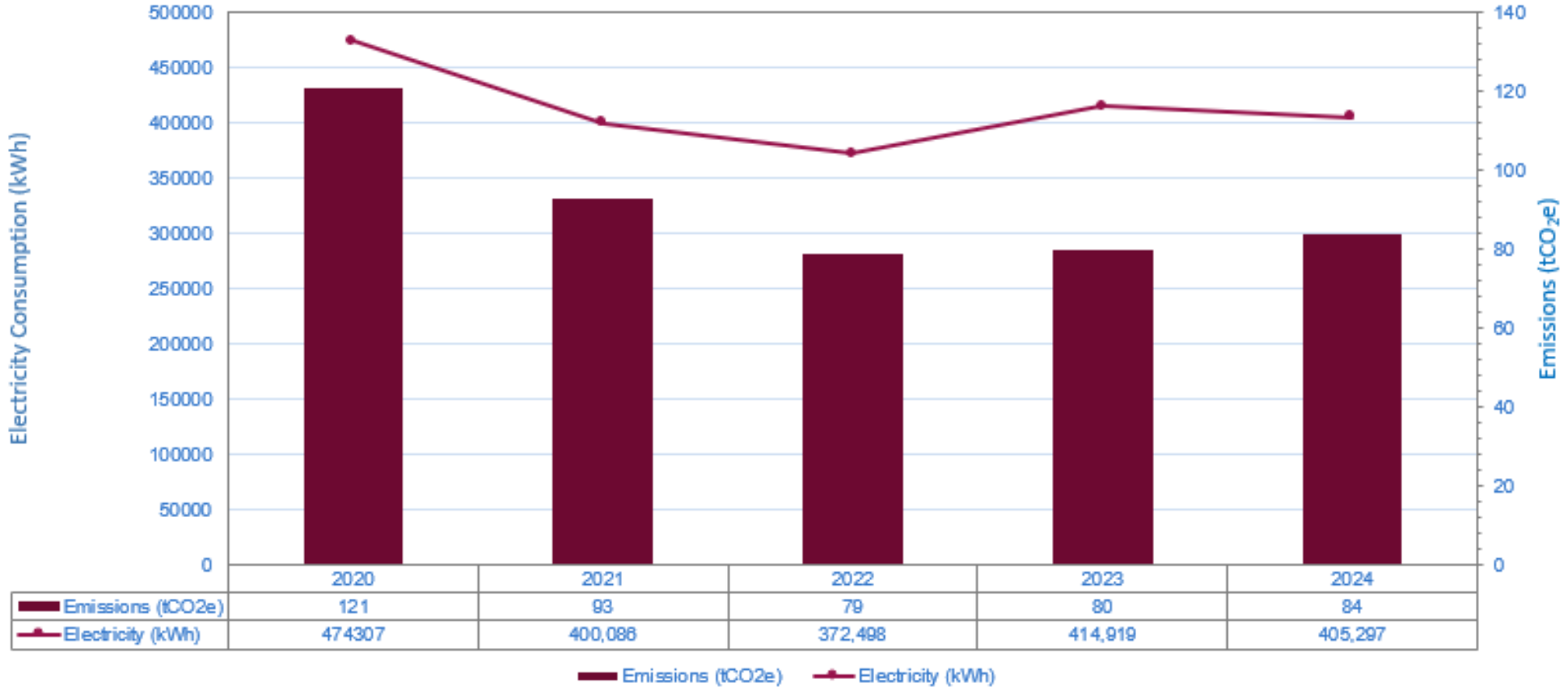
Wick Airport annual emissions trends (tonnes CO_2e)

	2020	2021	2022	2023	2024
Scope 1 – Total	**481**	**196**	**192**	**269**	**174**
Natural gas	0	0	0	0	0
Fuel (heating, power, GSE)	476	176	184	260	163
Business travel	2	17	0	1	0
Refrigerants	0	0	0	0	0
Airport de-icer	0	0	0	0	0
Fire training	3	3	8	8	11
Scope 2 – Total	**121**	**93**	**79**	**80**	**84**
Airport electricity	121	93	79	80	84
Scope 3 - Total	**1,733**	**1,715**	**836**	**878**	**349**
Landing Take-off (LTO)	1,521	1,651	788	789	193
Passenger surface access	71	16	0	33	40
Tenant electricity	0	0	0	0	0
Electricity WTT	18	14	22	21	20
Electricity T&D	10	8	7	7	7
Fuels WTT	0	0	0	0	35
Waste	46	12	8	8	24
Staff commute	58	12	11	13	11
Third party de-icer	0	0	0	0	0
Aircraft engine tests	0	0	0	1	0
Water	1	1	0	1	0
Business travel	8	1	0	5	17
Out of Scopes – Total	**1**	**0**	**2**	**1**	**2**
Diesel	1	0	2	1	2
Petrol	0	0	0	0	0
Wood	0	0	0	0	0
Total	**2,336**	**2,004**	**1,109**	**1,228**	**609**

Wick Airport annual emissions trends (% year on year changes)

	2020	2021	2022	2023	2024
Scope 1	↑ 183%	↓ 59%	↓ 3%	↑ 41%	↓ 35%
Scope 2	↑ 5%	↓ 23%	↓ 15%	↑ 1%	↑ 5%
Scope 3	↑ 11560%	↓ 34%	↑ 21%	↓ 10%	↓ 61%
Outside of scopes	↑ 200%	↓ 59%	↑ 371%	↓ 64%	↑ 144%
Total	**↑ 1212%**	**↓ 36%**	**↑ 18%**	**↓ 6%**	**↓ 51%**

Wick Airport annual emissions trends (electricity and emissions)



Includes both airport (Scope 2) and tenant (Scope 3) electricity use. All emission figures exclude emissions from transmission and distribution (T&D) losses.

Annex 1 - Methodology

Emissions have been calculated in accordance with the Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard and ISO 14064-1 to ACA Level 3 Standard.

All activity data for the emissions calculations was provided by HIAL staff from sources including monthly supplier invoices, internal environmental performance monitoring and financial reporting data. Waterman undertook independent quality assurance of all activity data and clarified discrepancies or unusual trends with HIAL. For some sources, activity data was not available therefore assumptions and estimates were used to determine activity values. These are explained further for each source below. Emissions were then calculated using the UK Government Greenhouse gas reporting: conversion factors 2024.

Emissions are classified in the following scopes:

- **SCOPE 1:** Direct GHG emissions arising from sources that are owned or controlled by HIAL, where HIAL has direct influence through its actions. Emissions sources included are: company owned vehicles fuel use and refrigerant gas use (from leaks during maintenance or malfunction).
- **SCOPE 2:** Emissions associated with the use of electricity from a third-party supplier of energy in the form of heat or electricity. HIAL can influence the amount of electricity it uses; however, it has little control over the generation of the electricity and these emissions are therefore classed as Scope 2.

Annex 1 - Methodology

- **SCOPE 3:** Emissions arising as an indirect consequence of the use of goods or services provided by HIAL. The airport does have some influence over Scope 3 emissions but the activities are not under its control. Sources included by the airport include aircraft (taxi, take-off, landing, auxiliary power usage), employees commuting to the airport, passenger surface access to the airport, airside vehicle activities by third party operators, waste disposal, water (supply and treatment), losses associated with the transmission and distribution of electricity, airport staff business travel, engine testing and aircraft de-icing by third party operators.
- **OUTSIDE OF SCOPES**: Includes biogenic CO_2 factors that account for the direct carbon dioxide (CO_2) impact of burning biomass and biofuels. For HIAL this includes petrol, diesel and wood pallets combusted for fire training.

The approach to calculate or estimate emissions for each activity source is set out below. All emissions factors are sourced from the UK Government Greenhouse gas reporting: conversion factors 2024 unless stated otherwise.

SCOPE 1

- **Fuel:** Monthly litres of fuel consumed were taken from supplier reports and fuel card data. Multiplied by emissions factor for each fuel type to calculate tonnes CO_2e.
- **Refrigerants:** Kilograms of any f-gases lost through leaks or top ups of equipment were identified from third party service sheets. Multiplied by emissions factor for each gas type to calculate tonnes CO_2e.

Annex 1 - Methodology

SCOPE 2:

- **Airport electricity**: Total kWh consumed was sourced from supplier reports. This was validated against HIAL monthly environmental performance monitoring data. Multiplied by emissions factor for each fuel type to calculate tonnes CO_2e.

SCOPE 3:

- **Landing Take-Off (LTO):** Emissions from aircraft taxi, take-off and landing were calculated using the ACI Airport Carbon and Emissions Reporting Tool (ACERT) version 7.2338. Aircraft movement data was provided by HIAL, capturing every aircraft arrival and departure at Wick Airport during the reporting period. Each flight movement was categorised by the relevant Aircraft Type in the ACERT tool, and the total number of movements of each aircraft type was inputted to the tool. Average taxi in and out time was estimated in co-ordination with HIAL staff and is assumed to be an average of 2 minutes (in + out). Total tonnes CO_2e for all LTOs were calculated by the ACERT tool.
- **Passenger surface access:** An updated survey of passenger movements has not been completed since the previous carbon footprint report. Emissions from passenger surface access were therefore estimated by applying an uplift of 22% to total passenger access emissions from the previous reporting year, in line with a 22% increase in passenger numbers this year.

Annex 1 - Methodology

- **Electricity WTT, T&D, Fuels WTT:** Consumption totals were taken from the Scope 1 (fuels) and Scope 2 (electricity) categories, multiplied by emissions factor for WTT and T&D to calculate tonnes CO_2e.
- **Waste disposal:** HIAL internal records of the number of bins, volume and frequency of collection were used to determine the total m^3 of waste disposed of. All bins were assumed to be full when emptied therefore quantities are likely to be significantly over-reported. Volume (m^3) was converted to weight (tonnes) using conversion factors from Draft 16 UK Waste Classification Scheme (DEFRA). Multiplied by emissions factor for each waste type to calculate tonnes CO_2e.
- **Staff commute:** An updated survey of staff commuting has not been completed since the previous carbon footprint report. Emissions from staff commuting were therefore estimated by applying a downturn of 19% to total staff commute emissions from the previous reporting year, in line with a downturn in staff (FTE) at Wick of 19% at the end of this reporting year.
- **De-icer:** There was no de-icer used at Wick Airport during the reporting year.
- **Aircraft engine tests:** There were no engine tests conducted at Wick Airport during the reporting year.

Annex 1 - Methodology

SCOPE 3:

- **Water use and treatment:** Total volume (m^3) of water consumption was taken from supplier reports. This was validated against HIAL monthly environmental performance monitoring data. HIAL data was found to be higher therefore this more conservative figure was used, however consumption based on the source data was significantly lower than previous reporting years. The supplier was unable to provide updated data, therefore water consumption is likely to be significantly under-reported in this reporting year. The volume for wastewater treatment was calculated as 95% of total consumption. Multiplied by emissions factor to calculate tonnes CO_2e.
- **Business travel:** Emissions from business travel activities were calculated based on business expenses spend data at group level and apportioned to Wick based on FTE share. For fuel purchases where fuel type was not known, it is assumed 50% of spend is petrol and 50% is diesel. As only aggregated data on rail and ferry expenses was available, HIAL have determined a split of two-thirds rail and one-third ferry. The Sustainable Scotland Network Carbon Footprint and Project Register (CFPR) tool was used to determine costs per unit of distance travelled for the five categories of public transport (air, ferry, rail, bus and taxi). Activity data was multiplied by emissions factor to calculate tonnes CO_2e for each business travel type. Total emissions from each travel type were then multiplied by 0.06, reflecting 6% of HIAL staff located at Wick Airport. Therefore, total emissions for business travel are indicative only.

OUTSIDE OF SCOPES:

- **Petrol, diesel, wood:** Consumption totals taken from Scope 1 (fuel use and fire training) and multiplied by biogenic emissions factors to calculate tonnes CO_2e