South Pole **Climate Solutions**

Final report

# 2022 Greenhouse gas (GHG) accounting report

## XOJET Aviation

Reporting Period 01/01/2022 to 31/12/2022

October 2023

south pole
The Climate Company

# Details

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# Acronyms and abbreviations

| | |
|---|---|
| $CH_4$ | Methane |
| $CO_2$ | Carbon dioxide |
| $CO_2e$ | Carbon dioxide equivalent |
| GHG | Greenhouse gases |
| HFCs | Hydrofluorocarbons |
| kg | Kilogram |
| MWh | Megawatt hour |
| $N_2O$ | Nitrous oxide |
| t | tonne |
| UNFCCC | United Nations Framework Convention on Climate Change |
| US | United States |
| WFH | Work-From-Home |
| GJ | Gigajoules |
| CEDA | Comprehensive Environmental Data Archive |
| BEIS | UK Department for Business, Energy & Industrial Strategy |

# Executive summary

This report presents the inventory of XOJET Aviation's operational greenhouse gas (GHG) emissions for the 2022 calendar year, based on its reported data.

An operational control approach was taken for this accounting exercise, meaning emissions for all activities conducted under the control of XOJET Aviation were calculated, using a combination of primary and extrapolated data.

A breakdown of emissions and relevant analysis is provided in this report for key sources of emissions, as per the categorisation specified in the GHG Protocol. All assumptions, data challenges, extrapolations, and limitations are described within this report and its annexes.

Based on the data provided by XOJET Aviation, the total GHG emissions reported for the year 2022 are estimated to be **212,009.41** tonnes of carbon dioxide equivalent ($tCO_2e$). This represents a 10.92% decrease in emissions from 2021. Scope 1 emissions from the combustion of aviation fuel are the largest contributor to the footprint, accounting for 154,888.26 $tCO_2e$, 73.08% of total emissions. Combined, scope 1 emissions from the combustion of aviation fuel, and upstream scope 3 category 3 fuel and energy related activities emissions from the combustion of aviation fuel, accounted for a combined 91.7% of the total 2022 footprint.

Key performance indicators (KPIs) are found in Table 1, and an overview of GHG emissions by source is provided in Table 2, and Figures 1 and 2. The emissions intensity of XOJET Aviation has decreased from 1,300.60 $tCO_2e$ per employee in 2021 to 1,254.29 $tCO_2e$ per employee in 2022, but increased from 61.93 $tCO_2e$ per m2 in 2021 to 147.93 $tCO_2e$ per m2 in 2022.
Please note that, due to rounding of numbers, the figures in the tables in this report may not add up exactly to the totals provided.

**Table 1: Summary of key performance indicators (KPIs)**

| | | | |
|---|---|---|---|
| **Number of employees** | 169 | **tCO2e/**employee | 1254.49 |
| **Total area (m2)** | 1,433 | **$tCO_2e$/**m2 | 147.93 |

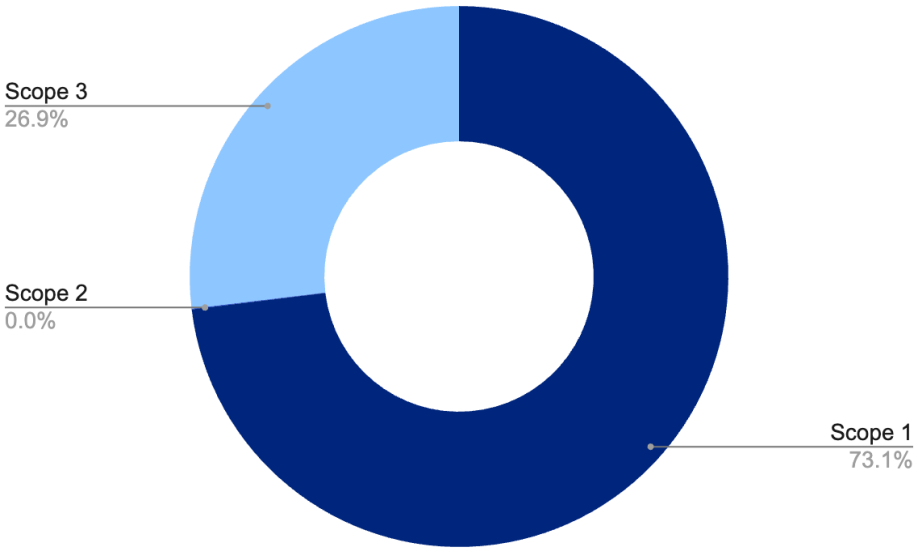
(Source: South Pole, based on XOJET Aviation, 2023)

### Table 2: GHG emissions by scope and greenhouse gas

| Scope | Total ($tCO_2e$) | Percentage of total (%) |
|---|---|---|
| Scope 1: direct GHG emissions | 154,888.43 | 73.06% |
| Scope 2: indirect GHG emissions (market-based) | 79.89 | 0.04% |
| Dual reporting Scope 2: indirect GHG emissions (location-based[1]) | 79.89 | - |
| Scope 3: other indirect GHG emissions | 57,041.09 | 26.90% |
| Total GHG emissions (market-based) | 212,009.41 | 100% |

(Source: South Pole, based on XOJET Aviation, 2023)

As a residual mix emission factor in the US is not available, the same emission factor used for location-based estimation has been applied, in line with the GHG Protocol Scope 2 Guidance.




### Figure 1: XOJET Aviation's 2022 GHG emissions by scope

(Source: South Pole, based on XOJET Aviation, 2023)

[1] A location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data). A market-based method reflects emissions from electricity that companies have purposefully chosen (or their lack of choice): it derives emission factors from contractual instruments, which include any type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation or for unbundled attribute claims (e.g. RECs, GOs, etc.).

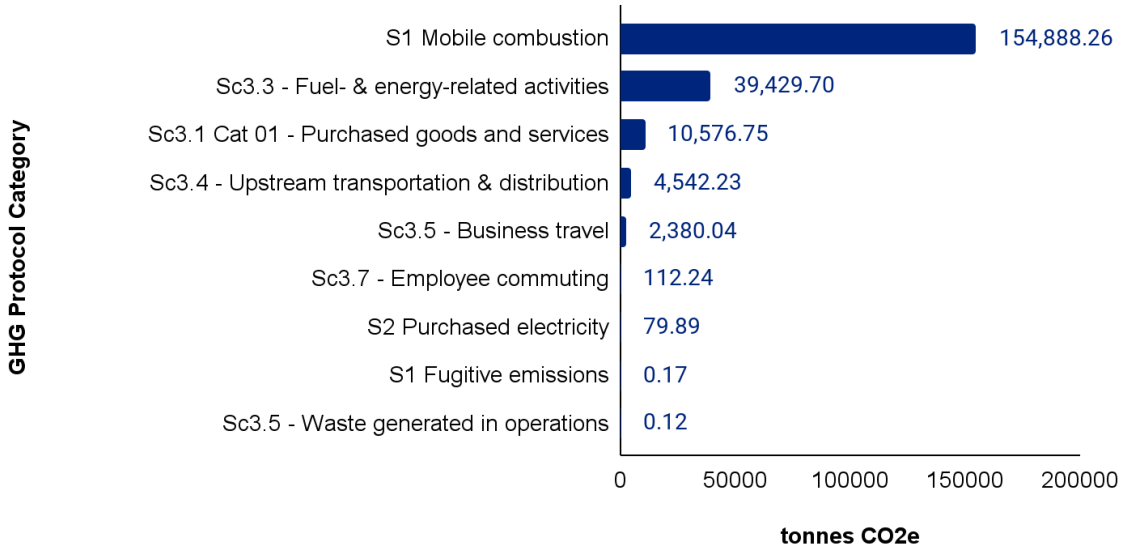



**Figure 2: XOJET Aviation's 2022 GHG emissions by GHG Protocol category**
(Source: South Pole, based on XOJET Aviation, 2023)

# Introduction

Vista Global Holding Limited (Vista), the world's leading global private aviation group, has previously undertaken GHG inventories for 2019, 2020 and 2021. XOJET Aviation was included in the 2021 inventory. This report provides an account of the GHG emissions from XOJET Aviation's global operations from 1st January 2022 to the 31st December 2022, based on reported data by the client. It includes an analysis of key sources of emissions, as well as targeted recommendations focused on data improvement and decarbonisation.

Company information and the reporting period are presented in Table 3.

**Table 3: Company information**

| Company information | |
|---|---|
| Website | www.xojetaviation.com [2] |
| Business function | Private aviation company |
| Reporting period | January 1 to December 31, 2022 |

(Source: South Pole, based on XOJET Aviation, 2023)

# Methodology

The GHG accounting and reporting procedure is based on the 'The Greenhouse Gas Protocol: GHG Protocol: A Corporate Accounting and Reporting Standard – Revised Edition' (GHG Protocol) and the complementary 'Corporate Value Chain (Scope 3) Accounting and Reporting Standard' – the most widely used international accounting tools for government and business leaders to understand, quantify, and manage GHG emissions. The standards were developed in partnership between the World Resources Institute and the World Business Council for Sustainable Development.

All accounting is based on the principles of the 'GHG Protocol':

- **Relevance:** establishing an appropriate inventory boundary that reflects the GHG emissions of the company and serves the decision-making needs of users;
- **Completeness:** including all emission sources within the chosen inventory boundary. Any specific exclusion is disclosed and specified;
- **Consistency:** ensuring meaningful comparison of information over time and transparently documented changes to the data;
- **Transparency:** guaranteeing data inventory sufficiency and clarity, where relevant issues are addressed in a coherent manner; and
- **Accuracy:** minimising uncertainty and avoiding systematic over- or under-quantification of GHG emissions.

[2] XOJET Aviation is one of a number of operators now part of 'Vista America' (https://www.vistaamerica.com/)

## Global warming potential (GWP)

Global warming potential (GWP) is a measure of the climate impact of a GHG compared to carbon dioxide over a time horizon. GHG emissions have different GWP values depending on their efficiency at absorbing longwave radiation, and the atmospheric lifetime of the gas. The GWP values used in GHG accounting include the six GHGs covered by the United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol, as presented in Table 4. These are the GWP used by the United Kingdom Department for Business, Energy and Industrial Strategy (BEIS) and are based on the 'Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5), unless otherwise stated.

**Table 4: Applied global warming potentials (GWPs)**

| GHG | GWP (100 years) |
|---|---|
| Carbon dioxide ($CO_2$) | 1 |
| Methane ($CH_4$) | 28 |
| Nitrous oxide ($N_2O$) | 265 |
| Hydrofluorocarbons (HFCs) | See IPCC AR5 |
| Perfluorocarbons (PFCs) | See IPCC AR5 |
| Refrigerants | See IPCC AR5 |

(Source: IPCC AR5, 2014)

# System Boundaries

## Organisational boundaries

XOJET Aviation's GHG inventory follows the operational control approach, in accordance with the GHG Protocol. Under the operational control approach, a company accounts for 100% of emissions from operations over which it or one of its subsidiaries has operational control. This GHG inventory covers all activity from XOJET Aviation's global offices. It also includes activities carried out by third parties that partially conduct activities for XOJET Aviation.

Table 5 shows the countries and offices that were included in the 2022 GHG inventory.

**Table 5: Key figures for XOJET Aviation's sites**

| Site location | Type of facility | Area ($m^2$) | Headcount |
|---|---|---|---|
| Fort Lauderdale | Office | 1,433 | 169 |
| Total | - | 1,433 | 169 |

(Source: South Pole, based on XOJET Aviation, 2023)

## Operational boundaries

Under the 'GHG Protocol', emissions are divided into direct and indirect emissions. Direct emissions are those originating from sources owned or controlled by the reporting entity. Indirect

emissions are generated as a result of the reporting entity's activities but occur at sources owned or controlled by another entity.

The direct and indirect emissions are divided into three scopes as found below.

## Scope 1

Scope 1 emissions are all carbon emissions originating from sources that are directly managed by the organisation (direct GHG emissions). This includes the emissions from the combustion of fossil fuels in mobile and stationary sources (e.g. owned or controlled aircrafts, boilers, power generators and vehicles) and carbon emissions generated by chemical and physical processes, as well as fugitive emissions from the use of cooling and air-conditioning (AC) equipment. Table 6 (below) gives an overview of the emission sources considered in scope 1, based on the information provided by XOJET Aviation.

**Table 6: Overview of scope 1 emission sources for 2022**

| Category | Emission sources | Boundary and justification for exclusion |
|---|---|---|
| Stationary combustion | Generation of electricity and heat | Not applicable |
| Mobile combustion | Company-owned or leased vehicles | Included |
| Physical or chemical processing | Manufacture or processing of chemicals and materials | Not applicable |
| Fugitive emissions | Emissions from the use of cooling systems and AC equipment, leakage from $CO_2$ tanks or methane tubes | Included |

## Scope 2

Scope 2 includes indirect GHG emissions from the generation of purchased electricity, steam, heat or cooling purchased by the organisation from external energy providers.

As required by the GHG Protocol, Scope 2 emissions are reported using both the location-based method and the market-based method[3]. This dual reporting allows corporations to compare their individual purchasing decisions to the overall GHG-intensity of the grids on which they operate.

The market-based method reflects emissions that result from electricity purchases that the company has purposefully chosen. When a contract is set up for the sale of electricity and the origin of energy generation can be guaranteed, then those specific and relevant emissions factors can be applied. The location-based method applies average emission factors that correspond to

[3] A location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data). A market-based method reflects emissions from electricity that companies have purposefully chosen (or their lack of choice): it derives emission factors from contractual instruments, which include any type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation for unbundled attribute claims (e.g. RECs, GOs, etc.).

the grid where consumption occurs. The default method applied to XOJET Aviation reporting is market-based; location-based results are shown for completeness and transparency.

Table 7 presents an overview of the emission sources considered in scope 2.

**Table 7: Overview of scope 2 emission sources for 2022**

| Category | Emission sources | Boundary |
|---|---|---|
| Electricity | Purchased electricity | Included |
| Steam | Purchased steam | Not applicable |
| District heating | Purchased heating | Not applicable |
| District cooling | Purchased district cooling | Not applicable |

## Scope 3

Scope 3 includes other indirect emissions, such as emissions from the extraction and production of purchased materials and services, vehicles not owned or controlled by the reporting entity, outsourced activities, or waste disposal.

According to the 'GHG Protocol', companies shall separately account for and report for emissions from Scope 1 and 2. Scope 3 is an optional reporting category according to the 'GHG Protocol', but as it is the most important scope for many organisations, companies are expected to assess at least the most relevant categories. In addition, it is best practice to include scope 3 emissions and it is a requirement for setting science-based targets (SBTs).

Table 8 presents an overview of the emission sources considered in Scope 3.

**Table 8: Overview of scope 3 emission sources for 2022**

| Category | Emission sources | Boundary |
|---|---|---|
| Purchased goods and services | Purchased goods (raw materials) and services | Included |
| Capital goods | Production of capital goods (information technology [IT] equipment, machinery, buildings etc.) | Not material. Not included |
| Fuel- and energy-related activities | Emissions from fuel and electricity generation, including transmission and distribution (T&D) losses | Included |
| Upstream transportation and distribution | Transportation and distribution of goods and services purchased by the reporting company | Included |
| Waste generated in operations | Waste management of operational waste (landfilling, recycling, etc.) | Included |
| Business travel | Travel and accommodation of employees/contractors | Included |

| Category | Emission sources | Boundary |
|---|---|---|
| Employee commuting and teleworking | Employee travel between home and work and incremental emissions related to working from home | Included |
| Upstream leased assets | Operation of assets leased by the organisation (lessee) in the reporting year and not included in scope 1 or 2 | Not material. Not included |
| Downstream transportation and distribution | Transportation and distribution of products not purchased by the reporting company | Not material. Not included |
| Processing of sold products | Processing of intermediate products sold by the organisation | Not material. Not included |
| Use of sold products | Emissions from the use of sold products (e.g. energy consumption during use) | Not material. Not included |
| End-of-life treatment of sold products | Waste disposal and treatment of sold products | Not material. Not included |
| Downstream leased assets | Operation of assets owned by the company (lessor) and leased to other entities, not included in scope 1 or 2 | Not material. Not included |
| Franchises | Operation of franchises not included in scope 1 or 2 | Not material. Not included |
| Investments | Operation of investments not included in scope 1 or 2 | Not material. Not included |

## Data inventory and assumptions

Overall, the data inventory, emission factors, and assumptions are based on the 'GHG Protocol'. Unless otherwise specified, all emission values in this report are given in metric tonnes of carbon dioxide equivalent ($tCO_2e$).

Where activity data of the inventory was lacking, extrapolations and estimations were made. The complete overview of activity data, extrapolations, and estimations is summarised in Annex II. Whilst every effort has been made to calculate emissions as accurately as possible, GHG emissions calculations carry an inherent level of limitation and uncertainty. As standard practice and in line with the GHG Protocol, the choice of assumptions and emission factors followed a conservative approach.

The quality of activity data provided for a GHG inventory has a significant impact on the reliability and accuracy of emissions calculations. Primary activity data, such as the kWh of electricity purchased within a reporting year, yields to the highest quality calculations. Spend based data, which relies on a far greater number of assumptions, results in the least accurate.

# Results

Based on the data provided by XOJET Aviation, the total GHG emissions for the year 2022 are estimated to be **212.009.41 $tCO_2e$.** Table's 9 and 10 below illustrate the key figures in terms of GHG emissions (in $tCO_2e$) and energy intensity (in gigajoules [GJ]) relevant to corporate sustainability reporting, in accordance with the GRI Standards. Please note that, due to rounding of numbers, the figures may not add up exactly to the total provided.

Table 9: Key figures according to the Global Reporting Initiative (GRI)

| GRI Standard | | Topic | Quantity | Unit |
|---|---|---|---|---|
| 302-1 | e | Energy consumption within the organisation | 2,167,027.61 | GJ |
| | a | Total fuel consumption from non-renewable sources<br>Aviation fuel | 2,166,269.33<br>2,166,269.33 | GJ<br>GJ |
| | b | Total fuel consumption from renewable sources | 0 | GJ |
| | c | Total electricity consumption | 758.28 | GJ |
| 305-1 | a | Direct GHG emissions (scope 1) | 154,888.43 | $tCO_2e$ |
| 305-2 | a | Location-based energy indirect GHG emissions (scope 2) | 79.89 | $tCO_2e$ |
| | b | Market-based energy indirect GHG emissions (scope 2) | 79.89 | $tCO_2e$ |
| 305-3 | a | Other indirect GHG emissions (scope 3) | 57,041.09 | $tCO_2e$ |
| 302-4 | | GHG emissions intensity | 1,254.49 | $tCO_2e$/ employee |

(Source: South Pole, based on XOJET Aviation, 2023)

Table 10: GHG emissions by scope and activity for 2022

| Activity | Consumption | Unit | Emissions ($tCO_2e$) | Percentage of total (%) |
|---|---|---|---|---|
| Scope 1: direct GHG emissions | | | | |
| Mobile combustion | | | | |
| Aviation fuel | 16,885,221.00 | gal | 154,888.26 | 73.06% |
| Fugitive emissions | | | | |
| Refrigerants | 1,433.00 | m2 | 0.17 | <0.01% |
| Scope 2: indirect GHG emissions from purchased electricity, heating and cooling (market-based) | | | | |
| Purchased Electricity | | | | |
| Grid | 210,633.00 | kWh | 79.89 | 0.04% |
| Scope 3: other indirect GHG emissions | | | | |
| Category 1: Purchased goods and services | | | | |
| Flight consumables | 250,014.00 | USD | 39.62 | 0.02% |
| Aircraft maintenance | 36,674,877.00 | USD | 10,535.51 | 4.97% |
| Food and drink products | 505.51 | kg | 0.77 | <0.01% |
| | 885.00 | unit | 0.44 | <0.01% |
| IT services | 1,085.00 | Users | 0.15 | <0.01% |
| Paper | 155.00 | sheets | <0.01 | <0.01% |
| Water supply | 1,690.00 | m3 | 0.25 | <0.01% |
| Category 3: Fuel- and energy-related activities | | | | |
| Aviation fuel | 16,885,221.00 | gal | 39,426.10 | 18.60% |
| Grid | 210,633.00 | kWh | 3.60 | <0.01% |
| Category 4: Upstream transportation and distribution | | | | |
| Air transportation | 2,349,186.00 | USD | 4,542.23 | 2.14% |
| Category 5: Waste generated in operations | | | | |
| Commercial and industrial waste | 0.01 | ton | <0.01% | <0.01% |
| Paper/Cardboard | 0.01 | ton | <0.01% | <0.01% |
| Category 6: Business travel | | | | |
| Air transportation | | | | |
| Business | 477,221.81 | pkm | 55.36 | 0.03% |
| Economy | 12,905,450.56 | pkm | 1,509.94 | 0.71% |
| First | 201,053.71 | pkm | 23.32 | 0.01% |
| Premium | 283,896.47 | pkm | 31.23 | 0.01% |

| Activity | Consumption | Unit | Emissions ($tCO_2e$) | Percentage of total (%) |
|---|---|---|---|---|
| Ground transportation | 1,767,642.00 | USD | 760.19 | 0.36% |
| Category 7: Employee commuting | | | | |
| Car | 392,124.34 | km | 86.00 | 0.04% |
| Other | 91,028.86 | km | 18.39 | 0.01% |
| Public transport | 4,817.13 | pkm | 0.40 | 0.01% |
| Teleworking | 5,550.00 | person days | 7.45 | |
| Walk | 8,641.04 | pkm | 0 | |
| Total GHG emissions (market-based) | | | 212,009.41 | - |
| Total GHG emissions (location-based) | | | 212,009.41 | 100% |

(Source: South Pole, based on XOJET Aviation, 2023)

## Overall results - Vista

Figure 3 presents a breakdown of Vista's GHG emissions for each of its seven subsidiaries. In 2022, XOJET Aviation had the fourth highest GHG footprint of all 7 global entities, at 212,009.41 tCO2e, accounting for 14.7% of the overall global footprint.

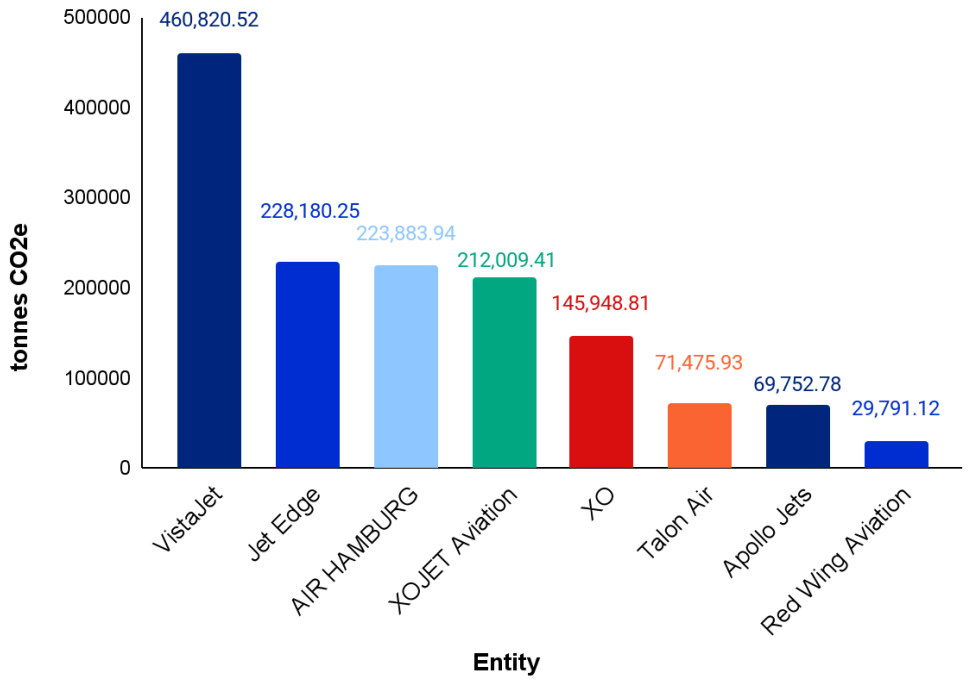



**Figure 3: Vista overall 2022 GHG emissions by business entity**
(Source: South Pole, based on Vista 2023)

# Category-level results

Figure 4 presents a breakdown of XOJET Aviation's overall 2022 emissions by scope, and Figure 5 presents a breakdown of XOJET Aviation's overall 2022 emissions by GHG Protocol category. The vast majority of emissions, 73.06%, fall under Scope 1. This is largely driven by emissions associated with the burning of aviation fuel, which accounts for over 99% of Scope 1 emissions. The dominance of aviation fuel emissions in the 2022 footprint is highlighted in figure 6, which provides a comparison of aviation fuel emissions (from both mobile combustion and fuel and energy related activities) and all other sources of emissions.

Scope 3 accounts for 26.09% of overall emissions. This is predominantly due to the upstream emissions associated with the combustion of aviation fuel (categorised under sc3.1, fuel and energy related activities). Purchased goods and services is the second largest scope 3 category and accounts for 4.99% of the total footprint. Over 99% of emissions in this category relates to aircraft maintenance. A small proportion of emissions arose from employee business travel (1.12% of the total footprint), employee commuting (0.05% of the total footprint) and waste generated in operations (less than 0.01% of the total footprint).

Only 0.04% of emissions fall under scope 2. The singular source of scope 2 emissions in 2022 was purchased electricity consumption at Fort Lauderdale.

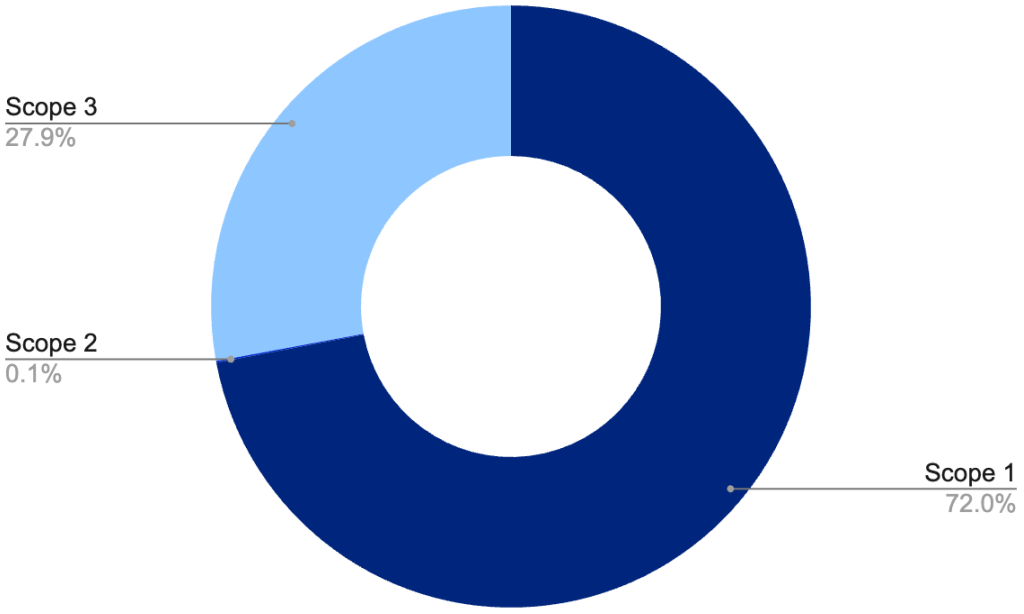



**Figure 4: XOJET Aviation's 2022 GHG emissions by scope**
(Source: South Pole, based on XOJET Aviation, 2023)

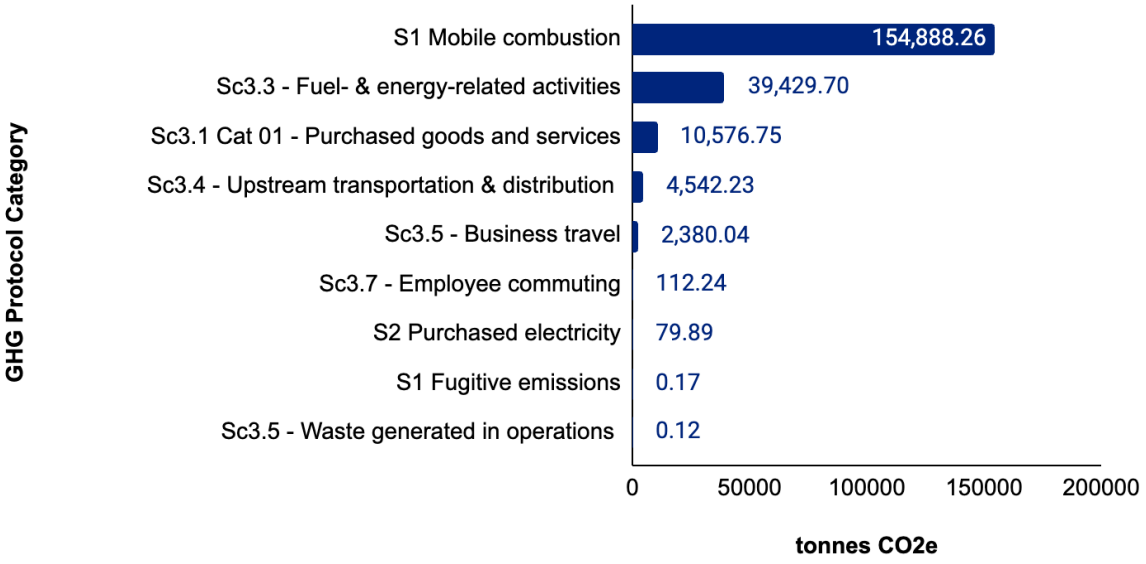



**Figure 5: XOJET Aviation's 2022 GHG emissions by GHG Protocol category**
(Source: South Pole, based on XOJET Aviation, 2023)

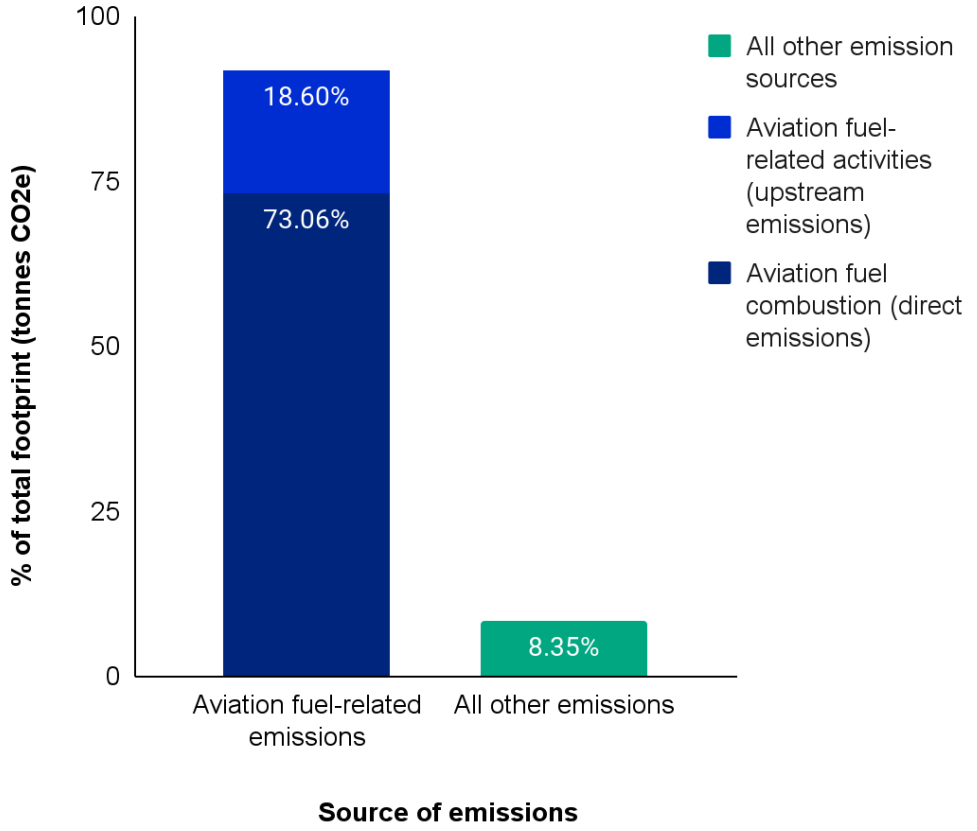



**Figure 6: A comparison of XOJET Aviation's aviation fuel emissions and all other emissions**
(Source: South Pole, based on XOJET Aviation, 2023)

Figure 7 presents a comparison of XOJET Aviation's GHG inventories for 2021 and 2022. The overall pattern of emissions is consistent across years, with scope 1 emissions (from aviation fuel) dominating the footprint, and very little occurring at the scope 2 level. XOJet Aviation's scope 1 and scope 3 aviation fuel emissions are illustrated in figure 8. Notably, fuel and energy related activity emissions are higher in 2022, despite mobile combustion emissions being higher in 2021. This is due to the emissions factor for 2022 increasing, as a part of a yearly process that is done to ensure emission factors accurately reflect emissions for that specific year.

From 2021 to 2022 emissions decreased by 26,000.59 $tCO_2e$. This was predominantly driven by a reduction in aviation fuel emissions (which was driven by a lower consumption of aviation fuel). Business travel emissions were also lower in 2022, by 8.563 $tCO_2e$. This is largely because the decision was made not to estimate business travel accommodation emissions in 2022. In 2022 no primary data was available, business travel accommodation only constituted a tiny part of the overall footprint in 2021, and it is not a requirement for science-based target (sbt) setting. Therefore, it was decided that as an immaterial emission source, undertaking potentially inaccurate estimations was not appropriate for this reporting period. That said, for completeness and transparency, it is important that XOJET Aviation seeks to collect primary data for the 2023 reporting period so that business travel accommodation emissions can be included in the footprint.

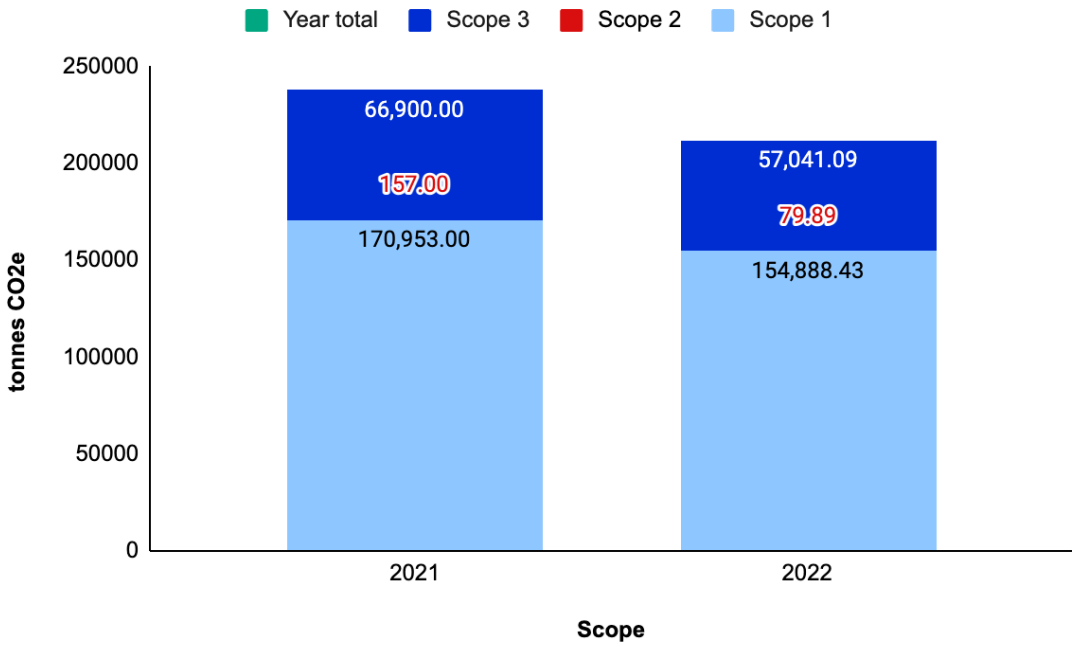



**Figure 7: XOJET Aviation's GHG emissions for 2021 and 2022 by scope**
(Source: South Pole, based on XOJET Aviation, 2023)

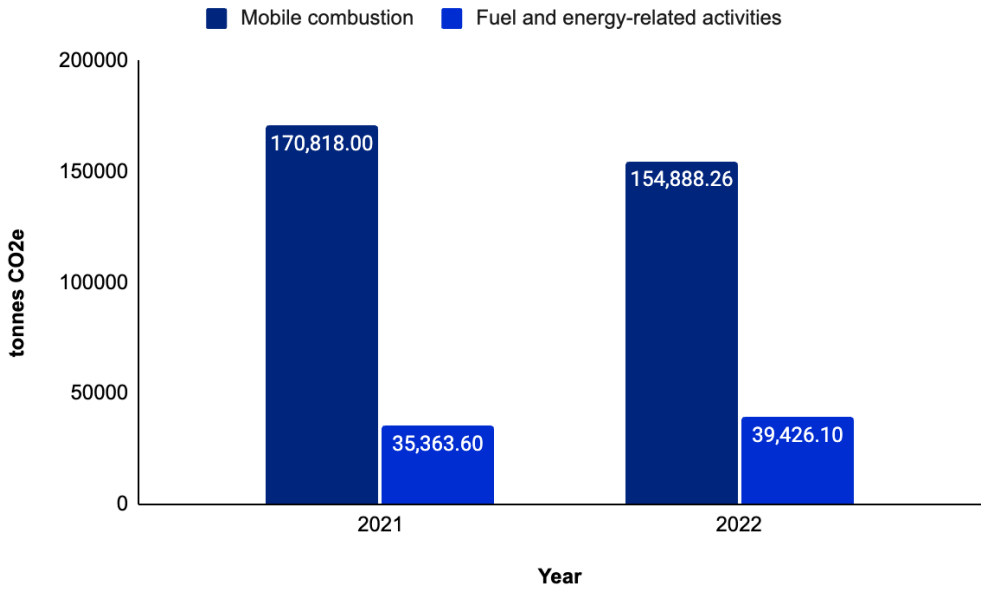



**Figure 8: XOJET Aviation's emissions from aviation fuel from 2021-2022**
(Source: South Pole, based on XOJET Aviation, 2023)

# Conclusions

The annual measurement of GHG emissions is an essential first step that organisations must take on their journey to mitigating climate impact.

This report has presented a summary of XOJET Aviation's 2022 GHG footprint. As with previous years, the mobile combustion of aviation fuel is the primary driver of emissions. In 2022, emissions were lower than in 2021, reflecting a decrease in emissions from aviation fuel.

It is important that XOJET Aviation takes steps to continue improving the quality and accuracy of its GHG footprint, and implements measures to decarbonise its operations. Glasgow's COP26 and the 2021 IPCC report shone a spotlight on the critical need to achieve Net Zero emissions to keep global warming within the 1.5 degree limit. Private aviation is a highly emissions intensive industry, and XOJET Aviation has an important role to play in this transition.

In order to improve the quality of the GHG footprint, the following courses of action are recommended:

- **Collect primary activity data:** XOJET Aviation can improve data quality by collecting primary consumption data as activity volumes for all sources of emissions. For XOJET Aviation, this is particularly important for purchased goods and services and business travel accommodation. This allows for far more accurate and reliable GHG calculations than spend-based data, or estimations.
- **Continue establishing formalised data collection procedures:** Formalised data collection procedures, with internal quality controls, supplier communication, assigned roles, and

clear frameworks allow for a more streamlined data collection processes and limits the risk of missed data.

- **Review data assumptions in Annex 2:** Annex 2 in this document provides a more granular breakdown of key data assumptions. Treat these as priority emission sources to act on and improve data collection procedures for.

The following next steps are recommended for XOJET Aviation to continue on its decarbonisation journey.

- **Prioritise investment in and uptake of Sustainable Aviation Fuel (SAF):** The 2022 GHG footprint re-emphasised the role of aviation fuel in XOJET Aviation's footprint. Decarbonising fuel, for instance by switching to SAF, should be an absolute priority for XOJET Aviation to act on its climate ambitions.
- **Set science based targets with SBTi:** The Science Based Targets initiative drives ambitious climate action in the private sector by enabling companies to set science-based emissions targets. XOJET Aviation should demonstrate its commitment to sustainability in the aviation sector, and cement its position as a sector leader, by setting targets with SBTi.

# Annex I

## Emission factors sources

Table 11: Emission factors sources

| Activity | Emission factor reference[4] |
|---|---|
| Fuels (mobile combustion and fuel-related activities) | BEIS, 2022, SBTi Aviation Tool 2.0 |
| Electricity and electricity related activities | eGRID, 2021 |
| Refrigerants | ADEME 2022; BC V8.8 |
| Business travel | BEIS, 2022; CEDA, 2022 |
| Commuter travel | BEIS 2022 |
| Teleworking | IEA energy indicators 2022; Anthesis, 2020; BEIS 2022; eGRID, 2021 |
| Purchased goods and services (consumables, food and drink products, aircraft maintenance) | CEDA, 2022; Agribalyse, 2021; BEIS, 2022 |
| IT services | Microsoft; 2022 |
| Waste | BEIS, 2022 |

[4] South Pole derives its emission factors from reliable and credible sources. South Pole is not responsible for inaccuracies in emission factors provided by third parties.

# Annex II

## Data assumptions and extrapolations

Table 12: Data assumptions and extrapolations

| Category | Sub-Category | Relevant sites | Assumption |
|---|---|---|---|
| Fugitive emissions | Refrigerants | All (Fort Lauderdale) | Emissions from refrigerant leakage were estimated based on average sectoral consumption values and applied to XOJET Aviation sites based on total site area. |
| Purchased goods and services | Water supply | All (Fort Lauderdale) | Emissions from water supply were estimated based on figures for country/regional level water consumption and extrapolated based on site headcount. |
| Purchased goods and services | IT services | All (Fort Lauderdale) | Assumed one user per licence purchased |
| Fuel and energy related activities | Heating | All (Fort Lauderdale) | Upstream emissions from heating consumption were estimated based on average sectoral heat intensity metrics for office spaces. Sites with an all-year hot climate were excluded from estimations. Heating method was assumed to be natural gas. |
| Waste generated in operations | Solid waste | All (Fort Lauderdale) | Emissions from solid waste generation were estimated based on country/regional figures for waste consumption, waste type and waste disposal, and applied to each site based on the area (m2). |
| Business travel | All | All (Fort Lauderdale) | When applicable, Scope 3 emissions include Well-to-tank (WTT) emissions, which are those associated with the upstream production and distribution of the fuel and energy. |
| Business travel | Flights | All (Fort Lauderdale) | Flight emissions include a radiative forcing index (RFI) multiplier of 1.9, which accounts for the effects of non-CO2 emissions (contrails, water vapour, nitrogen oxides and soot). This is in line with BEIS recommendations, which are informed by wider industry research.<br><br>Business travel consumption was provided as a combined figure for XOJET Aviation and XO. Emissions were apportioned based on headcount. |
| Employee commuting | Teleworking | All (Fort Lauderdale) | Teleworking emissions were estimated based on country and regional electricity and heating consumption for employees working from home, and applied to sites based on headcount. |

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|---|---|---|---|
| Employee commuting | Travel | All (Fort Lauderdale) | Employee travel emissions were estimated based on country and regional travel data for modes of commuter transport and applied to sites based on headcount. |


south pole