



CARBON FOOTPRINT REPORT

FY 2023

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Executive Summary

Overview

This report evaluates the carbon footprint of Jones AV for the reporting period of the 2023 Financial Year (1 April 2022 – 31 March 2023). The objective of this report is to quantify greenhouse gas (GHG) emissions and identify areas for reduction.

- Total reported emissions: 377.40 tCO₂e, with significant contributions from purchased goods and services, use of sold products and business travel.

Methodology Summary

This report follows internationally recognised GHG Protocol accounting standard.

Data Collection & Sources

Emissions were calculated using data collected from bills, company expenses, surveys and standard industry data with emission factors sourced from UK's BEIS, EU's Exiobase, and USA's EPA databases.

Methodology & Approach

Data Collection Process

Data sources include:



Energy Use :

Electricity and gas meter reading



Fuel Consumption :

Fuel purchase



Transport & Logistics :

Transportation expenses



Waste & Water :

Water meter reading and waste management bills



Business Travel & Staff Mileage :

Corporate travel expenses and staff mileage cost records



Employee commute & Work from home :

Staff commute and work from home survey

Emission Inventory



Organisational & Operational Boundaries



Direct Emissions

Direct emissions are GHG emissions from sources owned or controlled by an organisation.



Indirect Emissions (Utility)

Scope 2 emissions are indirect GHG emissions from purchased energy consumption.



Indirect Emissions (Value Chain)

Scope 3 emissions are indirect GHG emissions across a company's value chain.

Breakdown of Emission by Scope

Scope	Description	Total Emissions (tCO ₂ e)
Scope 1	Fleet Emissions, Onsite Combustion Emissions	11.52 tCO ₂ e
Scope 2	Purchased Electricity, Heating and Cooling	2.69 tCO ₂ e
Scope 3	Business Travel, Material Input, Inbound Logistics, Outbound Logistics, Employee-Related Emissions, Waste and Water, Service Input, Sold Product Emissions, Capital Expense Emissions	363.20 tCO ₂ e
Total Emissions : 377.40 tCO ₂ e		

Emission Factors & Sources

- **BEIS, UK:** Department for Business, Energy & Industrial Strategy – A UK government agency that publishes official greenhouse gas (GHG) emission factors and guidelines widely used in sustainability and energy reporting.
- **DEFRA, UK:** Department for Environment, Food & Rural Affairs – A UK government department offering emissions data, environmental policy tools, and carbon assessment support for businesses and organizations.
- **EPA, USA:** Environmental Protection Agency – The US federal environmental body. It provides standardised emission factors, sustainability frameworks, and tools for lifecycle assessments and carbon accounting.
- **Exiobase, EU:** A European multi-regional environmental and economic database used to model emissions, consumption impacts, and lifecycle assessments across global supply chains. It supports policy-making and sustainability strategies across Europe and beyond.

Key Assumptions

- 1. Fuel Use for Fleet :** Estimated by dividing total annual fuel spend by average diesel price — assumes a stable annual average price.
- 2. Employee Commuting :** Based on survey data — assumes that averaged responses fairly represent the entire employee base.
- 3. Sold Product Use and Disposal:**
 - Energy consumption – based on standard ratings and typical annual usage hours.
 - End-of-life emissions – estimated by assigning weights to product categories and treating all as electronic waste.

Key Limitations

- 1. Data Accuracy :** Some utility and activity data were estimated or self-reported, which may impact precision.
- 2. Generic Emission Factors :** Emissions for several categories (e.g., travel, logistics, materials) used industry-average factors instead of supplier-specific data.
- 3. Simplified Modelling :** Sold product usage and disposal scenarios are generalised and may not reflect actual consumer behaviour or waste treatment pathways.

Results & Analysis

Total Carbon Footprint

- The total emissions for the reporting period are 377.40 tCO₂e

Breakdown by Category :

Category	Total Emissions (tCO ₂ e)
Fleet Emissions	6.23 tCO ₂ e
Purchased Energy	11.19 tCO ₂ e
Business Travel	30.73 tCO ₂ e
Material Input	260.54 tCO ₂ e
Inbound & Outbound Logistics	3.71 tCO ₂ e
Employee Related Emissions	5.13 tCO ₂ e
Waste and Water	0.91 tCO ₂ e
Service Input	8.32 tCO ₂ e
Sold Product Emissions	45.12 tCO ₂ e
Capital Expense Emissions	5.53 tCO ₂ e
Total Emissions : 377.40 tCO ₂ e	

Emission Intensity Metrics

To provide additional insight into the company's environmental performance, emission intensity metrics have been calculated. Emission intensity relates the company's greenhouse gas (GHG) emissions to its business activity and workforce size, offering a more comparable and trackable indicator over time.

Two key intensity measures have been used:

- **Emission Intensity based on Company Turnover**
- **Emission Intensity per Employee**

Emission Intensity Based on Company Turnover

This metric reflects the volume of emissions generated per unit of revenue earned. It provides a view of carbon efficiency relative to business growth.

Scope 1 Emission Intensity

- Scope 1 Emissions (FY 2023) : 11,520 KgCO₂e
- FY2023 Turnover : £1,407,000
- Emission Intensity :

$$\frac{11,520}{1,407,000} = 0.0081 \text{ KgCO}_2\text{e/GBP}$$

Scope 2 Emission Intensity

- Scope 2 Emissions (FY 2023) : 2,690 KgCO₂e
- FY2023 Turnover : £1,407,000
- Emission Intensity :

$$\frac{2,690}{1,407,000} = 0.0019 \text{ KgCO}_2\text{e/GBP}$$

Scope 3 Emission Intensity

- Scope 3 Emissions (FY 2023) : 363,200 KgCO₂e
- FY2023 Turnover : £1,407,000
- Emission Intensity :

$$\frac{363,200}{1,407,000} = 0.2581 \text{ KgCO}_2\text{e/GBP}$$

- **FY 2023 Total Emissions:** 377,401.24 kgCO₂e
- **FY 2023 Company Turnover:** £1,407,000

Total Emission Intensity (Turnover KPI):

$$\text{Emission Intensity} = \frac{377,401.24}{1,407,000} = 0.268 \text{ KgCO}_2\text{e/GBP}$$

Emission Intensity per Employee

This metric highlights the average carbon footprint attributable to each staff member. It is particularly useful for tracking improvements in operational efficiency and embedding a culture of sustainability.

- **Total Number of Employees:** 8
- **FY 2023 Total Emissions:** 377,401.24 kgCO₂e

Emission Intensity (Per Employee):

$$\text{Emission Intensity} = \frac{377,401.24}{8} = 47,175.16 \text{ KgCO}_2\text{e/Employee}$$

GHG Protocol Categories Covered

As part of JAV's carbon footprint audit, the assessment was conducted in alignment with the internationally recognized GHG Protocol standards. Emissions were calculated using a mix of spend-based and activity-based methodologies, ensuring a robust and transparent environmental accounting. The categories covered are summarised below:

Scope 3 Category	Included in JAV
Purchased Goods and Services	Included (Spend-based)
Capital Goods	Included (Spend-based)
Fuel- and Energy-Related Activities (Not Included in Scope 1 or 2)	Included (Activity-based)
Upstream Transportation and Distribution	Included (Spend-based)
Waste Generated in Operations	Included (Spend-based)
Business Travel	Included (Spend-based)
Employee Commuting	Included (Activity-based)
Upstream Leased Assets	Not included
Downstream Transportation and Distribution	Included (Spend-based)
Processing of Sold Products	Not included
Use of Sold Products	Included (Activity-based)
End-of-Life Treatment of Sold Products	Included (Activity-based)
Downstream Leased Assets	Not included
Franchises	Not included
Investments	Not included

Hotspot Identification

The following categories represent the highest contributors to Jones AV's carbon footprint:



Purchased Goods & Services

- Emissions embedded in the supply chain of the purchased material category.



Sold Product Use & Disposal

- Emissions from product energy consumption and end-of-life treatment.



Business Travel

- Emissions associated with corporate travel.

Recommended Actions for Hotspot Reduction

Hotspot	Action Recommendation
Purchased Goods & Services	Engage with low-carbon suppliers; prioritise sustainable sourcing and vendor audits.
Sold Product Use & Disposal	Improve product energy efficiency; introduce end-of-life recycling programs.
Business Travel	Shift to virtual meetings where possible; implement travel policies favouring low-carbon modes.

This benchmarking exercise and hotspot analysis act as the cornerstone of a forward-looking sustainability roadmap, paving the way for targeted emissions reductions and alignment with net-zero goals. Future assessments can track progress against this baseline to demonstrate measurable impact and ESG performance improvements.

Conclusion

This Carbon footprint report provides a detailed assessment of the client's environmental impact, covering Scopes 1, 2, and 3 categories. By utilising activity data, utility records, employee surveys, company expenses and established emission factors, we have created a reliable baseline to guide strategic emissions reduction efforts. While some estimates and assumptions were required due to data limitations, transparency and adherence to best practices have been prioritised throughout the process.

The findings highlight significant emission sources and present actionable insights—particularly in energy efficiency, product lifecycle improvements, and supply chain collaboration. This footprint establishes a foundation for continuous monitoring, decarbonisation strategies, and ESG performance enhancement. Looking ahead, stronger supplier engagement can further improve the accuracy and impact of sustainability initiatives.

Glossary of Terms

Fleet Emissions

Greenhouse gas emissions produced directly from the operation of company-owned or leased vehicles, including fuel combustion from cars, vans, or trucks. These fall under Scope 1 and Scope 3 emissions.

Purchased Energy

Emissions resulting from electricity, heating, or cooling bought from utility providers. Although not directly produced by the organisation, they fall under Scope 2 and Scope 3 emissions due to indirect energy use.

Business Travel

Scope 3 emissions generated from employee travel for work purposes — including flights, train journeys, hotel stays, and taxis. Often a significant contributor in service industries.

Material Input

Emissions embedded in the production, processing, and transportation of raw materials or goods purchased for business use. Includes all upstream impacts related to procurement. A Scope 3 category.

Waste and Water

GHG emissions related to water consumption and waste generation — including disposal, recycling, wastewater treatment, and landfill contributions. A Scope 3 category.

Inbound Logistics & Outbound Logistics

Refers to the emissions from transportation of goods:

- Inbound Logistics: Shipping or freight received from suppliers.
- Outbound Logistics: Product deliveries to customers or end users, using third-party logistics company.

These logistics-related emissions fall under Scope 3.

Employee-Related Emissions

Indirect emissions from daily employee activities such as commuting to work or working remotely (home energy use).

Captured via surveys and included under Scope 3.

Service Input

Emissions linked to outsourced or third-party services such as consulting, IT support, software platforms, or maintenance. These services carry embedded emissions through their operations under Scope 3.

Sold Product Emissions

Downstream emissions refer to the greenhouse gas emissions generated from the use and eventual disposal of our products, including energy consumption during operation and waste impacts after disposal. A Scope 3 category.

Capital Expense Emissions

Emissions associated with the purchase of capital goods like machinery, equipment, or infrastructure fall under Scope 3.

Scope 1, 2, 3 Emissions

The three defined categories under the GHG Protocol:

Scope 1: Direct emissions from owned/controlled sources.

Scope 2: Indirect emissions from purchased energy.

Scope 3: All other indirect emissions across the value chain.

tCO₂e

tCO₂ stands for tonnes (metric tonnes) of carbon dioxide equivalent.

Carbon dioxide equivalent

It's a way to measure the total impact of all greenhouse gases (like methane, nitrous oxide, etc.) in a single number by expressing their warming effect.

GWP

Global Warming Potential (GWP) is a measure of how much heat a greenhouse gas traps in the atmosphere over a specific period of time—usually 100 years—compared to carbon dioxide (CO₂).

Emission Factors

Values used to convert activity data (e.g., litres of fuel used) into GHG emissions. Sourced from credible databases like BEIS, DEFRA (UK), EPA (USA), and Exiobase (EU).

Hotspot Analysis

An analytical method used to identify the most emission-intensive categories or areas within a company's operations for targeted reduction efforts.