

Cutwel Ltd

Net Zero Report

Reporting period: 31 December 2024

This report presents key findings from your journey towards Net Zero. The following pages encompass your emissions review and identify key carbon impact areas. Subsequently, the report outlines your short and long-term goals.

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Section 1

Executive Summary

Produced by:

Ben Taylor, Consultant, Flotilla

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Reporting period:

1 January 2023 - 31 December 2024



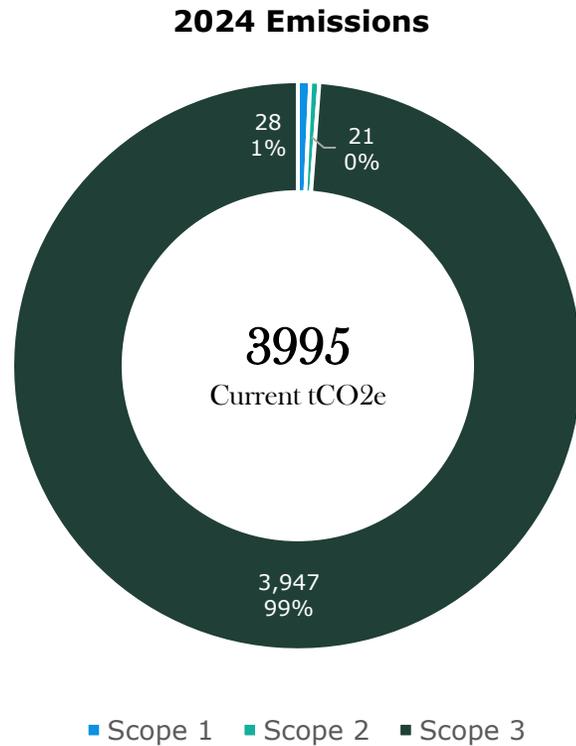
Executive Summary and Net Zero Commitments

- ▶ Cutwel is the UK's largest independent cutting tool distributor, offering a comprehensive range of products and technical support to the precision engineering sector. As part of its commitment to sustainability, Cutwel has taken significant steps to reduce its operational carbon footprint and is actively working with partners and suppliers to drive positive environmental change across its value chain.
- ▶ The company has introduced a range of green initiatives - such as transitioning to LED lighting, using recyclable packaging, and supporting carbon offsetting projects - and is targeting net zero carbon emissions by 2050, in alignment with the Paris Agreement. This commitment is driven not only by a strong sense of environmental responsibility but also by the commercial advantages of embracing sustainability, including attracting top-tier talent, enhancing brand reputation, and future-proofing the business in an evolving market landscape.



Current Emissions and Hotspots

As a tooling supplier, 99% of Cutwel’s emissions fall within Scope 3, with the vast majority linked to the distribution of products. Outbound freight (downstream transportation and distribution) accounts for 72% of total emissions, while inbound freight (upstream transportation and distribution) makes up a further 20%. Combined, travel and logistics represent 93% of Cutwel’s carbon footprint - an expected outcome for a product-driven business



Emissions Hotspot	Recommended Strategy
Company paid outbound freight: 72%	Some suggested actions you could take to reduce this footprint: <ul style="list-style-type: none"> - Electric & Hybrid Vehicles for Last-Mile - Select a low-carbon logistics provider - Switch from Road to Rail shipments - Obtain better data relating to logistics emissions
Inbound freight: 20%	Some suggested actions you could take to reduce this footprint: <ul style="list-style-type: none"> - Choose low-carbon logistics providers - Consolidate shipments with supplier - Share demand data to support better logistics planning
Commute by car: 1.3%	Some suggested actions you could take to reduce this footprint: <ul style="list-style-type: none"> - Introduce a car sharing scheme - Promote/incentivise the use of public transport - Investigate cycle to work scheme
Advertising and marketing: 1.2%	Some suggested actions you could take to reduce this footprint: <ul style="list-style-type: none"> - Issue a sustainability-focused supplier code of conduct - Reduce the use of merchandise and promotional goods

Key insights:

Targets

- ▶ Net Zero Target of 2050
- ▶ Interim Target of 2030
- ▶ Intensity target of 15.0 per £m turnover
- ▶ Intensity target of 4.5 per FTE

GHG emissions

- ▶ Total emissions: 3995 tCO₂e for 2024
- ▶ Equivalent to 150.2 tCO₂e per £m turnover for 2024
- ▶ Decrease of 32% on an absolute basis from a 2023 baseline.
- ▶ Decrease of 32% on an intensity basis from a 2023 baseline.

Buildings

- ▶ 1% of the total footprint.
- ▶ 0 actions completed.
- ▶ 4 actions planned in the next 12 months.

Travel & Logistics

- ▶ 93% of the total footprint.
- ▶ 0 actions completed.
- ▶ 0 actions planned in the next 12 months.

Supply Chain

- ▶ 5% of the total footprint.
- ▶ 0 actions completed.
- ▶ 0 actions planned in the next 12 months.

People

- ▶ 1% of the total footprint.
- ▶ 0 actions completed.
- ▶ 0 actions planned in the next 12 months.



Year on year analysis

Cutwel Ltd's absolute footprint fell by 32% (1,899 tCO₂e) in the year to 31 December 2024, primarily driven by a reduction in upstream transportation and distribution, accounting for a decrease of 1,550.9 tCO₂e. This reduction reflects the dedicated efforts of the team to consolidate inbound shipments wherever possible.

Further improvements in data accuracy could be achieved by collecting supplier-specific information in the same manner as is currently done using DPD data for outbound deliveries.

Scope 1 emissions also saw a significant reduction, driven by the transition to electric vehicles (EVs) for fleet use. This shift resulted in an 84.2% decrease in Scope 1 fuel emissions from company vehicles.

Conclusion

99% of Cutwel's emissions originate from Scope 3 activities, with two major impact areas: downstream transportation & distribution (72%) and upstream transportation & distribution (20%). These two categories alone account for over 90% of the organisation's total carbon footprint and must be prioritised in any emissions reduction strategy.

Downstream transportation & distribution (Category 9) contributes 2,865.8 tCO₂e, while upstream transportation & distribution (Category 4) contributes 812.9 tCO₂e. Reducing these emissions may involve engaging with logistics providers to optimise delivery routes, switching to low-emission vehicles, consolidating shipments, and encouraging partners to adopt sustainable transport practices.

Additional areas such as purchased goods and services (4.3%) and employee commuting (1.3%) are less material but still relevant. These could be addressed by procuring more sustainable goods and offering incentives for staff to use lower-carbon commuting options.

Cutwel should also seek more granular data from suppliers and logistics partners to improve the accuracy of Scope 3 emissions reporting and ensure alignment with broader decarbonisation goals.

Data quality

The Flotilla data score considers precision and completeness of input data to give a score out of 100. Cutwel Ltd's current data quality score is 78, further details can be found on page 18:



Next Steps

- ▶ Conduct an internal review of your **Net Zero Report** to align on key insights and priorities.
- ▶ Use the **Flotilla platform** to explore our **Recommended Actions** and assess their relevance to your strategy.
- ▶ Access the **Analytics** section to gain deeper visibility into specific emission sources and activities.
- ▶ We will schedule a **Net Zero Workshop** with your team to discuss the report's findings, refine priorities, and align on key actions for the coming months.
- ▶ Start building your **Project Plan** by integrating recommended actions and selecting additional initiatives from the **Action Library** to drive meaningful change.



Section 2

Report Context and Methodology

- ▶ The purpose of this report is to provide Cutwel Ltd with the knowledge and tools to understand their greenhouse gas emissions and inform smarter choices towards decarbonisation.
- ▶ This report provides a detailed analysis of the historical carbon footprint of Cutwel Ltd for the year ending December 2024.
- ▶ This report covers the total greenhouse gas emissions from scopes 1, 2 and 3 of Cutwel Ltd's operational footprint.
- ▶ The footprint calculated is reliant on the data provided, Flotilla do not provide assurance or verification of the data collected.
- ▶ Throughout this report we have also grouped and analysed your data using Flotilla's categories: Governance, People, Travel & Logistics and Supply Chain. These categories allow you to view your data in a way that makes sense to your operations, and to identify the opportunities for change, engagement and influence.
- ▶ For a glossary of terms, details of the scope and boundary of this report, our methodology and accreditations, please refer to the appendices.



Greenhouse gases (GHG)

Greenhouse gas emissions are the release of gases into the atmosphere that trap heat from the sun, causing the planet to warm. These gases act like a blanket, allowing sunlight to enter but preventing some of the Earth's heat from escaping back into space. There are 7 GHGs stated in the GHG protocol:

- ▶ Carbon dioxide (CO₂)
- ▶ Methane (CH₄)
- ▶ Nitrous oxide (N₂O)
- ▶ Hydrofluorocarbons (HFCs)
- ▶ Perfluorocarbons (PFCs)
- ▶ Sulphur hexafluoride (SF₆)
- ▶ Nitrogen trifluoride (NF₃)

tCO₂e

Different activities produce different gases. For carbon accounting purposes, greenhouse gases are converted into CO₂ equivalents for easier reporting and comparison. We refer to a business carbon footprint as 'tCO₂e', which is short for 'tonnes of carbon dioxide equivalent'.

Baseline year

A reference point against which emissions reductions are measured. This is used by Flotilla in creating a Net Zero plan and determining reduction targets.

Scopes 1, 2 & 3

Carbon footprint measures are categorized into three scopes: 1, 2 and 3.

Scope 1

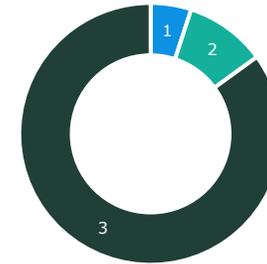
Direct emissions from sources that the company owns or controls.

Scope 2

Indirect emissions from electricity, steam, heat or cooling.

Scope 3

All other indirect emissions from activities of the organisation



Scope 3 can account for up to 90% of a business' carbon footprint. We measure all three scopes, so you can understand the full impact of your business activities. Further detail about the scopes and the methodology is detailed on the next page.

Net Zero

Net Zero is a target set by businesses and countries with the aim of limiting global temperature rises to 1.5c. Put simply, Net Zero means reducing GHG emissions to as close to zero as possible with any remaining emissions re-absorbed from the atmosphere. To achieve Net Zero, following science-based targets, a business must:

- ▶ Measure emissions across their value chain
- ▶ Focus on deep, rapid emission cuts, ideally halving emissions by 2030, and reducing by at least 90% by 2050
- ▶ Remove remaining hard-to-abate emissions from the atmosphere via carbon removal solutions

Impact Areas

Whilst the GHG protocol measures footprints based on scope, analysing the footprint by impact area is beneficial because they provide a more meaningful way to understand your data, set reduction targets and take meaningful action. The impact areas are:

- ▶ Travel & Logistics
- ▶ People
- ▶ Buildings
- ▶ Supply chain
- ▶ Governance*

Employee commuting and homeworking

Where surveys have been conducted to collect employee commute and homeworking data, this data is utilized and extrapolated to provide an accurate representation of your footprint. Where not, government average commute data is utilized to provide an estimate of those emissions based on the number of workers and your sector/industry.

Intensity metrics

Intensity metrics allow your business to track how efficiently you are reducing emissions per unit of output. Intensity metrics are most impactful when monitoring scope 3 emissions.

They provide an alternative view to total emissions, allowing you to see progress as your business grows.

*Governance does not include any emissions or carbon footprint calculations

Baseline emissions are the emissions produced in the earliest possible reporting year when a holistic, representative GHG emissions measurement was completed. Baseline emissions are the reference point against which emissions reduction can be measured.

Cutwel Ltd's emissions have been calculated against a baseline year of 2023.

Cutwel Ltd's GHG emissions inventory is aligned to the GHG Protocol and covers:

Scope 1: Direct emissions

Direct emissions from sources owned or controlled by an organisation, such as natural gas used in boilers, fuel combustion in company vehicles, manufacturing processes, and onsite energy production.

Scope 2: Indirect emissions

Indirect emissions from the consumption of purchased electricity, steam, heating, and cooling. These emissions occur at the source of energy production but are attributed to the organisation that uses the energy.

Scope 3: Supply chain emissions and categories

Scope 3 emissions encompass all indirect greenhouse gas (GHG) emissions that occur in an organization's value chain, both upstream and downstream, that are not included in Scope 1 or Scope 2.

Scope 3 GHG Category	Description
Category 1: Purchased goods and Services	Emissions from the production of goods and services a company buys.
Category 2: Capital goods	Emissions from producing long-term assets such as buildings or equipment.
Category 3: Fuel and Energy-Related (not in Scopes 1 or 2)	Emissions from extraction, production, and transportation of fuels and energy purchased, no captured in Scope 1 or 2.
Category 4: Upstream Transportation and Distribution	Emissions from transporting and distributing products purchased by the reporting company.
Category 5: Waste Generated in Operations	Emissions from waste disposal and treatment.
Category 6: Business Travel	Emissions from travel by employees outside of company-owned vehicles (e.g., flights, rental cars).
Category 7: Employee Commuting	Emissions from employees commuting to and from work.
Category 8: Upstream Leased Assets	Emissions from leased assets not included in Scope 1 or 2, occurring upstream in the value chain.
Category 9: Downstream Transportations & Distributions	Emissions from transporting and distributing sold products to customers.
Category 10: Processing of Sold Products	Emissions from processing intermediate products sold by the company.
Category 11: Use of Sold Products	Emissions from the use of goods and services sold.
Category 12: End of Life of Sold Products	Emissions from waste disposal and treatment of sold products at their end-of-life.
Category 13: Downstream Leased Assets	Emissions from assets leased to other entities.
Category 14: Franchises	Emissions from operations of franchises.
Category 15: Investments	Emissions from investments made by the company, such as loans and equity.

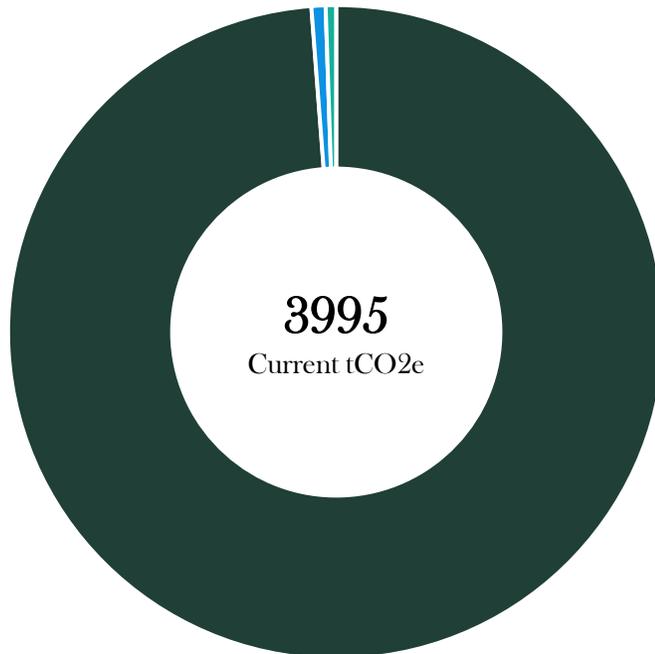
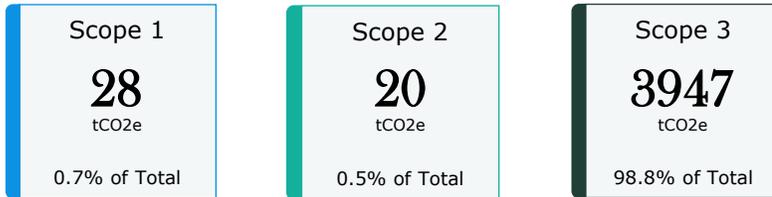
Section 3

GHG Emissions Summary

1 January 2023 - 31 December 2024

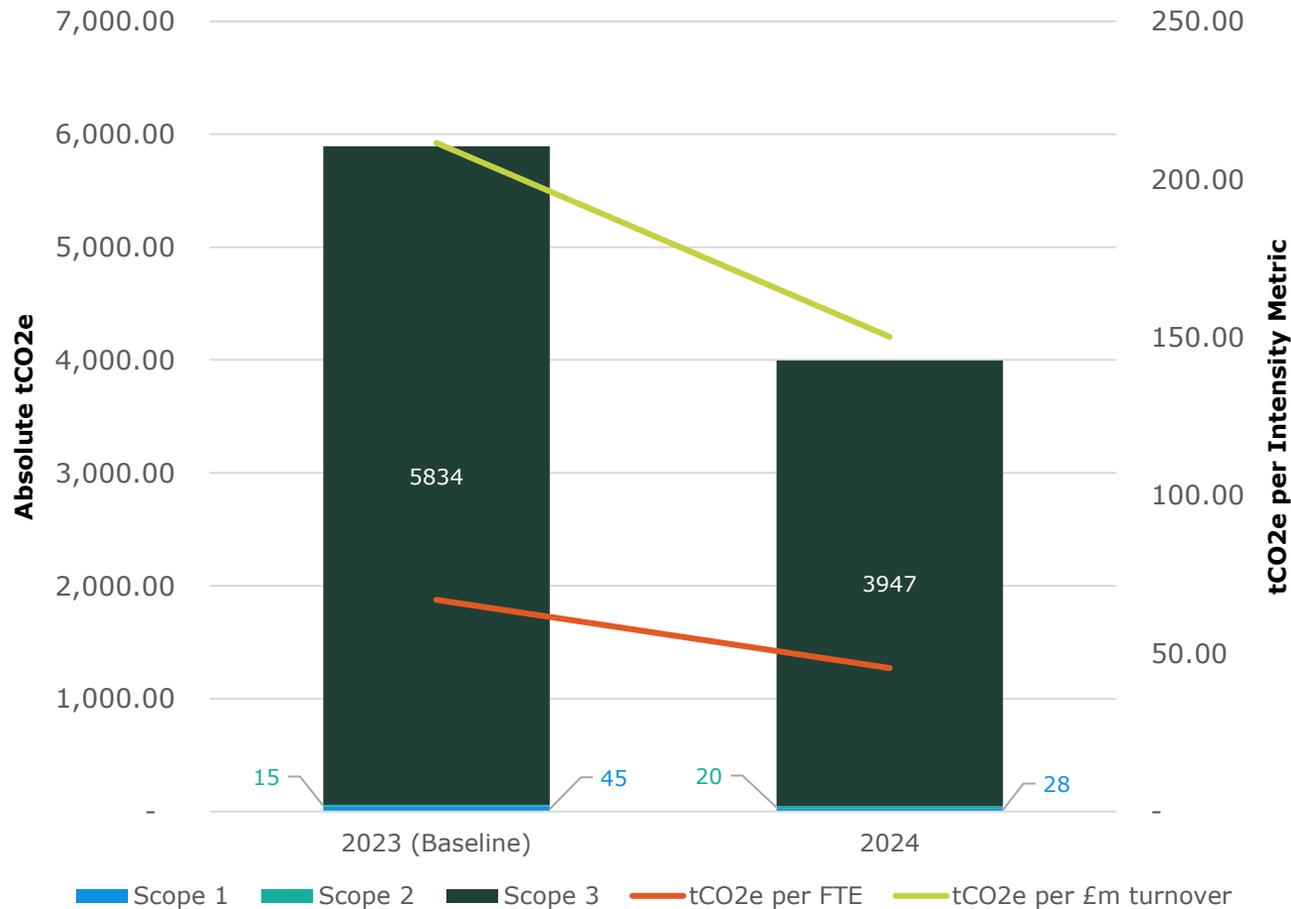
GHG Emissions Summary

The footprint calculated is reliant on the data provided. Flotilla do not provide assurance or verification of the data collected. Downstream Scope 3 categories are outside the scope of this engagement and are indicated as 'not measured.'



Scope	GHG Category	2023 Tonnes CO2e (Baseline)	2024 Tonnes CO2e (Current)	2024 % of emissions	Change
1	Fuel in company vehicles	19.8	3.1	0.08%	-84.2%
	Direct fuel	25.0	24.6	0.62%	-1.7%
2	Electricity – location based	14.6	20.5	0.51%	40.1%
	Indirect fuel usage in leased offices	0	0	0.00%	0%
	Indirect fuel usage in leased assets	0	0	0.00%	0%
3	Category 1: Purchased Goods and Services	132.0	171.7	4.30%	30.1%
	Category 2: Capital goods	48.5	23.3	0.58%	-51.9%
	Category 3: Fuel and Energy-Related (not in Scopes 1 or 2)	12.9	10.8	0.27%	-16.5%
	Category 4: Upstream Transportation and Distribution	2363.8	812.9	20.35%	-65.6%
	Category 5: Waste Generated in Operations	5.1	3.1	0.08%	-38.2%
	Category 6: Business Travel	13.8	7.5	0.19%	-45.9%
	Category 7: Employee Commuting	51.7	51.7	1.29%	0.0%
	Category 8: Upstream Leased Assets	5.6	0	0.00%	0%
	Category 9: Downstream Transportations & Distributions	3201.2	2865.8	71.73%	-10.5%
	Category 10: Processing of Sold Products	Not measured	Not measured	Not measured	0%
	Category 11: Use of Sold Products	Not measured	Not measured	Not measured	0%
	Category 12: End of Life of Sold Products	Not measured	Not measured	Not measured	0%
	Category 13: Downstream Leased Assets	0	0	0.00%	0%
	Category 14: Franchises	Not measured	Not measured	Not measured	0%
	Category 15: Investments	Not measured	Not measured	Not measured	0%
Total Emissions		5893.9	3995.0	100.00%	-32.2%

Carbon footprint by Scope and Intensity Metrics



Intensity metrics allow your business to track how efficiently you are reducing emissions per unit of output. Intensity metrics are most impactful when monitoring Scope 3 emissions. They provide an alternative view to total emissions, allowing you to see progress as your business grows.

Scope 1: Direct emissions

Scope 1 has decreased by 38.2% (17.1 tCO2e) driven by:

- Company controlled diesel cars - down 100% (13.7 tCO2e)
- Company controlled petrol cars - down 96.6% (3.9 tCO2e)
- Company controlled diesel vans - up 44.2% (0.9 tCO2e)

Scope 2: Indirect emissions

Scope 2 has increased by 40.1% (5.9 tCO2e) driven by:

- Company controlled electric cars - up 100% (4.4 tCO2e)
- Direct non-renewable electricity purchased - up 9.8% (1.4 tCO2e)

Scope 3: Supply chain emissions

Scope 3 has decreased by 32.4% (1887.6 tCO2e) driven by:

- Inbound freight HGVs - down 93.7% (1809.9 tCO2e)
- Company paid outbound freight HGVs - down 15.2% (485.2 tCO2e)
- Inbound freight vans - up 65.3% (270.4 tCO2e)

GHG Emissions - Employee Commute and Homeworking Summary

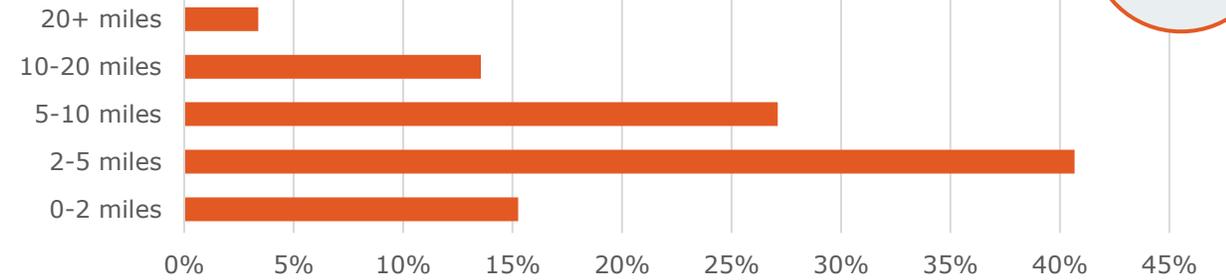
Employees were asked how they travel to work in January 2025.

Employee commuting accounted for around 1% of total emissions in the latest reporting year.

How often do staff work from home?

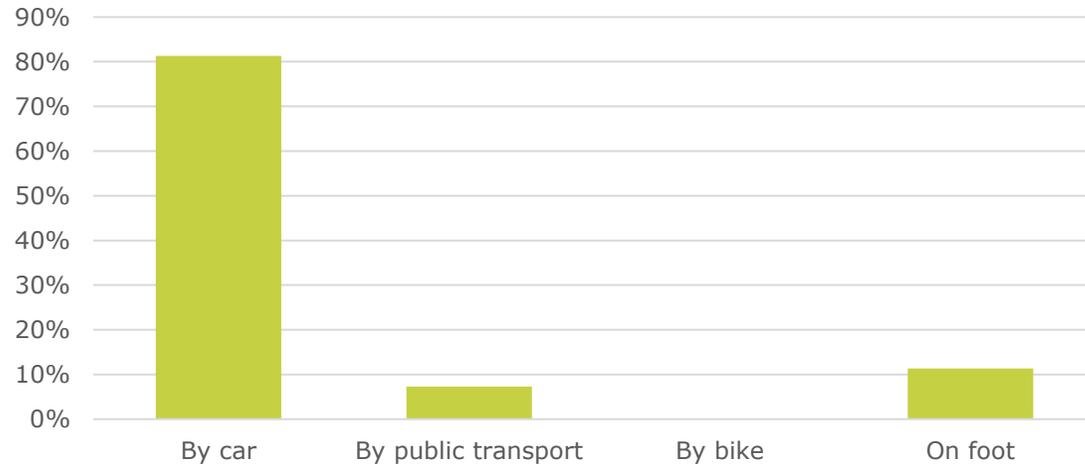
2% of working days are WFH, according to the employee survey. 98% are spent in the office.

How far is your drive to work (one way)?

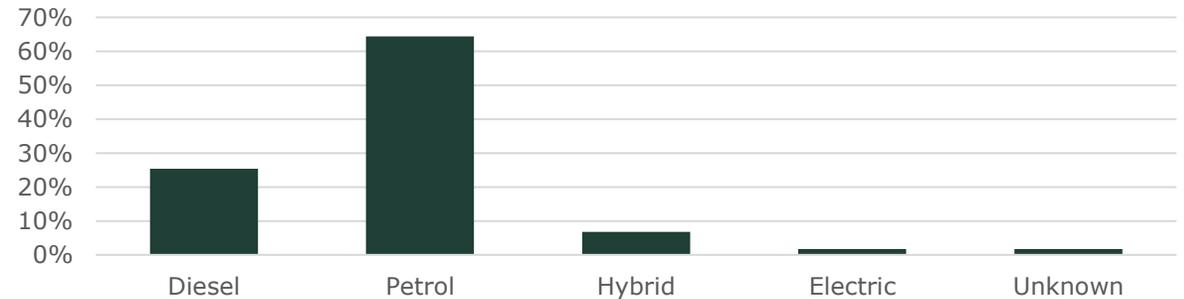


Average driving commute: 6 miles

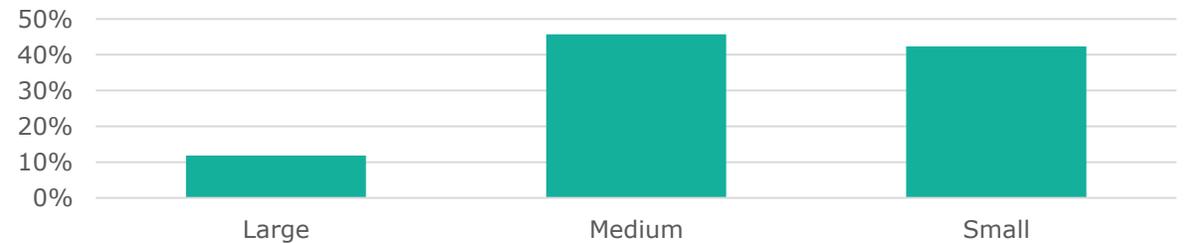
How do you commute to work?



What car do you drive?

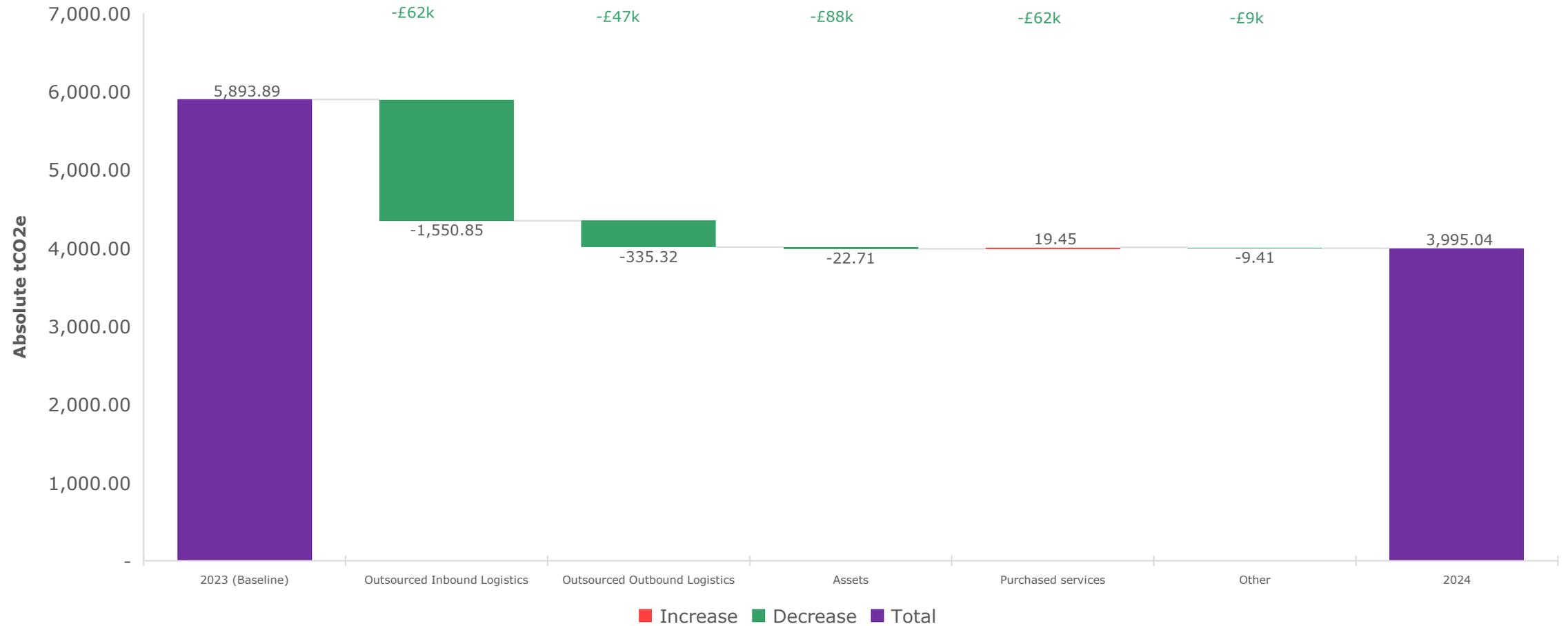


How big is your car?



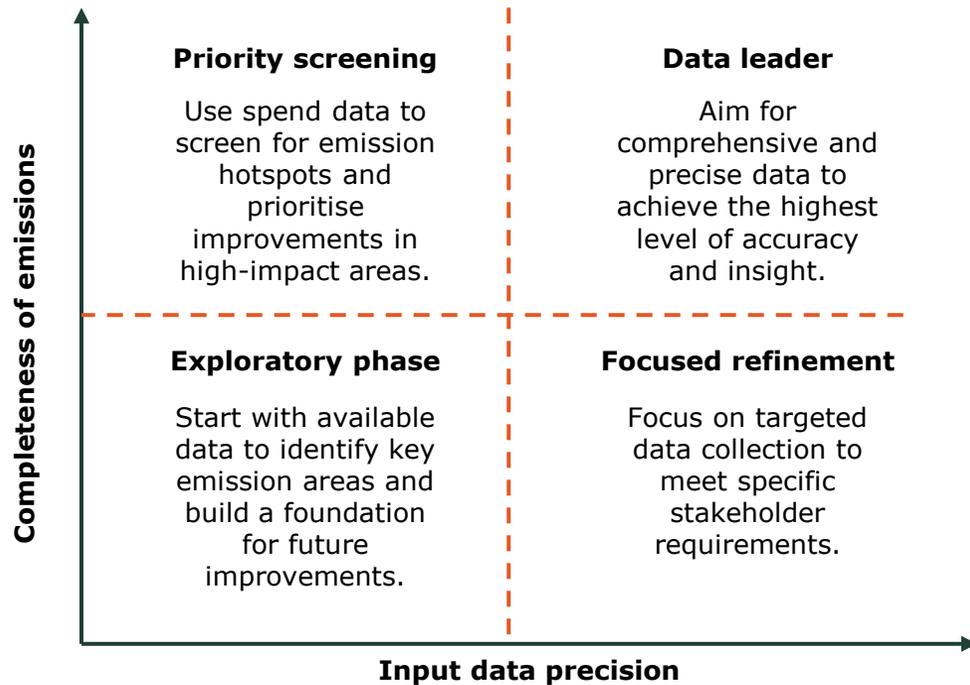
Carbon Footprint Trends Explained

Understanding the movements in your emissions over time helps to draw out the key areas of impact, their magnitude on your footprint, and how financial decisions can have a significant impact on your footprint.



The quality and accuracy of GHG emissions calculations are highly dependent on the completeness and appropriateness of the data provided.

All relevant business activities, scope 3 categories, and emission sources should be captured. The input data should reflect the actual activity as precisely as possible. High-quality data reduces the amount of estimation within the emissions calculation, improving the accuracy of the output.



The Flotilla data score considers precision and completeness of input data to give a score out of 100. As part of the data collection process, an employee survey is issued to gather good quality employee commuting data. The response rate of the survey naturally impacts the quality of the employee commuting data. Cutwel Ltd's current data quality score and employee survey response rates are:



Recommended data improvement actions:

- ▶ Cutwel has successfully collected supplier-specific emissions data from DPD, which covers approximately 85% of outbound deliveries, improving the accuracy of logistics-related carbon reporting. To further enhance completeness, it would be beneficial to obtain similar emissions data from other delivery partners, including Royal Mail and UK Mail.
- ▶ For inbound deliveries, Cutwel currently uses tonne-kilometre (tkm) factors; however, a key improvement opportunity lies in collecting supplier-specific emissions data from key vendors to reduce estimation uncertainty and increase the precision of Scope 3 reporting.

Section 4

Net Zero Transition Plan

Emissions Reduction Target and Forecast

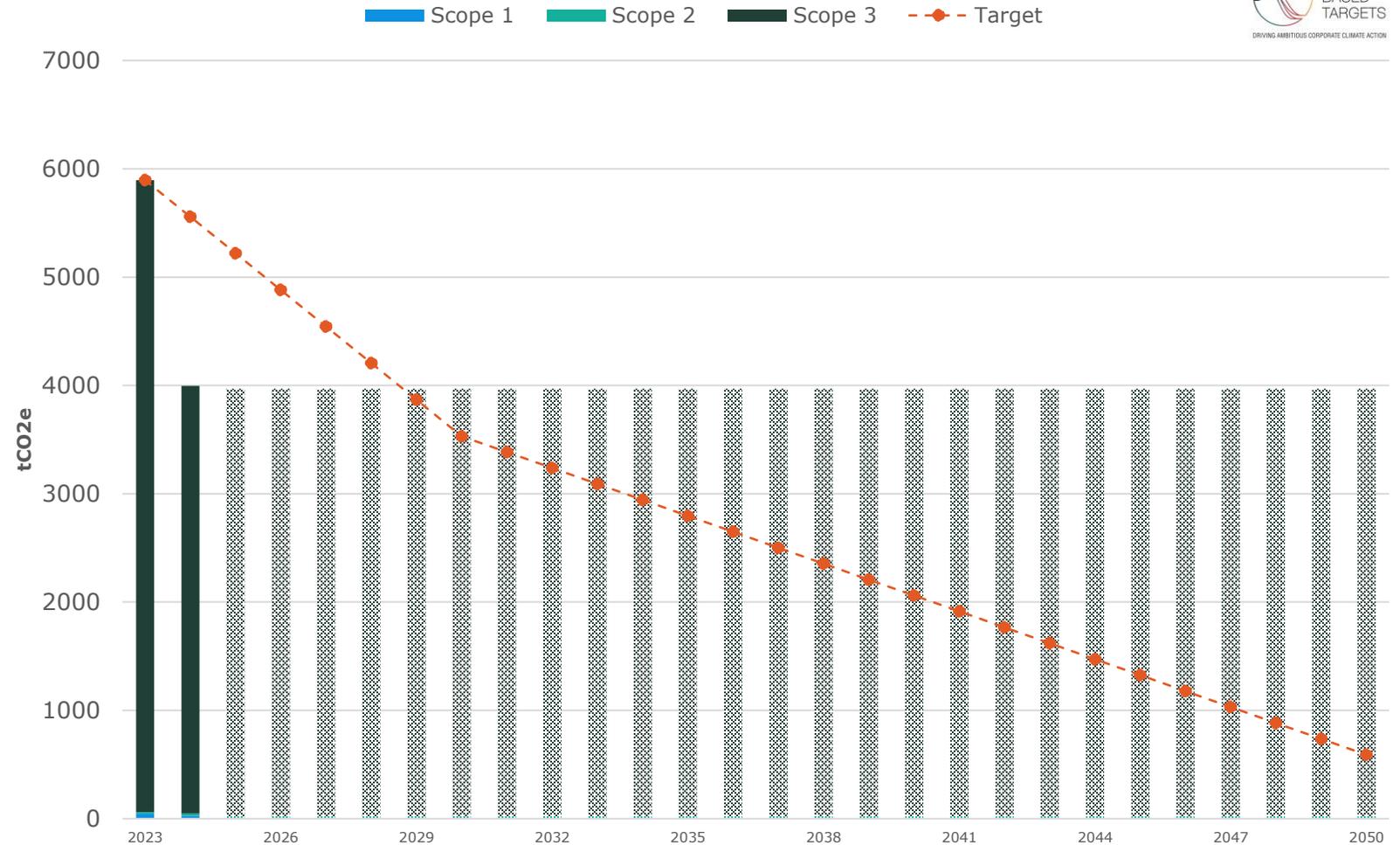
We have committed to reduce emissions in line with science-based targets. We project that carbon emissions will decrease over the next five years to 3530 tCO2e by 2030. This is a reduction of 11.6%. Progress against our targets as well as forecasted reductions can be seen in the graph below.



Key Targets

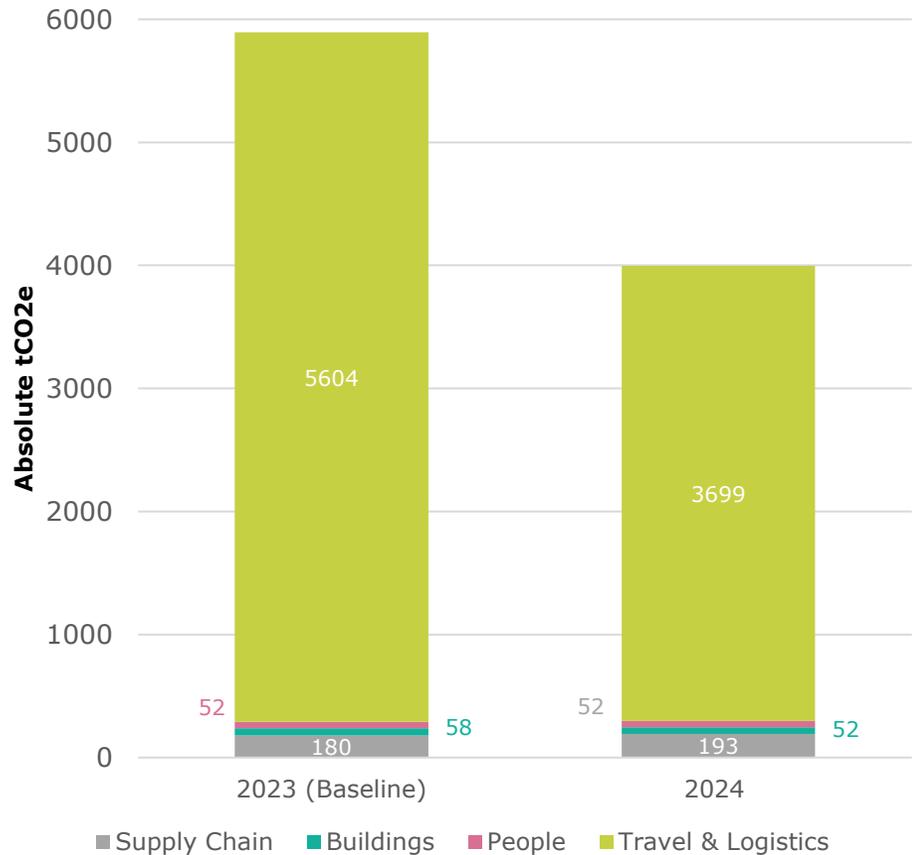
Target Year	2050
tCO2e Per FTE	4.5
tCO2e Per £m Turnover	15.0
Target annual emissions reduction	8.5%

Reduction Targets	2030	2050
Scope 1	50%	90%
Scope 2	50%	90%
Scope 3	40%	90%



Impact areas provide a crucial framework for developing effective climate action plans. Identifying key levers and areas of influence allows for targeted action and meaningful strategies.

Here's a summary of the impact areas and their associated major emission:



Travel & Logistics

Includes travel and shipping as well as business travel on flights, trains and nights in hotels. To decarbonise this area, Cutwel should focus on reducing the emissions associated with outbound freight.

The most significant emissions in this area are Company paid outbound freight HGVs (2715.9 tCO₂e), Inbound freight vans (684.2 tCO₂e) and Company paid outbound freight vans (149.9 tCO₂e).



People

Includes the impact of employees working from home and commuting to the office. To decarbonise this impact area, the focus is on engaging and influencing employee commuting.

The most significant emissions in this area are Commute by car (50.0 tCO₂e) and Commute by public transport (1.8 tCO₂e).



Buildings

Includes the footprint of locations, covering both energy usage and utilities. To decarbonise this impact area, the focus is on engaging with landlords and building managers as well as users of the buildings.

The most significant emissions in this area are Direct gas consumption (24.6 tCO₂e), Direct non-renewable electricity purchased (16.1 tCO₂e) and Well-to-tank gas (4.1 tCO₂e).



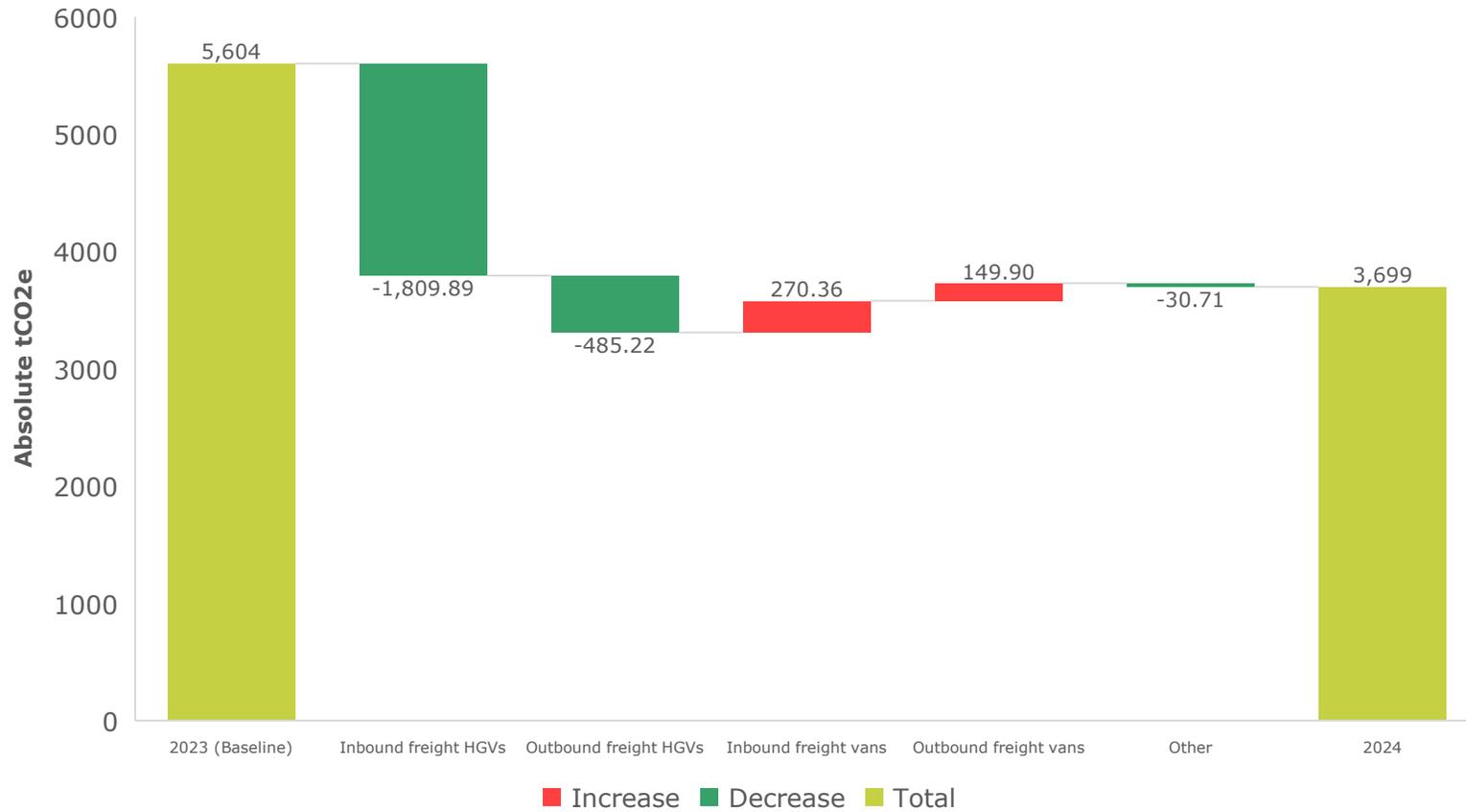
Supply chain

Includes purchased good and services, asset acquisitions, as well as technology. To decarbonise this impact area, the focus is on supplier engagement and sustainable procurement.

The most significant emissions in this area are Advertising & marketing (48.7 tCO₂e), Computer services incl software licences (33.8 tCO₂e) and Computer hardware & equipment (18.2 tCO₂e).

Impact Areas - Travel

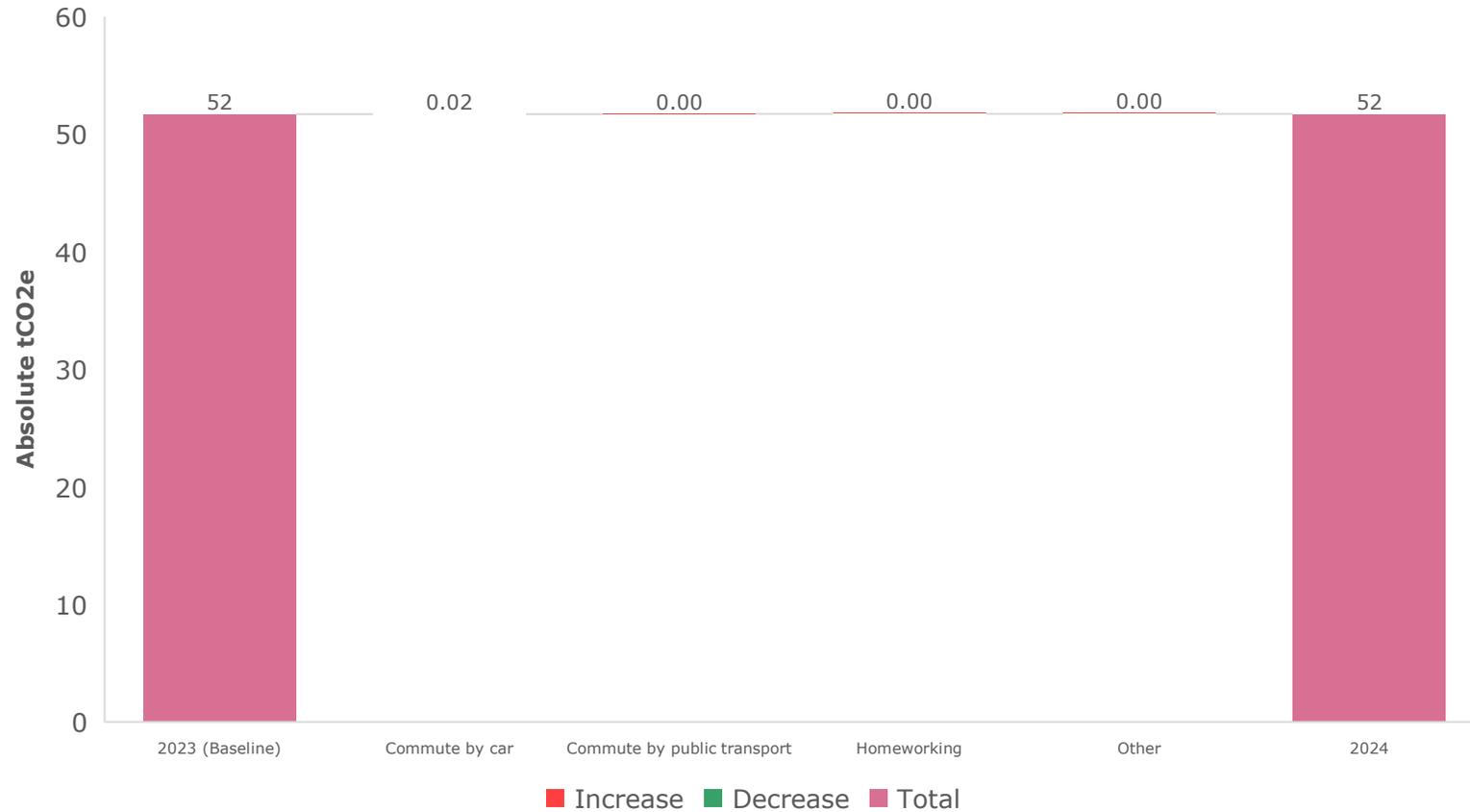
Business travel will be optimised by promoting remote meetings and encouraging alternative transport options. Inbound and outbound logistics will be streamlined to enhance operational efficiency and minimise environmental impact. The overall goal is to contribute to a cleaner, greener future. You can see below what has changed in your travel emissions from this year to last as well as to the right, what reduction initiatives have been completed and planned.



Suggested actions	
Initiative	Date
Collect supplier specific data for inbound logistics	31/12/2025
Consolidate your suppliers and shipments	31/12/2025
Share demand data to support better logistics planning	31/12/2025
Encourage car-sharing	31/12/2025

Impact Areas - People

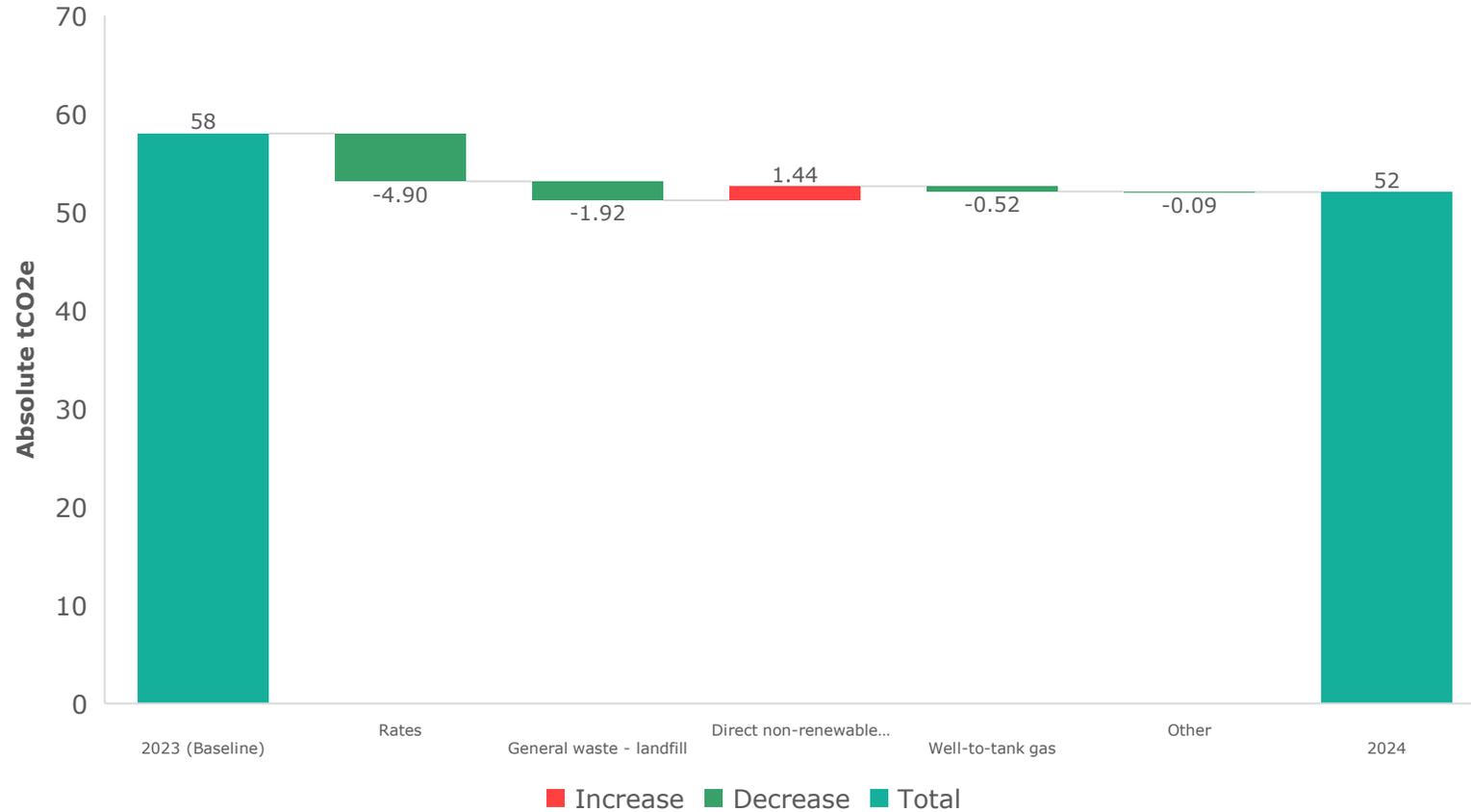
The focus is on fostering a culture where individuals feel empowered to contribute to sustainability efforts. From core values to policies, there is a commitment to cultivating a workplace that supports building a more sustainable business and world, recognising people as the greatest asset. You can see below what has changed in your people emissions from this year to last as well as to the right, what reduction initiatives have been completed and planned.



Suggested actions	
Initiative	Date
Introduce a Car Sharing Scheme	31/12/2025
Cycle to Work Scheme	31/12/2025
Implement sustainable home-working guidance	31/12/2025
Promote and incentivise public transport initiatives	31/12/2025

Impact Areas - Buildings

Workspaces will be designed to enhance well-being and productivity while contributing to a cleaner, greener future. Opportunities to generate and source renewable electricity will be explored, with a commitment to collaborating with stakeholders to power operations using renewable energy. You can see below what has changed in your travel emissions from this year to last as well as to the right, what reduction initiatives have been completed and planned.



Suggested actions	
Initiative	Date
Implement an energy audit to identify key priorities	31/12/2025
Install an energy monitoring system	31/12/2025

Planned actions in 2025	
Initiative	Due Date
Replace gas boiler with low carbon heating and hot water systems (Cleckheaton)	31/12/2025
Implement waste management policy (Cleckheaton)	31/12/2025
Choose a higher-quality renewable tariff (Cleckheaton)	31/12/2025
Investigate potential for onsite solar (Cleckheaton)	02/05/2025

Impact Areas - Supply Chain

Engagement with the supply chain is crucial to the net-zero plan. Sustainable procurement practices will be developed by prioritising options with a low environmental and climate impact. In alignment with circular economy principles, the aim will be to minimise waste generation and optimise the use of raw materials, energy, and other resources. You can see below what has changed in your travel emissions from this year to last as well as to the right, what reduction initiatives have been completed and planned.



Suggested actions	
Initiative	Date Completed
Engage suppliers to move your data to a green data centre	31/12/2025
Repair before replace end-user devices	31/12/2025
Buy secondhand hardware	31/12/2025

Impact Areas - Governance

The governance framework will embed sustainability into core values, business strategies, and daily operations. Risks and opportunities in the shift to a low-carbon economy will be assessed, ensuring active stakeholder participation in achieving net-zero goals. Sustainability will be a central element of decision-making and long-term planning. Unlike the other impact areas, governance actions have no direct emissions savings and no footprint is measured relating to governance, but through their implementation they can help drive sustainability and reduction indirectly across the other impact areas.

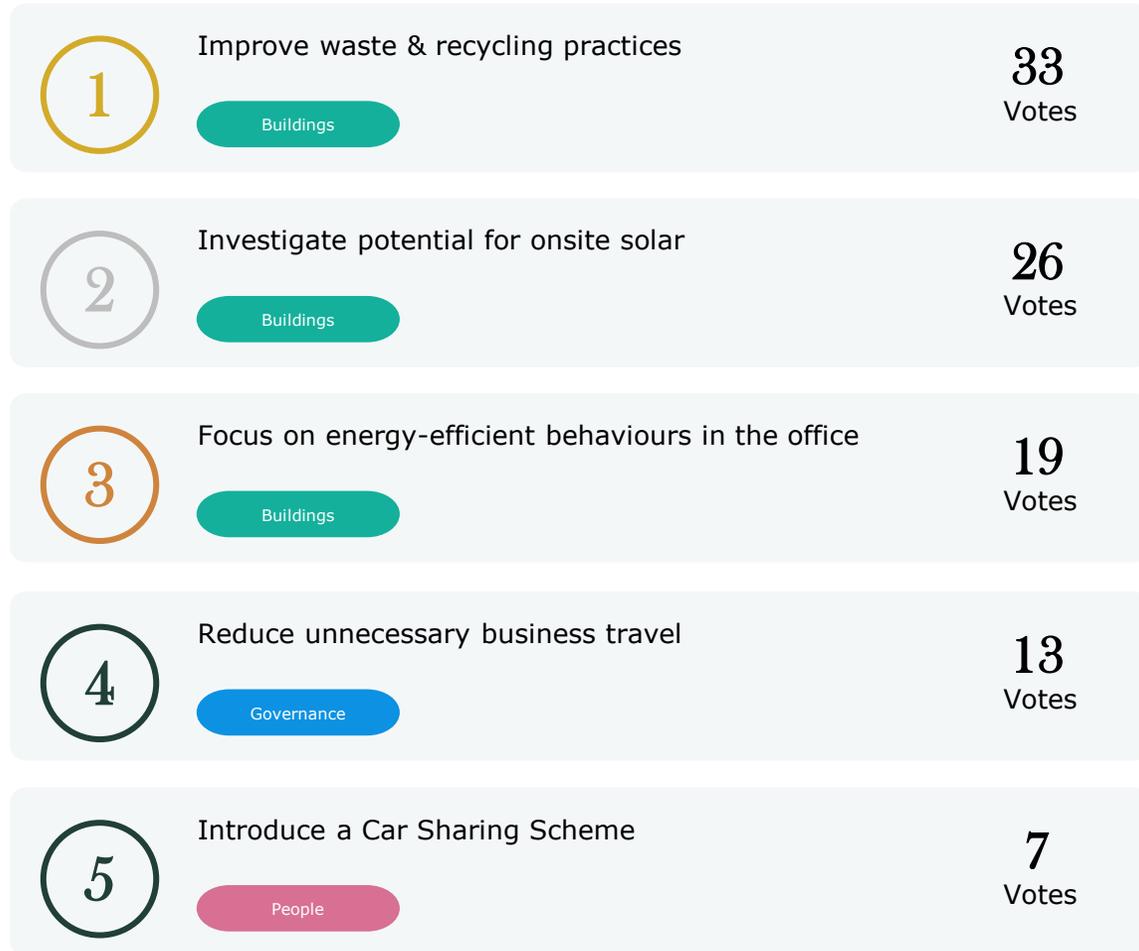
Below are details of the governance initiatives completed and planned this year and last.

Suggested Actions	
Initiative	Date
Include net zero plan updates as part of your monthly management accounts or Board pack	31/12/2025
Set climate commitments with interim targets	31/12/2025



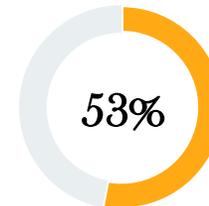
Employee Suggested Actions and Attitudes

Sustainability actions voted for by your employees which are included in your project plan:

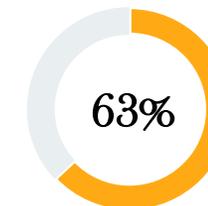


Ideas shared by your employees:

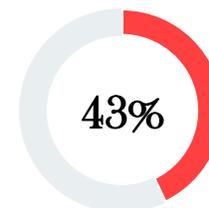
- Implement a Car Sharing Scheme – Essential due to limited parking and the number of employees living nearby, making it a practical and impactful solution.
- Introduce Flexible Work from Home Options – Allow 1-3 WFH days per week, particularly for long-distance commuters, to reduce travel, emissions, and increase productivity.
- Provide Environmental Awareness Training – Develop effective and informative training to help employees understand their impact and encourage sustainable behaviors.
- Install Electric Vehicle Charging Points – Ensure all staff have access to EV charging stations to support the transition to greener transport.
- Adopt a Comprehensive Sustainability Strategy – Cutwel should focus on implementing multiple initiatives, with car sharing as a key priority due to its wide-ranging benefits.



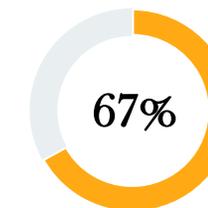
Of your employees want to work for an organisation that focuses on reducing emissions.



Of your employees are willing to support you to reduce your emissions.



Of your employees are interested in undertaking training related to climate action in the context of their work.



Of your employees acknowledge personal responsibility to reduce their impact at work and home.



Section 5

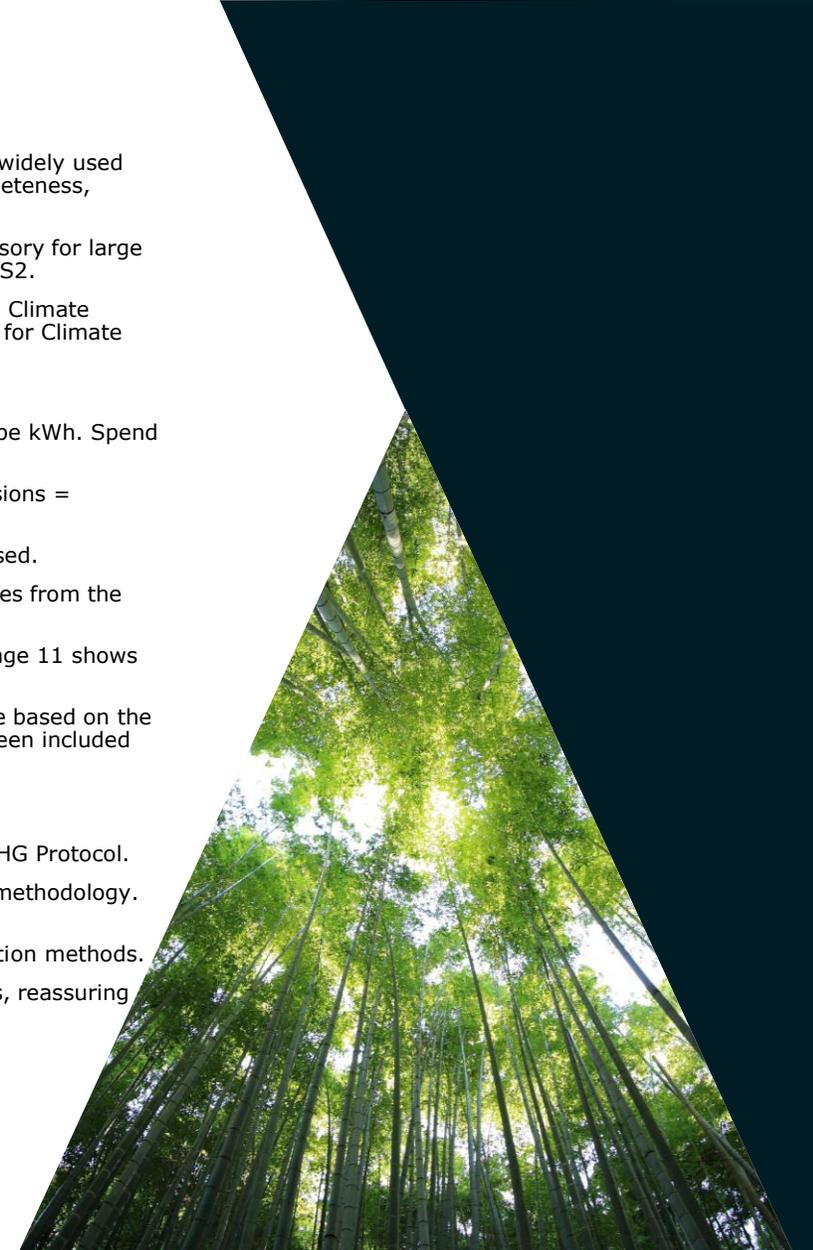
Appendix

Methodology

- ▶ Flotilla’s carbon accounting platform is developed in accordance with the Greenhouse Gas (GHG) Protocol which provides the world’s most widely used accounting standards. The report issued covers Scope 1, 2 and 3 in line with this protocol. The GHG Protocol principles of relevance, completeness, consistency, transparency and accuracy have been followed throughout.
- ▶ Flotilla’s reporting is designed to align to the Government’s SECR (Streamlined Energy and Carbon Reporting) guidelines which are compulsory for large organisations. This in turn is aligned with the ISSB (International Standards Sustainability Board) upcoming regulations IFRS S1 and IFRS S2.
- ▶ Flotilla’s methodology has been reviewed and endorsed by Prof Piers Forster, Climate Scientist at Leeds University and Interim Chair of the Climate Change Committee (CCC). Piers has served on the CCC since December 2018. He is founding Director of the Priestley International Centre for Climate and has acted as lead author for several Intergovernmental Panel on Climate Change (IPCC) reports.
- ▶ The data collection process gives the option of providing activity data or spend data.
- ▶ Activity data allows a more accurate footprint as it measures the activities themselves. For example, activity data for electricity use would be kWh. Spend data can be retrieved directly from the company’s financial accounting systems and indicates the total spend in specific categories.
- ▶ Both activity data and spend data are converted to emissions of carbon dioxide equivalent using relevant emission factors such that: $\text{Emissions} = \text{Business Data} \times \text{Emission factor}$.
- ▶ The primary source of activity emission factors is the annual UK government factors, additional data collected from ONS and DEFRA is utilised.
- ▶ Flotilla have captured the full impact of the business operations using the data submitted in the platform, and the activities of the employees from the employee questionnaire, which are often missed despite forming a significant proportion of a business’ carbon footprint.
- ▶ The footprint calculated by Flotilla may omit specific operations when the associated footprint is immaterial (<5% of the total footprint). Page 11 shows what emission categories have been included and excluded.
- ▶ It is important to note that it is impossible to accurately guarantee the impact of all activities; as referenced herein, certain calculations are based on the information provided, the current available conversion data, and governmental resources. Page 11 shows what emission categories have been included and excluded.

Carbon footprints are subject to change

- ▶ Flotilla routinely updates emission factors to reflect the latest data, methodologies, and industry standards, including alignment with the GHG Protocol.
- ▶ These updates ensure carbon accounting remains accurate and consistent by incorporating changes in economic conditions, inflation, and methodology. This means that your carbon footprint calculations remain accurate, transparent, and reflective of the latest data and methodologies.
- ▶ **Please note** that updated factors may result in changes to previously reported emissions due to improvements in data quality and calculation methods.
- ▶ Our team is here to help you understand the impact of these updates and support you to communicate these changes to your stakeholders, reassuring them that these changes reflect your commitment to best practice in sustainability reporting.



Estimation and uncertainty in carbon footprinting

Carbon footprinting, like any measurement, comes with its share of uncertainty. These uncertainties can arise from a variety of factors, making it crucial to understand their existence and potential impact. Here are some key reasons why carbon footprint calculations can be uncertain:

- ▶ **Activity data:** Measuring our activities that generate emissions, like fuel usage or electricity consumption, isn't always precise. Estimations or incomplete records can lead to inaccuracies in footprint calculations.
- ▶ **Emission factors:** Emission factors, which convert activities into their equivalent carbon emissions, can vary depending on factors like location or specific technology used. Flotilla use the UK government factors as a primary source which are regarded amongst the most reliable in the UK. However, there remains estimation in the emission factor which considers the UK average emissions by activity.

Where primary activity data could not be collected, the following assumptions and estimations were used by Flotilla:

- ▶ **Employee survey:** The footprint associated with employees (homeworking and commuting) has been derived using an employee survey. This is extrapolated across the employee population when a response rate of 100% is not obtained.
- ▶ **Working day:** There is an assumption that for a full-time employee there are 8 hours in a working day for 48 weeks a year. The number of days an employee works is collected within the employee survey.
- ▶ **Public transport:** The employee survey details commute by public transport but not by transport type and thus an average of the UK government emission factors for public transport is used.



Key terms explained:

Term	Description
Baseline	A reference point against which emissions reductions are measured.
Boundaries	GHG accounting and reporting boundaries can have several dimensions, i.e. organisational, operational, geographic, business unit, and target boundaries. The inventory boundary determines which emissions are accounted and reported by the company.
Carbon dioxide (CO ₂)	The most significant GHG, primarily emitted from burning fossil fuels like coal, oil, and natural gas. CO ₂ traps heat efficiently and remains in the atmosphere for centuries.
Carbon footprint	The total amount of GHG emissions produced by an individual, organisation, event, or product. Measured in metric tonnes of carbon dioxide equivalent (CO ₂ e).
Carbon neutral	Investing in offset projects that reduce GHG emissions elsewhere, to counter-balance GHG emissions generated by the business.
CO ₂ -equivalent (CO ₂ e)	The amount of CO ₂ that would cause the same integrated radiative forcing over a given time horizon as an emitted amount of another GHG or mixture of GHGs. Conversion factors vary based on the underlying assumptions and as the science advances.
Consolidation approach	Refers to how an organization sets boundaries for GHG accounting. Types include equity share approach, financial control, and operational control.
Dual reporting	The disclosure of two separate Scope 2 electricity emissions figures: one based on the average grid emissions (location-based) and another based on the company's specific energy contracts (market-based).
Emission factor	A value that represents the average amount of GHG emissions produced per unit of activity, such as the amount of CO ₂ emitted per kilowatt-hour of electricity generated.
Emission scopes	The GHG Protocol Corporate Accounting and Reporting Standard classifies an organisation's GHG emissions into three scopes. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting organisation, including both upstream and downstream emissions.

Key terms continued:

Term	Description
GHG Protocol	Comprehensive global standardised frameworks to measure and manage GHG emissions from private and public sector operations, value chains, and mitigation actions. The GHG Protocol supplies the world’s most widely used GHG accounting standards. The Corporate Accounting and Reporting Standard provides the accounting platform for virtually every corporate GHG reporting program in the world.
Greenhouse gases (GHG)	Greenhouse gases (GHGs) are atmospheric gases that absorb and re-emit heat radiation, creating a warming effect on the planet. This phenomenon, known as the greenhouse effect, is essential for maintaining Earth's habitable temperature. However, increased GHG concentrations due to human activities are causing an intensification of the greenhouse effect, leading to global warming and climate change.
Hexafluoride (SF6)	Man-made greenhouse gas used in electrical equipment, windows, and soundproofing. Extremely potent GHG (23,000x more effective than CO2), very long atmospheric lifespan (3,200 years).
Hydrofluorocarbons (HFCs)	Man-made synthetic greenhouse gases used in refrigerants, air conditioners, and foams. Thousands of times more effective at trapping heat than CO2, variable atmospheric lifespans.
Intensity metric	Expresses the amount of GHG emissions per unit of some activity or output. It helps normalise emissions and allows for better comparison and tracking of progress over time.
Indirect emissions	Emissions that are a consequence of the activities of the reporting entity but occur at sources owned or controlled by another entity.
Impact area	Categories of emissions, aligned with business functions and suppliers. There are 4 impact areas in the Flotilla report: Travel, Energy, Facilities, Supply Chain.
Location-based method	This figure calculates GHG emissions for electricity using average emissions intensity of the grid from which the company purchases electricity. In the UK this is the national grid.
Market-based method	This figure calculates GHG emissions for electricity using the specific energy contracts or instruments held by the company. It therefore shows lower emissions for renewable tariffs and higher emissions for non-renewable tariffs.

Key terms continued:

Term	Description
Materiality	The relevance of an ESG issue to a company's business.
Methane (CH ₄)	A potent GHG released from natural sources like wetlands and human activities like livestock farming, landfills, and energy production. Methane traps heat about 25 times more effectively than CO ₂ but has a shorter lifespan in the atmosphere (around 12 years).
Nitrogen Fluoride (NF ₃)	Man-made greenhouse gas used in electronics and semiconductor production. Highly potent GHG (7,200x more effective than CO ₂), very long atmospheric lifespan (740 years).
Nitrous Oxide (N ₂ O)	Emitted during fertilizer use, land clearing, and combustion processes. It's less abundant than CO ₂ and methane but traps heat about 300 times more effectively than CO ₂ and persists in the atmosphere for over 100 years.
Operational boundary	Operational boundaries outline the specific activities and emissions sources that an organisation includes within its GHG inventory. They define which emissions fall under Scope 1 (direct emissions) and Scope 2 (indirect emissions associated with purchased energy) for reporting purposes.
Perfluorocarbons (PFCs)	Man-made synthetic gases used in semiconductors, electronics, and some industrial applications. Extremely potent GHGs (thousands of times more effective than CO ₂), very long atmospheric lifespans (thousands of years).
Scope 1 emissions	Direct GHG emissions that occur from sources owned or controlled by the reporting company i.e., emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.
Scope 2 emissions	Indirect GHG emissions from the generation of purchased or acquired electricity, steam, heating, or cooling consumed by the reporting company. Scope 2 emissions physically occur at the facility where the electricity, steam, heating, or cooling is generated.
Scope 3 emissions	All other indirect GHG emissions (not included in Scope 2) that occur in the value chain of the reporting company. Scope 3 can be broken down into upstream emissions and downstream emissions: Upstream emissions include all emissions that occur in the life cycle of a material/product/service up to the point of sale by the producer, such as from the production or extraction of purchased materials. Downstream emissions include all emissions that occur because of the distribution, storage, use, and end-of-life treatment of the organisation's products or services.

Trust Flotilla with your carbon accounting and Net Zero journey.

“The Flotilla carbon accounting platform enables real, evidence-driven change. With science-based measurement and reporting, Flotilla allows businesses to take an honest look at their emissions, set achievable goals, make wise data-led decisions and become genuinely sustainable.”

Professor Piers Forster

Founder Director of the Priestley International Centre for Climate, University of Leeds, IPCC Sixth Assessment Report, Lead Author, Nobel prize winner for climate action

“The United Nations Climate Change Initiative is pleased to recommend Flotilla's science-based carbon reduction service, supporting businesses on their crucial journey to net zero. The Flotilla approach creates positive action throughout the entire ecosystem of a company, involving, motivating and empowering every individual to drive meaningful change.”

Miguel Naranjo

Programme Officer - UN Climate Change



SCIENCE
BASED
TARGETS



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