MEASUREMENT AND DATA

Carbon Emissions Report for JWF Process Solutions

Reporting Year: 2024

Contents

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JWF (Group) Ltd.
Registered in Scotland No. SC493916
Directors: Kenneth Fairbairn, David Gemmell, Robert Allan

Introduction

At JWF, we continue to recognise the importance measurement and data play in supporting our customers to monitor, manage, and reduce their environmental impact. As a company whose services enable others to make informed, evidence-based decisions, we remain committed to applying the same level of scrutiny to our own operations. Transparent reporting plays a key role in this commitment, and this report marks the second year of formally measuring and disclosing our carbon emissions.

Having established our base year emissions in 2023, the 2024 reporting year represents a progression in our journey towards meaningful climate action. We have continued to strengthen the accuracy of our emissions data and improved internal data-gathering procedures, allowing us to better identify where emissions reductions are beginning to materialise and where further action is needed.

This report provides a detailed overview of our carbon footprint for the 2024 calendar year. It outlines the data sources, methodologies, and calculation approaches used, compares performance against our base year, and assesses the progress we are making towards our long-term objective of achieving Net Zero in line with climate science and the United Nations' goal of limiting global warming to no more than +1.5°C.

Background Information

Company

JWF Process Solutions Ltd has over 60 years of providing end-to-end instrumentation and measurement solutions.

Through partnerships with world-leading manufacturers such as ABB, WIKA, Flexim, Canalta, VEGA, and Chromalox, we can combine proven technologies with decades of experience to meet complex instrumentation needs.

Our team of experienced engineers can commission your instrumentation, digitally verify it, and calibrate it onsite or in-house.

Our software team also develop data solutions that turn process information into actionable insights. Helping industries improve performance and operate with greater confidence.

General Data

Material Fact	Base Year	Reporting Year
Number of Staff (average per month)	25	27
Number of Sites – Owned	1	1
Number of Sites – Leased	0	0
Number of Vehicles	8	10

Reporting Period

1st January 2024 to 31st December 2024

Organisational Boundary

There are three approaches to reporting emissions, as defined by the Greenhouse Gas (GHG) Protocol. This report has been constructed using the **Operational Control** approach, considering the requirements of each potential approach. This is the same approach used for our base year.

Approach	Description	Approach Taken
Equity Share	The reporting company accounts for emissions from operations according to its share of equity in the operation.	
Financial Control	The reporting company has financial control over an operation if the former can direct the financial policies of the latter with a view to gaining economic benefits from its activities. Under this approach the reporting company accounts for 100% of emissions from operations over which it has financial control.	
Operational Control	The reporting company has operational control over an operation if the former, or one of its subsidiaries, has the full authority to introduce and implement its operating policies. Under this approach the reporting company accounts for 100% of emissions from operations over which it has operational control.	✓

Base Year

The 2023 calendar year was the first year the company measured and reported on their carbon emissions. As such, we have selected 2023 to function as our base year for the company, which all subsequent reporting years will be compared against.

Carbon Emissions Overview (2024)

Total Carbon Emissions

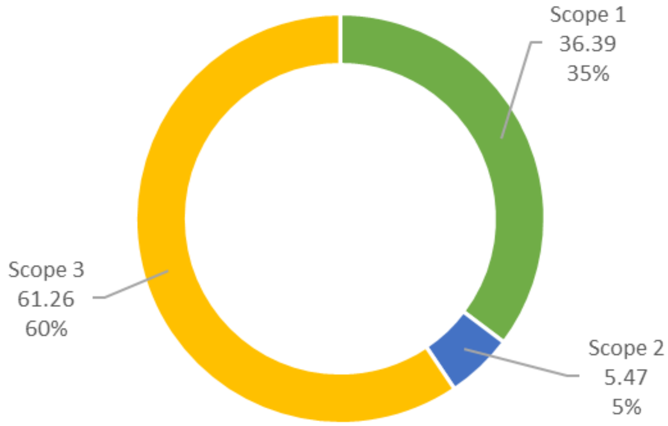
103.12

tonnes CO_2e

The total calculated emissions for the business over this reporting period is 103.12 tonnes CO_2e.

Analysis by Scope

Emissions by Scope (tonnes CO_2e)

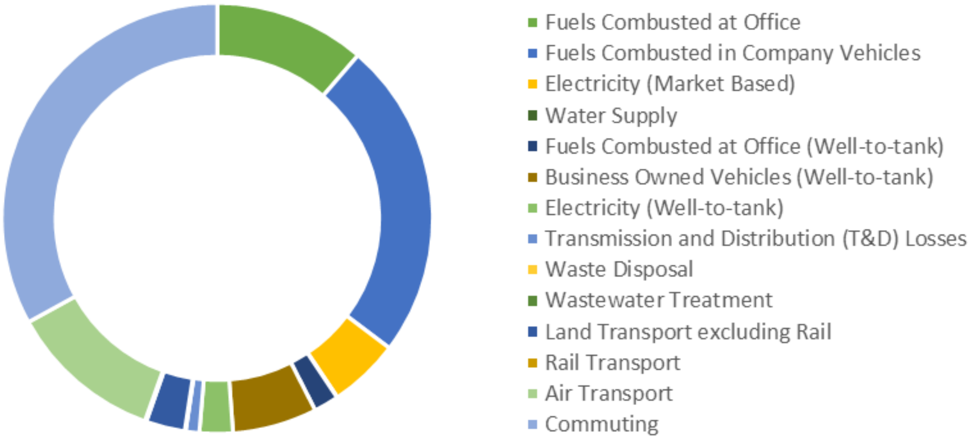


Scope	Description	Tonnes CO_2e	%
1	Scope 1 emissions occur from sources that are owned, or controlled, by the reporting company. For example, emissions from combustion in owned, or controlled, boilers, furnaces, vehicles etc.	36.39	35%
2	Scope 2 emissions are from the generation of purchased or acquired electricity, steam, heat, or cooling consumed by the reporting company.	5.47	5%
3	Scope 3 emissions are a consequence of the activities of the reporting company but occur from sources owned, or controlled, by other entities within the reporting company's value chain.	61.26	60%
Total		**103.12**	**100%**

Reported Scope 3 emissions will increase in future years as additional data becomes available.

Analysis by Activity

Emissions by Activity (tonnes CO_2e)



Activity	Tonnes CO_2e	Calculation Method	Data Source	Data Confidence
Scope 1 – Direct Emissions				
Fuels Combusted at Office	11.68	Activity-based	Utility Bills	High
Fuels Combusted in Company Vehicles	24.71	Activity-based	Company Fuel Cards & Mileage	High
Scope 2 - Indirect emissions from generation of purchased and acquired energy				
Electricity (Market Based)	5.47	Activity-based	Utility Bills	High
Scope 3 – Purchased goods and services				
Water Supply	0.04	Activity-based	Landlord Invoices	High
Scope 3 – Fuel and energy related activities (not included in Scope 1 or Scope 2)				
Fuels Combusted at Office (Well-to-tank)	1.93	Activity-based	Utility Bills	High
Company Vehicles (Well-to-tank)	6.54	Activity-based	Company Fuel Cards & Mileage	High
Electricity (Well-to-tank)	2.58	Activity-based	Utility Bills	High
Transmission and distribution (T&D) losses	1.05	Activity-based	Utility Bills	High
Scope 3 – Waste generated in operations				
Waste Disposal	0.03	Activity-based	Supplier Records	Medium
Wastewater Treatment	0.04	Activity-based	Utility Bills	High
Scope 3 – Business travel				
Land Transport excluding Rail	3.01	Extrapolation	Base Year Data	Low
Rail Transport	0.12	Extrapolation	Base Year Data	Low
Air Transport	11.90	Extrapolation	Base Year Data	Low
Scope 3 – Employee Commuting				
Commuting (including homeworking)	34.02	Activity-based	Employee Survey	Medium
Total	**103.12**			

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Intensity Ratio Analysis

Intensity Ratios

	January 2024 - December 2024
Per Employee	3.82 tonnes CO_2e

The chosen intensity ratio shows carbon emissions of **3.82 tonnes CO_2e per employee**. The business averaged 27 employees a month during the reporting period, with 27 employees by end of December 2024.

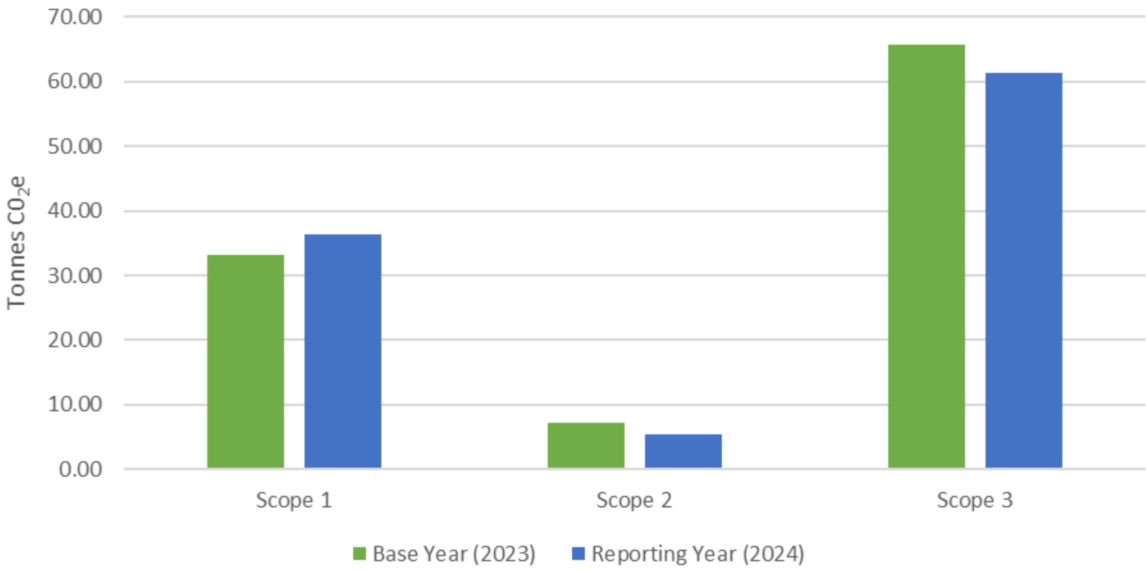
Year-on-year Comparison Overview

This section evaluates JWF Process Solutions' 2024 carbon footprint against the established base year of 2023, highlighting changes across total emissions, scopes, and key activities. The analysis identifies the primary drivers behind the variations and assesses the company's progress towards their Net Zero target.

Total Emissions Comparison

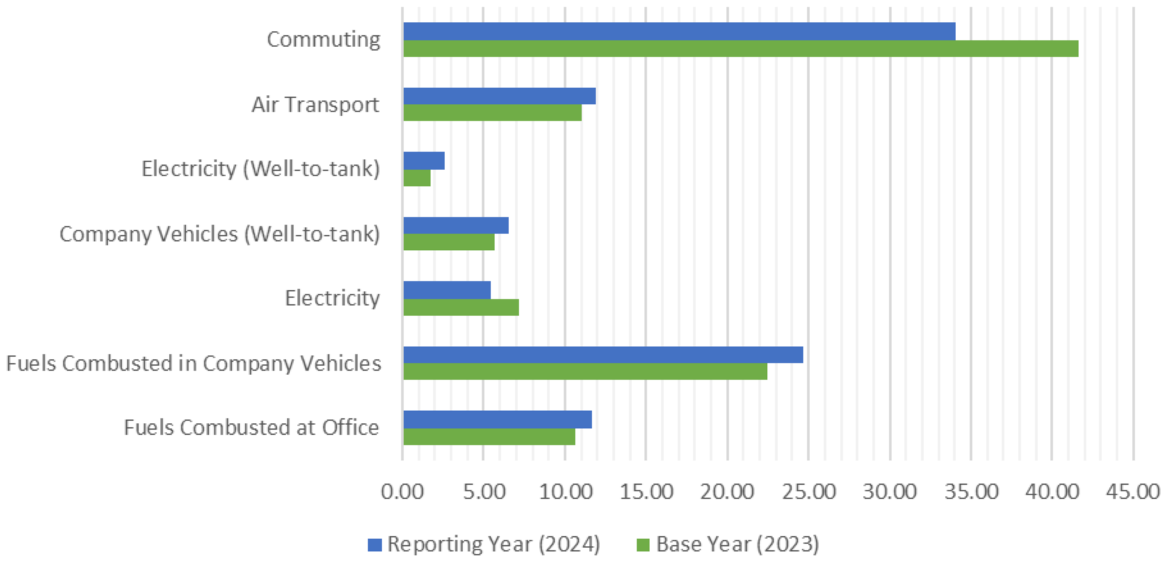
Year	Total Emissions (tonnes CO_2e)	Change (tonnes CO_2e)	% Change
2023	105.90	————	————
2024	103.12	- 2.78	- 2.63%

Scope Comparison



Scope	2023 (tonnes CO_2e)	2024 (tonnes CO_2e)	Change (tonnes CO_2e)	% Change
1	33.12	36.39	+ 3.27	+ 9.87%
2	7.17	5.49	- 1.68	- 23.43%
3	65.61	61.26	- 4.35	- 6.63%

Activity-level Comparison



Activity	2023 (tonnes CO_2e)	2024 (tonnes CO_2e)	Change (tonnes CO_2e)	% Change
Fuels Combusted at Office	10.62	11.68	+ 1.06	+ 9.98
Fuels Combusted in Company Vehicles	22.50	24.71	+ 2.21	+ 9.82%
Electricity	7.17	5.47	- 1.70	- 23.71%
Company Vehicles (Well-to-tank)	5.65	6.54	+ 0.89	+ 15.75%
Electricity (Well-to-tank)	1.73	2.58	+ 0.85	+ 49.13%
Air Transport	11.02	11.90	+ 0.88	+ 7.99%
Commuting	41.61	34.02	- 7.59	- 18.24%

Only activities showing an absolute change of at least 0.5 tonnes CO_2e, or those judged to be strategically significant, are highlighted in the figures above.

Intensity Ratio Comparison

Intensity Ratio	2023 (tonnes CO_2e)	2024 (tonnes CO_2e)	Change (tonnes CO_2e)	% Change
Per Employee	4.23	3.82	- 0.41	- 9.69%

Analysis

The above comparisons highlight a beginning downward trend in overall emissions, even as the business continues to expand. This is supported by the chosen intensity ratio of *emissions per employee* decreasing by 0.41 tonnes CO_2e.

The most notable reduction in emission came from *employee commuting*, which fell by 7.59 tonnes CO_2e. This reduction is primarily linked to a few members of staff transition from petrol and diesel vehicles to battery-electric through the company's salary sacrifice scheme. This shift represents more than just an improvement in emissions performance but signals an increase in employee engagement with company's environmental goals.

Electricity consumption also saw a significant improvement, with emissions reducing by 1.70 tonnes CO_2e despite a near 50% increase in total kWh usage driven by business growth. A key driver for this was the decision to move to a 100% renewable electricity tariff, supported by Renewable Energy Guarantees of Origin (REGO).

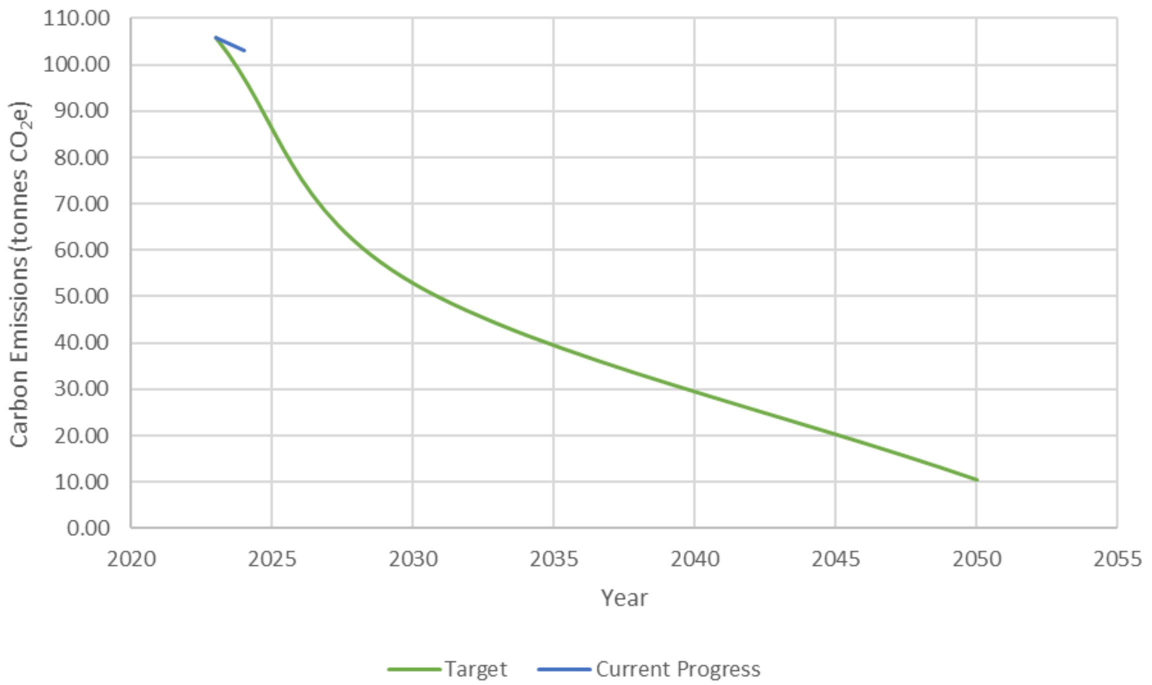
The main upwards shift in emissions occurred from *fuels combusted in company vehicles*, which rose by 2.21 tonnes CO_2e compared with the base year. This is due to the addition of two vehicles within the reporting boundary, resulting in higher fuel consumption and associated emissions. While this increase is explainable, it highlights the potential for improvement by accelerating the electrification of the company's fleet.

Emission Reduction Targets

The following figures visualise our reduction targets, measured against our base year, and our current progress in meeting these set targets.

We have set an interim milestone of 50% reduction by 2030, and final milestone of 90% reduction by 2050.

Target	Year	Percentage Reduction against Base Year	Remaining Carbon Emissions
Base	2023	0%	105.90 tonnes CO_2e
Interim	2030	-50%	52.95 tonnes CO_2e
Net Zero	2050	-90%	10.95 tonnes CO_2e



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Carbon Reduction Actions

JWF Process Solutions will develop the following initiatives that will support their strategies to meet Net Zero targets.

Area of Focus	Initiative	Responsible Person or Team
Data Accuracy	Consistently work to improve data gathering methods to ensure emissions calculations are as accurate as possible. Establish a plan to expand measurement of Scope 3 emissions.	Net Zero & Sustainability Advisor
Electric Vehicle Scheme	Encourage employee uptake of Salary Sacrifice Scheme to change personal vehicle to a modern electric or hybrid vehicle. Evaluate the benefits, and risks, of converting business' vehicle fleet from petrol/diesel to electric.	Net Zero & Sustainability Advisor Business Coordinator
Employee Engagement	Increase employee engagement on the net zero agenda by promoting awareness, and demonstrating importance, of net zero within JWF.	Net Zero & Sustainability Advisor Business Coordinator Team Managers
Energy Efficiency	Build upon improvements to lighting and windows by evaluating the benefits of upgrading office building insulation	Net Zero & Sustainability Advisor Senior Management Team
Product Development	Identify sustainability motivations of JWF's customer base by conducting a stakeholder survey, and research regulations impacting customers. Use this information to help present customers with the appropriate measurement and data services.	Net Zero & Sustainability Advisor Client-facing members of staff
Renewable Energy	Build upon progress made from transition to a 100% renewal electricity tariff by reviewing options to replace existing gas contract with a partial, or fully, biogas supply.	Net Zero & Sustainability Advisor Senior Management Team
Sustainable Business Travel	Introduce a sustainable travel policy with the aim to lower emissions related to business travel year on year.	Net Zero & Sustainability Advisor Business Coordinator
Sustainable Procurement	Integrate sustainability criteria into the present verification and audit process of new and existing suppliers.	Net Zero & Sustainability Advisor Supply Chain Team
Waste Management	Review data provided by current waste management provider to understand how they are handling waste from JWF and identify areas of improvement.	Net Zero & Sustainability Advisor

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Methodology

Reporting Standard

This report has been prepared in accordance with the Greenhouse Gas (GHG) Protocol Corporate Standard, along with their associated Scope 2 Guidance and Corporate Value Chain (Scope 3) Standard.

Calculation Methods

Two differing methods to calculate carbon emissions were utilised in creating this report.

Activity-based The "activity based" method calculates emissions by collecting specific physical units of an activity (e.g. litres of fuel consumed) and multiplying it by the relevant greenhouse gas conversion factor for the activity (e.g. kg CO_2e per litres of fuel consumed).

This method provides outputs of high accuracy and specificity as it reflects the emissions from a reporting company's actual operational activities, however, can be a resource intensive approach as requires detailed and extensive data to be collected.

The "activity-based" method was prioritised for developing this report.

Extrapolation The "extrapolation" method estimates emissions by multiplying the previous year's emissions by a scaling factor equal to the ratio of current employees to the previous year's number of employees.

This method can be simple and quick to implement as it relies on previously calculated emissions data. It can ensure emission estimates reflect business growth and maintain internal consistency with previous reporting year, however, is not an accurate method as emissions do not necessarily scale proportionally with employee numbers.

The "extrapolation" method was only utilised to calculate emissions for activities where the available data was too insufficient, or of too low quality, for "activity-based" method to be feasible.

Conversion Factors

The greenhouse gas conversion factors for above *Activity-based* calculation method were obtained from the following source.

Activity-based Conversions factors listed in "Greenhouse gas reporting: conversion factors 2024," provided by DESNZ.

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Activity Data

The data in the table below represents activity data used to calculate carbon emissions for reporting period 1st January 2024 to 31st December 2024.

Energy consumption used to calculate Scope 1 emissions from fuel combustion at offices.	63,833 kWh
Petrol consumption to calculate Scope 1 emissions from company vehicles, and related Scope 3 emissions.	2,708 litres (26,062 kWh)
Diesel consumption to calculate Scope 1 emissions from company vehicles, and related Scope 3 emissions.	6,896 litres (71,889 kWh)
Distance travelled used to calculate Scope 1 and Scope 2 emissions from company vehicles, and any related Scope 3 emissions	38,355 km
Energy consumption used to calculate Scope 2 emissions from electricity generation, and related Scope 3 emissions.	51,718 kWh
Quantity of water used to calculate Scope 3 emissions from water supply.	255 m^3
Quantity of water used to calculate Scope 3 emissions from wastewater treatment.	242 m^3
Weight used to calculate Scope 3 emissions from disposal of commercial & industrial waste	3.12 tonnes
Weight used to calculate Scope 3 emissions from processing dry mixed recycling	2.08 tonnes
Extrapolation factor used to calculate Scope 3 emissions form business travel (land transport excluding rail)	1.08
Extrapolation factor used to calculate Scope 3 emissions form business travel (rail transport)	1.08
Extrapolation factor used to calculate Scope 3 emissions form business travel (air transport)	1.08
Distance travelled for calculating Scope 3 emissions from employee commuting.	199,203 km

Declaration

We confirm that the information and data presented in this report are accurate to the best of our knowledge, based on the methodologies and sources available at the time of reporting.

This report has been reviewed and approved by the undersigned.

Robert Allan
Director

J. Gatensby

Jack Gatensby
Net Zero & Sustainability Advisor

Glossary

Activity Data	A quantitative measure of a level of activity that results in GHG emissions (e.g., litres of fuel consumed, or kilometres of distance travelled).
Base Year	A reporting period against which a company's GHG emission are tracked over time.
Carbon Dioxide Equivalent (CO_2e)	CO_2e is the mass of CO_2 emissions with the same global warming impact as another greenhouse gas.
Carbon Emissions	The release of greenhouse gases into the atmosphere (expressed in tonnes CO_2e).
DEFRA	Department for Environmental, Food, and Rural Affairs
DESNZ	Department for Energy Security and Net Zero.
Environmentally extended input output (EEIO) data	EEIO models estimate energy use and/or GHG emissions resulting from the production and upstream supply chain activities of difference sectors and products in an economy. The outputs of EEIO models are typically a quantity of GHG emissions per unit of revenue in an industry sector (e.g. 150 tonnes CO_2e per £100,000).
Greenhouse Gases (GHG)	The seven gases which contribute to raising the surface temperature of the planet, as defined by the UNFCCC's Kyoto Protocol. Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF_6), Nitrogen Trifluoride (NF_3).
Greenhouse Gas Conversion Factors	A conversion factor is a coefficient that quantifies the greenhouse gas emissions per unit of a specific activity (e.g., kg CO_2e per litres of fuel consumed, kg CO_2e per tonne of material purchased).
Greenhouse Gas Emissions	The release of greenhouse gases into the atmosphere (expressed in tonnes CO_2e).
Greenhouse Gas Protocol	An initiative, managed by World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), which establishes global standardised frameworks to quantify and report on greenhouse gas emissions.
Intensity Ratio	An intensity ratio expresses GHG emissions per unit of physical activity or unit of economic value (e.g., tonnes CO_2e per employee, or tonnes CO_2e per sale). A declining intensity ratio reflects positive improvement.
Location-based	A method of reporting emissions from generation of purchased energy which reflects the average emissions intensity of grids on which energy consumption occurs (using grid-average emission factor data).
Market-based	A method of reporting emissions from generation of purchased energy which reflects energy tariffs a company has purposefully chosen e.g. renewable or low carbon electricity contract.
Net Zero	Greenhouse gases are significantly reduced, and remaining emissions are balanced out via carbon removal initiatives.
Organisational Boundaries	The boundaries that determine the operations owned, or controlled, by the reporting company, depending on the approach taken (equity share, financial control, or operational control).
Renewable Tariff	An energy tariff that is 100% supplied by renewable sources and backed by Guarantee of Origin certificates.
Science Based Target	An emissions reduction goal which is aligned with latest climate science to limit global warming to 1.5°C above pre-industrial levels.
Transmission and Distribution (T&D) losses	The fraction of electricity generated which is lost during transmission and distribution to end-consumers.

UNFCCC	United Nations Framework Convention on Climate Change
Well-to-tank	Upstream emissions from extraction, production, and transportation of fuels consumed by the reporting company, or consumed in the generation of electricity purchased by the reporting company.