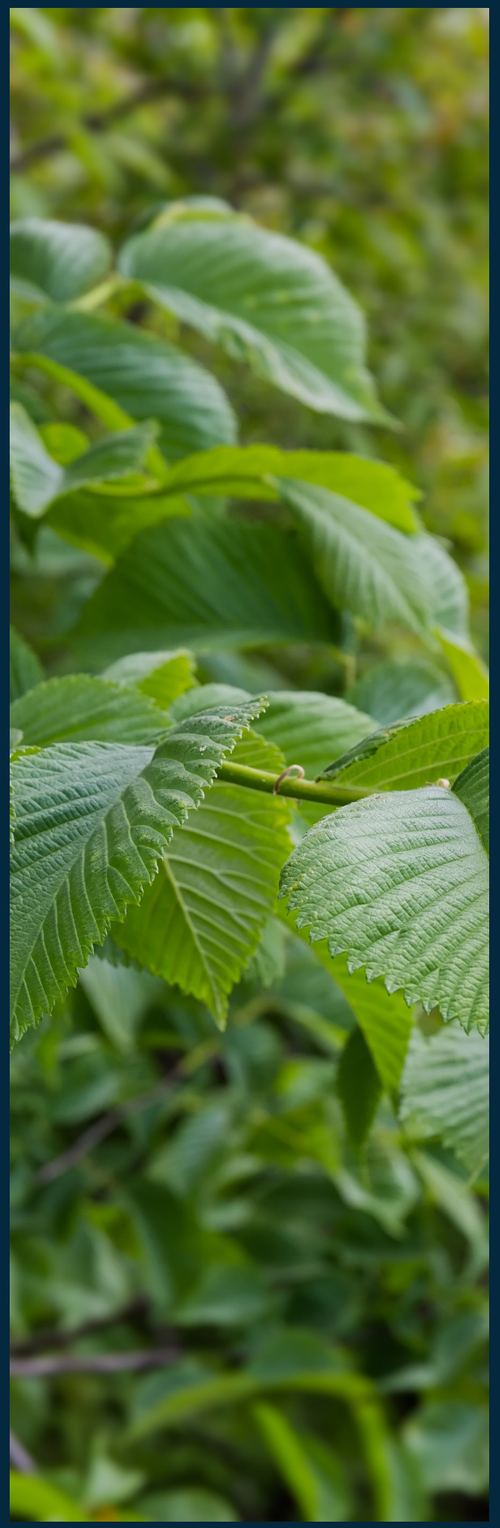
Greenhouse Gas Inventory & Decarbonisation Strategy to Achieve Net Zero

1st January 2024 to 31st December 2024

green experts

ELMDENE

Potter Global Technologies



Go Green Experts supports organisations in the measurement and reduction of their carbon footprint.

We have a wealth of experience supporting companies and non-profits in their drive to reach a lower environmental impact. We ensure that our work is in line with the latest science and standards.

Elmdene International is a UK-based manufacturer with decades of expertise designing and producing electronic products for the fire and security industries, specialising in power supplies, sounders and detection devices.

With a portfolio of internationally recognised accreditations and a long-standing reputation for technical excellence, we work closely with professional installers, system integrators and distributors across global markets to deliver high-quality solutions.

Title: Greenhouse Gas Inventory and Decarbonisation Strategy to Achieve Net Zero

For Period: 1st January 2024 to 31st December 2024

Company: Elmdene International

Project Sponsor and Approval: Sharon Ramsay

Consultants: Go Green Experts Ltd

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Dated: January 2026

Contents

About this report

This report contains the carbon footprint of Elmdene for the reporting period 01/01/2024 – 31/12/2024. The purpose of this report is to disseminate the inventory of greenhouse gas (GHG) emissions with great attention to the accounting principles of relevance, accuracy, consistency, completeness and transparency.

This report is intended for all stakeholders interested in the GHG emissions inventory and the associated reporting structure and explanations..

This report:

- Covers the footprint for all entities within operational control of Elmdene.
- Has been prepared in accordance with the requirements of the Greenhouse Gas Protocol reporting standards (Corporate Accounting and Reporting Standard, 2004; Corporate Value Chain Accounting and Reporting Standard, 2011).
- Endeavours to use primary data wherever possible but especially surrounding all major emissions sources. Where primary data is not available, a consistent and conservative approach to calculation is applied.Excludes specific targets or forecasts as well as reports on GHG removals and offsets.
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The reporting period covered in this document is 12 months; the period of the next iteration of this footprint is expected to be of the same length, starting from the first day following this reporting period. Any deviation from this will be mentioned in communication the time of publication.

More details on the applied reporting framework can be found in the Report Methodology (Appendix A).

1. Executive summary

In 2025, Elmdene is committing to reaching net zero emissions by 2045.

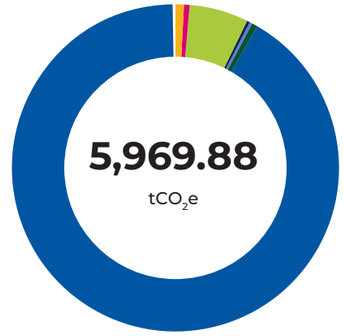
To achieve net zero, Elmdene International needs to implement initiatives to reduce and remove emissions of greenhouse gases (GHGs) from its operations and wider business activities consistently year on year. An interim target has also been set to achieve a 50% reduction in scope 1 and 2 emissions and a 30% reduction in scope 3 by 2032.

In order to monitor and report its progress, Elmdene has commissioned Go Green Experts to measure its baseline emissions, from which the 2032 and 2045 targets have been derived. These targets are consistent with a 1.5°C reduction pathway and are set in accordance with the Science-Based Targets Initiative (SBTi) guidance.

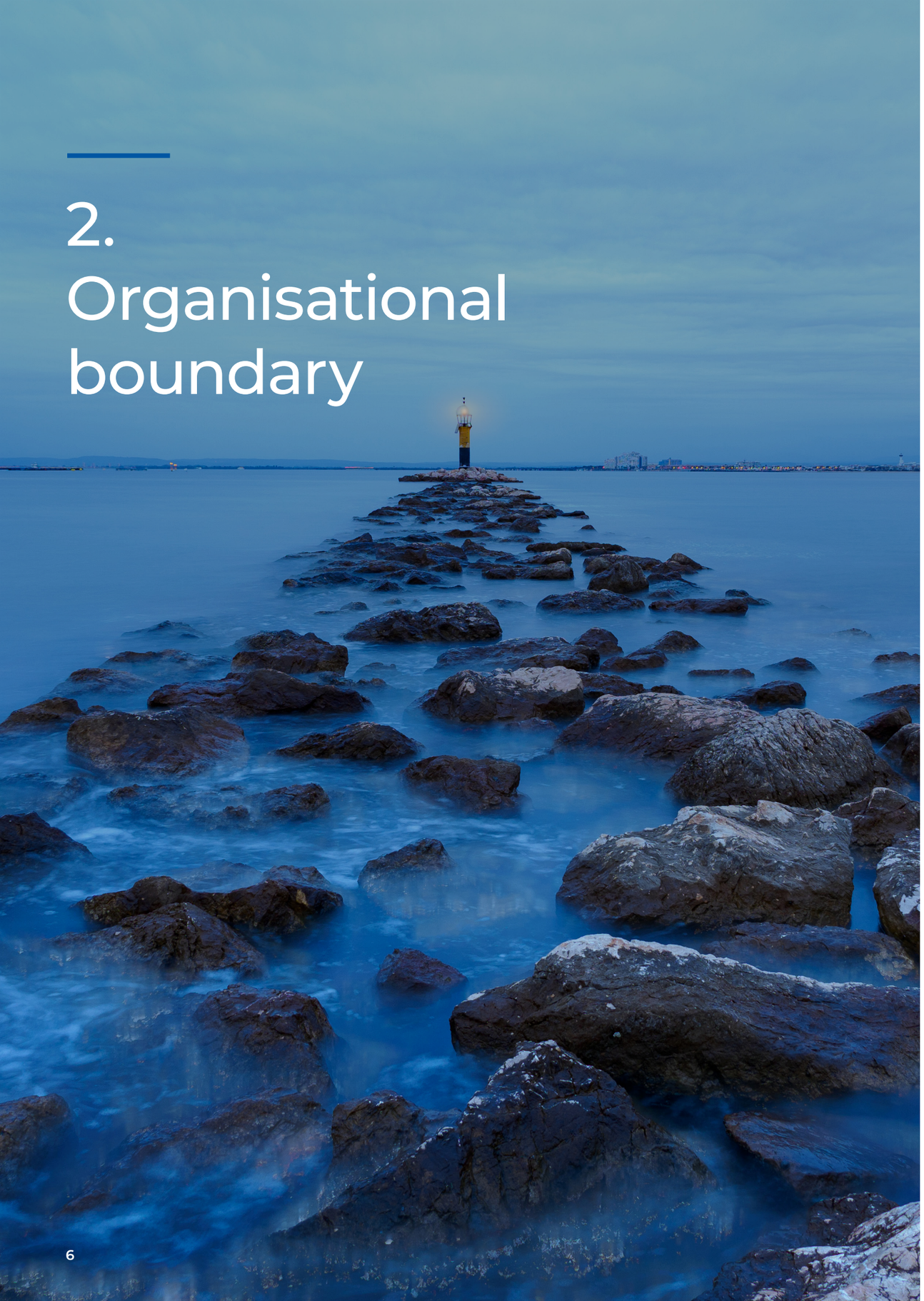
The company's baseline emissions (for the period 1st January 2024 to 31st December 2024) have been calculated as 5,969.88 tonnes of carbon dioxide equivalent (tCO_2e). Of this total, 70.59 tCO_2e is considered to be within Elmdene's control – scope 1 and 2 emissions – and the remaining 5,899.29 tCO_2e is scope 3 emissions which are within its influence.

Alongside the total footprint, metrics for emissions intensity will be reported annually. Intensity measures, i.e. tonnes of CO_2e per £million turnover and per FTE employee, allow businesses to track progress in reducing like-for-like emissions regardless of annual fluctuation in revenue or headcount. Elmdene's baseline intensity measures are 426.42 tCO_2e per £m, and 108.54 tCO_2e per FTE.

Aspect	Tonnes CO_2e (Location Based)				
	Total	Scope 1	Scope 2	Scope 3	%
Mains Gas	51.45	43.22	-	8.23	0.9%
Electricity	33.91	-	25.39	8.52	0.6%
Mobile emissions	2.46	1.98		0.48	0.0%
Upstream transport	358.36	-	-	358.36	6.0%
Business Travel	11.56	-	-	11.56	0.2%
Capital Goods	10.47			10.47	0.2%
Staff Commuting & home working	44.82	-	-	44.82	0.8%
Waste	0.38	-	-	0.38	0.0%
Water & Sewerage	0.10	-	-	0.10	0.0%
Refrigerants	0.00	-	-	-	0.0%
Leased assets	0.28			0.28	0.0%
Purchases	5,456.09	-	-	5,456.09	91.4%
Total	5,969.88	45.20	25.39	5,899.29	100%



Figures 1.1 & 1.2: Elmdene International emissions summary 2024



2. Organisational boundary

Consolidation approach

The organisational boundaries for this report were set using the operational control approach for consolidation. Under this approach, the organisation accounts for 100% of the GHG emissions from operations and the value chain over which it has operational control.

Operational control applies when the organisation or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation. This consolidation approach applies to all units and subunits. The below diagram highlights the emission scopes that have been included and excluded from the boundary for Elmdene.

Data sets analysed

Go Green Experts Ltd has reviewed the following data sets submitted by Elmdene International in order to calculate the in-scope operational emissions:

Business Activity	Data Source
Electricity, gas, fuel and water consumption	Utilities statements; information provided by the sites.
Refrigerant gas usage	Service reports from air conditioning contractors.
Business travel by air and land	Submitted expense claims and mileage records.
Employee commuting and homeworking	Averages were taken for most sites for employee commuting, homeworking is not included.
Purchased goods and services	Taken from company accounts.

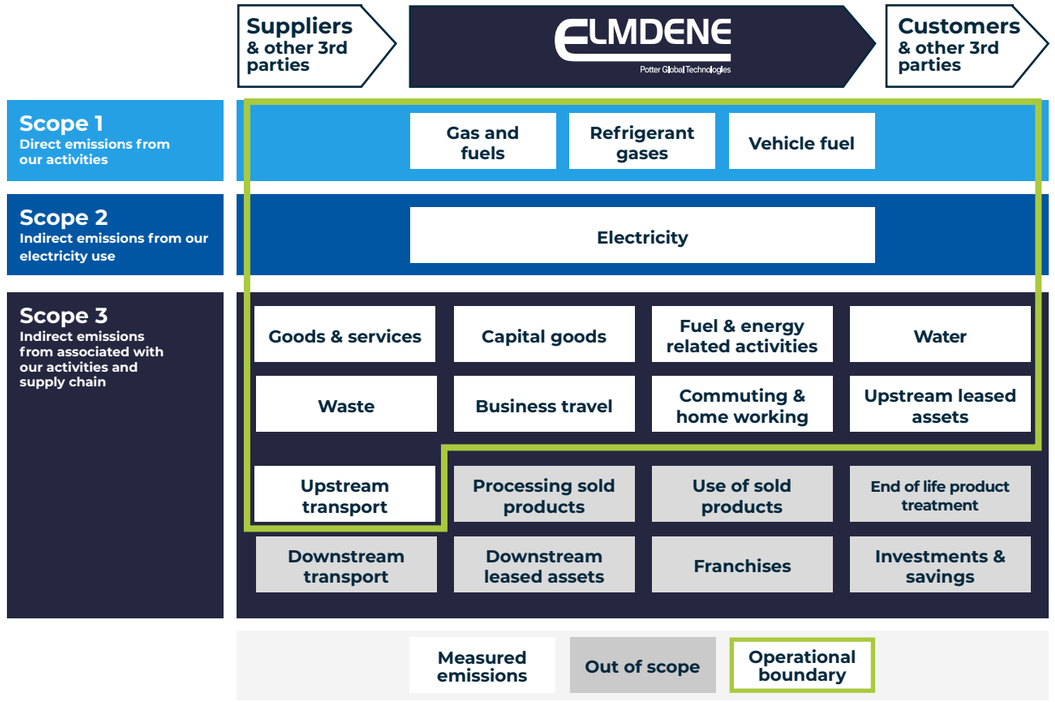


Figure 2.1: Elmdene International - Organisational Boundary

3.
Carbon footprint

Footprint summary

For the period 1st January 2024 to 31st December 2024 the carbon footprint (scopes 1, 2 and 3) for Elmdene was calculated as below:

	2024 Location-based	2024 Market-based
Total emissions (tCO_2e)	5,969.88	5,944.49
Scope 1	45.20	45.20
Scope 2	25.39	0
Scope 3	5,899.29	5,899.29
Carbon intensity (turnover)	426.42	424.61
Carbon intensity (FTE)	108.54	108.08

Figure 3.1: Elmdene International emissions summary 2024

The tables in this section show the total carbon footprint for Elmdene. Where different, two figures are reported here based on the “location-based” and “market-based” methodology for calculating electricity emissions.

The location-based method: a method to quantify GHG emissions from electricity based on the average energy generation emission factors for a specific geographical location. In this case, the calculation assumes that electricity emissions per kWh are the average for the UK national grid.

The market-based method: a method to quantify GHG emissions from electricity based on data supplied by the energy generators from which the company purchases electricity.

This method shows the impact of renewable energy tariffs, which generate zero scope 2 emissions.

In future reports, the focus will be on reporting market based emissions in order to demonstrate the progress made with renewable energy tariffs, however both reporting figures will be stated. As the UK grid decarbonises we are hopeful that the gap between market- and location-based emissions will narrow so that net zero will be achievable under both measures.

Emissions by business activity

	2024	
	tCO_2e	% to total
Scope 1 - Direct Emissions from operations		
Stationary emissions	43.22	0.72%
Mobile emissions (owned vehicles)	1.98	0.03%
Fugitive emissions (refrigerants)	0	0.0%
Scope 1 total	**45.20**	**0.76%**
Scope 2 - Indirect Emissions from electricity		
Purchased Electricity - market-based	0.00	0.00%
Purchased Electricity - location-based	25.39	0.43%
Scope 2 total	**25.39**	**0.43%**
Scope 3 - Indirect Emissions in the value chain		
Purchased goods and services	5,456.09	91.39%
Capital goods	10.47	0.18%
Fuel- and energy-related activities	17.23	0.29%
Upstream transport and distribution	358.36	6.00%
Water	0.10	0.0%
Waste generated in operations	0.38	0.1%
Business travel	11.56	0.19%
Commuting & Homeworking	44.82	0.75%
Upstream leased assets	0.28	0.00%
Scope 3 total	**5,899.29**	**98.82%**
Total GHG emissions	**5,969.88**	**100%**

Figure 3.2: Elmdene International emissions by scope category 2024

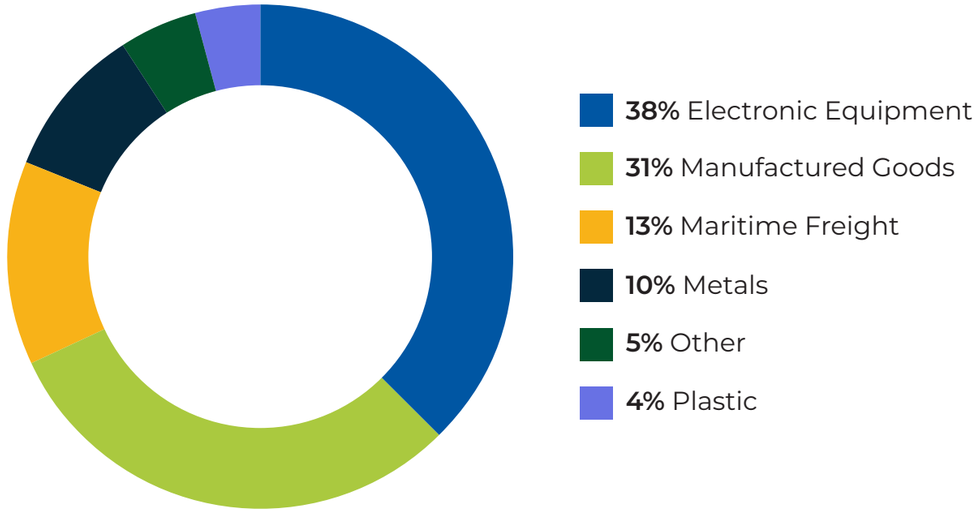


Figure 3.3: Elmdene International emissions by activity subcategory 2024

4. Data integrity and assumptions

Calculation commentary by scope category

Scope Category	Inclusion	Notes
Scope 1: Gas, fuels and refrigerants	Included	→ Metered gas consumption was given for the main site. → Fuel consumption for owned vehicles was shared. → There were no reported leaks or top ups leading to zero emissions for refrigerants.
Scope 2: Electricity	Included	→ Metered consumption data was provided for all sites. → All electricity used is from renewable sources.
Scope 3.1: Purchased goods & services	Included	→ Emissions from purchases account for 91% of the total business footprint and have been calculated using spend-based emission factors. → Water consumption figures have been calculated through metered data.
Scope 3.2: Capital goods	Included	→ Purchased assets such as laptops, TVs and phones have been reported here. They formed part of the purchases ledger.
Scope 3.3: Fuel and energy-related activities	Included	→ This category includes the indirect emissions from the generation, transportation and distribution of mains gas, electricity and vehicle fuels.
Scope 3.4: Upstream transportation & distribution	Included	→ Upstream freight includes all third party transport purchased by Elmdene, including inbound logistics from suppliers and outbound logistics distributing sold products to onward distributors or customers. → Mileage and weight data was provided for inbound freight. Freight accounts for 6% of the total carbon footprint.
Scope 3.5: Waste	Included	→ Waste data was provided in weight, and fate was stated for each stream.
Scope 3.6: Business travel	Included	→ Business related travel emissions have been calculated using mileage and fuel type. → Flight class and mileage has been provided to calculate emissions.
Scope 3.7: Commuting and working from home	Included	→ Data based on an employee survey which received 33 responses, around 60% of all employees. An average of the survey responses was taken to extrapolate the data to the total 55 FTE.
Scope 3.8: Upstream leased assets	Included	→ All leased assets were found in the purchase's ledger and are calculated on a spend-basis.
Scope 3.9: Downstream transportation & distribution	Excluded	→ This category includes emissions from onward transportation by third party vehicles after the point of sale, in which Elmdene does not pay for freight services. → There is limited data on onward distribution organised by third parties so this category is currently excluded.
Scope 3.10: Processing of sold products	Not applicable	→ Out of scope: data not currently available for life-cycle analysis of sold products.
Scope 3.11: Use of sold products	Not applicable	→ Out of scope: data not currently available for life-cycle analysis of sold products.
Scope 3.12: End-of-life treatment of sold products	Not applicable	→ Out of scope: data not currently available for life-cycle analysis of sold products.
Scope 3.13: Downstream leased assets	Not applicable	→ No leased assets were operated in the reporting year.
Scope 3.14: Franchises	Not applicable	→ Elmdene does not operate franchises.
Scope 3.15: Investments	Out of scope	→ No material investments were made during the reporting period.

5.
Emissions intensity

Carbon Intensity is a metric that allows a company to compare its emissions year on year as the size and activity of the business increases or decreases. This is calculated by measuring emissions per £million in revenue, staff headcount or production.

These metrics allow industry benchmarking and comparison with similar organisations that have published their own carbon intensity. It also enables customers to estimate their own footprint from doing business with Elmdene, using the revenue intensity metric multiplied by their spend.

The 2024 (baseline) intensity measures for Elmdene's location- and market-based emissions are shown in the table below.

There are three key figures that help us to track progress towards our net zero targets: (1) overall intensity in tonnes of carbon dioxide equivalent (tCO_2e) per £m of turnover; (2) employee-based intensity in tCO_2e per FTE; (3) scope 1 & 2 intensity in tCO_2e per £m turnover. As the business grows, we expect these metrics to stay at least at a similar level and then start to decrease.

Per £m Revenue	
Total tCO_2e	5,969.88
Revenue	£14,000,000
Tonnes CO_2e per £m Revenue	426.42

Per Employee (FTE)	
No of Employees (FTE)	55
tCO_2e per Employee (FTE)	108.54

Per £m Revenue		
Scope	tCO_2e	tCO_2e per £m
Scope 1	45.20	3.23
Scope 2	25.39	1.81
Scope 1 & 2	70.59	5.04
Scope 3	5,899.29	421.38
Total	5,969.88	426.42

Figure 5.1: Elmdene International location-based intensity metrics 2024

Per £m Revenue	
Total tCO_2e	5,944.49
Revenue	£14,000,000
Tonnes CO_2e per £m Revenue	424.61

Per Employee (FTE)	
No of Employees (FTE)	55
tCO_2e per Employee (FTE)	108.08

Per £m Revenue		
Scope	tCO_2e	tCO_2e per £m
Scope 1	45.20	3.23
Scope 2	0.00	0.00
Scope 1 & 2	45.20	3.23
Scope 3	5,899.29	421.38
Total	5,944.49	424.61

Figure 5.2: Elmdene International market-based intensity metrics 2024

6. Carbon reduction targets

Elmdene have this year committed to setting near- and long-term targets for reducing and removing emissions from its operations.

Near-term target:

Reduce scope 1 & 2 by 50% & scope 3 emissions by 30% by 2032

Long-term target:

Reach net zero emissions by 2045

These targets are consistent with a 1.5°C reduction pathway and are set in accordance with the Science-Based Targets Initiative (SBTi) guidance.

To achieve both targets, Elmdene will implement a robust carbon reduction strategy to document decarbonisation initiatives across the business. These initiatives are split into short-, medium- and long-term actions, and cover the management of energy consumption, greener travel and stakeholder engagement.

Target net zero pathway

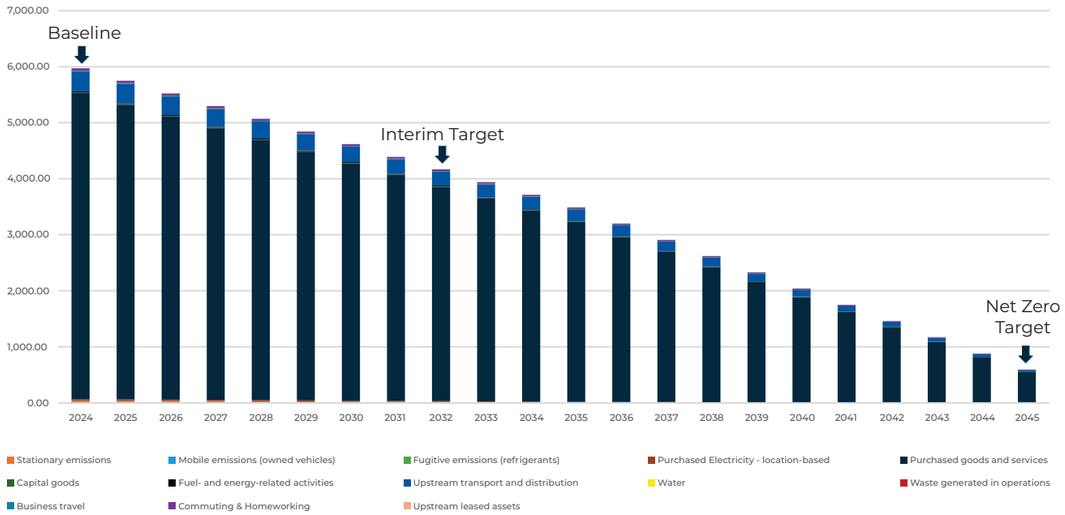


Figure 6.1: Elmdene International carbon reduction plan summary: All scopes

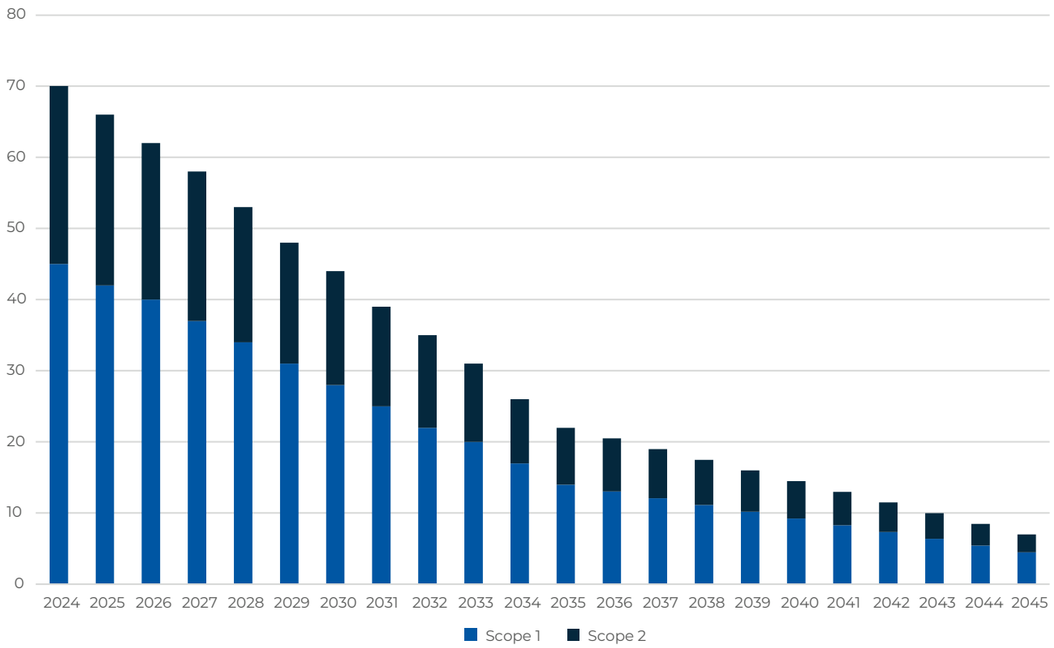


Figure 6.2: Elmdene International carbon reduction plan summary: Scope 1 & 2 focus

As part of the glide path to net zero, informed assumptions on the wider global economy decarbonisation milestones have been made. For example, it is assumed that electricity will become increasingly renewable resulting in a lower greenhouse gas conversion factor. Further, over time, the usage of electric vehicles will increase dramatically, as will the usage of alternative, lower-carbon forms of transport (including cycling, trains, zero-emissions buses, and EV car share) facilitated by improvements in the UK's low-carbon transportation infrastructure and active travel commitment.

The supply chain nationally will also become less carbon-intensive over time, with more options for very low-carbon products and services, thus supporting a gradual reduction in Elmdene International's scope 3 emissions.

7.
Summary carbon reduction plan - to hit interim targets

Scope 1 & 2 - 50% reduction by 2032

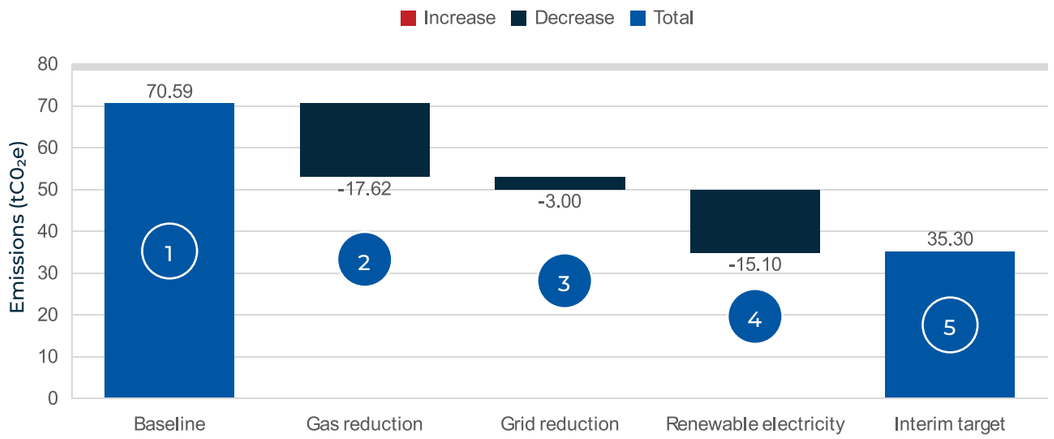
Scope 1 and 2 emissions are those considered to be within operational control of the business and are therefore given a higher reduction target than indirect scope 3 emissions.

For Elmdene, the material categories of emissions are stationary combustion (mains gas consumption) and electricity consumption. No refrigerant gas usage was reported, and fuel consumption from vehicles predominantly falls under non-owned vehicles, leaving buildings as the focus area for scope 1 and 2.

Buildings

Following the site survey in September 2025, several recommendations have been made to enable the reduction of scope 1 and 2 emissions. Half of the required target reduction comes from the move away from fossil fuel heating – gas use on site currently accounts for 18 tonnes of CO_2e emissions. Moving from grid to renewable energy would have another significant impact on reduction.

Note that these are intended to be tangible initiatives that require investment but drive longer term savings in both energy and emissions. Behavioural changes such as energy efficiency and initiatives to reduce overall consumption without investment have not been included here but may drive anywhere between 5-15% reductions in both gas and electricity use.



Number	Category	Scope	Description
1	2024 Baseline	1 & 2	The baseline emissions for 2024 were calculated at 70.59 tonnes of carbon dioxide equivalent (tCO_2e) for scope 1 & 2.
2	Gas reduction	1	Replace central water heaters, replace boilers with heat pumps and (where feasible) relocate the testing rooms to increase heat recovery. Estimates in carbon reduction are from the site survey.
3	Grid reduction	2	The UK Electricity grid is decarbonising at pace. On current trends the grid will be 90% decarbonised by 2040 (and current UK Government has a grid decarbonisation target of 2030).
4	Renewable electricity	2	Upgrade lighting controls, install HVAC set-point optimisation and install roof solar power. Estimates in carbon reduction are from the site survey.
5	2032 interim target	1 & 2	The interim target is calculated at 35.30 tCO_2e, which is a 50% reduction in scopes 1 & 2.

Figure 7.1: Elmdene International scope 1 & 2 reduction plan

Scope 3 - 30% reduction by 2032

Almost 99% of Elmdene's total footprint is from scope 3 (indirect) emissions, i.e. those produced by third parties on behalf of Elmdene.

As is common with most businesses, purchased goods and services are the highest emitting category and will be the most significant opportunity for reducing Elmdene's footprint.

Supply Chain

The first step towards mitigating the supply chain emissions number is to focus on data accuracy. Financial data is based on industry average emission factors and relies on the 'supplier type' or sector that has been assigned to each supplier or spend line. In future years, data should become more supplier-specific, by obtaining activity based data from each supplier where feasible – this may include weights of materials purchased for example.

Much of this can be achieved through supplier engagement, focused initially on either the top emitting suppliers, or the top emitting supply category.

Materials

Concurrently with supplier engagement, Elmdene may also assess the emissions of the materials it is purchasing for its products.

Figure 7.2 shows the top emissions categories for purchase type. Note that these categories have been extracted from the purchase ledger which does not include a specified product category. Therefore a 'best fit' exercise was completed to map each purchase to a suitable material group based on keyword references. In future years, products should be assigned a category at purchase for improved accuracy.

Four main categories were identified:

- Electronic equipment: chosen where keywords included reference to voltage or power (e.g. "stx2410 27.6v 10a en54-4 compliant module").
- Manufactured goods: chosen where keywords suggested a preassembled unit without a single predominant material (e.g. "universal xl assembled assy").
- Metals: used where metal was explicitly stated (e.g. "premier elite metal enclosure").
- Plastics: again used where plastics were stated (e.g. "[li-power plastic case assy - brown carton").

For metals and plastics, switching to lower carbon alternatives – for example, materials with a higher recycled content – can have a notable impact on emissions reduction. Currently both materials are generic, meaning their emissions are calculated using an average emission factor. Specifying the material type and content allows for better accuracy.

This can also be achieved through engagement with the suppliers of a particular component.

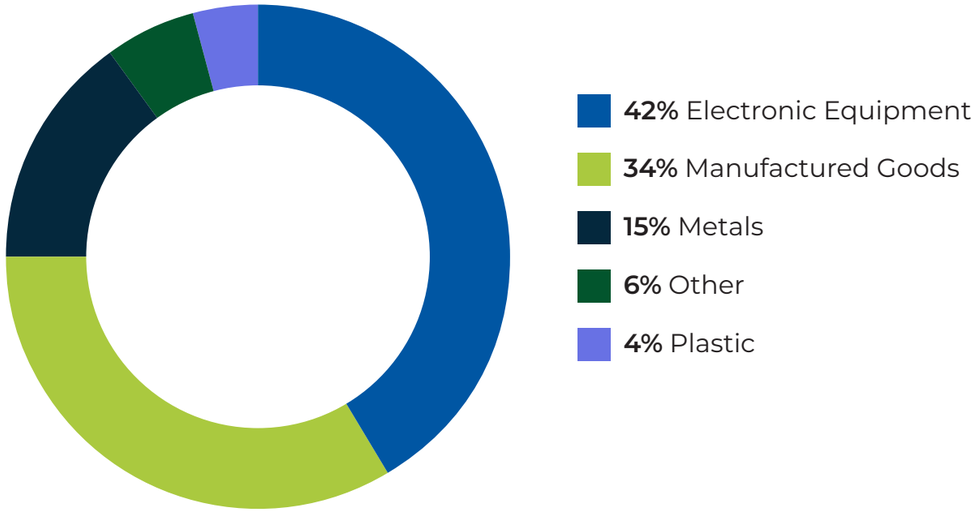


Figure 7.2: Elmdene International top emitting supply categories

Freight

International transport of goods emits 358 tonnes of CO_2e emissions, 6% of Elmdene's total. Although a small percentage due to the size of the supply chain footprint, freight is the second highest emitting activity. Data for this category included weight and distance – split between air and sea freight – allowing an accurate calculation of emissions.

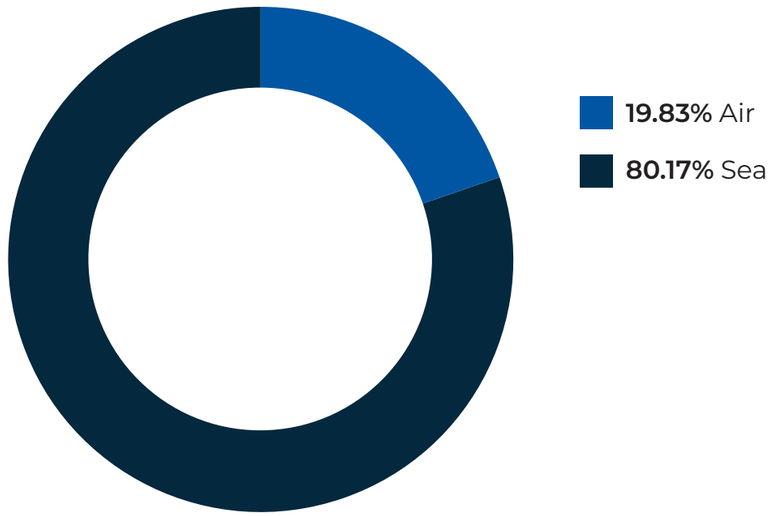


Figure 7.3: Elmdene International emissions split by freight type

Figure 7.3 above shows that air shipments (including express shipping) accounted for 20% of total freight emissions, despite only accounting for 0.5% of the total freight mileage. This shows the proportionally high impact of air travel on emissions and offers an opportunity for Elmdene to make reductions.

Reducing air freight mileage by 50% over the next seven years will contribute a small part to the scope 3 interim target, however longer term decarbonisation initiatives should look at working with carriers using sustainable fuel such as SAF. Immediate opportunities may also be available for partnering with shipping carriers using LNG or biofuels – this could offer instant emissions reductions.

Summary

A combination of these approaches will help Elmdene to meet its interim target of a 30% reduction in scope 3 emissions by 2032, with more significant reductions across the supply chain needed between 2033 and 2045 as these initiatives mature.

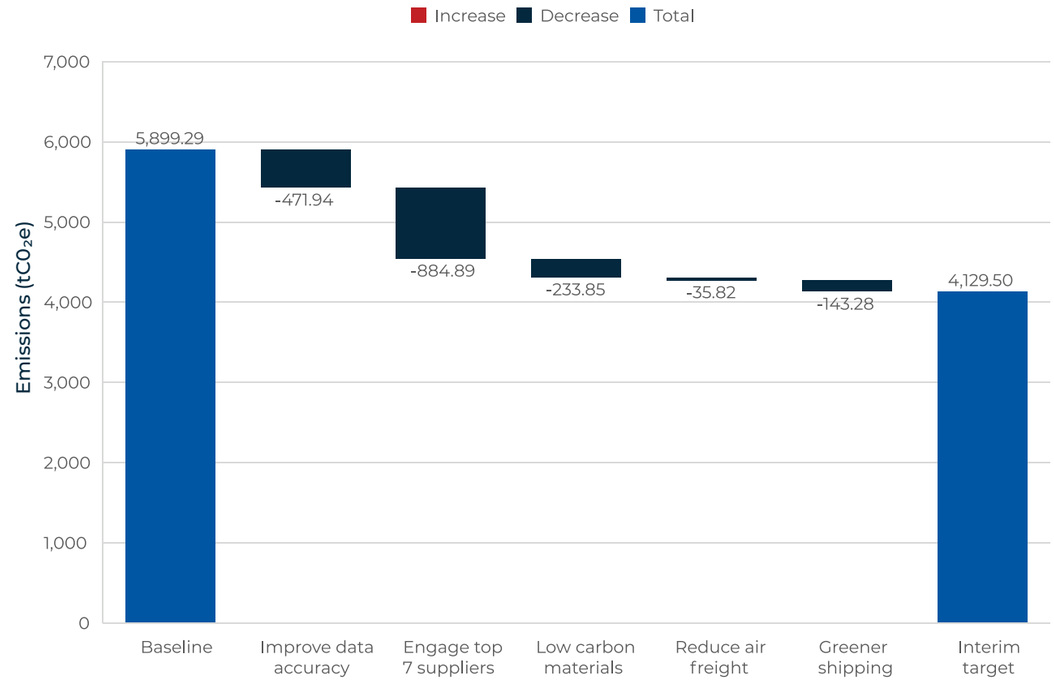
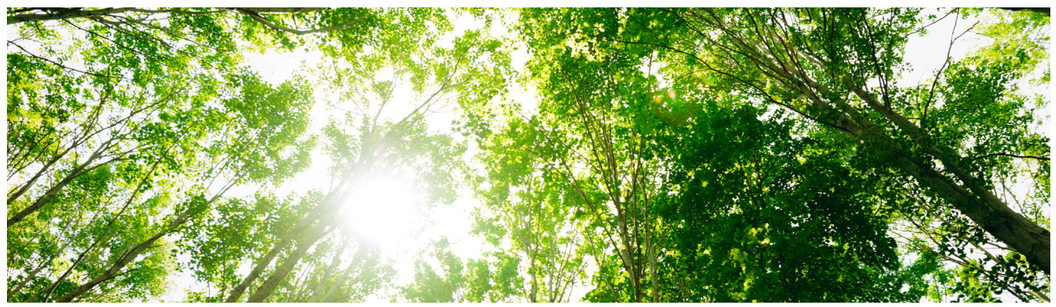
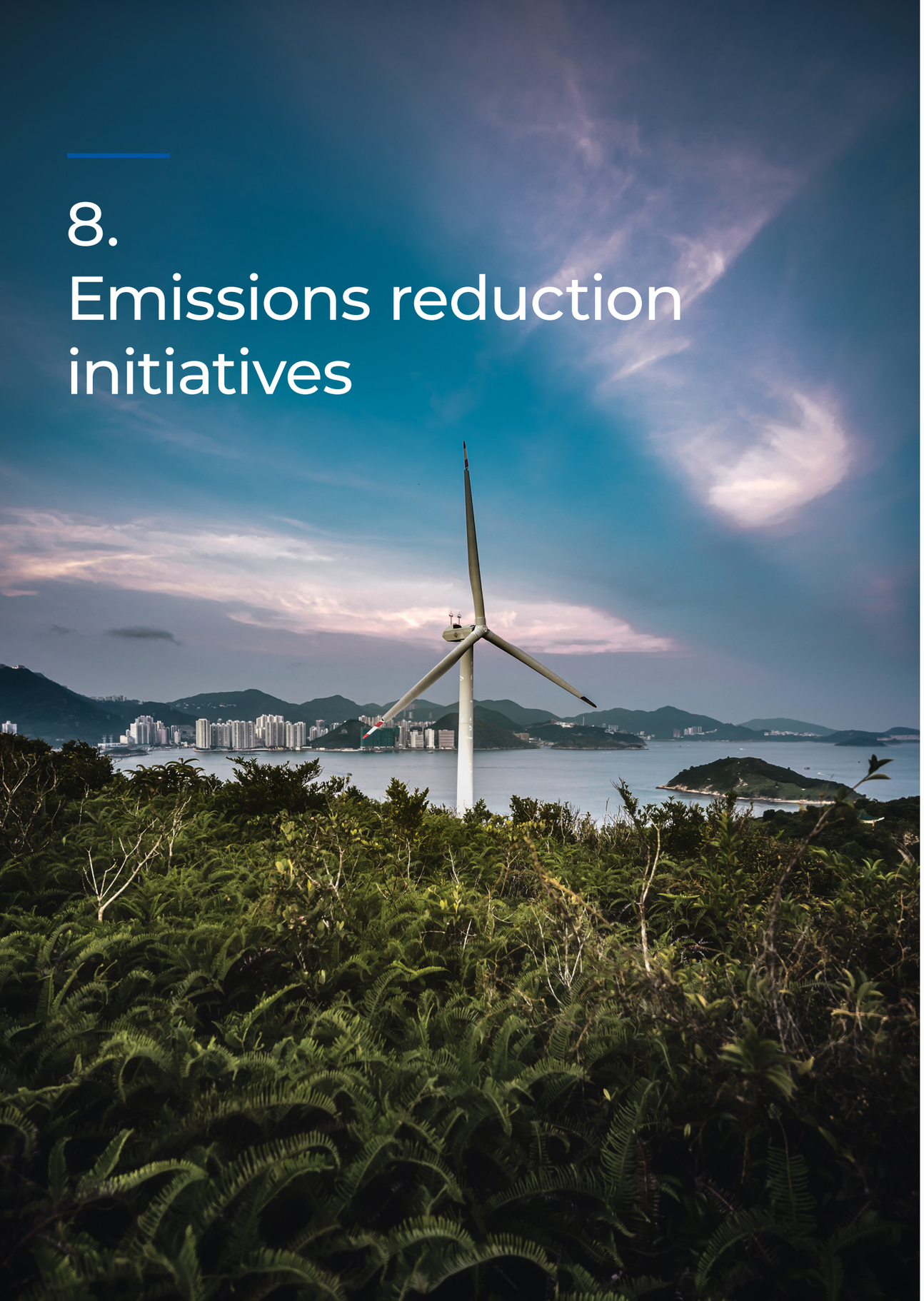


Figure 7.4: Elmdene International scope 3 reduction plan



8. Emissions reduction initiatives



A site survey was carried out in September 2025 by Go Green Experts to assess Elmdene's current building efficiency. The assessment reviewed existing performance and identified opportunities to further improve efficiency and reduce carbon emissions.

The following summary outlines the initiatives that have already been completed. In collaboration with Elmdene, a schedule of planned emission reduction measures has also been agreed to support achieving net zero by 2045.

Completed:

- Electricity consumption has fallen consistently for the last three years, supported by the installation of LED lighting across the building and external areas.
- A comprehensive office refurbishment in 2024 created bright, modern working spaces designed to maximise natural light. White finishes and reflective surfaces further reduce the need for artificial lighting.
- Kitchenette upgrades during the refurbishment have provided more efficient appliances, contributing to lower overall energy demand.
- Two EV charging points are currently installed on site. These are non-operational at present, but Elmdene has committed to upgrading and expanding capacity to four working chargers, recognising the rise in electric vehicle use among staff and visitors.
- Sensor-activated taps have been fitted in all toilets, reducing unnecessary flow.
- Waterless urinals have been installed in both male toilet facilities, cutting usage further.

Planned:

On site:

- Replace central water heaters
- Replace boilers with heat pumps and relocating the testing rooms to increase heat recovery.
- Upgrade lighting controls
- HVAC set-point optimisation
- Introduction of roof solar power.

Scope 3: Supply chain:

- Supplier engagement program where over time all contractual agreements include carbon reduction targets to ensure your suppliers are reducing their emissions.

Detailed carbon reduction pathway

The tables that follow break down the annual emissions reduction requirements for Elmdene in order to meet its 2032 and 2045 decarbonisation targets. These figures are absolute carbon equivalent reductions for each category of operational activity, and the annual reductions have been based on a combination of wider economy trends and scientific guidance from SBTi.

All calculations are based on achieving a minimum of 90% reduction in total emissions by the net zero year, with the expectation that all remaining residual emissions will be offset through responsible and approved schemes.

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Scope 1 - Direct emissions from operations											
Stationary emissions	43.22	40.75	38.28	35.81	32.72	29.64	27.17	24.08	21.61	19.14	16.05
Mobile emissions (owned vehicles)	1.98	1.87	1.75	1.64	1.50	1.36	1.24	1.10	0.99	0.88	0.74
Fugitive emissions (refrigerants)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scope 1 total	45.20	42.62	40.03	37.45	34.22	30.99	28.41	25.18	22.60	20.02	16.79
Scope 2 - indirect emissions from electricity											
Purchased electricity - market based	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Purchased electricity - location based	25.39	23.94	22.49	21.04	19.22	17.41	15.96	14.15	12.70	11.24	9.43
Scope 2 total	25.39	23.94	22.49	21.04	19.22	17.41	15.96	14.15	12.70	11.24	9.43
Scope 3 - Indirect emissions in the value chain											
Purchased goods and services	5456.09	5.251.68	5047.28	4842.87	4637.54	4433.13	4228.72	4024.32	3819.91	3614.58	3410.17
Capital goods	10.47	10.08	9.69	9.29	8.90	8.51	8.11	7.72	7.33	6.94	6.54
Fuel and energy related activities	17.23	16.58	15.94	15.29	14.65	14.00	13.35	12.71	12.06	11.41	10.77
Upstream transport and distribution	358.36	344.29	331.51	318.08	304.60	291.17	277.75	264.32	250.89	237.41	223.98
Water	0.10	0.10	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.06
Waste generated in operations	0.38	0.37	0.35	0.34	0.32	0.31	0.29	0.28	0.27	0.25	0.24
Buisness travel	11.56	11.13	10.69	10.26	9.83	9.39	8.96	8.53	8.09	7.66	7.23
Commuting and homeworking	44.82	43.14	41.46	39.78	38.10	36.42	34.74	33.06	31.28	29.69	28.01
Upstream leased assets	0.28	0.27	0.26	0.25	0.24	0.23	0.22	0.21	0.20	0.19	0.18
Scope 3 total	5899.29	5678.28	5457.27	5.236.26	5014.25	4793.24	4572.22	4351.21	4130.20	3908.19	3687.18
Total GHG emissions	**5969.88**	**5969.00**	**5736.67**	**5504.35**	**5270.97**	**5038.64**	**4806.32**	**4573.99**	**4341.66**	**4108.29**	**3875.96**

Figure 8.1: Elmdene International's detailed carbon reduction pathway 2024-2034
Figures represent emissions in tCO_2e

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Scope 1 - Direct emissions from operations											
Stationary emissions	13.58	12.66	11.73	10.81	9.88	8.95	8.03	7.10	6.17	5.24	4.322
Mobile emissions (owned vehicles)	0.62	0.58	0.54	0.50	0.45	0.41	0.37	0.33	0.28	0.24	0.198
Fugitive emissions (refrigerants)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scope 1 total	14.21	13.24	12.27	11.30	10.33	9.36	8.39	7.43	6.46	5.49	4.52
Scope 2 - indirect emissions from electricity											
Purchased electricity - market based	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Purchased electricity - location based	7.98	7.44	6.89	6.35	5.80	5.26	4.72	4.17	3.63	3.08	2.54
Scope 2 total	7.98	7.44	6.89	6.35	5.80	5.26	4.72	4.17	3.63	3.08	2.54
Scope 3 - Indirect emissions in the value chain											
Purchased goods and services	3205.77	2939.75	2673.73	2407.72	2141.70	1875.69	1609.67	1343.66	10.77.64	811.62	545.609
Capital goods	6.15	5.64	5.13	4.62	4.11	3.60	3.09	2.58	2.07	1.56	1.047
Fuel and energy related activities	10.12	9.28	8.44	7.60	6.76	5.92	5.08	4.24	3.40	2.56	1.723
Upstream transport and distribution	210.56	193.08	175.61	158.14	140.67	123.20	105.72	88.25	70.78	53.31	35.836
Water	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.01	0.01
Waste generated in operations	0.22	0.20	0.19	0.17	0.15	0.13	0.11	0.09	0.08	0.06	0.38
Buisness travel	6.79	6.23	5.66	5.10	4.54	3.97	3.41	2.85	2.28	1.72	1.156
Commuting and homeworking	26.33	24.15	21.96	19.78	17.59	15.41	13.22	11.04	8.85	6.67	4.482
Upstream leased assets	0.16	0.15	0.14	0.12	0.11	0.10	0.08	0.07	0.06	0.04	0.028
Scope 3 total	3466.17	3178.55	2890.92	2603.30	2315.67	2028.05	1740.43	1452.80	1165.18	877.55	589.93
Total GHG emissions	**3643.63**	**3341.28**	**3038.93**	**2736.58**	**2434.23**	**2131.88**	**1829.53**	**1527.18**	**1224.83**	**922.28**	**596.99**

Figure 8.2: Elmdene International's detailed carbon reduction pathway 2035-2045
Figures represent emissions in tCO_2e

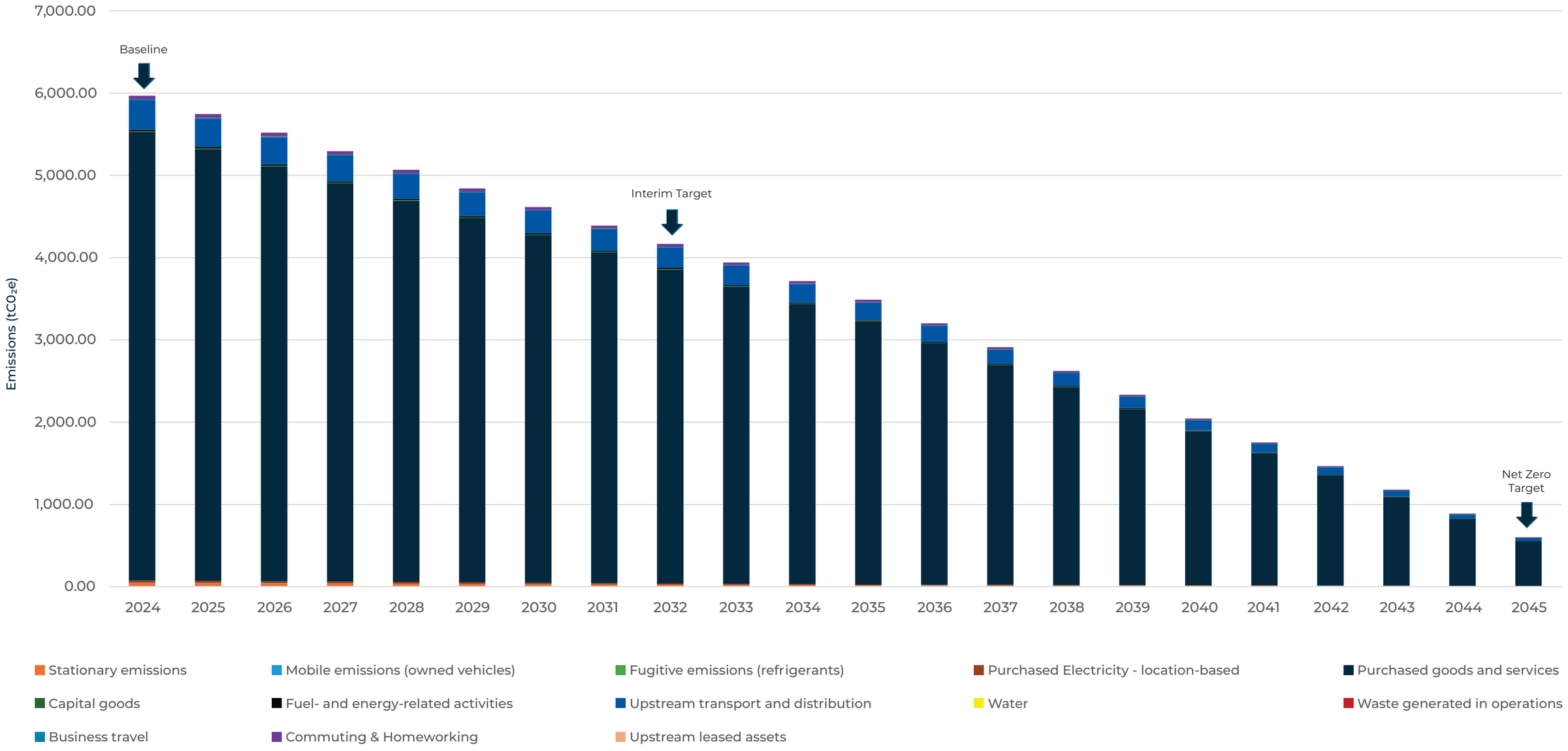


Figure 8.3: Elmdene International carbon reduction plan summary: All scopes

Appendix A. Report methodology

This assessment of Greenhouse Gas (GHG) emissions is compliant with the Greenhouse Gas Protocol, a globally recognised standard jointly developed by the World Resources Institute and the World Business Council for Sustainable Development. The Greenhouse Gas Protocol provides comprehensive, standardised frameworks for quantifying and managing GHG emissions across private and public sector operations, value chains, and mitigation efforts.

Five key accounting principles are central to the Greenhouse Gas Protocol methodology:

Relevance	Ensure that the GHG data collection accurately records and presents all relevant emissions from the organisation.
Completeness	The calculation captures all emitted GHGs. If any emission sources are omitted, clear and detailed justifications are given.
Consistency	The calculations are based on uniform methods. Any changes in data sources, calculation boundaries, or emission factors are always reported.
Transparency	All collected data is clearly and coherently reported, preferably through an accurate audit scheme. All assumptions on methods, approximations and emission factors are well documented.
Accuracy	The quantification of GHG emissions is without systematic overestimation or underestimation, it is tried to reduce uncertainties as much as possible.

Calculations

The emissions for each category of activity have been calculated in line with the methodology defined in the Greenhouse Gas Protocol and using emissions factors from various sources including Exiobase, the Office of National Statistics (ONS) and the UK Government's Department for Energy Security and Net zero (DESNZ).

Following the guidelines of the Greenhouse Gas Protocol, the emissions inventory encompasses seven primary (groups of) GHGs: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulphur hexafluoride (SF_6), nitrogen trifluoride (NF_3), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). All of these gases are considered in-scope.

Additionally, emissions out-of-scope are also considered, this included carbon dioxide from biogenic origin (bioCO_2) and other greenhouse gases which are not included in the Kyoto Protocol but still have a well-established global warming effect.

Assumptions

Where good quality activity-based data was not available, spend-based emissions calculations have been performed in line with the Greenhouse Gas Protocol. In the few cases where neither activity nor spend based data were made available, averages have been used to fill gaps based on headcount or floor area – any such assumptions are explained in section 5 of this report.

Scope 1, 2 and 3 emissions

The Greenhouse Gas Protocol classifies emissions into 3 scopes and 21 categories:

Scope 1 Direct GHG emissions originate from sources owned or controlled by the organization.

Scope 2 Indirect GHG emissions result from purchased electricity and other energy carriers.

Scope 3 Other indirect GHG emissions beyond those covered by Scope 2 that happen elsewhere in the value chain, both upstream and downstream.

These scopes are further subdivided into distinct activity categories. Scope 1 encompassed 4 categories, Scope 2 encompasses 2 categories, and Scope 3 emissions are split into 15 categories, across upstream and downstream. See Figure 1 for a visual summary of this classification across the value chain.

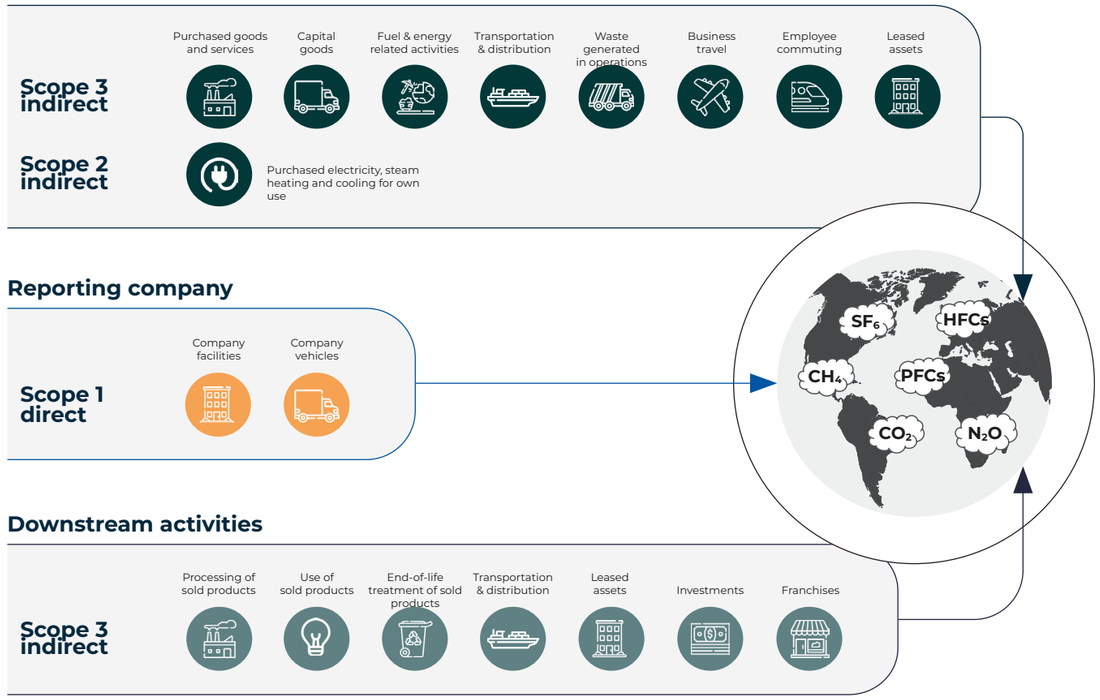


Figure A.1: Depiction of Scope 1, Scope 2 and Scope 3 emission categories

Appendix B. Climate change & net zero – background

Since the Industrial Revolution, the average temperature of the planet has risen by around 1°C. This is a rapid change in terms of our global climate system, and the temperature rise is continuing. Governments and businesses globally are taking action to minimise this rise and minimise the most severe impacts of climate change.

The Paris Agreement of 2015 committed member countries to reduce their carbon output “as soon as possible” and to do their best to keep global warming “to well below 2°C”.

Definition of net zero

Net zero means cutting GHG emissions to as close to zero as possible, with companies then obliged to ensure that any remaining emissions that cannot be avoided by the company activity are removed from the atmosphere, for example via Direct Air Capture technology (DAC) – per SBTi guidance.

Science-based targets

SBTi is a collaboration between the CDP (formerly the Carbon Disclosure Project), the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF).

The SBTi’s goal is to provide companies worldwide with the confidence that their climate targets are supporting the global economy to achieve net zero before 2050.

Individual business contribution

Whilst National and Local Governments are setting targets and policies, including legislation, individual businesses can contribute to the process. Thousands of businesses around the world of all types and sizes are committing to measure and reduce their emissions by:

- **Measuring,** understanding, and taking steps to reduce their own GHG emissions (Carbon Footprint)
- **Reducing** emissions across all aspects of their operations, including energy use, transport and travel, supply chain, finance and waste
- **Influencing** stakeholders including suppliers, customers, staff, and the public to take steps to reduce emissions in parallel
- **Reporting** and publicising progress.

Individual business benefits

By following this route, a company can benefit from:

- **Cost-saving:** Where most carbon is emitted is almost certainly where spend is highest
- **Winning business:** More and more companies and government agencies are making sustainability a factor in requests for proposals
- **Funding and investment:** Banks and investors are increasingly treating organisations that have clear sustainability plans favourably, for example via offering improved lending rates for sustainability projects
- **Public relations and marketing:** Publicising sustainability goals and reporting achievements
- **Social and environmental:** Helping to reduce society’s carbon emissions and waste.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