



# Operational Footprint and Value Chain Report FY 2024

Core Laboratories Inc.

June 2026

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**S&P Global**  
Energy

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## About S&P Global Sustainable1

Sustainable1 is part of S&P Global. A leader in carbon and environmental data and risk analysis, Sustainable1 assesses risks relating to climate change, natural resource constraints, and broader environmental, social, and governance (ESG) factors. Companies and financial institutions use Sustainable1 intelligence to understand their ESG exposure to these factors, inform resilience, and identify transformative solutions for a more sustainable global economy. S&P Global's commitment to environmental analysis and product innovation enables its team to deliver essential ESG investment-related information to the global marketplace. For more information, visit <https://www.spglobal.com/esg/Sustainable1>.

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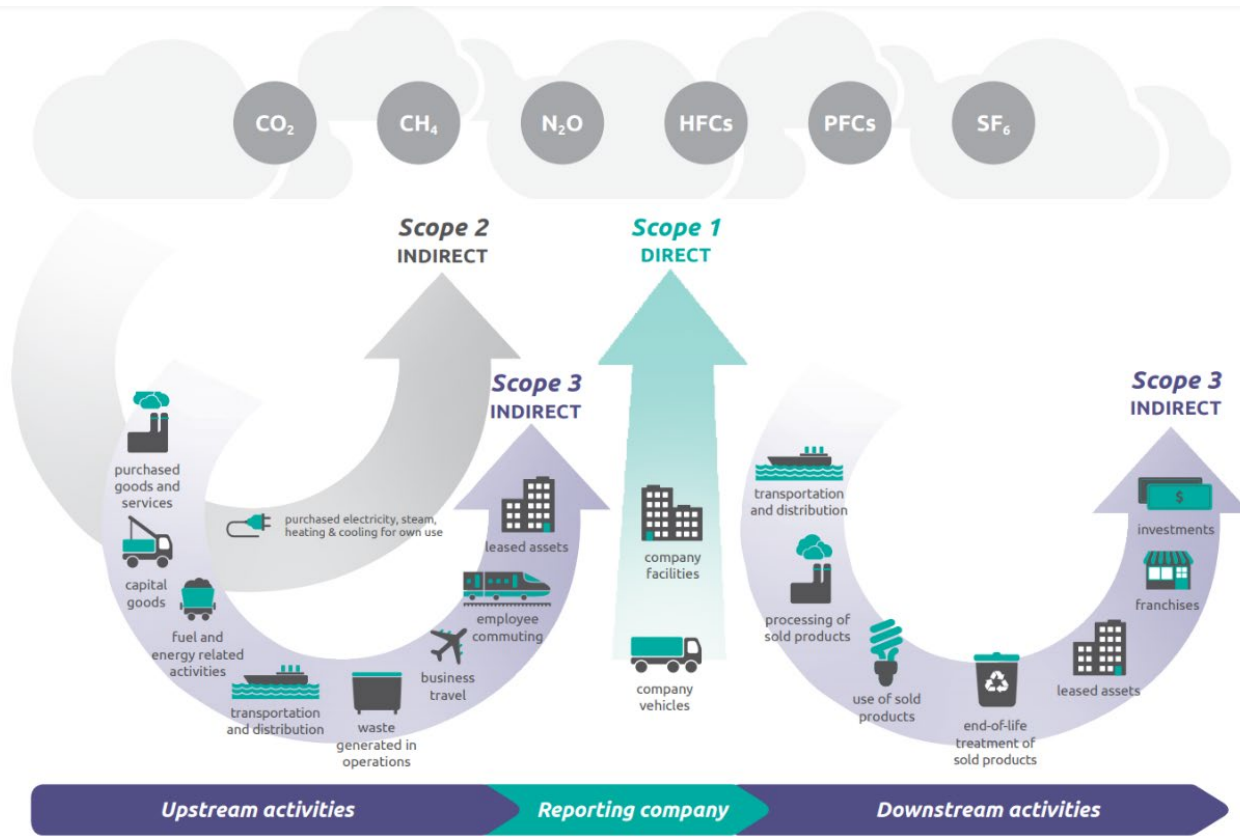
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# Report Highlights

- Under the location-based approach, the total GHG emissions for FY 2024 were 43,812 tCO<sub>2</sub>e. Scope 2 (location-based) emissions account for 16% of the total, Scope 1 emissions for 27% and the remaining 58% is associated with Scope 3 which includes Categories 1 - 8, 11 and 12.
- The total operational footprint for Core Laboratories, including both Scope 1 and Scope 2 (location-based) emissions in FY 2024, was 18,552 tCO<sub>2</sub>e. Out of this, Scope 2 emissions were 6,876 tCO<sub>2</sub>e, or 37% of the total, with Scope 1 emissions representing the remaining 63% at 11,675 tCO<sub>2</sub>e.
- The total Scope 3 emissions for Core Laboratories, including upstream and downstream emissions, were 25,260 tCO<sub>2</sub>e.
- Upstream emissions represented almost all Scope 3 emissions at 24,431 tCO<sub>2</sub>e, or 97% of the total, whereas downstream emissions were limited to 829 tCO<sub>2</sub>e.
- The total supply chain footprint for Core Laboratories, including Scope 3 Category 1 (Purchased Goods and Services) and Category 2 (Capital Goods and Services) in FY 2024 was 8,058 tCO<sub>2</sub>e. Out of this, Category 1 emissions were 5,677 tCO<sub>2</sub>e and Category 2 emissions 2,381 tCO<sub>2</sub>e, or 22% and 9% of total Scope 3 emissions, respectively.
- The total value chain footprint for Core Laboratories, which includes all calculated Scope 3 categories except Categories 1 and 2, was 17,201 tCO<sub>2</sub>e in FY 2024. These emissions include Category 3 (Fuel and Energy Related Activities), Category 4 (Upstream Transportation and Distribution), Category 5 (Waste Generated in Operations), Category 6 (Business Travel), Category 7 (Employee Commuting), Category 8 (Upstream Lease Assets), Category 11 (Use of Sold Products), and Category 12 (End of Life Treatment of Sold Products), and does not include Category 9 (Downstream Transportation and Distribution), Category 10 (Processing of Sold Products), Category 13 (Downstream Leased Assets), Category 14 (Franchises) and Category 15 (Investment) since no data was provided for these categories.

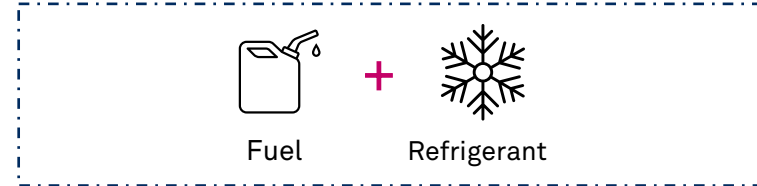
# GHG Emissions



Source: WRI (2015) GHG Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

## Scope 1

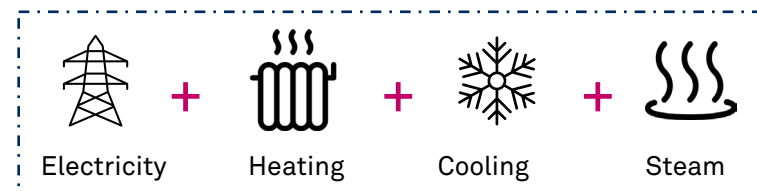
are emissions from



*sources which a company owns or controls*

## Scope 2

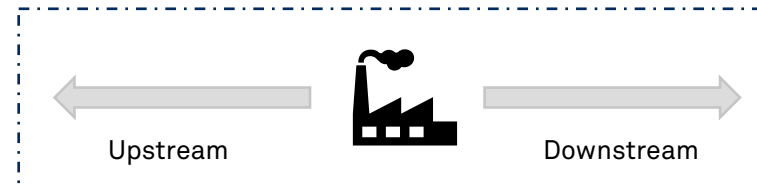
are emissions from



*procured from outside Company premise*

## Scope 3

are emissions from



*sources not owned or directly controlled by the organization*

## Introduction

- Core Laboratories' business, hereafter called Core Lab, provides reservoir description and production enhancement services and products to the oil and gas industry. It is headquartered in Houston, Texas.
- Core Lab engaged Sustainable1 to assess its Scope 1 and Scope 2 emissions, plus measurement of water usage, in accordance with Scope 1 and 2 GHG Inventory Guidance (GHG Protocol).
- Core Lab also engaged Sustainable1 to assess Scope 3 (Cat 1-8 and 11-12) greenhouse gas (GHG) emissions in line with the WRI/WBCSD Corporate Value Chain (Scope 3) Guidelines (GHG Protocol).
- The assessment allows Core Lab to report its relevant Scope 1, 2 and 3 emissions in accordance with the GHG protocol.
- Greenhouse accounting standard used: GHG protocol

## Scope

Sustainable1 assessed Core Lab's Scope 1 and Scope 2 GHG emissions consistent with the GHG Protocol

- 209 sites covered
- Boundary setting approach: Operational Control

Sustainable1 also assessed Core Lab's Scope 3 (Cat 1-8 and 11-12) value chain GHG emissions consistent with the GHG Protocol.

Analysis period: January 2024 - December 2024

# Scope 1 and 2 GHG Emission Approach

- Core Lab provided Sustainable1 with data for calculation of its operational footprint. Data points received from the client were:
  - Operational fuel used – Burning Oil, Diesel, Natural Gas, and Fuel Oil
  - Vehicle fuel used – Diesel, Petrol, and LPG
  - Electricity sourced from grid
- The Greenhouse Gas Protocol methodology for compiling GHG data is used to assess carbon footprint. This includes the following material GHGs: CO<sub>2</sub> (carbon dioxide), N<sub>2</sub>O (nitrous oxide) and CH<sub>4</sub> (methane).
- The following emission conversion factor sources are used in calculations:
  - Fossil fuel emission factors (Scope 1 - Stationary and mobile): DEFRA 2024
  - Purchased electricity: EPA eGrid Factors 2024 (for US locations), IEA Electricity Factors 2023 (for locations outside the US)

# Scope 3 GHG Emissions Approach

## Methodology

- Sustainable1 is estimating the GHG emissions of each category using the Sustainable1 Environmentally Extended Input-Output (EEI-O) model along with primary data, where available, for selected upstream and downstream impact categories. Examples of primary data included in the analysis:
  - Supplier spend
  - Energy consumption
  - Waste disposal
  - Business travel
  - Employee Headcount

Please refer to Appendix II for the methodology associated with calculating GHG emissions for each Scope 3 category.

## Scope of value chain GHG emissions footprint, GHG Protocol

<i>Upstream or downstream</i>	<i>Scope 3 category</i>
<b>Upstream scope 3 emissions</b>	<ol style="list-style-type: none"><li>1. Purchased goods and services</li><li>2. Capital goods</li><li>3. Fuel- and energy-related activities (not included in scope 1 or scope 2)</li><li>4. Upstream transportation and distribution</li><li>5. Waste generated in operations</li><li>6. Business travel</li><li>7. Employee commuting</li><li>8. Upstream leased assets</li></ol>
<b>Downstream scope 3 emissions</b>	<ol style="list-style-type: none"><li>9. Downstream transportation and distribution</li><li>10. Processing of sold products</li><li>11. Use of sold products</li><li>12. End-of-life treatment of sold products</li><li>13. Downstream leased assets</li><li>14. Franchises</li><li>15. Investments</li></ol>

Source: GHG Protocol: Corporate Value Chain Accounting Reporting Standard (WRI / WBCSD)

# Operational Footprint

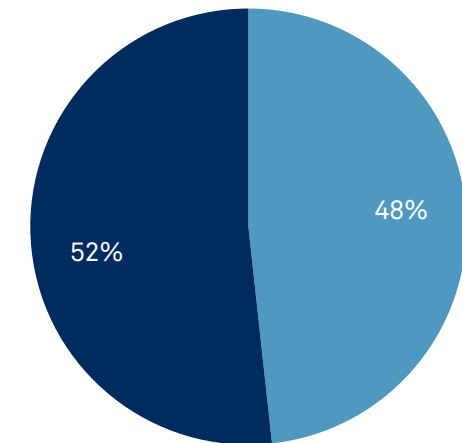
# Group level results

GROUP LEVEL ENVIRONMENTAL DATA			
Impact category	Impact	Units	FY 2024
Onsite Fuel Use	Burning Oil	litres	3,588
	Diesel	litres	7,318
	Natural Gas	cubic meters	1,423,963
	Natural Gas	kWh	465,620
	Fuel Oil	litres	8,426
Company Vehicle fuel Combustion	Diesel	litres	483,410
	Petrol	km	2,442,258
	LPG	litres	98
Refrigerants	HCFC-22/R22	kg	128
Electricity	Purchased electricity	kWh	22,728,489
Water	Water supplied	m3	92,551
	Water abstracted	m3	3,557
Waste	Total Non-Hazardous Waste	tonnes	258
	Total Hazardous Waste	tonnes	1,095

According to the GHG Protocol Scope 2 Guidance released in January 2015, corporates are now to report two Scope 2 emission totals – location-based and market-based, known as ‘dual reporting’. Since market-based emission factors (such as renewable energy certificates, supplier emission factors or other tracking mechanisms) are not available to any of Core Lab’s locations, Sustainable1 adopted residual emission factors where they are available. Future calculations shall be updated upon the release of residual factors for public use.

Core Lab’s Scope 1&2 emissions calculated using market-based approach are **18,644 tCO<sub>2</sub>e**, slightly higher than the **18,552 tCO<sub>2</sub>e** derived with a location-based approach. This is due to many geographies having higher residual emission factors than the average grid mix because a lot of renewable power generation is associated with contractual obligation and removed from residual calculations.

EMISSION BY SCOPE		
Scope	Category	Absolute emissions tCO <sub>2</sub> e
Scope 1	Stationary Emissions	3,053
	Mobile Emissions	7,035
	Refrigerants	1,587
Scope 2	Electricity: Location Based	6,876
	Electricity: Market Based	6,969
Total Emissions (Location Based)		18,552
Total Emissions (Market Based)		18,644



■ Scope 1 ■ Scope 2, Location based

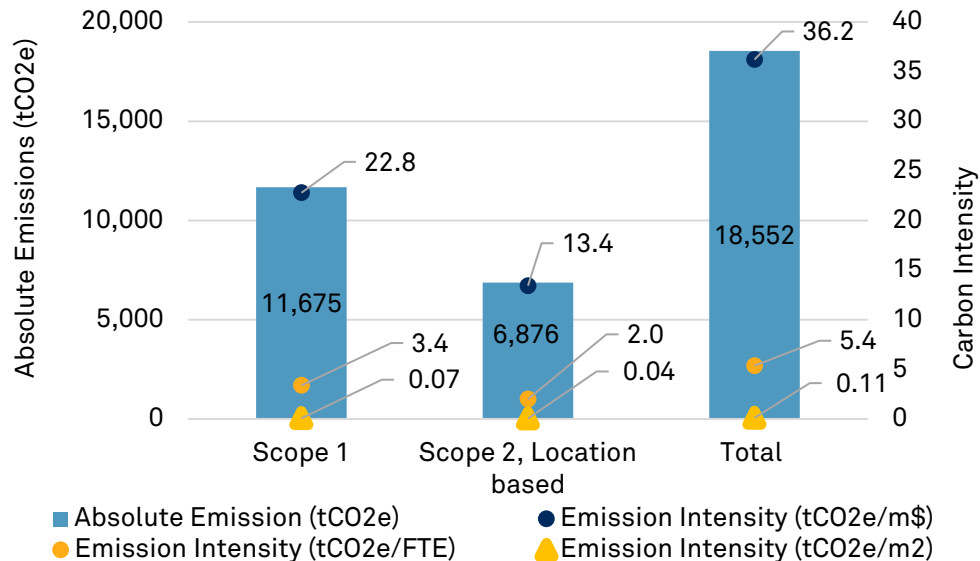
# Environmental Impact

## Greenhouse Gas Emissions

Sustainable1 reviewed Core Lab’s environmental data for FY 2024 and the table below summarizes the key environmental impacts. These impacts are described in absolute terms and in intensity terms by revenue (512 mUSD) and by employee (3,454). The intensities of GHG emissions, normalized by revenue and total employees, were 36.2 tCO<sub>2</sub>e/mUSD and 5.4 tCO<sub>2</sub>e/employee, respectively.

SCOPE	Emissions (tCO <sub>2</sub> e)	Contribution %	tCO <sub>2</sub> e per revenue (mUSD)	tCO <sub>2</sub> e per employee
Scope 1	11,675	63%	22.8	3.4
Scope 2 – Location Based	6,876	37%	13.4	2.0
<b>Total (Location Based)</b>	<b>18,552</b>	<b>100%</b>	<b>36.2</b>	<b>5.4</b>

GHG EMISSIONS ABSOLUTE AND INTENSITY VALUES, FY 2024



### Direct (Scope 1) GHG Emissions

Direct emissions from organizational operations are classified as Scope 1 emissions. They are derived from natural gas and fuels for heating and backup generation, petrol and diesel used in owned transportation, and refrigeration processes. Core Lab's Scope 1 emissions during FY 2024 were 11,675 tCO<sub>2</sub>e.

### Indirect (Scope 2) GHG Emissions

Indirect emissions from the consumption of purchased electricity are classified as Scope 2 emissions. Core Lab's Scope 2 emissions (location based) during FY 2024 were 6,876 tCO<sub>2</sub>e.

# Operational Footprint: Water and Waste

# Operational Water Footprint

## Water Use

Sustainable1 reviewed the data received from Core Lab on water procured for its operations. Core Lab's aggregated water consumption for FY 2024 was 96,108 m<sup>3</sup>, which is comprised of abstracted and supplied water sources.

The table below highlights the absolute water use for FY 2024. The water intensity of Core Lab per mUSD of revenue generated is 187.7 m<sup>3</sup>/mUSD of water. Water use per employee is 27.8 m<sup>3</sup>.

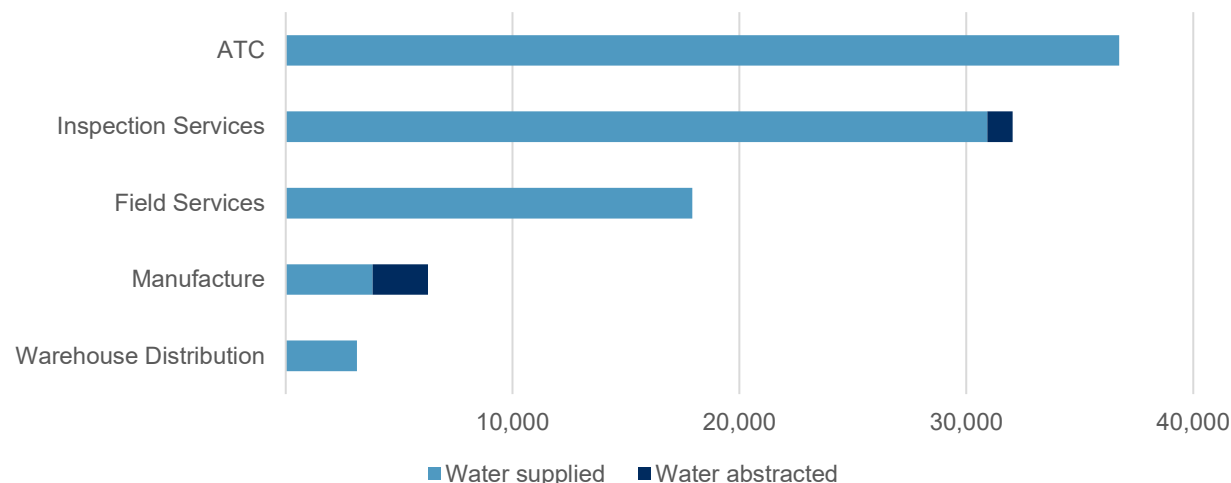
### ABSOLUTE WATER USE, FY 2024

Nature of Supply	Water Consumption (m <sup>3</sup> )	Contribution (%)	Intensity m <sup>3</sup> /mUSD	Intensity m <sup>3</sup> /Employee
Water Supplied	92,551	96%	180.7	26.8
Water Abstracted	3,557	4%	6.9	1.0
<b>Total</b>	<b>96,108</b>	<b>100%</b>	<b>187.7</b>	<b>27.8</b>

### WATER CONSUMPTION BY DIVISION (m<sup>3</sup>), FY 2024

Division Name	Water Supplied	Water Abstracted
ATC	36,736	0
Inspection Services	30,930	1,109
Field Services	17,924	0
Manufacture	3,826	2,448
Warehouse Distribution	3,135	0
<b>Total</b>	<b>92,551</b>	<b>3,557</b>

### WATER CONSUMPTION (m<sup>3</sup>)



# Waste Footprint

## Waste Generated and Disposal Expenditures

Absolute non-hazardous waste generated in FY 2024 was 258 tonnes. Absolute hazardous waste was 1,095 tonnes. Over 75% of total waste was comes from Core Lab's sites in Russia, the Netherlands, and the USA.

### TOTAL WASTE GENERATED BY TYPE OF WASTE , FY 2024

Waste	Tonnes of waste	Waste Intensity (tonnes/m\$)	Waste Intensity (tonnes/FTE)	Waste Intensity (tonnes/m <sup>2</sup> )
Total Non-Hazardous Waste	258	0.50	0.07	0.00
Total Hazardous Waste	1,095	2.14	0.32	0.01
<b>Total</b>	<b>1,353</b>	<b>2.64</b>	<b>0.39</b>	<b>0.01</b>

### TOTAL WASTE GENERATED BY DISPOSAL ROUTE, FY 2024

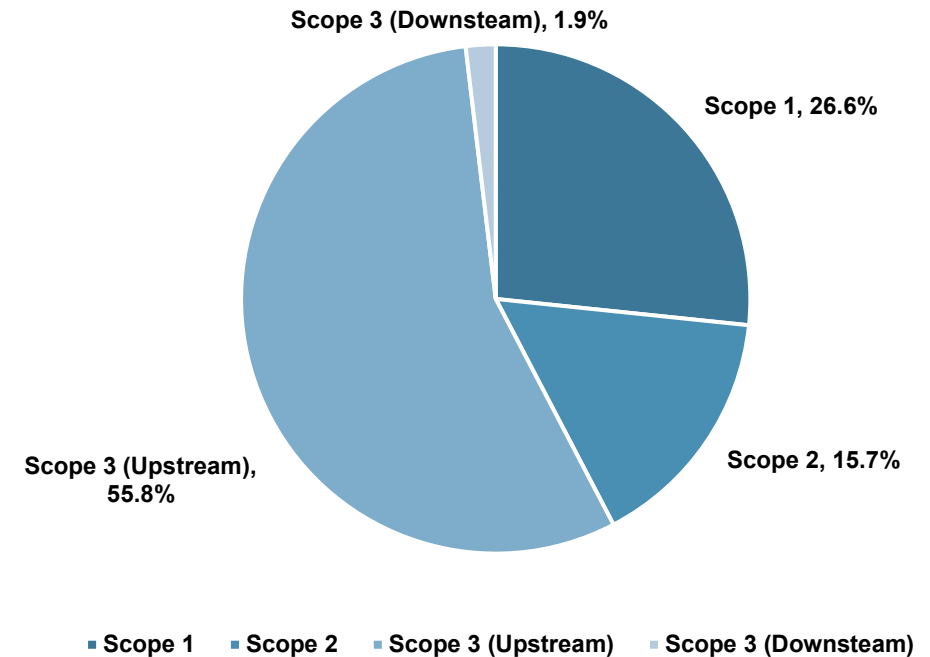
Disposal Route	Total Hazardous Waste	Total Non-Hazardous Waste	Waste Intensity (tonnes/m\$)	Waste Intensity (tonnes/FTE)
Recycle	1,058	4	2.07	0.31
Landfill	7	239	0.48	0.07
Combustion with energy recovery	30	0	0.06	0.01
Incinerate	0	15	0.03	0.00
<b>Total</b>	<b>1,095</b>	<b>258</b>	<b>2.64</b>	<b>0.39</b>

# Total Value Chain Emissions

Core Lab's total GHG emissions were 43,812 tCO<sub>2</sub>e in FY 2024. Scope 3 is the largest contributor to the GHG footprint, accounting for 58% of total emissions. The table below displays the split among Scope 1, Scope 2 (location-based approach) and Scope 3 (value chain emissions). All Scope 1, 2 and 3 emissions were calculated by Sustainable1 from the data provided by Core Lab.

EMISSION SCOPE	FY 2024 TOTAL GHG (tCO <sub>2</sub> e)	CONTRIBUTION (%)
Scope 1	11,675	26.6%
Scope 2	6,876	15.7%
Scope 3 (Upstream)	24,431	55.8%
Scope 3 (Downstream)	829	1.9%
<b>Total</b>	<b>43,812</b>	<b>100%</b>

Core Lab's GHG Emissions by Scope, FY 2024

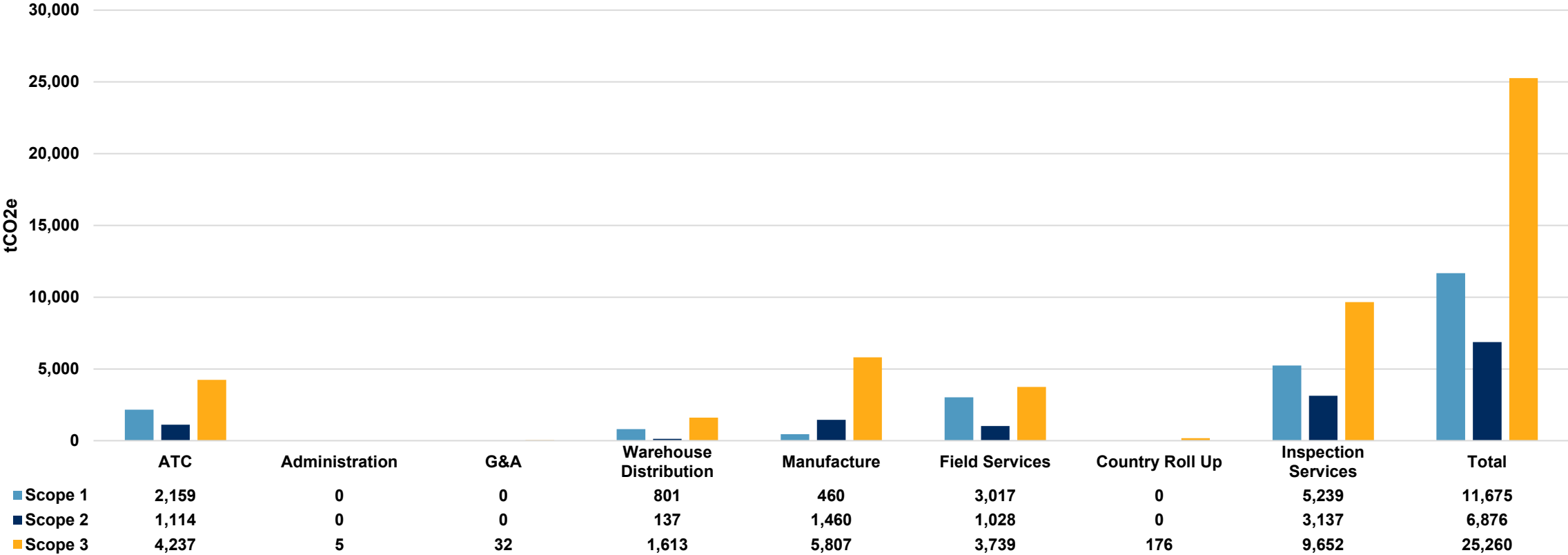


# Value Chain Footprint

# GHG Emissions by Division

The largest contribution to Core Lab’s total GHG emissions in FY 2024 came from Inspection Services with 41% of the company share, followed by Advanced Technology Centers, Manufacturing, and field services all at 17-18%. The Administration and G&A divisions, as well as sites which were rolled up by country in various categories were all under 1% of total emissions.

**GHG Emissions By Division, FY 2024**



# Value Chain Emissions by Category

	VALUE CHAIN (SCOPE 3) CATEGORY	FY 2024 TOTAL GHG (tCO <sub>2</sub> e)	FY 2024 SCOPE 3 GHG SHARE (%)	EVALUATION STATUS <sup>1</sup>
UPSTREAM	1) Purchased goods and services	5,677	22%	Relevant, calculated
	2) Capital goods	2,381	9%	Relevant, calculated
	3) Fuel- and energy-related activities	4,302	17%	Relevant, calculated
	4) Upstream transportation and distribution	2,945	12%	Relevant, calculated
	5) Waste generated in operations	552	2%	Relevant, calculated
	6) Business travel	2,452	10%	Relevant, calculated
	7) Employee commuting	6,061	24%	Relevant, calculated
	8) Upstream leased assets	61	0%	Relevant, calculated
DOWNSTREAM	9) Downstream transportation and distribution	-	0%	Not calculated
	10) Processing of sold products	-	0%	Not calculated
	11) Use of sold products	706	2.80%	Not relevant, calculated
	12) End-of-life treatment of sold products	123	0.49%	Not relevant, calculated
	13) Downstream leased assets	-	0%	Not calculated
	14) Franchises	-	0%	Not calculated
	15) Investments	-	0%	Not calculated
	<b>Total</b>	<b>25,260</b>	<b>100%</b>	

<sup>1</sup> The materiality threshold is set at 1% of scope 3 emissions.

# Overall Value Chain Results

## Total GHG Emissions

- The total Emissions from Core Lab’s value chain are 25,260 tCO<sub>2</sub>e. Almost all the calculated emissions come from its upstream value chain, with the remaining coming from downstream activities.

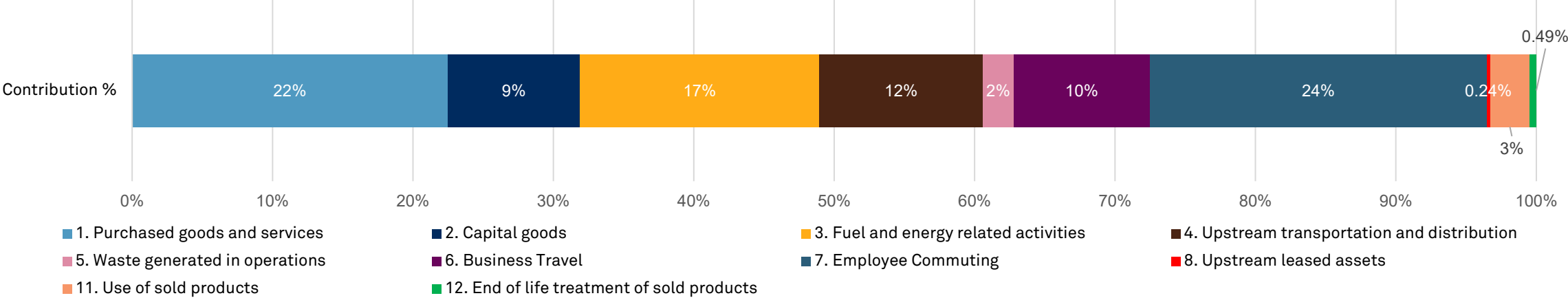
## Upstream GHG Emissions

- Emissions from Employee Commuting (Category 7), followed by Fuel and Energy Related Activities (category 3), and Purchased Goods and Services (Category 1) are the biggest contributors to Core Lab's upstream value chain, with their combined share accounting for 64% of the total Scope 3 emissions.

## Downstream GHG Emissions

- Two downstream categories were calculated in Core Lab’s FY 2024 GHG analysis – Use of Sold Products (Category 11) and End of life treatment of sold products (Category 12). Together these account for less than 4% of the scope 3 footprint.

Total Scope 3 Emissions FY 2024: 25,260



# Value Chain Footprint by Category

# Upstream Value Chain Results: Categories 1 and 2

## Data sources

Sustainable1 received data from Core Lab's purchase ledger for FY 2024. Key data points provided include supplier names, category of purchase and spend amount.

## Methodology

Sustainable1 used Core Lab's supplier spend data and supplier disclosed emissions data from Trucost Environmental Register where available. If supplier data was not available, sector-specific emission factors (tCO<sub>2</sub>e/mUSD) from the Trucost EEI-O model was applied, to calculate the supply chain GHG emissions through all tiers up to and including raw material extraction.

## Final Activity Data

Sustainable1 has quantified the GHG scope 3 categories: Category 1, Purchased goods and services, and Category 2, Capital goods. This has been done by analyzing Core Lab's expenditures on 4,293 suppliers accounting for \$80 mUSD of spend, or 95% of total spend for that period (after eliminating tax spending, financial transactions, personal expenses, and items for Scope 3 categories 3-15, and negative expenditures).

## Exclusions

Sustainable1 excluded the following data in accordance with our standard practice and the Greenhouse Gas Protocol:

- All credits/negative spend lines and spend lines with zero or negative value
- Spend related to Scope 3 categories other than Purchased Goods and Services and Capital goods
- All other spend not related to Purchase goods and services and Capital goods such as taxes, fees or employee salary and benefits

Parameter	No. of suppliers	Expenditure (mUSD)
Non-negative expenses provided by Core Lab	4,933	\$84
Data analysed by Sustainable1	4,293	\$80
Percentage analysed	87%	95%

# Scope 3 Categories 1 and 2 – Expenditure and GHG

**Total Purchased Goods and Services and Capital Goods Emissions: 8,059 tCO<sub>2</sub>e**

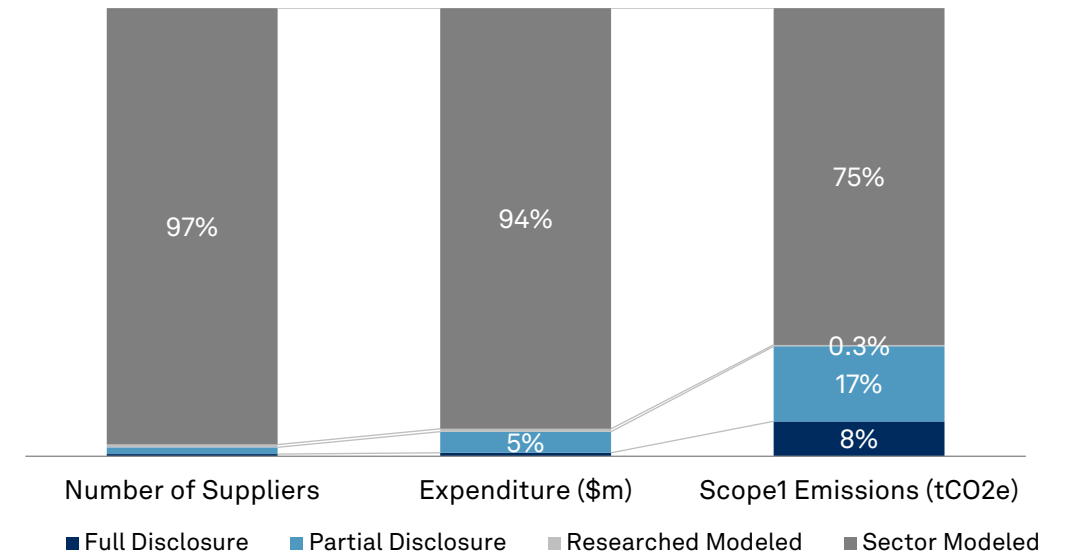
*Emissions in this category are associated with the production of products and capital goods purchased by the company.*

Total GHG emissions from Category 1, Purchased Goods and Services, and Category 2, Capital goods, are 8,059 tCO<sub>2</sub>e, accounting for 30% of total Scope 3 emissions. The average intensity of Core Lab's supply chain is 101 tCO<sub>2</sub>e/mUSD of spend.

Currently, 86 of the 6,206 suppliers analyzed disclose Scope 1 emissions. This accounts for 3% of all suppliers. However, these suppliers account for 24% of supplier Scope 1 emissions and 10% of supply chain spend.

## Scope 3 Categories 1 and 2 Summary

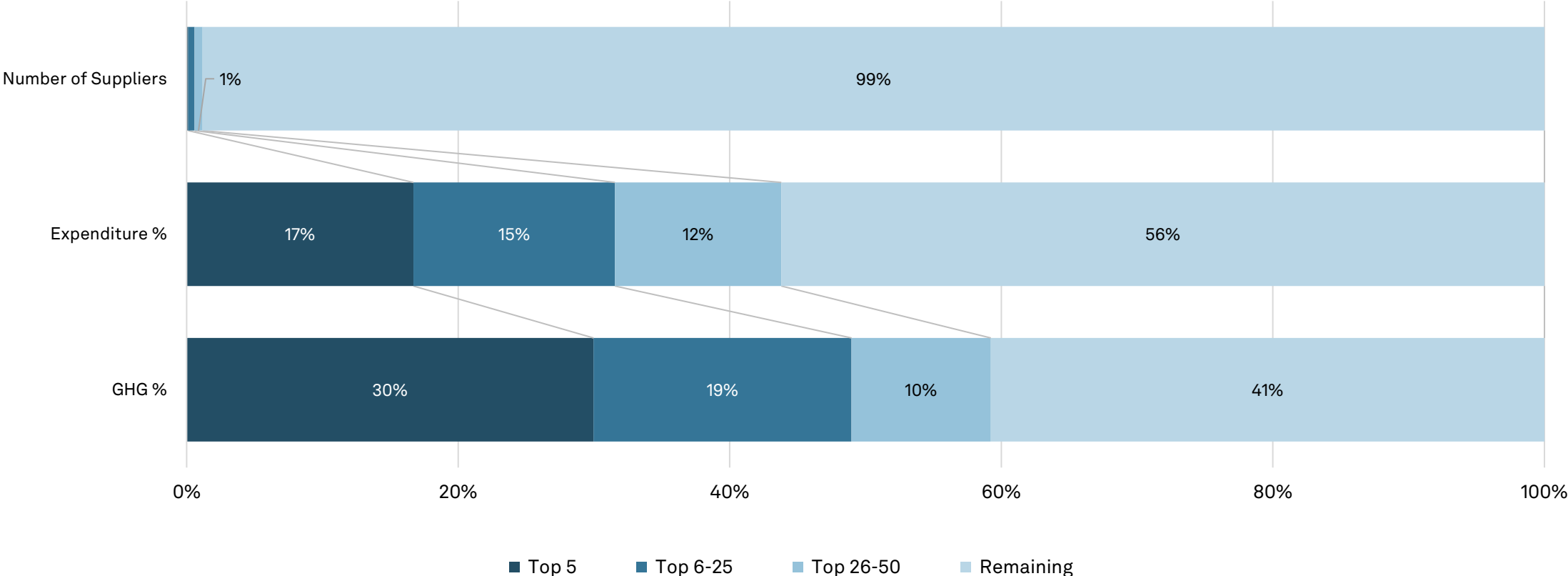
Suppliers Analyzed	Total GHG Footprint (tCO <sub>2</sub> e)	Average GHG Intensity (tCO <sub>2</sub> e/mUSD)
4,933	8,059	101
Data Source	Number of Suppliers	Scope 1 GHG Emissions (tCO <sub>2</sub> e)
Supplier disclosed data	86	314
Sustainable1 modeled data	4,207	966



# Scope 3 Categories 1 and 2 – Expenditure and GHG

As per the graph below, the top 5 suppliers account for 30% of upstream suppliers' GHG emissions. The top 50 suppliers with the greatest GHG contribution represent almost 60% of the total upstream supplier emissions. While Core Lab has a diverse supplier set, there is potential to enact impactful management strategies by engaging with a small percentage of top suppliers.

### Distribution of GHG Emissions (Scope 3 categories 1, 2)

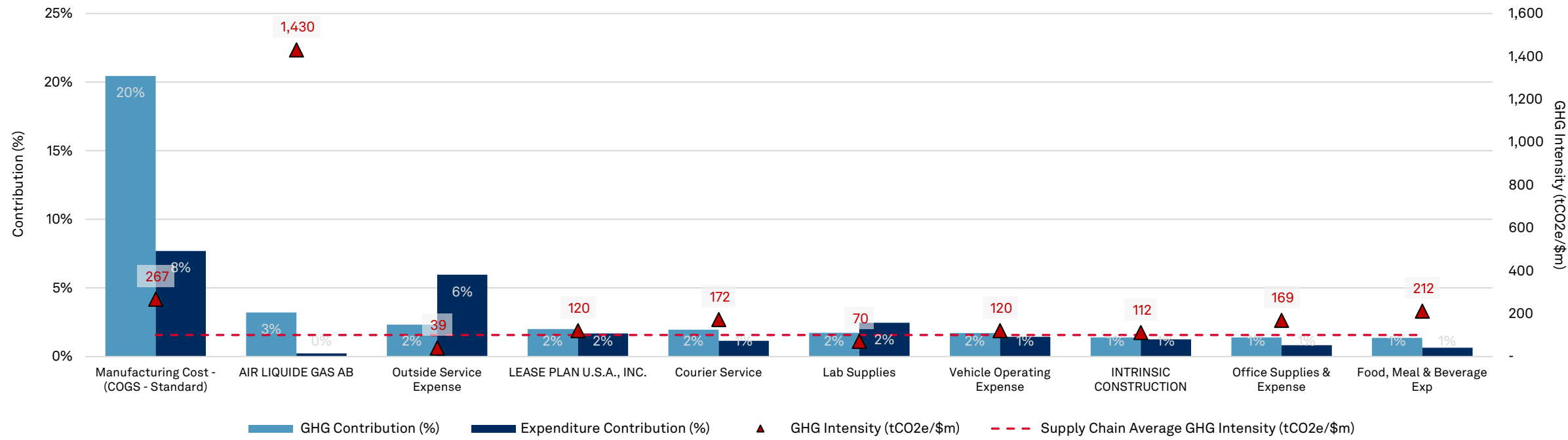


# Scope 3 Categories 1 and 2 – Emissions by Key Suppliers



- The top 10 suppliers which contribute the highest emissions account for 38% of Core Lab's total supply chain emissions and 23% of Core Lab's supply chain spend. The suppliers with the highest contribution are 'Manufacturing Cost - (COGS - Standard)', AIR LIQUIDE GAS AB, and 'Outside Service Expense'.
- Eight of the top 10 suppliers have intensities above the overall supply chain average of 101 tCO<sub>2</sub>e/mUSD of spend. AIR LIQUIDE GAS AB. has the highest intensity of the top 10 at 1,430 tCO<sub>2</sub>e/mUSD of spend.

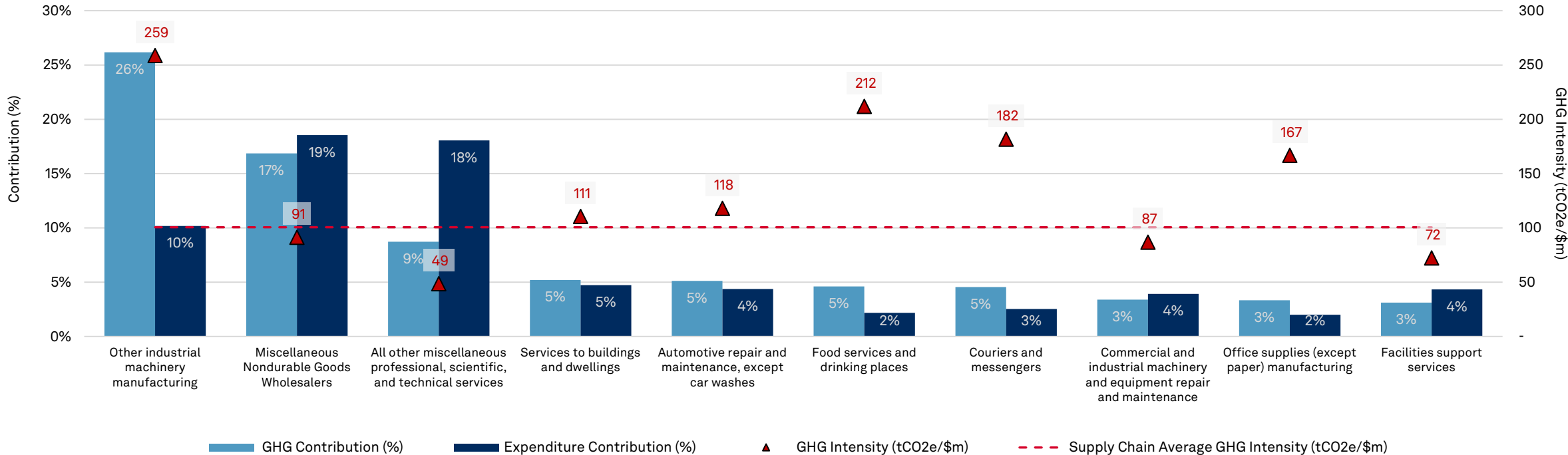
Top ten suppliers, by contribution to the GHG footprint (Scope 3 Categories 1 and 2)



# Scope 3 Categories 1 and 2 – Emissions by Key Sectors

- Sustainable1 found that suppliers from the top 10 sectors contribute to approximately 80% of supply chain emissions.
- The sector Other Industrial Machinery Manufacturing is the largest contributor in terms of GHG footprint. This sector contributes to 26% of upstream suppliers GHG emissions.
- Six of the top 10 sectors have intensities above the overall supply chain average of 101 tCO<sub>2</sub>e/mUSD of spend.

Top ten sectors, by contribution to the GHG footprint (Scope 3 Categories 1 and 2)



# Scope 3 Category 3 – Fuel and Energy Related Activities

Total fuel and energy related activities emissions: 4,302 tCO<sub>2</sub>e

### Data sources

Sustainable1 received data from Core Lab including actual fuel and electricity consumption by location.

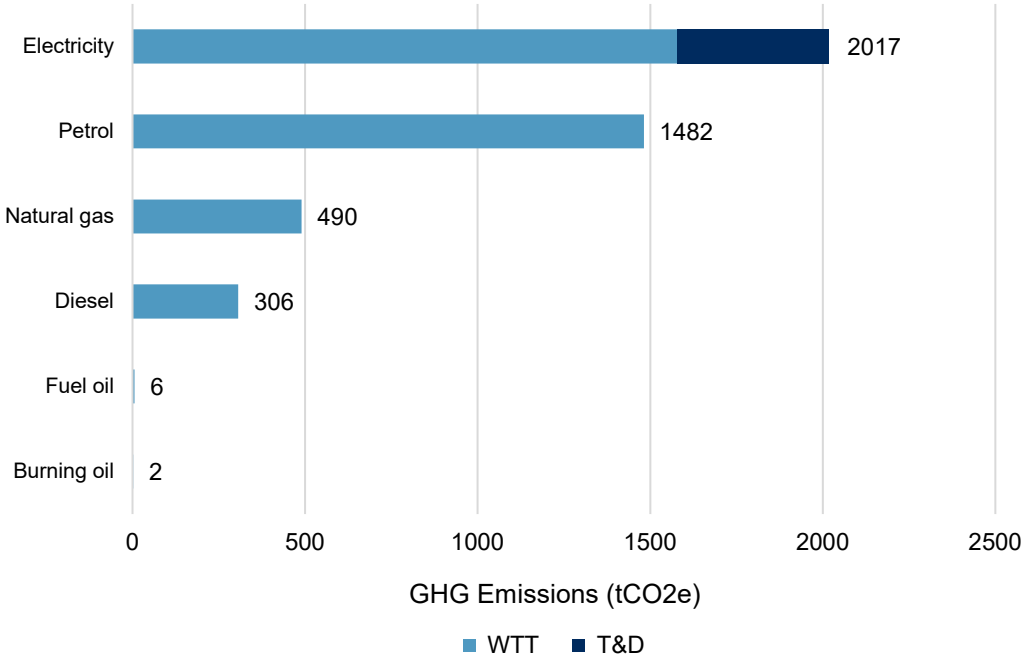
### Methodology

Sustainable1 used Core Lab energy consumption and applied location specific DEFRA emission factors to calculate transmission & distribution (T&D)<sup>1</sup> and well-to-tank (WTT)<sup>2</sup> emissions.

### Final Activity Data

Sustainable1 has quantified the GHG emissions of Scope 3 Category 3, Fuel and Energy Related Activities. The chart to the right displays the emissions for each energy type. Energy sources included electricity, petrol, natural gas, diesel, diesel, burning oil, and plug-in hybrid electric vehicles. Electricity consumption accounts for 47% of total emissions, followed by petrol at 34%, natural gas at 11% and diesel at 7%. The remaining sources contribute to less than 1% combined.

Emissions from fuel and energy related activities, by type of fuel



<sup>1</sup> Transmission and distribution (T&D) factors are used to account for emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organizations that purchase it).

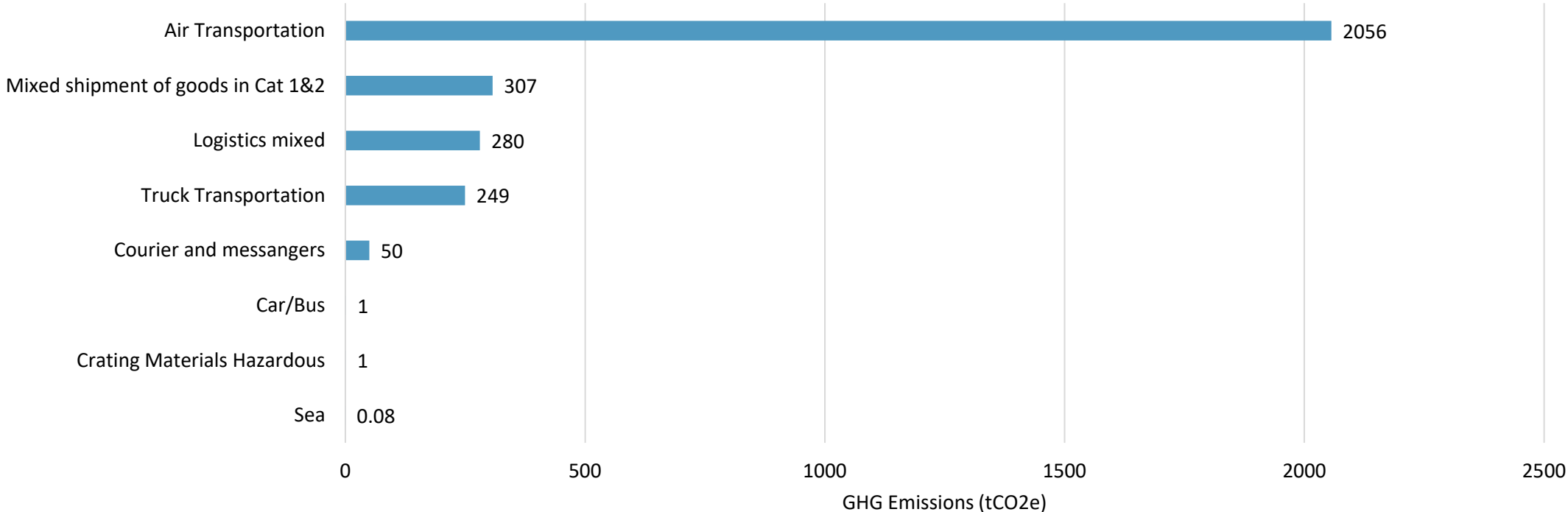
<sup>2</sup> Well-to-tank (WTT) fuels conversion factors are used to account for emissions associated with extraction, refining and transportation of the raw fuel sources prior to combustion or electricity generation.

# Scope 3 Category 4 - Upstream Transportation and Distribution

Total upstream transportation and distribution emissions: 2,945 tCO<sub>2</sub>e

- Total expenditure was provided by Core Lab. Sustainable1 estimated the associated emissions using expenditure data and the EEI-O transportation model, largest of which is Air Transportation.

Upstream transportation emissions by transportation source



# Scope 3 Category 5 – Waste Generated in Operations

Total Waste related emissions: 552 tCO<sub>2</sub>e

### Data sources

Sustainable1 received waste quantities by disposal route and waste type from Core Lab.

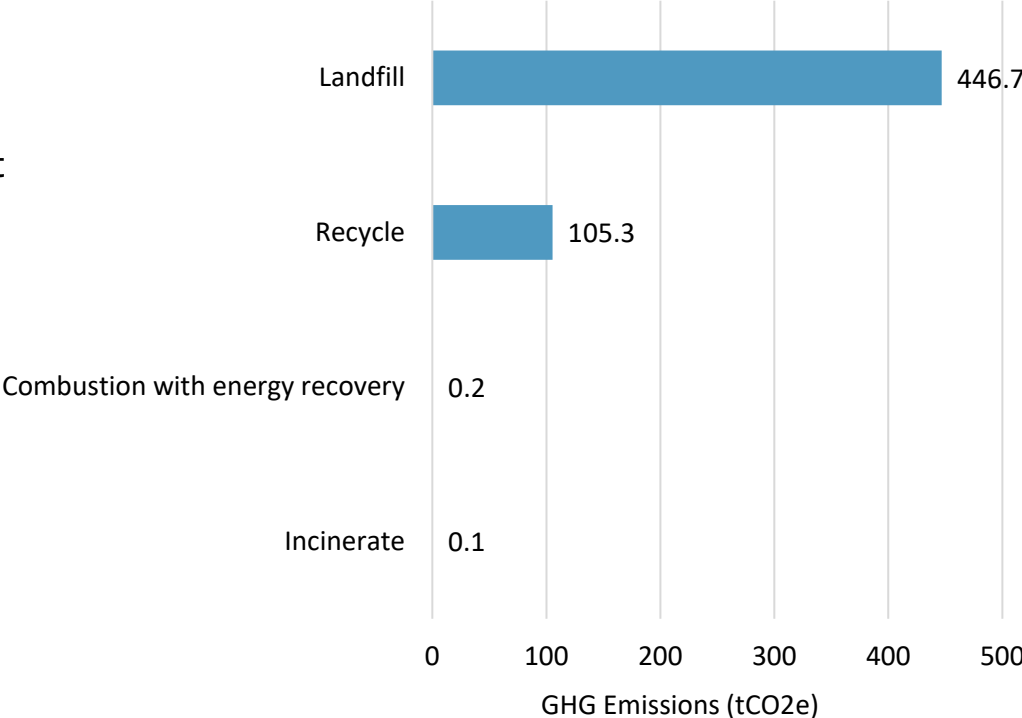
### Methodology

Sustainable1 used Core Lab waste data and applied the appropriate or best match among the Defra emission factor based on waste type and disposal route.

### Final Activity Data

The chart to the right displays the emissions for each disposal route. More than 80% all of the emissions came from landfilled waste, with most of the remaining share coming from recycling.

Waste emissions by Disposal Type



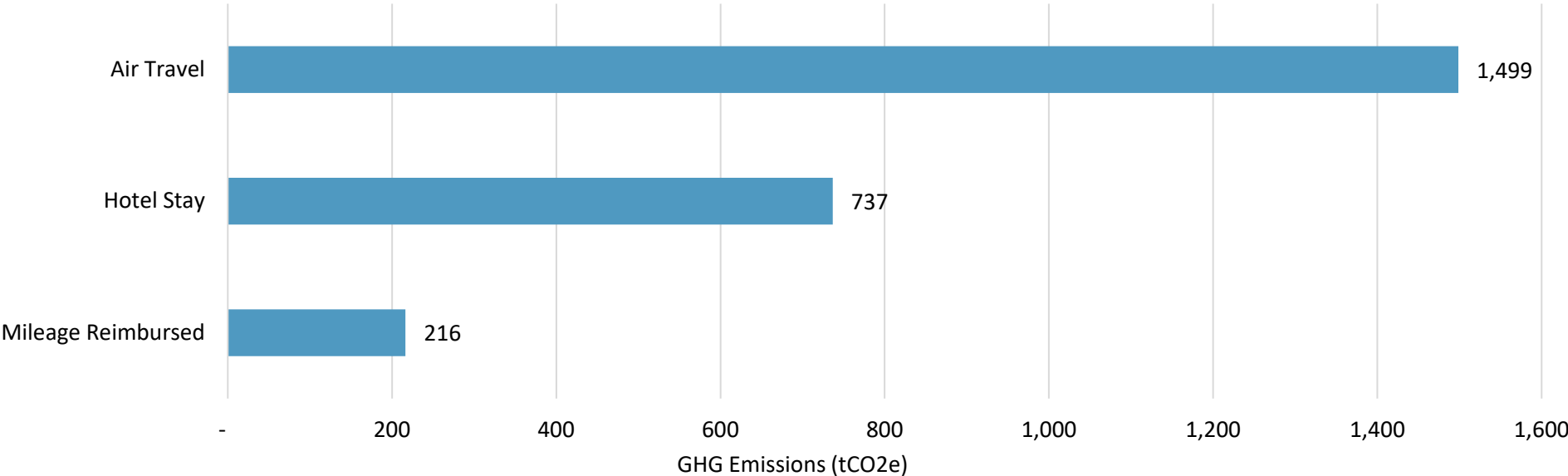
**Note:** \$2.3m of expenditure categorized as ‘Environmental Compliance’ was moved from Categories 1 and 2 to Category 5. Emissions from this spend were calculated using the Trucost EEIO model. This is consistent with the FY 2023 calculation methodology.

# Scope 3 Category 6 – Business Travel

Total Business Travel emissions: 2,452 tCO<sub>2</sub>e

- Emissions from business travel were calculated based on business travel data from Core Lab. The majority of emissions came from air travel during FY 2024, contributing to 61% of the total.
- Emissions from hotels and rental vehicles, including mileage reimbursed, the other 31% of category 6 emissions

Business Travel Emissions by Categorization



# Scope 3 Category 7 – Employee Commuting and WFH

Total Employee Commuting and WFH-Related Emissions: 6,061 tCO<sub>2</sub>e

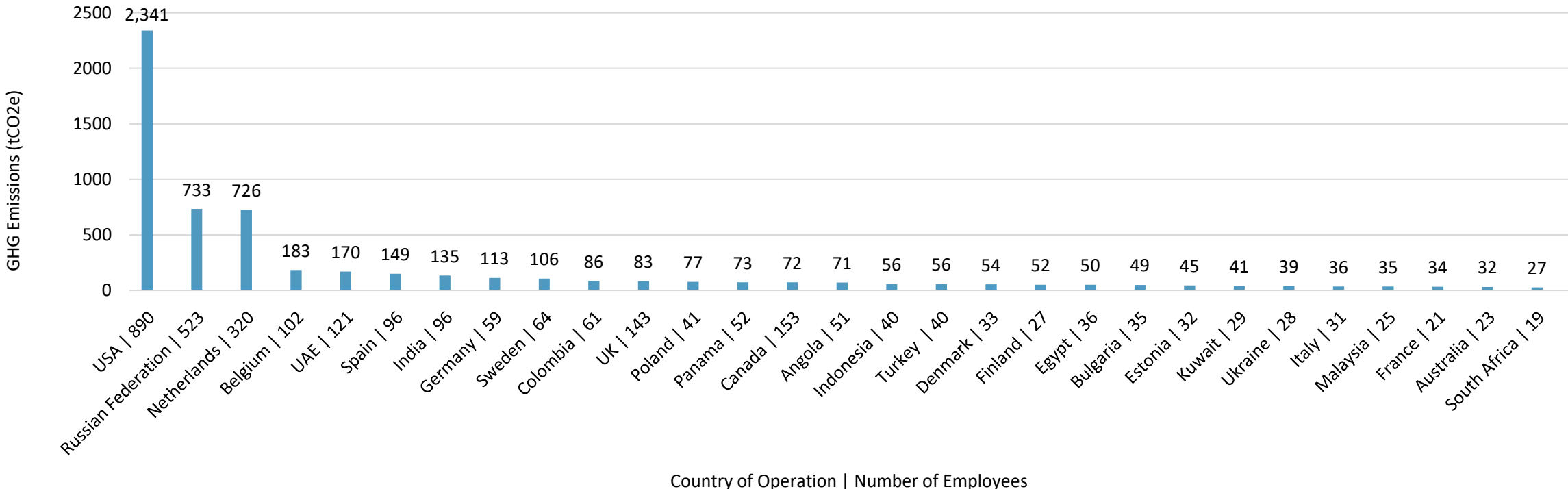
**Data sources**

Sustainable1 received total headcount (regular and contract employees) from sites in 54 countries.

**Methodology**

Sustainable1 used Core Lab headcount data, combined with OECD working hours, country level average commuting time, country level transportation mode split survey data, and DEFRA factors by mode of transportation. **Core Lab had 2 employees working from home in FY 2024.**

Employee Commuting Emissions



# Scope 3 Category 8 – Upstream Leased Assets

Total Upstream Leased Assets emissions: 61 tCO<sub>2</sub>e

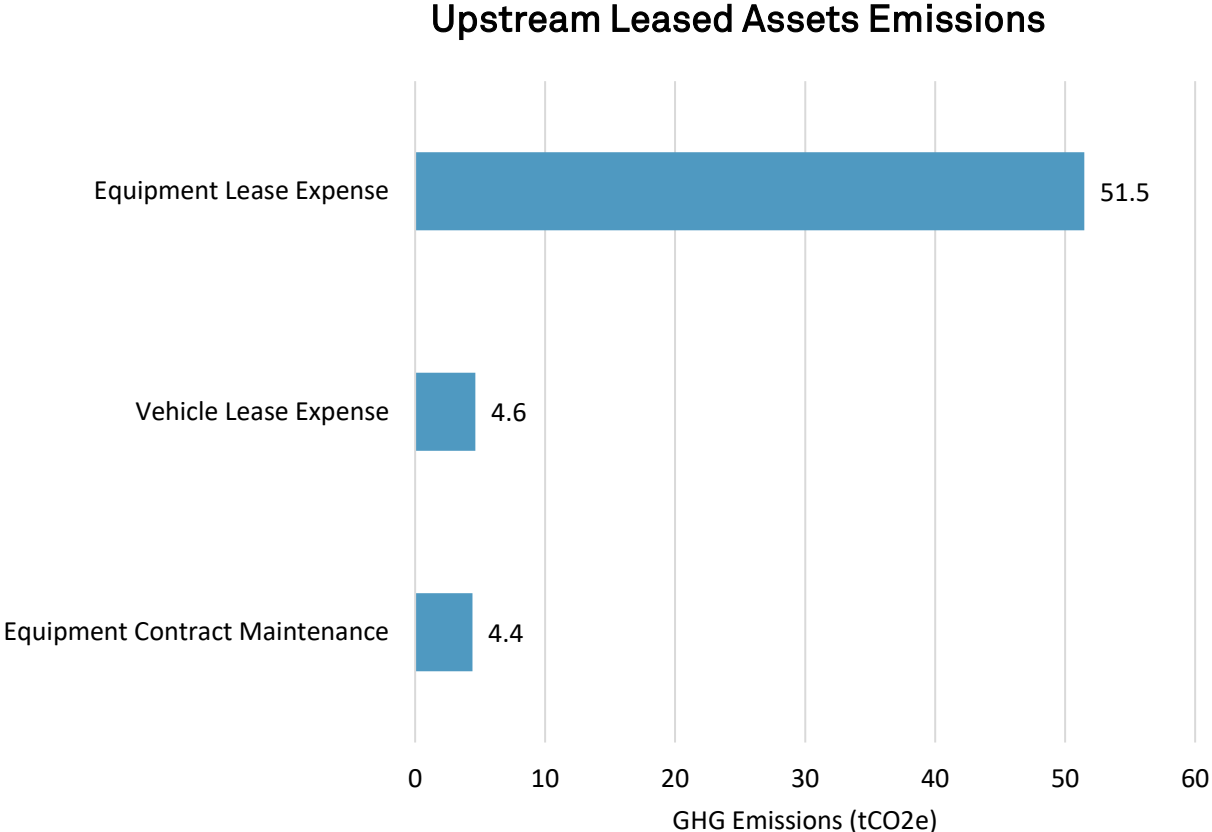
### Data sources

Core Lab provided annual expenditure for their equipment contract maintenance, as well as vehicle and equipment leases.

### Methodology

Only expenditure data was provided for lease categories – emissions were estimated from the EEI-O model.

\$265K of expenditure categorized as ‘Equipment Contract Maintenance’ from Categories 1 and 2 was moved to Category 8. This is consistent with the FY 2023 calculation methodology.



# Scope 3 Category 11 – Use of Sold Products

Total Use of Sold Products Emissions: 706 tCO<sub>2</sub>e

## Data sources

Core Lab provided product specification, quantity and total expenditure for all products.

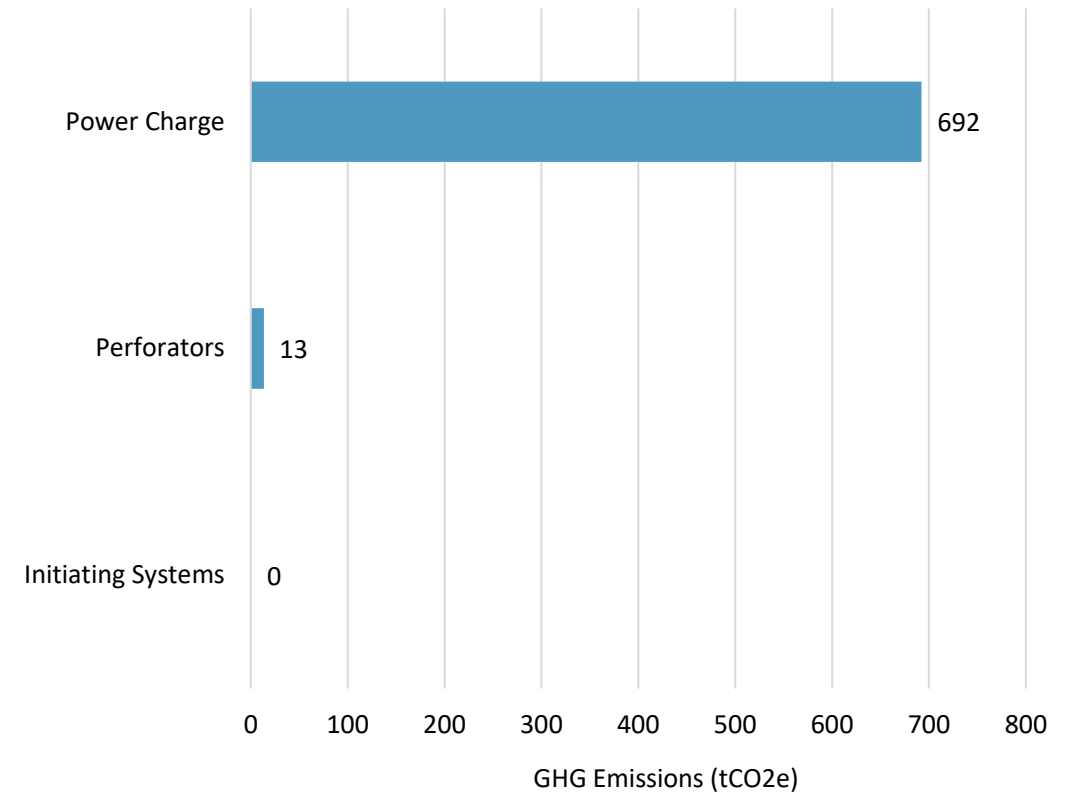
## Methodology

Sustainable1 calculated emissions based on estimated use and type of explosive.

## Final Activity Data

Overall emissions from all products is minimal, with power charge accounting for about 98% of total emissions.

Use of Sold Products Emissions



# Scope 3 Category 12 – End of Life Treatment of Sold Products

Total Product Disposal emissions: 123 tCO<sub>2</sub>e

### Data sources

Core Lab provided product specification, quantity and total expenditure for Metal Gun Systems and Bridge Plugs. For all other products Core Lab provided weight of materials and disposal route.

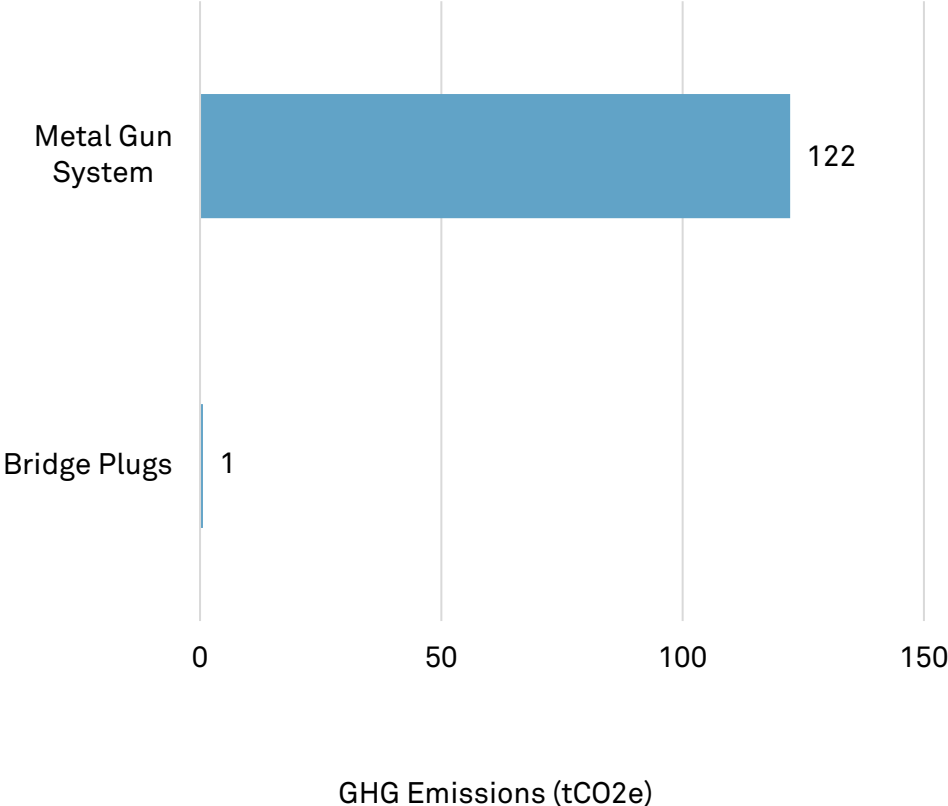
### Methodology

Sustainable1 calculated emissions based on disposal route and waste type.

### Final Activity Data

The majority of emissions, or 99%, came from the disposal of metal gun systems, followed by the disposal of a minimal quantity from the disposal of bridge plugs.

End of life treatment of sold products emissions



# Industry Best Practices

## Best practice considerations for setting base for environmental reporting



### ESG Report

Reporting ESG performance data in the public domain helps a reporting entity convey its alignment with climate change adaptation and mitigation. It also enables reporting entities to connect with like-minded organizations for collaborative partnerships and foster synergy.



### 1. Identify Material Aspects

Material aspects are topics that are critical for an organization and its stakeholders (employees, community, government, media). Identifying and reporting on material aspects strengthens an organization's social license to operate.

IMPORTANCE TO STAKEHOLDERS	VERY HIGH		Enabling Clients' Sustainability	<ul style="list-style-type: none"> <li>• Data Privacy &amp; Cyber Security</li> <li>• Ethics &amp; Integrity</li> <li>• Climate Change &amp; Carbon Emissions</li> <li>• Responsible Innovation</li> <li>• Inclusion, Diversity &amp; Equal Opportunity</li> </ul>
	HIGH	Community Giving	<ul style="list-style-type: none"> <li>• ESG Management</li> <li>• Human Rights</li> <li>• Responsible Buying</li> <li>• Societal Impact</li> <li>• Public Policy &amp; Advocacy</li> <li>• Water</li> </ul>	<ul style="list-style-type: none"> <li>• Employee Wellbeing &amp; Engagement</li> <li>• Talent Attraction, Retention &amp; Development</li> <li>• Working Conditions</li> </ul>
	MEDIUM	Waste, including e-waste		
		MEDIUM	HIGH	VERY HIGH
		IMPORTANCE TO BUSINESS		



### 2. Create Vision & Policy

After determining material aspects, a reporting entity creates a vision for the future and develops policies on the material aspects that clarifies its position and approach towards creating value under each material aspect.

## Best practice considerations for managing Scope 3 emissions



### Managing Scope 3 Emissions

An organization has relatively lower control over Scope 3 emissions. Some of the best practices adopted by organizations around the world are detailed below:

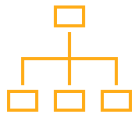
Scope 3 Category	Contribution (%)	Best Practices
Employee Commuting	24%	<ul style="list-style-type: none"> <li>✓ Regular employee survey to collect data on mode of transport and distance travelled to office</li> <li>✓ Generate employee travel reports in accordance with the overall working days</li> <li>✓ Utilization of Public transport</li> </ul>
Purchased Goods and Services and Capital Goods	22%	<ul style="list-style-type: none"> <li>✓ Procurement from suppliers with lower emission profile</li> <li>✓ Encourage suppliers to disclose environmental performance</li> </ul>
Fuel and Energy related Services	17%	<ul style="list-style-type: none"> <li>✓ Source Renewable Energy</li> <li>✓ Procurement of electricity from suppliers with lower emission factor</li> </ul>
Upstream Transportation	12%	<ul style="list-style-type: none"> <li>✓ Use of electric vehicles</li> <li>✓ Request suppliers and customers to share distance travelled and mode of transport, and track weight of shipment</li> </ul>
Business Travel	10%	<ul style="list-style-type: none"> <li>✓ Choose the most carbon efficient route when possible (avoid stopovers, fly economy, buy into sustainable aviation services when possible)</li> <li>✓ Look for environmentally certified travel organizations or services</li> <li>✓ Avoid travel when possible</li> </ul>

## Best practice considerations for data backed reporting and decision making



### Data

A number of quantification approaches are used to assess GHG inventory for an organization. Approaches leveraging on primary data (e.g. fuel and energy consumption, waste disposal tonnage by category and disposal route) are considered to generate emissions data of higher quality compared to methodologies that use secondary data (e.g. spend on upstream transportation or headcount per country to estimate emissions from commuting). To improve the data quality of the inventory, a reporting entity should focus on collecting primary data from all its business sites, suppliers, and other partners.



#### Data Owners

Assigning data owners at a site level enables easy collection of data at periodic intervals. Consistent data owners are well-versed with the methodology/SOPs and help address any anomaly in data collection right at the source.



#### Itemized bill

The reporting entity should request its supply chain partners such as lessors of sites, recycling partners, and building management to provide itemized bill instead of an aggregate bill.



#### Data Assurance

Assurance/internal audit of ESG data builds credibility and accuracy of the reported environmental indicators.



#### Supplier Engagement

The reporting entity may engage with its suppliers to encourage them to disclose their emissions and implement programs to reduce GHG emissions.



#### Environmental Indicators

The reporting entity may extend the scope of its reporting to other environmental indicators such as water, waste and biodiversity.

## Best practice considerations for managing scope 1 and 2 emissions



### Managing Scope 1,2 Emissions

Scope 1 and Scope 2 emissions are in direct control of the reporting entity as the emissions are generated within the its own offices/sites. Some of the best practices adopted by organizations around the world are detailed below:



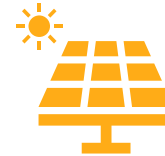
#### Fuel Use

- ✓ Implementing an Energy Management System
- ✓ Electricity based heating system instead of Natural Gas based system
- ✓ Periodic maintenance of the HVAC System
- ✓ Comprehensive Insulation (glass wool, double/triple glazed windows)
- ✓ Review use of refrigerant



#### Electricity Use

- ✓ LED lighting
- ✓ Occupancy sensor-based lighting
- ✓ Centrally controlled heating/cooling
- ✓ Ventilation management
- ✓ ENERGY STAR-certified equipment
- ✓ Programmable thermostats
- ✓ Lease office space in a Green certified building



#### Renewable Energy

- ✓ Procurement of solar/wind-based energy
- ✓ Procurement of power from low emission suppliers
- ✓ Installation of solar panels on rooftop



#### Behavioral Change

- ✓ Employee sensitization on responsible use of resources and energy

# Appendices

Appendix I – Scope 1 & 2 Glossary

Appendix II – Scope 3 Methodology

Appendix III – Trucost Environmental Model 3.0

# Appendix I

## Scope 1 & 2 Glossary

Term	Description
<b>Carbon footprint</b>	The total amount of greenhouse gases produced by direct or indirect human activities, usually expressed in equivalent tons of carbon dioxide.
<b>Dual reporting</b>	According to the GHG Protocol Scope 2 Guidance released in January 2015, companies are required to report two Scope 2 emission totals – location-based and market-based, known as ‘dual reporting’
<b>Emission intensity</b>	Emission intensity is the level of GHG emissions per unit of economic activity.
<b>Global warming potential (GWP)</b>	GWP is the ratio of the warming of the atmosphere caused by one substance to that caused by a similar mass of carbon dioxide, which is assigned a reference value of 1.
<b>Greenhouse gases</b>	Gases that trap heat in the atmosphere are called greenhouse gases.
<b>Location based</b>	A location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data).
<b>Market based</b>	A market-based method reflects emissions from electricity that companies have purposefully chosen (or their lack of choice). It derives emission factors from contractual instruments, which include any type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation, or for unbundled attribute claims. Markets differ as to what contractual instruments are commonly available or used by companies to purchase energy or claim specific attributes about it, but they can include energy attribute certificates (RECs, GOs, etc.), direct contracts (for both low-carbon, renewable, or fossil fuel generation), supplier-specific emission rates, and other default emission factors representing the untracked or unclaimed energy and emissions (termed the residual mix)

Term	Description
<b>Residual Emission Factor</b>	A residual mix emission factor represents the emissions and generation that remain after certificates, contracts, and supplier-specific factors have been claimed and removed from the calculation. A residual mix emission factor can be a regional or national factor.
<b>Scope 1</b>	Scope 1 includes direct emissions from sources, which a company owns, or controls. This includes direct emissions from fuel combustion and industrial processes.
<b>Scope 2</b>	Scope 2 covers indirect emissions relating solely to the consumption of electricity that is purchased by the owned or controlled equipment or operations of the company. Scope 2 emissions are reported in both location-based and market-based approach in alignment with the latest GHG Protocol guidance.
<b>Scope 3</b>	Scope 3 covers other indirect emissions including third-party provided business travel and purchased goods and services.
<b>Scope 1 - Stationary Combustion Emissions</b>	These emissions result from combustion of fuels in stationary sources, e.g., boilers, furnaces, turbines
<b>Scope 1 Fugitive Emissions</b>	Emissions not caught by a capture system which are often due to equipment leaks, evaporative processes and windblown disturbances. For example, emission from refrigerants
<b>Scope 1 Mobile Emissions</b>	These emissions result from the combustion of fuels in company owned/controlled mobile combustion sources (e.g., trucks, trains, ships, airplanes, buses, and cars). These vehicles can be used for transportation of materials, products, waste, and employees.

# Appendix II

## Scope 3 Methodology

SOURCE OF SCOPE 3 EMISSIONS	EMISSIONS CALCULATION METHODOLOGY
1) Purchased goods and services	Sustainable1 used Core Lab's FY 2024 supplier spend data, combined with supplier disclosed emissions data from Sustainable1 Environmental Register and the Sustainable1 EEI-O model, to calculate the supply chain GHG emissions through all tiers up to and including raw material extraction.
2) Capital goods	
3) Fuel- and energy-related activities	For fuel-and energy related activities, emissions were calculated based on Core Lab's actual electricity and fuel usage data. Energy consumption data was combined with Transmission & Distribution and Well To Tank Defra emission factors.
4) Upstream transportation and distribution	Core Lab provided Sustainable1 with expenditure on upstream transportation and distribution which were combined with the Sustainable1 EEI-O model, to calculate GHG emissions related to upstream transportation and distribution
5) Waste generated in operations	Sustainable1 calculated emissions using Core Lab's waste data and emission factors from Defra (2023) – UK Government GHG Conversion Factors for Company Reporting.
6) Business travel	Sustainable1 used Core Lab's spend data by mode of transport and distance travelled combined with the Sustainable1 EEI-O model, to calculate GHG emissions related to business travel. Sustainable1 also used number of room nights for hotel stay and combined it with DEFRA hotel stay factors to estimate emissions from hotel stay.
7) Employee commuting	Sustainable1 used Core Lab's global employee head count by country, combined with OECD's published country averages for commuting time, transportation mode and distance, to calculate GHG emissions from employee commuting.
8) Upstream leased assets	Core Lab provided Sustainable1 with fuel data or expenditure for its leased vehicles and occupied floor space or expenditure for rented facilities and equipment contract maintenance and DEFRA conversion factors were used to estimate emissions
9) Downstream transportation and distribution	N/A

SOURCE OF SCOPE 3 EMISSIONS	EMISSIONS CALCULATION METHODOLOGY
10) Processing of sold products	N/A
11) Use of sold products	Sustainable1 used Core Lab's product specification, quantity and spend data for perforators, power charges and initiating systems.
12) End-of-life treatment of sold products	Sustainable1 used Core Lab's product specification, quantity and spend data for Metal Gun Systems and Bridge Plugs.
13) Downstream leased assets	N/A
14) Franchises	N/A
15) Investments	N/A

# Methodology – Category 8

- The table to the right outlines the taxonomy used to group Core Lab’s spend/ data categories within value chain Category 8 – Upstream Leased Assets.
- S1 assigned Trucost Sectors to each unique categorization.

Core Lab Categorization	S1 Assigned Trucost Sector
Equipment Lease Expense - Air Compressor	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Amortization Expense Portion GL Trial	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Bicycles	Miscellaneous Store Retailers
Equipment Lease Expense - Cylinder	Air and gas compressor manufacturing
Equipment Lease Expense - Field Equipment	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Forklift	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Generator	Motor and generator manufacturing
Equipment Lease Expense - HVAC	Air conditioning, refrigeration, and warm air heating equipment manufacturing
Equipment Lease Expense - Lab Equipment	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Mobil Phone	Telecommunications
Equipment Lease Expense - Office Equipment	Office supplies (except paper) manufacturing
Equipment Lease Expense - Portable Toilets	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Safety PPE	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Short Term GL Trial	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Storage Container	Warehousing and storage
Equipment Lease Expense - Tools	Handtool manufacturing
Equipment Lease Expense - Uniforms	Dry-cleaning and laundry services
Equipment Lease Expense - Variable Lease Payments GL Trial	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Vehicle	Automotive equipment rental and leasing
Equipment Lease Expense - Warehouse Equipment	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense - Water system	Commercial and industrial machinery and equipment rental and leasing
Equipment Lease Expense Below \$100 GL Trial	Commercial and industrial machinery and equipment rental and leasing
Vehicle Lease Expense - Short Term	Automotive equipment rental and leasing
Vehicle Lease Expense - Short Term GL Trial	Automotive equipment rental and leasing
Vehicle Lease Expense - Variable Lease Payments	Automotive equipment rental and leasing
Vehicle Lease Expense - Variable Lease Payments GL Trial	Automotive equipment rental and leasing
Vehicle Lease Expense - Vehicle	Automotive equipment rental and leasing

# The Sustainable1 EEI-O Model



Since its founding in 2000, Sustainable1 developed an environmental economic input output (EEI-O) life cycle based model for quantifying environmental impacts. The EEI-O model uses an economic modelling technique based on extensive government census data to analyze the products used and produced by over 464 business activities or sectors. The model also describes the economic interactions between each sector. Sustainable1 is able to assess the environmental impacts of companies across their own operations and their entire supply chains, including primary resource extraction secondary processing and final product assembly.

Sustainable1 has improved upon standard EEI-O models in several ways, resulting in what we believe is a best in class model for analyzing environmental performance. These improvements include the following:

- Sustainable1 has integrated the use and emissions of over 700 environmental resources. By applying a price to each environmental resource, based on the environmental value of that resource, the model is able to analyze, in financial terms, the economic and environmental performance of each sector. This environmental performance measure incorporates the indirect, supply chain impacts by using the information on the interactions between sectors.
- Sustainable1 maintains and updates its model annually to reflect market commodity flows. We annually update our sector revenue for all sectors, producer prices and annual production quantities for all primary sectors in our model.
- Sustainable1 reviews the environmental intensities for all sectors annually against companies' public disclosures from our annual engagement programs. Sustainable1 engages with more than 15,000 companies directly to obtain environmental performance metrics and considers them against the specific sector's environmental intensity. As a result, we are able to test this model against many years of data on quantitative environmental disclosures from thousands of companies.

The EEI-O methodology extends the analysis of corporate environmental performance by using the segmental revenue data contained in company accounts to map each company to a set of sectors. Sustainable1 has modeled the environmental impacts of over 464 different sectors and proportionally allocated these impacts to the company by calculating the company's market share of that sector. This provides a baseline of environmental resource use that Sustainable1 can improve by adding company-specific environmental information, either from public disclosure in the company's annual or environmental reports, or from direct communication with the company itself.

# Appendix III

## Trucost Environmental Model 3.0

# Trucost Updates

With the landscape for sustainability metrics and the regulatory market evolving quickly, we are updating our data collection systems and estimation model to provide our clients with a best-in-class product that delivers the highest quality data. The new Trucost E- Model will make improvements in the following areas:



**Reflect the current and future economy including transitional and green activities**



**Enable the expansion of data metrics required for regulatory reporting**



**Leverage corporate operational data and enhance environmental modelling methodologies with additional corporate disclosures and sector-based studies**



**Support audit requirements through source referencing, controls and documentation**



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