

Carbon Footprint Report Summary

Energy Efficient Solutions Group

Reporting period: 1st November 2022 – 31st October 2023



Greener Edge
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Carbon Footprint Overview

This carbon footprint inventory was prepared for EESG for the reporting period 1st November 2022 – 31st October 2023.

Organisation Background

Name: EESG
Business Area: Consultancy and supplier
Business Description: Importer and installer of solar PV and LED lighting systems to public and commercial sector buildings.

Organisational Boundary

This measurement covers one and only site:
Energy Saving Lighting, Unit 3, The Western Centre,
Western Road, Bracknell, England, RG12 1RW.

Report Period

1st November 2022 – 31st October 2023

Reporting Boundary

Scope 1: Direct Emissions

- Fuel combustion in organisation's facilities
- Organisation's vehicles
- Fugitive emissions from organisation-controlled sources

Scope 2: Indirect Emissions from Energy

- Purchased electricity, steam, heating and cooling for own use

Scope 3: Indirect Emissions

- Purchased goods and services
- Capital goods
- Fuel and energy-related activities
- Upstream transportation and distribution
- Waste generated in operations
- Business travel
- Employee commuting
- Downstream transportation and distribution

Reporting Omissions

Employee wages

Total Emissions

3,341.72 tCO₂e

Scope 1 Emissions

36.39 tCO₂e

Scope 2 Emissions¹

0 tCO₂e

Scope 3 Emissions

3,305.34 tCO₂e

Emissions / employee

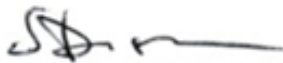
20.94 tCO₂e/employees

Emissions / turnover

111.67 tCO₂e/£1M

¹ Market-based emissions

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Date: 13th March 2024

All information, intensity metrics and recommendations contained within this report are accurate at the date of issue.

1.0 Background

This report is the third Scope 1,2 and 3 greenhouse gas (GHG) emissions inventory prepared for EESG. It was prepared in accordance with the requirements of GHG Protocol and covers the period 1st November 2022 – 31st October 2023. This report was prepared for EESG to assist it in managing its response to climate change and its reduction of greenhouse gas emissions. The report is also intended to be a communication tool to demonstrate to stakeholders that EESG has identified its emissions profile and is taking the issues of climate change seriously. The intended users of this report are staff of EESG, their existing and potential clients as well as members of the public. The previous reporting period utilised in former reports was 1st January – 31st December, however it was changed to match the financial reporting period. The subsequent reports will apply the new reporting period. Due the changes in the reporting period, there is an overlap between 2022-23 and the preceding report.

2.0 Carbon Footprint

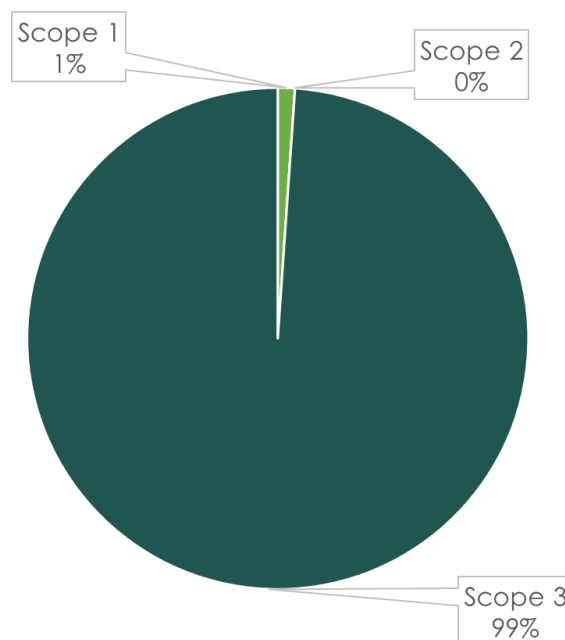
The total calculated carbon footprint of EESG during the reporting period 1st November 2022 – 31st October 2023 was **3,341.72 tCO₂e**.

Breaking the calculated emissions down by scope, by Scope 3: Indirect Emissions has the largest contribution of 98.91%, followed by Scope 1: Direct Emissions with 1.09% and then Scope 2: Indirect Emissions from Energy with 0%, using market-based approach (Figure 1 and Table 1).

Table 1. (bottom), Figure 1. (right) EESG's breakdown of emissions across scopes.

| Scope | Calculated Emissions (tCO ₂ e) | Percentage |
|--------------|-------------------------------------------|-------------|
| Scope 1 | 36.39 | 1.09% |
| Scope 2 | 0.00 | 0.00% |
| Scope 1 + 2 | 36.39 | 1.09% |
| Scope 3 | 3,305.34 | 98.91% |
| Total | 3,341.72 | 100% |

EESG's breakdown of emissions across scopes



2.1 Scope 1 and 2: emissions from on-site sources and off-site energy production

EESG's scope 1 emissions by activity can be seen in the Table 4 below. The scope 1 emissions consist of emissions from onsite energy consumption and company vehicles.

Table 2. EESG's emission distribution across scope 1.

| Scope | Activity | Emissions (tCO ₂ e) | Consumption (kWh,miles) | Uncertainty | Percentage |
|------------------------------|---------------------------|--------------------------------|-------------------------|-------------|-------------|
| Scope 1: Direct Emissions | Onsite energy consumption | 12.84 | 71,334 | +/- 2% | 35.29% |
| | Company vehicles | 23.55 | 65,354 | +/- 5% | 64.71% |
| | Total | 36.39 | | | 100% |

The dual reporting methodology reports emissions from electricity consumption using two different methods: the location-based method and the market-based method. The location-based method calculates emissions based on a national average emission factor and the specific grid where energy consumption occurs. This shows what the company is physically releasing into the air. The market-based method calculates emissions using supplier-specific data from contractual instruments such as REGOs (Ofgem, 2021), indicating the emissions the company is responsible for through purchasing decisions. The renewable energy certificate can be seen in an Appendix, however it is worth noting that the consumption quoted on the certificate is lower than consumption recorded by EESG. This is due to the fact that there were ongoing issues with a meter at EESG's office. As Engie is the only supplier of electricity for EESG we are confident that all electricity purchased by EESG is REGO backed

The total annual electricity consumption for the reporting year was 40,367.60 kWh.

Table 3. EESG's emission distribution across scope 2.

| Scope | Activity | Consumption (kWh) | Emissions (tCO ₂ e) Location-based | Emissions (tCO ₂ e) Market-based | Uncertainty |
|--------------------------------|-----------------------|-------------------|--------------------------------------------------|------------------------------------------------|-------------|
| Scope 2: Indirect Emissions | Purchased electricity | 40,368 | 8.36 | 0 | + / - 2.5% |

2.2 Scope 3: emissions from supply chain

The largest contributor to EESG's Scope 3: Indirect Emissions are emissions from capital goods making up 77.36% with a contribution of 2,557.00 tCO_{2e}. Following this, the emissions associated with business travel make up 6.49% with a contribution of 214.36 tCO_{2e}. The third biggest source of Scope 3 emissions are emissions from upstream transportation and distribution equating to 6.01% of all Scope 3 emissions, contributing 198.74 tCO_{2e}. The remaining Scope 3 emissions can be contributed to emissions from employee commuting (4.18%), downstream transportation and distribution (4.14%), purchased goods and services (0.99%), waste (0.51%) and fuel and energy related activities (0.32%)

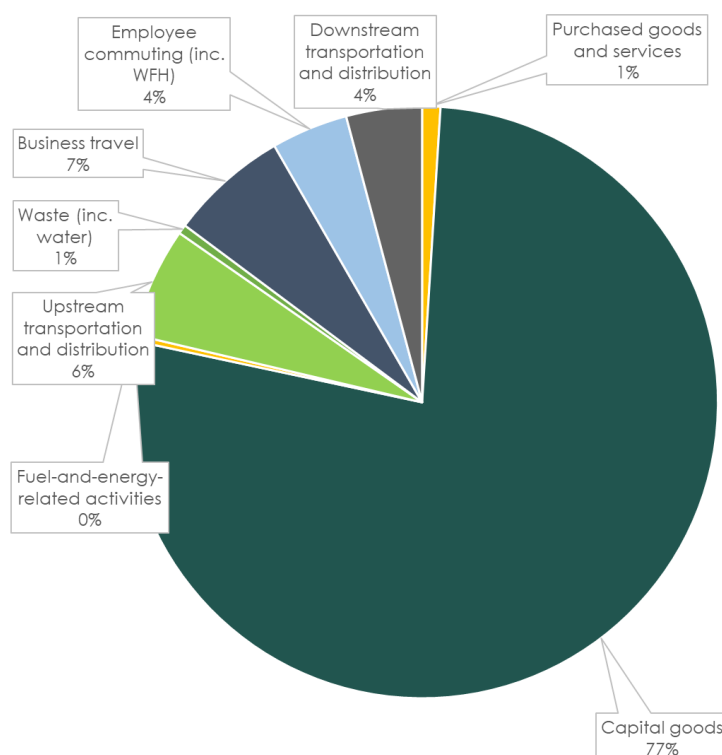


Figure 2. Breakdown of Scope 3 emissions.

Table 4. EESG's emission distribution across scope 3

| Source | Emissions (tCO _{2e}) | Uncertainty | Percentage |
|--------------------------------------------|--------------------------------|-------------|-------------|
| Purchased goods and services | 32.78 | + / - 20% | 0.99% |
| Capital goods | 2,557.00 | + / - 20% | 77.36% |
| Fuel-and-energy-related activities | 10.65 | +/- 5% | 0.32% |
| Upstream transportation and distribution | 198.74 | +/- 10% | 6.01% |
| Waste (inc. water) | 16.7 | +/- 5% | 0.51% |
| Business travel | 214.36 | +/- 5% | 6.49% |
| Employee commuting (inc. WFH) | 138.3 | +/- 5% | 4.18% |
| Downstream transportation and distribution | 136.81 | +/- 20% | 4.14% |
| Total | 3,305.34 | | 100% |

3.0 Greenhouse gas hotspots

Figure 6 and Table 5 review the areas of the business with the highest emissions. The top 10 areas of business (in bold) account for 94.76% of total Scope 1, 2 and 3 emissions.

Table 5. EESG's greenhouse gas hotspots, the remaining activities contributions and profile hotspots

| Scope | Activity | Emissions (tCO ₂ e) | Percentage |
|-------|---------------------------------------------------------------|--------------------------------|----------------|
| 3 | Capital Goods – Electronics | 2,473.80 | 73.84% |
| 3 | Transport and Distribution (Downstream) - Road Freight | 136.81 | 4.08% |
| 3 | Business Travel - Hotels | 122.82 | 3.67% |
| 3 | Transport and Distribution (Upstream) - Air Freight | 100.56 | 3.00% |
| 3 | Employee Commuting - Office | 92.06 | 2.75% |
| 3 | Transport and Distribution (Upstream) - Sea Freight | 77.05 | 2.30% |
| 3 | Business Travel - Road | 62.59 | 1.87% |
| 3 | Capital Goods - Card | 38.02 | 1.13% |
| 3 | Employee Commuting - Installation Teams | 37.91 | 1.13% |
| 3 | Purchased Goods and Services - Ancillary Products | 32.78 | 0.98% |
| 3 | Capital Goods - Packaging | 27.18 | 0.81% |
| 3 | Business Travel - Air | 23.86 | 0.71% |
| 1 | Company Owned Delivery Vehicles | 23.55 | 0.70% |
| 3 | Capital Goods - Furniture and Fittings | 18.00 | 0.54% |
| 3 | Waste Disposal | 16.26 | 0.49% |
| 3 | Transport and Distribution (Upstream) - Warehousing | 13.55 | 0.40% |
| 1 | Natural Gas | 12.84 | 0.38% |
| 3 | Electricity T&D Losses, WTT | 10.65 | 0.32% |
| 2 | Electricity | 8.36 | 0.25% |
| 3 | Homeworking | 8.33 | 0.25% |
| 3 | Transport and Distribution (Upstream) - Road Freight | 7.58 | 0.23% |
| 3 | Business Travel - Restaurants / Catering | 5.09 | 0.15% |
| 3 | Water & Sewerage | 0.44 | 0.01% |
| | Total | 3350.08 | 100.00% |

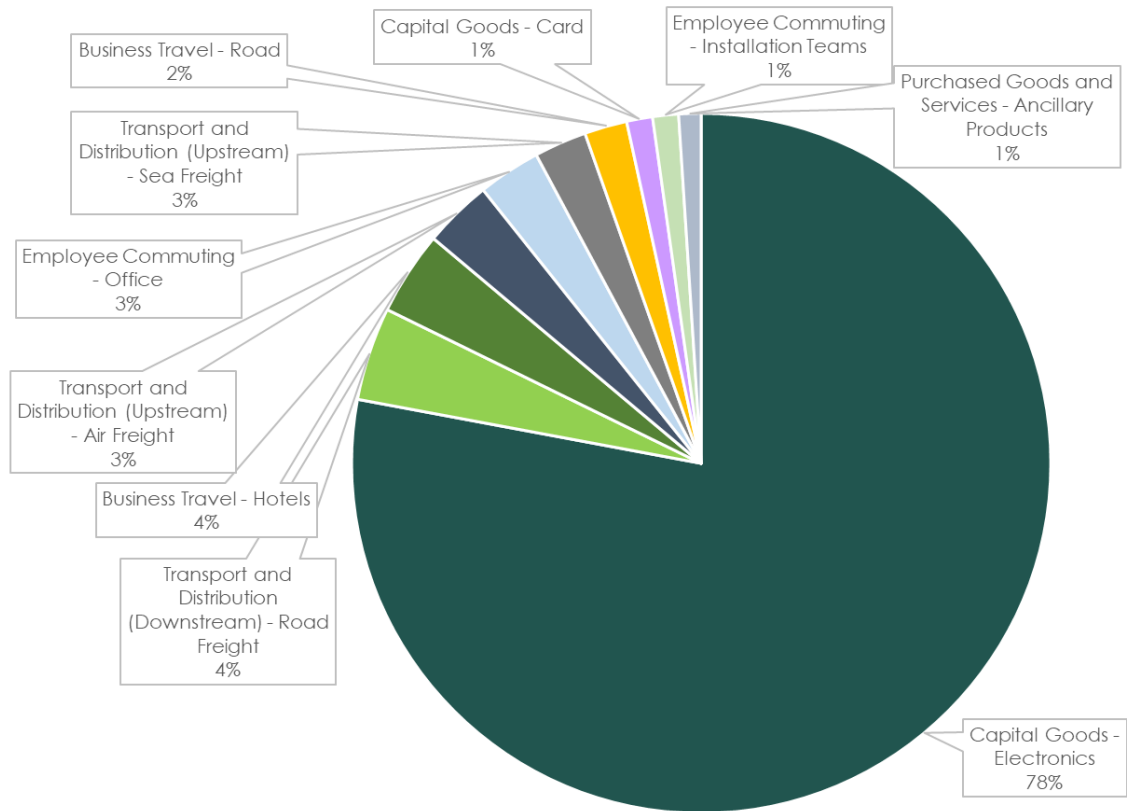


Figure 3. EESG's greenhouse gas hotspots, top 10 sources accounting for 94.76%.

4.0 Scope 4: avoided emissions

As an importer and installer of solar PV and LED lighting systems contributing to overall reduction of carbon emissions for our clients, EESG is inspired to start measuring this impact. EESG plans to quantify it by carrying out a comprehensive assessment of Scope 4 emissions in the subsequent reporting period. Although Scope 4 emissions will not be a part of an official carbon inventory, as per GHG Protocol's advice, Greener Edge predicts the negative Scope 4 emissions to be much larger than the overall footprint of EESG, showing a positive impact EESG has on carbon emissions in the UK.



Appendix



References

DESNZ (2023) *Greenhouse gas reporting: conversion factors 2023*. Available at: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023>

DEFRA (2023) *UK and England's carbon footprint to 2020*. Available at: <https://www.gov.uk/government/statistics/uks-carbon-footprint>

GHG Protocol (2004) *A Corporate Accounting and Reporting Standard The Greenhouse Gas Protocol*. Available at: <https://ghgprotocol.org/corporate-standard>

GHG Protocol (2013) *Corporate Value Chain (Scope 3) Standard*. Available at: <https://ghgprotocol.org/corporate-value-chain-scope-3-standard>

GHG Protocol (2023) *Technical Guidance for Calculating Scope 3 Emissions (version 1.0)*. Available at: https://ghgprotocol.org/sites/default/files/2023-03/Scope3_Calculation_Guidance_0%5B1%5D.pdf

Ofgem (2021) *Renewable Energy Guarantees of Origin (REGO)*. Available at: <https://www.ofgem.gov.uk/environmental-and-social-schemes/renewable-energy-guarantees-origin-reg>