Labcenter Electronics Ltd
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Labcenter Electronics Ltd - Organisational Footprint 2022

Introduction

This is an organisation footprint which is based on the GHG Protocol. The organisational boundary is Labcenter headquarters, although for completeness we have attempted to account for home working in Scope 2 emissions. The operational boundaries of Scope 3 emissions are limited to business travel and employee commuting. The company exclusively develops software (digital) products and therefore other Scope 3 emission categories are deemed marginal.

At this stage a product carbon footprint has not been included as the GHG emissions guidelines for the products life-cycle do not seem to fit well with software development. For example, supply chain categories such as extraction, production and transportation of raw materials do not apply and downstream considerations such as product use or end-of-life disposal are similarly not applicable.

Scope 1 Emissions

> ***Direct emissions that result from activities within your organisation's control. This might include on-site fuel combustion, manufacturing and process emissions, refrigerant losses and company vehicles.***

On site Fuel Combustion:

Not applicable.

Company Vehicles:

One Company Vehicle as follows:

- 30 miles to gallon or 6.61 miles to the litre.
- 14mile round trip made twice a week or 28 miles per week, 1456 annually.
- Consumption 220.27 litres.

Total Annual Consumption: **485 litres diesel or 581 kgCO2e**

Process Emissions:

Not applicable.

Fugitive Emissions:

Fugitive emissions are emissions of gases or vapors from pressurized equipment due to leaks and other unintended or irregular releases of gases, mostly from industrial activities.

Not applicable.

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Scope 2 Emissions

> ***Indirect emissions from any electricity, heat or steam you purchase and use. Although you're not directly in control of the emissions, by using the energy you are indirectly responsible for the release of CO_2.***

- **Purchased Electricity: 2087 kWh or 403 kgCO2e**
- **Purchased Gas: 18850 kWh or 3450 kgCO2e**

Home Working Contribution based on 15 desktop computers at 140W, 8 hours a day, 5 days a week, 48 weeks a year.

- **Purchased Electricity: 4032kWh or 778 kgCO2e**

Scope 3 Emissions

> ***Any other indirect emissions from sources outside your direct control. Examples of scope 3 emissions include purchased goods and services, use of sold goods, employee commuting and business travel, outsourced transportation, waste disposal and water consumption***

Commuting

Based on home working commuting is largely limited to quarterly in person dev meetings.

- **Diesel: 530 Litres or 1399 kgCO2e**

Business Travel

Business travel over the year contributed:

- **Air mileage= 0 miles**

Downstream Transportation and Distribution

The majority of the software is distributed digitally over the internet but for some international locations we ship product manuals and CD's containing the software. This category could therefore be relevant to our Scope 3 emissions.

Based on our DHL shipment logs our packages travelled around **600,000 airmiles annually on around 125 shipments each of approx. 1kg**, However, clearly our package does not travel alone on the plane or consume the total cargo weight for the flight. We know for example that DHL largely use the Boeing 767–300 for long distance routes which can carry a maximum payload of around 52 tons (or 47,000 kg) over 6.000km.

Sadly, DHL do not make carbon footprint numbers available except at significant cost and without their help we can't sensibly quantise our contribution to their emissions. For example, we don't know the ground transit distance at each end, the flight path from source to destination, how full the plane is, what the weather was like, the flight ceiling or any number of other variables that significantly affect the fuel consumed getting the package to its destination.

Given the weight of our package versus their cargo capacity, the relatively small number of flights per year and the lack of data from DHL we judge it marginal and have therefore not pursued further for this report.

Emissions Summary

The UK government report on the carbon emissions on the average energy fuel mix. In 2022, these figures were 0.193 kg of CO2e per kWh of electricity and 0.183 kg per kWh of gas. We've used these conversions in all calculations above.

We are using the figure of 2.6391 kgs of CO_2 per litre diesel burnt.

1kg of CO2 can be expressed as 0.27kg of carbon, as this is the amount of carbon in the CO2.

Total emissions at **6611 kgCO2e** which is equivalent to **1785 kg Carbon**

Reduction

Our Scope 1 emissions are low with one company car used infrequently.

Our Scope 2 emissions are already reduced with solar power on site. Directly purchased electricity from the grid is bought from a certified green supplier and the reduction in fuel emissions from home working is notable.

In Scope 3 emissions we have eliminated business air travel in 2022, while commute travel is also drastically down as a result of the move to home working. Shipment transport. We already make wide use of tools like Slack and Skype to reduce the amount of travel but we could attempt to lower our shipment size and weight. Replacement of printed documentation with an electronic equivalent would have several environmental benefits.

Generally speaking though, it's difficult to see any obvious places where we could significantly improve our footprint.

Offset

This seems like a good idea without a formula which makes it all rather speculative. We are told that as a rule of thumb planting four trees will offset one tonne of C02e over their lifetime.

This number does seem to vary wildly depending on the species of tree, survivability of the saplings, sparseness of planting, whether we account for decay of the tree once dead and so on.

A single tree can apparently absorb 1 metric tonne by the time it reaches 40 years of age. However, since a large percentage of trees do not survive that long we need to plant more than one per tonne.

In the absence of more factual information and if we accept the premise of 4 trees per tonne Labcenter should therefore support or fund the planting of around 8 trees to offset our 2022 corporate emissions. This will be done via sponsorship of a local environmental initiative.