



Carbon Footprint Baseline Report 2022

Our Greener Future

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Executive summary

This is the first Carbon baseline statement MOSL has produced, setting out the annual calculation and publication of MOSL's Scope 1, 2, 3 Greenhouse Gas (GHG) emissions using UK Government or auditable emissions factors – one of the 12 commitments in our [Sustainability Plan](#).

Our baseline carbon emissions for the financial year 2022/23 is 125t CO₂e.

MOSL is a Small, Medium-sized Enterprise (SME) of circa 80 full-time employees (FTEs). We lease one and a half floors (approximately 4,825 ft²) in the White Building, Southampton. As we have leased premises, we do not have any Scope 1 emissions. Since the pandemic, we have been operating a hybrid working pattern with colleagues working from the office on average once a week.

Our water is charged based on the square footage of the building. Smart meters are installed on each floor to calculate electricity consumption. It should also be noted that our offices rarely operate at full capacity, so our actual water and carbon usage is likely to be significantly less. However, this report aims to provide an accurate view of our carbon emissions based on available data.

Over time, we aim to improve the accuracy of our calculations, increase the scope of emissions we record and identify opportunities to reduce our carbon footprint and introduce GHG reporting in our procurement and tendering strategy.

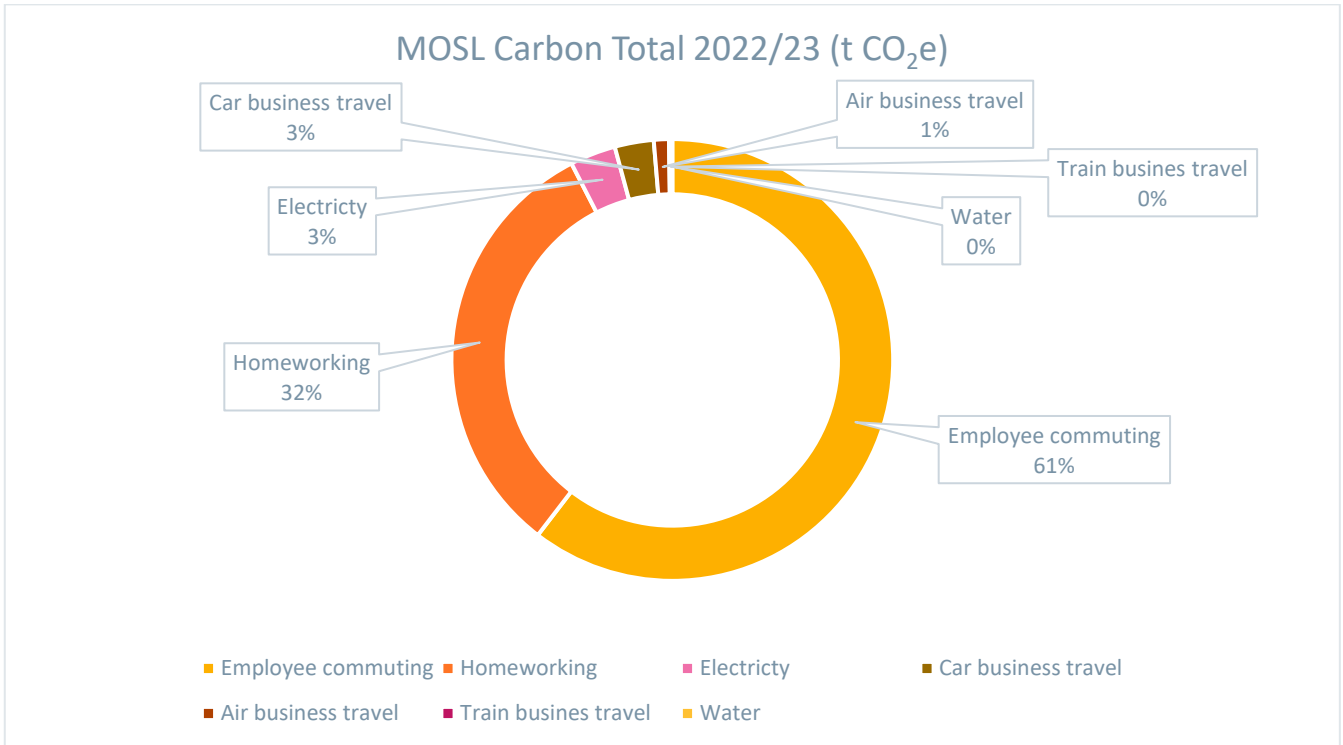
MOSL's 2022/23 Carbon Footprint

Our research shows that only ~7.5% of our footprint (9.43t CO₂) can be attributed to the office. Colleague commuting and homeworking accounts for over 92.5% of our carbon footprint. This means reducing our carbon footprint in the future will be directly related to how successfully we work with colleagues to inform their choices.

According to the Carbon Trust, the average SME generates around 15 tonnes of CO₂ annually, making up 50% of the total UK non-household emissions. However, considering an SME could have 50 to 250 employees, it is difficult to gauge whether our 125t footprint is excessive. We have also included home working and commuting, which some SMEs may exclude. We will look to work with other White Building Neighbours (as well as SMEs we partner with) to understand how our carbon footprint compares.

The White Building is currently undergoing renovation, including installing solar panels and improved insulation. This should have a positive knock-on effect on all tenants in the White Building.

Our 2022/23 electricity bill showed that we spent £4,000 on power between 6pm and 6am – demonstrating one area we can make an immediate change. We can reduce our footprint and costs by switching off our heating and air conditioning during non-working times.



Source	Scope 1 (t CO ₂ e)	Scope 2 (t CO ₂ e)	Scope 3 (t CO ₂ e)	Total (t CO ₂ e)
Colleague commuting			75.53	75.53
Homeworking			40.04	40.04
Business travel				
• Train			0.27	
• Flights			1.38	
• Car			3.57	5.22
Electricity		4.19		4.19
Water			0.02	0.02
Total	0.00	4.19	120.81	125.00

Introduction

Climate change is one of the greatest environmental challenges our society faces. As a responsible business, we need to do our part to reduce our carbon footprint and protect our natural resources. As with everything we do, it's important that we base our actions on evidence and are transparent in our practices. In our [2023/24 Sustainability Plan](#), we committed to carrying out the necessary research to baseline our carbon footprint.

This report shares the results of this commitment and makes recommendations in how we plan to improve our reporting and reduce our emissions. It should be noted that not all areas of Scope 1, 2 and 3 are included. We aim to expand and improve our data collection over time and as a result our carbon footprint may increase, not through increased consumption, but through greater accuracy of our data.

Our commitment to being open and transparent

Our Sustainability Plan is aligned with the [UN Global Goals](#) to ensure we understand our priorities and the environment and industry in which we operate. Our carbon footprint benchmarking focuses on [UN Global Goal 13](#): Climate Action. As part of SDG 13, scientists urge everyone to take urgent action to combat climate change to limit and reverse global warming.

We know, we can't change what we don't measure, and that's why it is key that we establish a baseline, which we measure and report annually. We have taken time to get the foundations right so that we can build and share our knowledge.

Through our partnership with the University of Southampton we were surprised to discover SMEs/charities not only account for 50% of GHG emissions from UK businesses, but just one in 10 SMEs measure their emissions.

Whilst we are not legally required to report our GHG emissions, we choose to as part of our commitment to being a responsible business.

Carbon Footprint

Our commitment

Climate Change: Take action to understand our carbon footprint and reduce it through science-based targets.

We will gather data from across the business to understand our current carbon output and establish our carbon baseline. This will include a colleague travel survey, data gathering on energy use in the office and use of the Government's assumptions for home working. We will analyse the data to establish a baseline for 2022 and develop an action plan to improve our carbon footprint, including creating KPIs to measure our progress.

Objective

- Calculate and publish MOSL's Scope 1, 2, 3 GHG emissions on an annual basis using UK Government or auditable emissions factors
- Improve the accuracy of emissions calculation over time
- Increase the scope of emissions reporting over time
- Identify opportunities to reduce our emissions
- Introduce and embed the impact of GHG emission in our procurement and tendering strategy

Our Approach

We have structured our Carbon Footprint in alignment with the GHG protocol, grouping emissions under the appropriate scope. As the most used method of obtaining a carbon footprint, we hope it will allow us to cross-check with other companies' data.

Since this is our first carbon statement, we needed to commit to specific calculations and data points to stay consistent across the coming years. This required an in-depth analysis of our indirect carbon emissions since this is where most of our emissions are generated.

Scope

The scope of our carbon footprint includes:

- Colleague commuting and business travel by car (mileage)
- Colleague homeworking
- Office electricity use
- Business travel: flights (mileage)
- Business travel: trains (mileage)
- Office water use.

For 2022/23, we decided the following were out of scope for our calculations:

- Purchased services
- Office equipment and services
- Transport of goods
- IT services
- Waste disposal.

From July to September 2023, we carried out desktop research to consider the best approach. We trialled a carbon calculator app and found it to be too high-level and not fit for purpose. With support from retailer, Wave Utilities – which has its own sustainability report - we calculated our GHG emissions in-house. We calculated our consumption retrospectively using the [2022 GHG conversion factors](#). More information on limitations and assumptions can be found in Appendix 1.

Timeline

We approached the calculation of our GHG emissions in the following way:

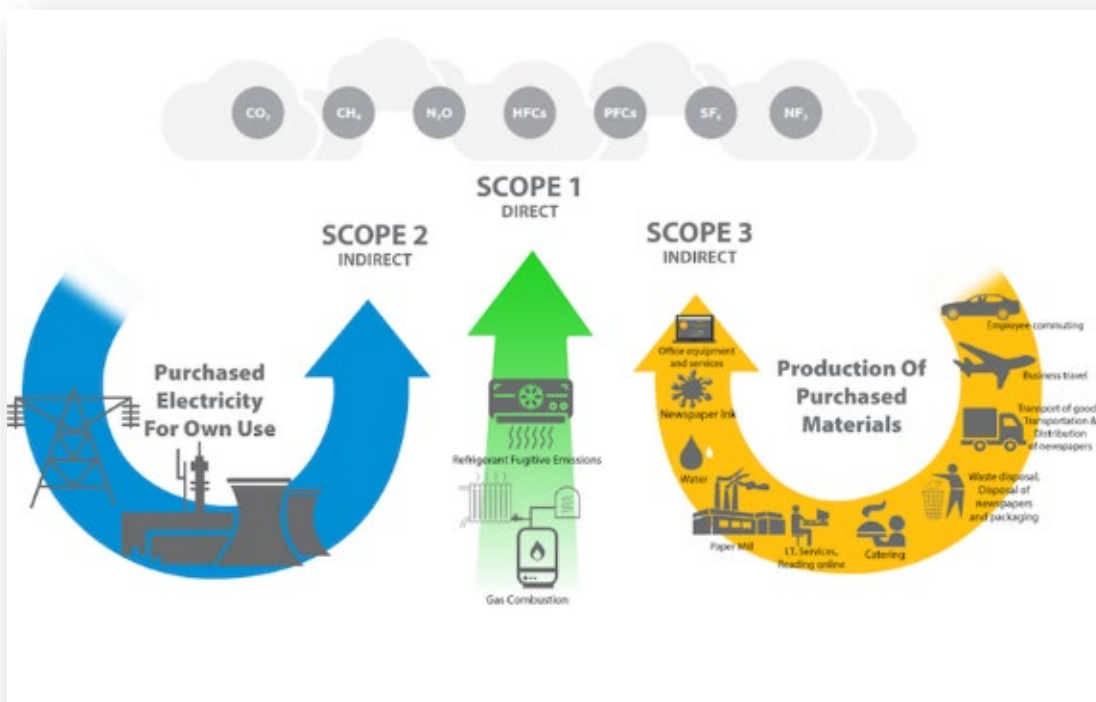
No	Action	Timeline
1	Conduct desktop research to find the best way forward	End September 2023
2	Calculation, audit and publication of our Scope 1 and Scope 2 GHG emissions for 2022	End November 2023

Environmental Impact

Overall MOSL’s carbon emissions are 125 t CO₂e with over 96% from Scope 3.

Scope 1 - Direct

Due to the nature of MOSL’s business - we lease office space from The Ashville Group – we do not have any Scope 1 carbon emissions.



Source: <https://www.compareyourfootprint.com/guide-to-secr/>

Scope 2 - Indirect

Electricity

MOSL's air conditioning and heating is powered by electricity purchased from Ashville Group and provided by Pozitive Energy. A breakdown of the fuel composition is available in Appendix 4.

Our electricity is calculated using exact consumption from our floor space within the White Building, which is charged quarterly. All electricity is purchased for our own use and no renewable energy is used.

Scope 3 - Indirect

Our Scope 3 includes colleague homeworking and commuting, business travel by car, train and flight, and office water use.

Colleague commuting

In August 2023, 83% of MOSL employees took part in a travel survey seeking information based on how frequently colleagues travel into the office and by which mode of travel. A summary of questions asked, an extract of responses and graph on all modes of travel from the travel survey can be found in Appendix 6

Business Travel

We monitor business travel through MOSL's expense process. The majority of colleagues travel by car alone. We encourage car-sharing but do not have a car-sharing policy. Since the actual dates of the business travel were unavailable, we have averaged out the yearly emissions into equal monthly amounts. Bus travel is not documented within the form and train mileage has been calculated based on station-to-station distance.

There is a peak in business travel for MOSL events such as MOSL's away day; excluding this, colleagues travel on average 819 kilometres per month (1,307 kilometres with away days included). We have calculated our baseline using the average of 1,307 kilometres.

After understanding our data collection process, we were able to finalise our business travel emissions by collating all forms and analysing the result.

Below is a table indicating the travel information we gathered based on MOSL’s current expense form.

Mode of transport	Distance	No. of journeys
Car	15,685 kilometres	58 journeys
Flight	8,996 kilometres	3 return journeys
Train	7,715 kilometres	66 journeys

Homeworking

MOSL is a hybrid working organisation, with most of our colleagues working from home four days per week. This is supported by our desking booking app, Condeco, which shows colleagues worked in the office on average 57 days each calendar year.

Water

MOSL operates as part of a multi-occupied building, as such, our water is charged as a percentage of the total building consumption. Since the building has one water meter and is a shared premises, our water bill is calculated within a service charge. Due to this fact, our water consumption based on actual usage is unknown.

However, using Central Market Operating System (CMOS) data for our supply point, we have calculated our consumption more accurately. In 2022/23, MOSL’s estimated water consumption is 166.36 cubic meters, considering MOSL occupies 9.63% of the White Building. The calculations can be found within Appendix 5.

Recommendations

We will look to include the following as part of our 2023/24 carbon reporting:

- A comparison of Scope 2 and 3 emissions from the 2022/23 financial year to 2023/24 (including but not limited to year-on-year electricity use)
- Colleague hotel stays
- Colleague business travel using month of travel
- Distance travelled by taxi and train

We will also seek to:

Work with our main third-party suppliers e.g., CGI to understand better our indirect emissions associated with purchased goods and services

- Work with our finance team to make amendments to our expense form to improve the accuracy of business travel reporting
- Produce best practice guidance for colleagues to reduce their energy consumption
- Encourage colleagues to car share where possible
- Encourage colleagues to turn lights and heating off at the end of the day
- Benchmark our consumption against other companies in our sector where available**
Work with the White Building to understand the key contributing factors to energy consumption, including the day/night split

**There is currently no widely recognised SME comparison available as SMEs are not required by law to report. We will conduct a desktop research exercise to try to identify some comparisons.

Next Steps

Following the publication of this report, we will define a small number of key performance indicators (KPIs), which will be published by the end of the financial year as part of our sustainability commitment. These will not form part of MOSL's quarterly report or core service KPIs but will be monitored as part of our sustainability commitments.

Appendices

Appendix 1 – Assumptions and Limitations

Electricity

Assumptions

No assumptions were made in calculating this scope of carbon emissions.

Limitations

No limitations were factored into this calculation.

Colleague Commuting

Assumptions

All trips are returns

Travelled by large car (Petrol/ diesel 2.0 litre engine).

Disclaimer

The travel survey was conducted outside the reporting period 2022/23, in August 2023.

Business Travel

Assumptions

We travel by large car

Flights were short-haul and direct between locations.

Limitations

MOSL's business travel expense form does not include mode of travel details such as type of car or distance by train or bus

We cannot calculate miles driven by a taxi by the price of a taxi fare, and hence the distance travelled is unknown

GHG conversion factors are categorised by domestic, short-haul, long-haul and international flights, using the kilometres travelled.

Homeworking

Assumptions

- The average work-from-home days are taken from our travel survey
- 25 days of annual leave and bank holidays are taken
- Colleagues work 7.5 hours per day
- GHG conversion factors used include both electricity and heating.

Limitations

- Colleagues may have green energy tariffs or may use renewable energy; this has not been factored into the calculation.

Water

Assumptions

- Our water consumption is correctly recorded within CMOS
- Every tenant within the White Building uses the same amount of water per square foot.

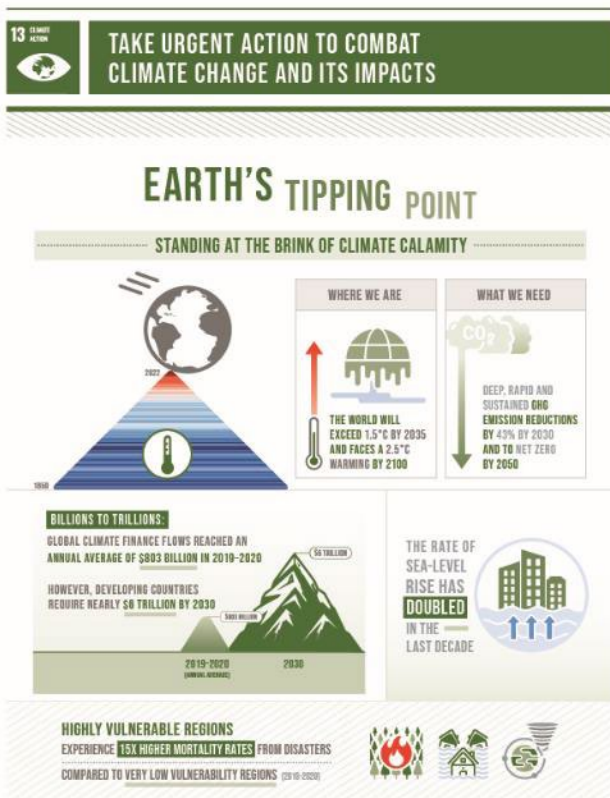
Limitations

The White Building calculates our water consumption as a proportion of MOSL’s square footage of the building and hence is an estimation and unable to impact the consumption directly

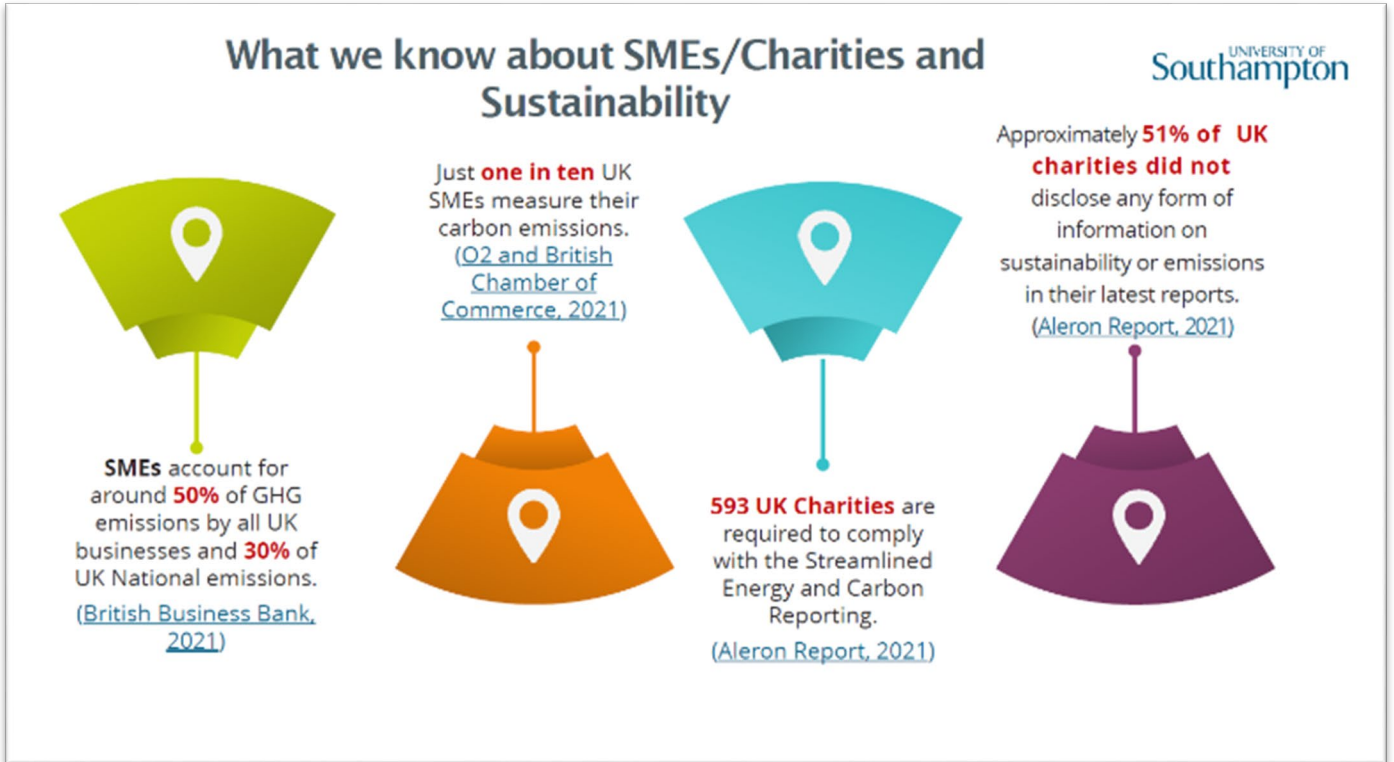
Most colleagues are hybrid working, meaning the office is not occupied five days per week. Since other tenants within the White Building may operate differently, our water consumption could be over or under-estimated

It is difficult to accurately calculate water consumption when considering communal water usage such as toilets, cleaning, and coffee stands.

Appendix 2 – UN Global Goals



Appendix 3 – University of Southampton



Appendix 3 – Source and GHG Conversions

The Greenhouse Gas conversion factors for company reporting are found on the [UK Government website](#) and are for UK-based organisations of any size. The [methodology](#) for the UK gov GHG conversion factors.

The emissions factors for those that are included in MOSL’s carbon footprint are found below. Scope 1 does not relate to MOSL as there are no direct emissions produced from an activity MOSL owns or controls.

Scope 2 has one section that MOSL identifies with electricity.

Activity	Country	Unit	Year	Total kg CO ₂ e per unit
Electricity generated	Electricity UK	kWh	2022	0.19338

Scope 3 has three sections that MOSL identifies with water supply, business travel (land and air), and homeworking. The water supply conversion factors are as follows:

Activity	Country	Unit	Total kg CO ₂ e per unit
Water supply	Water supply	Cubic metres	0.149

The business land travel by car conversions is as follows:

Activity	Country	Unit	Total kg CO ₂ e per unit
Cars	Large car	Miles	0.36584

The business land travel by train conversions is as follows:

Activity	Type	Unit	Total kg CO ₂ e per unit
Rail	National Rail	Passenger km	0.03549

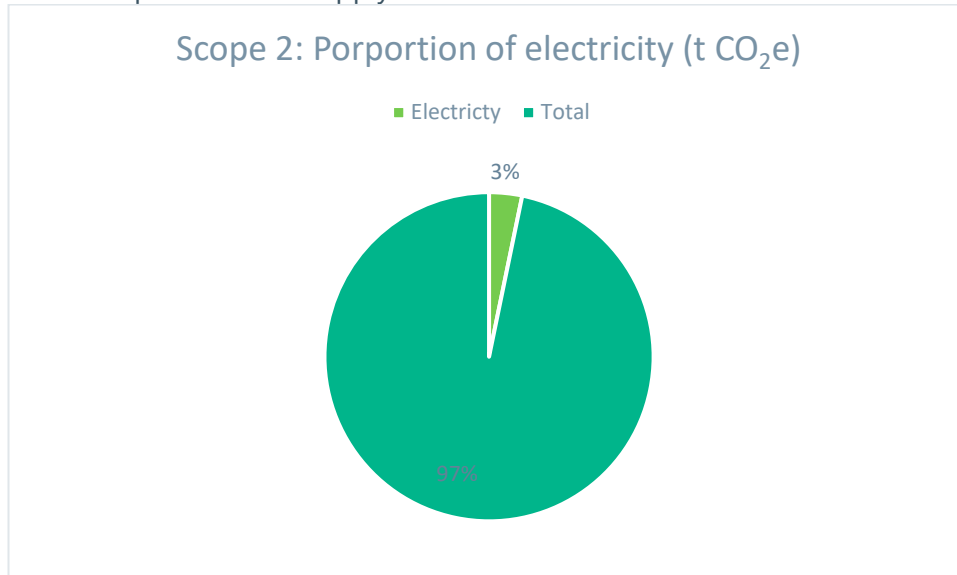
The homeworking conversion factors are as follows:

Activity	Type	Unit	Total kg CO ₂ e per unit
Homeworking	Office equipment and heating	Per FTE working hour	0.34075

Appendix 4 – Scope 1 and 2

Scope 2 – electricity emissions

Note: Scope 1 does not apply to MOSL.



Fuel disclosure

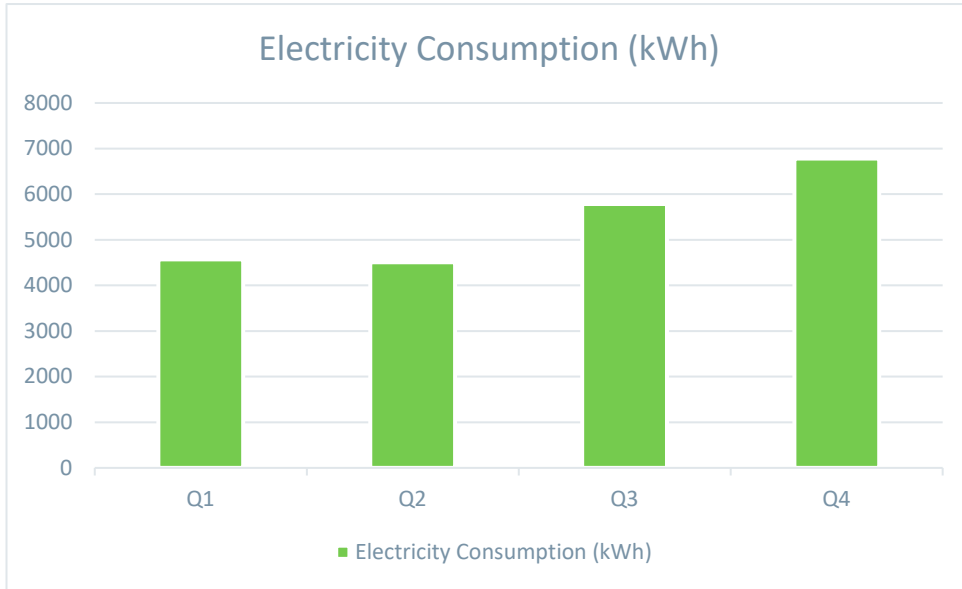
Fuel Mix Disclosure

The mix of fuel used to generate the electricity we supplied to you between 1 April 2022 and 31 March 2023.

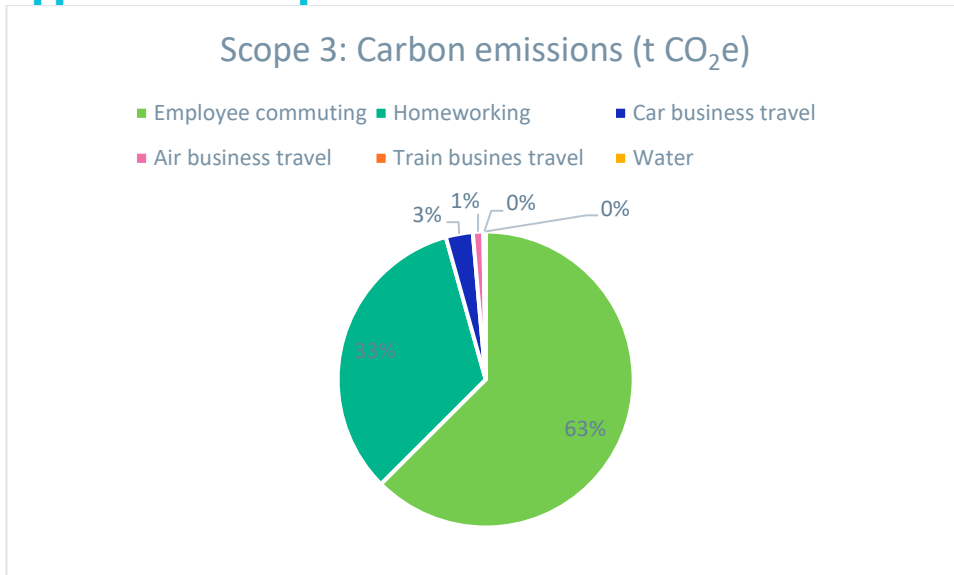
	Coal	6%
	Natural Gas	61%
	Nuclear	1%
	Renewable	27%
	Other	5%

Source: <https://positive.energy/>

Electricity consumption by quarter



Appendix 5 – Scope 3



Water consumption calculations

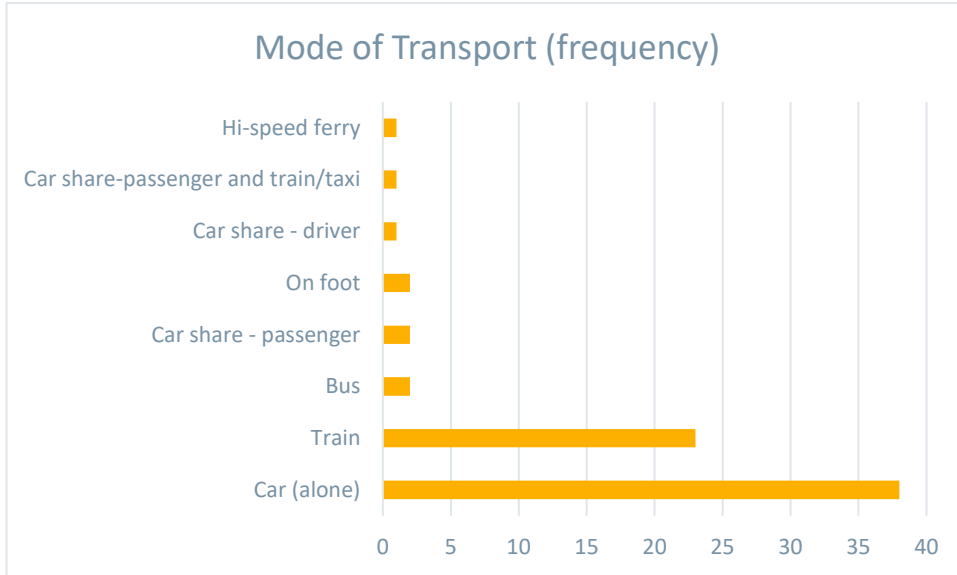
Problem statement	Calculation
White Building water consumption in cubic meters per year from CMOS	1727.4565
MOSL's office square footage proportion	9.36%
MOSL's water consumption in cubic meters per year	$1727.4565 \times 9.63\%$
Total water consumption	166.3557884

Appendix 6 – MOSL Travel Survey

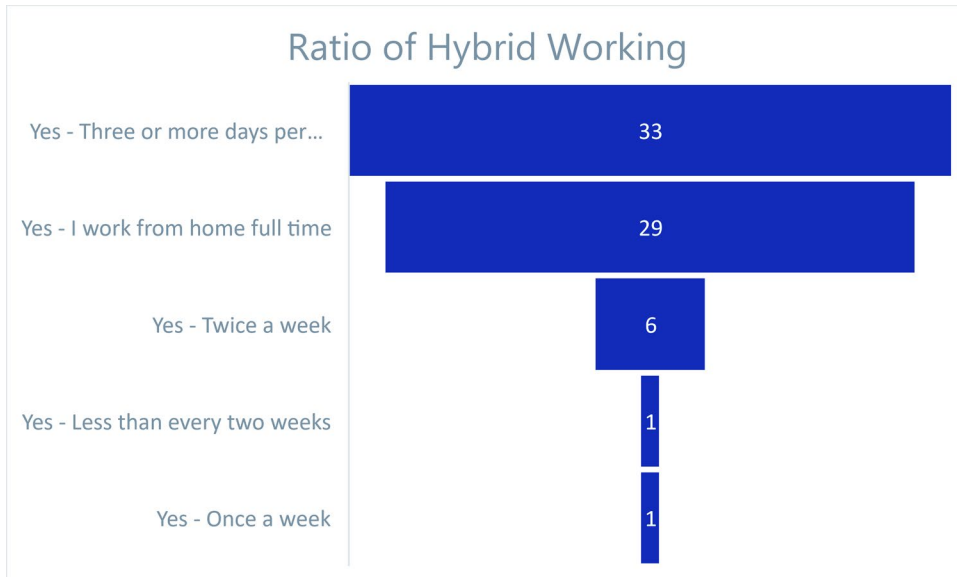
Southampton City Council My Journey Travel Survey was used as a template for MOSL's Travel Survey. Questions that were asked from the travel survey are as follows:

- Do you work from home?
- Is your work: full-time, part-time, study part-time or temporary contact?
- What is your main mode of travel to work? (i.e., the mode which covers the greatest distance)
- Please enter your home postcode.
- What do you use as an alternative mode of travel if your main mode is unavailable?
- What would encourage you to cycle to work more often?
- Are you aware of MOSL's Cycle to Work scheme?
- Please tell us why you use your main mode of travel.
- Are there any other comments you would like to make about the things that influence the way you travel to work?
- How often do you travel for work (not commuting)?
- If you are attending a work event, e.g., conference, away days, what is your usual mode of transport?
- Public transport and the hospitality industry can sometimes offer an 'eco-option'. Have you ever noticed it when booking corporate travel?
- Do you think MOSL should incentivise sustainable travel and accommodation options?
- Do you drive an electric vehicle?
- Would you drive it to work if you could charge your car at the White Building?
- How do you currently save on energy usage at home?
- Which of the following best describes how you think of yourself?
- What is your age?
- Do you have a long-term illness or disability which limits your daily travel?
- Would any of the following encourage you to cycle to work more often?
- If you have any suggestions for the Green Team's consideration, please let us know in the text box below.

Most common mode of transport graph



Hybrid working graph



Appendix 7 – MOSL’s Expense Form

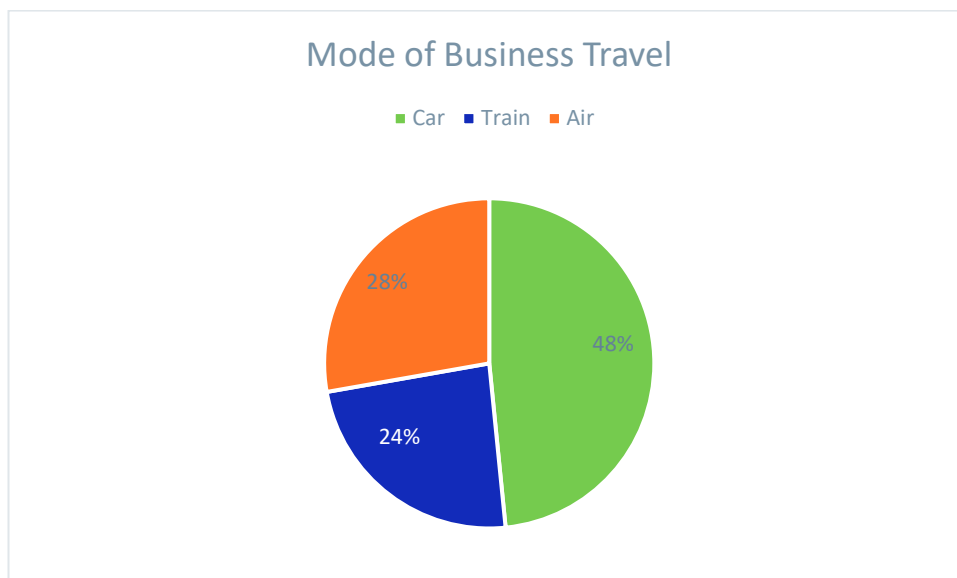
Throughout the year, there are two events (Team Away Days) where colleagues are expected to get together for business and strategy development, in which travel is expensed back. Since there is no control over which mode of travel colleagues use, we need to consider all types. However, there are some current limitations to the form.

Limitations of expense form

- No need for the specific train route taken
- No need for miles travelled by bus
- No need for kilometres travelled by air.

These are due to the form not requiring further detail on the expense, restricting us from providing exact distances made by train, bus or air.

Mode of business travel graph



Train travel calculation

MOSL’s travel expense form only shows station-to-station data for distance travelled by train. Therefore, whilst calculating the train travel, we have estimated mileage of best route to each destination. This was calculated by inputting data into two online mileage generators and cross-checking against one another.

Website 1: <https://my.railmiles.me/mileage-engine/>

Website 2: <https://www.lner.co.uk/tickets-savings/the-best-way-to-travel/our-commitment-to-the-environment/>

Appendix 8 – Desk Booking

Condeco Report – Desk Booking April 2021 -April 2023

Desk booking service Condeco was used 9,236 times in the two-year period. Currently, there are 80 colleagues working at MOSL. This equates to 57.75 desk bookings per colleague per year, or just over one day per week in the office.