MYCARBON
YOUR SUSTAINABILITY EXPERTS

LONDON UNIVERSITIES PURCHASING CONSORTIUM

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CORPORATE GREENHOUSE GAS INVENTORY

Reporting Period: FY 2024

Executive Summary

This narrative supplement accompanies the Power BI dashboard for the FY24 reporting period and provides a comprehensive account of the LUPC carbon footprint for the 2024 fiscal year under the equity approach. It interprets results, highlights hotspots, and sets out recommended actions. The detailed methodology is provided here, while quality assurance (QA) statements and raw data tables are maintained within the dashboard.

This carbon footprint has been calculated in line with the Greenhouse Gas (GHG) Protocol covering Scope 1, 2, and 3 emissions.

The emissions categorised by Scope under the market-based approach are listed in Table 1.

Table 1: Emissions by Scope under the Market-Based approach

Emissions Source	Emissions (tCO_2e)
Scope 1	0.00
Scope 2	0.24
Scope 3	117.86
Total	118.11

By undertaking this exercise, MyCarbon has described the key areas LUPC can focus on to reduce emissions. Priority should be given to addressing Scope 3 purchased goods and services. Specifically, LUPC should engage to seek supplier-specific carbon footprints from repairs and maintenance charges, COUP Expenditure, and consider event or campaign specific carbon footprinting exercises. As most of these purchases are services rather than products, LUPC could seek emissions intensity data (e.g kgCO2e / £ spent) from suppliers to improve the accuracy of associated emissions.

During this financial year, LUPC's office relocation resulted in a notable increase in spend, driving higher Scope 3 Category 1 emissions. The quadrennial COUP conference, also hosted this year, further contributed to increased expenditure and emissions. For exceptional yet recurring events such as this, supplier-specific emission factors can help refine future reporting.

Contents

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FINDINGS & RECOMMENDATIONS

1 Findings

1.1 Summary of All Emissions

The emissions by Scope for LUPC under the market-based approach are listed in Table 2. For location-based emissions, please see the provided PowerBI report.

Scope 3 emissions were the largest source, accounting for 117.86 tCO_2e (99.80% of total market-based emissions). The primary contributor within Scope 3 was purchased goods and services (Category 1), representing 100.44 tCO_2e, or 85.04% of total emissions. Employee commuting (9.33 tCO_2e, 7.90%) and upstream leased assets (4.77 tCO_2e, 4.04%) were the next largest contributors.

Having electrified their heat sources, Scope 1 emissions represented 0.00 tCO_2e (0.00%), while Scope 2 emissions were 0.24 tCO_2e (0.20%), all from electricity use.

Table 2: Total market-based emissions by Scope

Scope	Category		Emission Source	tCO_2e
1			Stationary combustion	0.00
1			Company vehicles	0.00
1			Fugitive emissions	0.00
1			Refrigerants	0.00
2			Electricity usage	0.24
2			Heating	0.00
2			Cooling	0.00
3	1	Upstream	Purchased goods and services	100.44
3	2		Capital goods	0.00
3	3		Fuel and energy related activities	0.06
3	4		Transportation and distribution	0.00
3	5		Waste generated in operations	0.46
3	6		Business travel	2.81
3	7		Employee commuting	9.33
3	8		Upstream leased assets	4.77
3	9	Downstream	Transportation and distribution	0.00
3	10		Processing of sold products	0.00
3	11		Use of sold products	0.00
3	12		End of life treatment of sold products	0.00
3	13		Downstream leased assets	0.00
3	14		Franchises	0.00
3	15		Investments	0.00
	Total			118.11

2 Key Insights

Purchased goods and services (85.04%), employee commuting (7.90%), upstream leased assets (4.04%), and business travel (2.38%) collectively accounted for 99.36% of total emissions. Detailed figures and data for these categories can be accessed via the PowerBI platform provided to LUPC by MyCarbon. Below are key insights and findings related to these categories.

2.1 Purchased Goods & Services

Purchased goods and services accounted for 100.44 tCO_2e, representing 85.04% of LUPC's total emissions and making it the most significant emissions category.

The largest single contributor was repairs and maintenance at 33.46 tCO_2e (33.32%), reflecting substantial office-related spend during the reporting year linked to the relocation. The next most significant sources were LUPC conference expenditure at 13.49 tCO_2e (13.43%) and COUP expenditure at 8.54 tCO_2e (8.50%).

Other notable contributors include members benefits/subscriptions (6.34 tCO_2e, 6.31%), IT services (4.18 tCO_2e, 4.16%), and Electronics Watch (3.79 tCO_2e, 3.77%), all of which reflect the carbon intensity of ongoing professional and digital services. Several other categories, including IT hardware (3.39 tCO_2e, 3.38%), legal and professional fees (3.34 tCO_2e, 3.32%), and Hunter Contracts (2.50 tCO_2e, 2.49%), each contributed between 2.00–3.50% of the total.

Given that the majority of these purchases are service-based rather than goods-based, supplier-specific emissions intensity data (e.g. $kgCO_2e$/£) would significantly improve accuracy, replacing reliance on generic spend-based factors. For high-impact and recurring cost areas LUPC should prioritise supplier engagement to obtain tailored carbon footprint data, reducing uncertainty and improving year-on-year comparability.

2.2 Employee Commuting

Employee commuting accounted for 9.33 tCO_2e (7.90% of total emissions). The majority of these emissions were from working from home at 7.38 tCO_2e (79.13%), reflecting LUPC's hybrid or remote working arrangements and the associated home energy use.

Public transport made up most of the remaining commuting footprint, with train travel contributing 1.47 tCO_2e (15.77%) and tube travel 0.22 tCO_2e (2.39%). Motorbike commuting contributed 0.23 tCO_2e (2.48%), while bus travel was negligible at 0.02 tCO_2e (0.22%).

The high proportion of emissions from working from home suggests that home energy use efficiency, such as promoting renewable energy tariffs or energy-saving measures, could be a key focus for reducing commuting-related emissions. Additionally, maintaining and enhancing low-carbon commuting options (e.g. public transport, cycling, if driving, carpooling where possible) could help keep non-homeworking emissions minimal.

2.3 Upstream Leased Assets

Upstream leased assets contributed 4.77 tCO_2e (4.04% of total emissions). The majority (4.61 tCO_2e, 96.74%) was attributable to the embodied emissions associated with leasing office space, including the maintenance, servicing, and amortisation of the building's physical assets over its lifetime. These emissions represent the share of a building's construction materials, fixtures, and ongoing upkeep that is effectively "passed through" to tenants as part of rental charges.

Additional minor sources included room hire for apprentices while LUPC had no permanent office (0.03 tCO_2e, 0.62%) and temporary storage of office goods during the relocation period (0.13 tCO_2e, 2.64%).

While energy consumption from leased assets is reported elsewhere, there remains an opportunity to reduce the embodied and maintenance-related footprint by selecting properties with low-carbon construction materials, efficient building maintenance practices, and sustainability certifications that address the asset's full lifecycle.

2.4 Business Travel

Business travel generated 2.81 tCO_2e (2.38% of total emissions). The largest share came from air travel, which produced 1.09 tCO_2e (38.61%) despite infrequent use. Rail travel contributed 0.73 tCO_2e (26.10%), covering national rail, underground, and other public transport journeys, while accommodation accounted for 0.59 tCO_2e (20.82%) from hotel stays for conferences and meetings.

Road transport made up a smaller portion of the footprint, with cars responsible for 0.24 tCO_2e (8.47%) and motorbikes producing 0.16 tCO_2e (5.56%).

Although air travel was infrequent, it was still the most significant contributor to business travel emissions due to its high carbon intensity. Improving the accuracy of emissions data for flights and accommodation through supplier-specific factors would enhance reporting quality and help identify opportunities to reduce the impact of these high-intensity travel types.

Furthermore, the majority of business travel emissions are calculated based on the spend-based approach (77.35% of the Business Travel emissions). LUPC should limit its reliance on spend-based data by recording the start and end destinations of all travel, ensuring a greater level of accuracy for the associated emissions.

3 Recommendations

LUPC continues their sustainability journey, through conducting a GHG inventory report for FY24. Following the completion of this report MyCarbon has made the following recommendations, listed in Table 3.

In addition to the comprehensive GHG inventory report outlined, MyCarbon remains committed to supporting LUPC in their sustainability journey. Future suggestions include a variety of services that LUPC can easily incorporate into their sustainability efforts. These include:

Table 3: Key recommendations and justifications

Recommendation	Description & Justification
Data governance	Improves quality of activity data to calculate a more accurate carbon footprint and identify additional opportunities for emissions reduction.
Net Zero Strategy	Provides a comprehensive strategy to reduce emissions and achieve net-zero emission by 2050 at the latest, helping to future-proof LUPC.
Science-based Targets Submission	Validation of reduction targets to ensure they are in line with the Paris Agreement goals.

Data Governance

Improvements in data quality will lead to a more accurate representation of LUPC's emissions profile. Currently, most of the business travel is tracked based on expenditure. However, by recording travels based on their origin and destination to calculate mileage, a more accurate carbon footprint can be generated, enabling the identification of additional opportunities for emissions reduction.

Another example relates to LUPC's electricity tariff, where sourcing appropriate documentation, such as evidence compliant with RECs standards, would help ensure that the emission factors applied each year can pass verification checks. Strengthening data governance would provide a clear framework for maintaining transparent and well-documented emission factor usage, supporting potential external verification and/or submissions to initiatives such as the SBTi.

Overall, LUPC requires extra assistance in improving the quality of activity data used to calculate their corporate carbon footprint. Implementing a consistent and

improved data collection strategy across all business operations will reduce the resources needed to get precise and reliable data, hence expediting the reporting process. MyCarbon recommends implementing a Data Governance exercise to improve the accuracy and efficiency of data collection.

Net Zero Strategy

Now LUPC has obtained a comprehensive GHG inventory, MyCarbon recommends developing a net-zero strategy. With this new inventory as a baseline, MyCarbon can model the required reductions for LUPC to achieve net-zero emissions in the coming decades, ensuring the business remains future-proof. This strategy will involve mapping various emissions reduction methods and assessing their impact on LUPC's future emissions.

Science-based Targets Submission

Following the establishment of net-zero targets, LUPC may choose to submit these targets to the SBTi. SBTi validation will confirm that the targets align with the latest climate science needed to meet the Paris Agreement goals, thereby enhancing their credibility and demonstrating a strong commitment to sustainability. MyCarbon will provide full support throughout the SBTi submission process to ensure that LUPC's targets meet all necessary criteria.

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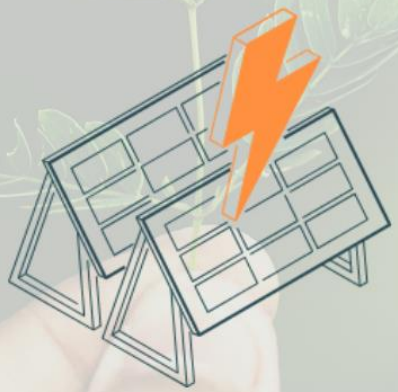
METHODOLOGY



4 Methodology

4.1 Identified Emissions and Exclusions

The emissions that were determined to be relevant within the organizational boundary are listed in Table 4.

Table 4: Emissions sources included in the organisational boundary.

Scope	Category		Emission Source	Included
1			Stationary combustion	No
			Company vehicles	No
			Fugitive emissions	No
			Refrigerants	No
2			Electricity usage	Yes
			Heating	No
			Cooling	No
3	1	Upstream	Purchased goods and services	Yes
	2		Capital goods	No
	3		Fuel and energy related activities	Yes
	4		Upstream transportation and distribution	No
	5		Waste generated in operations	Yes
	6		Business travel	Yes
	7		Employee commuting	Yes
	8		Upstream leased assets	Yes
3	9	Downstream	Downstream transportation and distribution	No
	10		Processing of sold products	No

	11		Use of sold products	No
	12		End of life treatment of sold products	No
	13		Downstream leased assets	No
	14		Franchises	No
	15		Investments	No

4.2 Organisational Boundaries

The GHG Protocol Corporate Standard outlines two approaches for consolidating GHG data—the equity share approach and the control approach—through organizational boundaries. These are boundaries that determine the operations owned or controlled by the reporting company, depending on the consolidation approach taken. In some cases, it may be possible to apply these approaches directly to emissions/removals associated with sequestered atmospheric carbon. LUPC has chosen the equity share approach.

The GHG inventory report covers all Scope 1, 2, and 3 emissions for LUPC. Details of each building included within the organisational boundary of this report are listed below:

Shropshire House,

1 Capper Street,

London,

WC1E 6JA

4.3 Emission Factors

The methodologies used to collect and assess the emissions data varied throughout the inventory. The primary methodology used was multiplying GHG activity data by appropriate GHG emission factors. All methodologies were selected based on their ability to provide accurate and consistent results. The use of activity data and emission factors was feasible due to the availability of both accurate activity data and emission factors from reputable organisations.

MyCarbon uses the latest figures from DEFRA and peer reviewed literature for all common emission factors. These can be found on the Power BI platform provided to LUPC

4.4 Calculating Emissions from Electricity Consumption

There are two methods for calculating emissions from electricity consumption: the location-based and market-based methods. The location-based method calculates emissions using the average emissions intensity of the local grid where the electricity is consumed. The market-based method calculates emissions using emission factors that reflect the specific electricity supply arrangements a company has in place. This can include a renewable electricity factor if the company has purchased certified renewable electricity, or a residual mix factor—often higher than the location-based factor—if no such purchase has been made.

For LUPC the market-based emission factor was sourced from the supplier. This includes emissions related to transmission and distribution losses. Both location- and market-based emissions were calculated and reported in this study.

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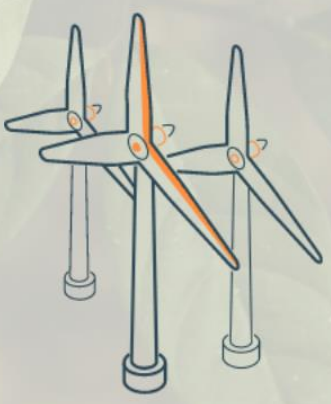
APPENDICES



5 Appendices

5.1 References

[1] DEFRA, “Greenhouse gas reporting: conversion factors 2022,” 2 June 2022. [Online]. Available: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022.

[2] DEFRA, “UK and England's carbon footprint to 2020,” 2020. [Online]. Available: https://www.gov.uk/government/statistics/uks-carbon-footprint.

[3] OPUS energy, “Fuel Mix Disclosure,” [Online]. Available: https://www.opusenergy.com/fuel-mix-disclosure/. [Accessed 01 August 2025].

5.2 Context

5.2.1 What is the importance of measuring greenhouse gases (GHGs)?

GHG emissions are contributing to global warming and climate change, which have been recognised as a key sustainable development issue. Many governments through local and international efforts are taking steps to reduce GHG emissions through national policies that include the introduction of emissions trading programs, voluntary programs, carbon or energy taxes, and regulations and standards on energy efficiency and emissions. As a result, companies must be able to understand and manage their GHG risks if they are to ensure long-term success in a competitive business environment, and to be prepared for future national or regional climate policies.

Quantification of GHGs emitted by a business or organisation's activities in the form of a carbon footprint is an important tool used by stakeholders to recognise their impact and act, often through offsetting activities.

Offsetting is a particular method employed to reduce, remove, or prevent the release of GHG emissions into the atmosphere, which can be done through the purchase and retirement of carbon credits. Due to the tight control on carbon credits, retirement of a credit is the only method one can do to offset their carbon footprint. For example, if a business produced 100 tonnes of CO_2, they would need to purchase and retire 100 carbon credits to become carbon neutral.

5.2.2 Reporting standards

When performing a GHG inventory, these assessments should align with one of two recognised standards for accounting and reporting corporate GHG emissions. The most well-known is the “Greenhouse Gas Protocol – Corporate Accounting and Reporting Standard” (GHG Protocol, 2011) developed in a partnership of the World Business Council for Sustainable Development (WBCSD) and the World Resource Institute (WRI). The International Organization for Standardization (ISO) also produced the ISO14064 specification series, detailing specification and guidance for the organisation and project levels, as well as for the validation and verification of emissions.

Data supplied by clients is used in GHG assessments, which is quantified into GHG emission estimates by applying relevant and up-to-date emission factor(s) from reputable sources, like DEFRA. An emission factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. Quality and accuracy of emission factors can vary between government publications and scientific research journals, therefore it is best practice to apply emission factors only from reputable sources, such as DEFRA.

GHG assessments quantify all six Kyoto Protocol GHGs, where applicable, and are measured in terms of tonnes carbon dioxide (CO_2) equivalence, or tCO_2e, where equivalence means having the same warming effect as CO_2 over a period of 100 years. The six Kyoto Protocol gases are CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF_6) and perfluorocarbons (PFCs). The global warming potential (GWP) of each GHG is listed in Table 5.

Table 5: GHGs listed in the Kyoto Protocol and their Global Warming Potential (GWP)

Greenhouse Gas	Chemical Formula	GWP (CO_2e)
Carbon dioxide	CO_2	1.0
Methane	CH_4	27.0
Nitrous oxide	N_2O	273.0
Hydro fluorocarbons	HFCs	Depends on gas
Sulphur hexafluoride	SF_6	24,500
Perfluorinated compounds	PFCs	Depends on gas

5.3 Emissions Scopes

Emission sources can be broken down into three distinct categories called Scopes.

Scope 1

Scope 1 accounts for the direct GHG emissions occurring from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.: emissions from chemical production in owned or controlled process equipment.

Scope 2

Scope 2 accounts for GHG emissions from the generation of purchased electricity, heat or steam consumed by the company. Purchased electricity, heat or steam is defined as electricity, heat or steam that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity, heat or steam is generated.

Scope 3

Scope 3 is an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the

company but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials, transportation of purchased fuels and use of sold products and services.

The GHG Protocol describes the quantification of Scope 1 and 2 as mandatory, whereas Scope 3 emissions are considered optional. Depending on the nature/remit of an organisation, Scope 3 activities can contribute a significant proportion of overall emissions, and therefore to gain a proper understanding of an organisation's GHG emissions it is advisable to include all relevant sources.

5.4 Report Details

Client Company Name:	London Universities Purchasing Consortium
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A Greenhouse Gas inventory produced by MyCarbon, an inventory service provided by Carbon Green Ltd.

Alfredo Nunez Carbon Consultant – Data & Automation Lead, MyCarbon		15/08/2025
Dr. Toby Green Co-Founder & Director MyCarbon		15/08/2025

If LUPC are satisfied with the above information and the data provided is representative of authentic client activities within the reporting period, please sign below:

Client Representative Name:	Email:
Mags Shapiro	m.shapiro@lupc.ac.uk