LUPC Carbon Emissions 2021-22

Following on from LUPC's preliminary carbon emissions calculations for 2020-21, the first official set of carbon emissions has been calculated for the period 1st August 2021 – 31st July 2022. Since the preliminary calculations, processes and guidelines have been implemented to streamline the collection of data for these calculations and further improvements in this process are planned to ensure that accurate data is collected around staff travel and commuting.

LUPC's aim remains to identify the areas of greatest environmental impact, to reduce said environmental impact and, when as much impact has been reduced as possible, offset the remaining carbon emissions to reach Net Zero. LUPC has been working with TEC and EAUC to set up a framework for carbon offsetting services which will soon be ready for utilisation.

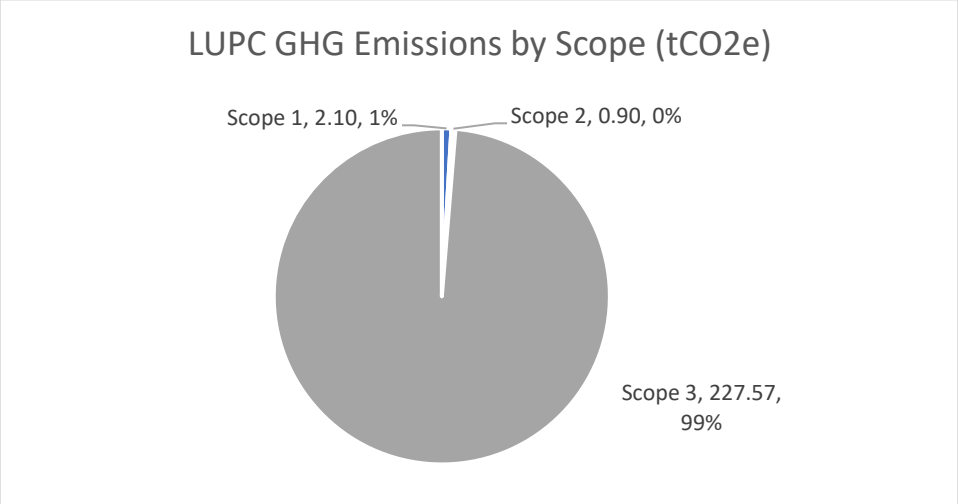
The environmental impacts set out in this report are all measured in tCO_2e. This is the total of all greenhouse gas emissions represented as an impact equivalent to a number of tonnes of carbon dioxide, taking into account the varying impacts of different greenhouse gases such as methane and nitrogen oxides.

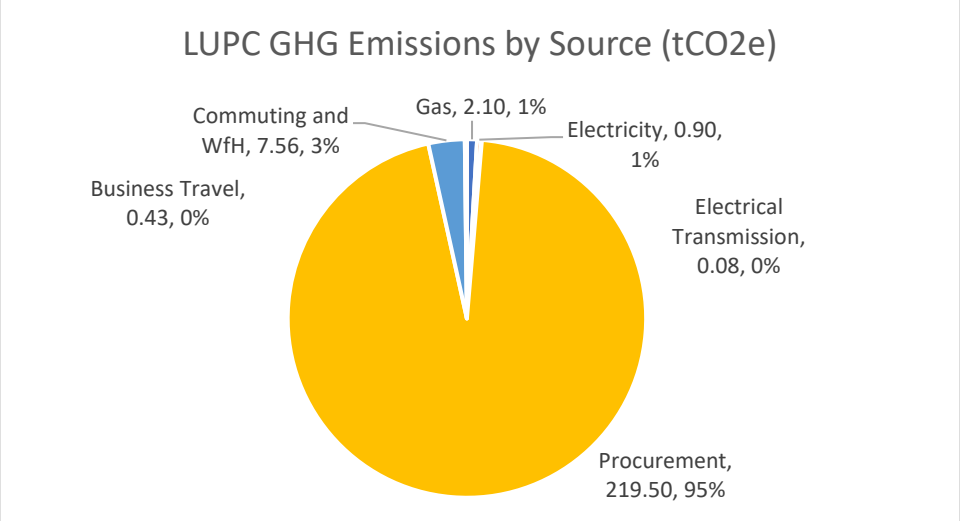
Emissions to be Reported

The total environmental impact is categorised under the following standard:

- Scope 1: Direct emissions (burning of fuels on site)
- Scope 2: Indirect emissions through purchased energy (electricity)
- Scope 3: Indirect emissions through goods and services

LUPC has calculated a total of 230.57 tCO_2e greenhouse gas emissions for the year 2021-22. These have been calculated using carbon conversion factors released by DEFRA.





Emissions Scope	Emissions Source	Impact (tCO_2e)	
		21/22 (Current)	20/21 (Previous)
Scope 1	Gas (Heating)	2.10	*218.69*
Scope 2	Electricity*	0.90	*0.72*
Scope 3	Electrical Transmission and Distribution	0.08	*0.06*
	Procurement of Goods and Services	219.50	*149.85*
	Commuting and Working from Home	7.56	*11.49*
	Business Travel	0.43	*0.14*
Total		230.57	*380.95*

**LUPC's electricity is purchased as 100% renewable. This figure is for information only.*

Mains gas is supplied to the building occupied by LUPC and 16 other businesses. The emissions due to heating using mains gas were therefore calculated as a proportion of the total usage of the building, using the floor area of the LUPC office and the entire building.

Emissions as a result of LUPC's procurement were calculated using the Higher Education Supply Chain Emissions Tool (HESCET) which calculates emissions based on categorised spend values. Each line item of LUPC's procurement was categorised using Proc HE coding to Level 2.

Commuting emissions were calculated using mileage supplied by staff members, where personal transportation was used, and precise railway data (to the nearest 20m) where public transport was used. Working from Home emissions were calculated based on the carbon conversion factor published by DEFRA, which uses the methodology found in the 2020 Homeworking Emissions Whitepaper.

Comments, Limitations and Improvements

Scope 1 - Gas

The largest difference between the current and previous years' figures is in the figure for emissions due to the gas heating of the office building. The data provided by LUPC's landlord was significantly more accurate than the information they provided in the previous year, which leads to the conclusion that the 218.69 tonne figure was incorrect. Correcting for this, there has been an increased in calculated emissions of approximately 45 tonnes.

As mentioned in the 20/21 report, LUPC has very little control over the calculated environmental impact from the gas heating, due to communal usage and charging. The emissions from this source will always need to be offset, rather than reduced. The policy of a designated day to work in the office, however, ensures that LUPC minimises the heating required.

Changes in Working Patterns

The increase in emissions from Electricity and Business Travel is to be expected when compared to the previous year. Due to the COVID-19 pandemic, 20/21 was highly unusual, requiring staff to work from home for the vast majority of working days. Travel to members and events was a rarity and the reduction of electricity usage in the office is an obvious consequence of working from home.

Similarly, the decrease in the emissions against the combined Commuting and Working from Home category was expected. Commuting increased, but Working from Home decreased, and Working from Home has a larger impact than Commuting. It should be noted that Working from Home has less of an environmental impact than working from the office if heating and electricity are taken into account, particularly when all staff are in the office on the same day, so an increase in the number of days worked in the office is not a method for reducing LUPC's environmental impact. Part of the reduction in calculated emissions will also be due to moving from a manual methodology to using DEFRA's new conversion factor, which LUPC will continue to use.

Procurement Emissions

The increase in calculated emissions from Procurement increased as expected, due to the three-year latency in DEFRA's published carbon conversion factors. The increase in the price of the goods and services procured by LUPC

is the driving force behind the increase in this figure, as these emissions are calculated using a spend-based methodology.

A brief analysis of the Procurement emissions has been undertaken and the largest contributions are as follows:

Source	Impact (tCO_2e)	Comments
Computer Software	86.7	Around one third of this amount relates to development of LUPC's new website, which will be greatly reduced in the next year. Around half of this amount is for key member services, which are difficult to reduce without affecting the level of service provided. Included in this are services which have moved to digital platforms, which are reductions in emissions compared to their previous physical formats. Much of LUPC's IT services work has reduced emissions due to the undertaking of work remotely, rather than on-site.
Rent and Rates	37.6	These emissions are outside of LUPC's control and are unavoidable consequences of renting physical premises.
Venue Hire	27.0	The majority of these emissions stem from the LUPC/SUPC Conference. Sustainability is a key target for our conferences and each one is more sustainable than the last. This year's improvements included a zero-waste menu, with surplus food donated to a local charity, as well as the aforementioned move away from physical media to a conference app.
Professional Subscriptions	21.5 (*approx.*)	These subscriptions form a significant part of LUPC's service to members. These include institutions' memberships to services such as Electronics Watch, as well as staff memberships of CIPS to ensure frameworks are delivered effectively and compliantly. This figure could be improved by collecting emissions data from those services and encouraging them to reduce their own emissions.