

Carbon Footprint Report for 2021-22

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Executive Summary

Glasgow Caledonian University (GCU/the University) reports its greenhouse gas emissions (GHG) annually, with reports used to improve performance, meet compliance obligations and track progress towards the University's own environmental commitments.

The overall reporting approach is unchanged, with the University following the GHG Protocol Standards and adhering to the principles of accuracy, completeness, consistency, relevance and transparency. The reporting boundaries (operational control) and remaining broadly the same.

Whilst the general approach and datasets have not changed, the 2021-22 inventory incorporates some small, but notable changes. The first key change was the withdrawal of assumptions used in the 2020-21 GHG inventory to reflect operations during the pandemic (because they didn't apply to the present reporting period). The second set of key changes included the introduction of new 'emission categories' and 'emission activity' datasets to further align GCU's GHG Inventory with the Scottish Government's guidance on GHG reporting and a wider Sector move standardise reporting according to the GHG Protocol (championed by EAUC). For the latter, the following changes are highlighted:

- Disaggregating energy and water emissions for GCU London from general supply chain emissions.
- Student commuting and travel home now categorized as "Downstream transportation and distribution" in-line with the GHG Protocol.
- Addition of well-to-tank emissions (WTT) for energy used by the University and fuels used for business travel (because along with tailpipe emissions, they provides a holistic overview of the climate impact of different fuels/energy vectors);
- Flying reported by class (helping discern the climate impact of different travel choices); and
- Emissions from investments held by the University.

In 2021-22 GCU's GHG emissions' inventory was 30,775 tonnes CO₂e, 10% lower than in 2018-19 (the last full pre-pandemic inventory and 22% lower than the 2014-15 baseline. Overall, GCU's GHG emissions continue on a downward trajectory since a peak in 2015-16. There was a sharp decline in emissions as on-campus activity was curtailed during the Corona Virus pandemic (2019-20 and 2020-21), but emissions rebounded in 2021-22 with the University returning to a pre-pandemic operating model.

The 2021-22 inventory reflects the return of University operations to the pre-pandemic operating model. Although a rebound is noted across many emissions groups (e.g. energy and student travel), it has yet to manifest itself in others (e.g. business travel). It is anticipated that the rebound will have fully manifested itself by the next reporting period.

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Introduction

Glasgow Caledonian University (GCU/the University) reports its greenhouse gas emissions (GHG) annually and through its Environmental Management System uses them to benchmark performance, target improvements and assess progress towards environmental commitments and meet compliance obligations.

The 2021-22 reporting period represents the transition to a pre-pandemic operating model that combined on-line and on-campus activity. This report outlines how the University's operational model has adapted as the pandemic evolved and how these changes are reflected in GHG emissions.

Data & Methodology

GCU reports its GHG emissions according to the GHG Protocol Standards¹ and adheres to the reporting principles of: accuracy, completeness, consistency, relevance and transparency. The reporting boundaries (operational control) and overall methodology for the 2021-22 GHG emissions inventory are the same as those used in previous reporting periods.

Whilst the general approach and datasets have not changed (Table 1), the 2021-22 inventory incorporates some small, but notable changes. The first key change was the withdrawal of assumptions used in the 2020-21 GHG inventory to reflect operations during the pandemic as they no longer applied to the present reporting period. The second set of key changes included the introduction of new 'emission categories' and 'emission activity' datasets to further align GCU's GHG Inventory with the Scottish Government's guidance on GHG reporting² and a wider Sector move to standardise reporting, by conforming to the GHG Protocol (championed by EAUC)³. For the latter, the following changes are highlighted:

- Disaggregating energy and water emissions for GCU London from general supply chain emissions.
- Student commuting and travel home now categorized as "Downstream transportation and distribution" in-line with the GHG Protocol.
- Addition of well-to-tank emissions (WTT) for energy used by the University and fuels used for business travel (because along with tailpipe emissions, they provides a holistic overview of the climate impact of different fuels/energy vectors);
- Flying reported by class (helping discern the climate impact of different travel choices); and
- Emissions from investments held by the University.

It is also noted that although the data and calculations in this report were not subject to independent verification or quality assurance, they benefited from a peer review exercise with the University of St. Andrews (in collaboration with the EUAC – Scotland).

¹ Greenhouse Gas Protocol – [Corporate Standard](#) and [Corporate Value Chain \(Scope 3\) Standard](#).

² [Public Sector Leadership on the Global Climate Emergency: Guidance](#)

³ [Standardised Carbon Emissions Framework Update](#) (July 2022)

Emission Category	Scope	Emission Activity	Data quality observations
Organisation's buildings	1	Gas consumption	High quality data derived from gas meter readings.
Organisation's buildings	1	Refrigerant Gases	High quality data derived from contractors' measurements of systems' fluorinated gas charge.
Organisation's vehicles	1	Business travel (own fleet)	High quality data derived from fuel card reports.
Purchased electricity	2	Electricity (Nat. Grid) Total	High quality data derived from electricity meter readings.
Purchased Goods & Services	3	Water	High quality data derived from water meter readings.
Purchased Goods & Services	3	Procurement - HEPA tool (formerly HESCET tool)	Low-medium quality data. Derived from spend data.
Other fuel & energy rel. activities	3	Electricity (transmission & distribution losses)	High quality data derived from electricity meter readings.
Other fuel & energy rel. activities	3	<u>Well-to-tank emissions from fuels/energy reported as scope 1 and 2</u>	High quality data derived from consumption data (as detailed above).
Waste Generated in Operations	3	General Waste & recycling	Medium-high. Data for Glasgow derived from contractors' weighing systems. C. Court and GCU London based on historic estimates.
Waste Generated in Operations	3	Wastewater	High quality data derived from water meter readings. Assumed 95% of purchased water becomes wastewater.
Business travel	3	Travel (business – not owned)	High. Derived from supplier records.
Business travel	3	<u>Well-to-tank emissions for fuels used in 'Travel (business – not owned)' (above)</u>	High. Derived from supplier records.
Employee commuting	3	Travel (commuting – staff)	Low quality data derived from estimates of number of staff on-campus and observations about how they travelled during the pandemic.
Employee commuting	3	Working from home (staff)	Medium. Derived from Scottish Government intensity factor for FTE.
Downstream transportation and distribution	3	Travel (commuting – students)	Low quality data derived from estimates of the number of students on-campus and an assumption that modes of travel were the same as those reported in the 2018 Travel Survey.
Downstream transportation and distribution	3	UK domiciled students – travel home.	Low and based on the assumption that there was no need for travel because the majority of students worked from home.
Downstream transportation and distribution	3	International students – travel home.	Low and based on the assumption that there was no need for travel because the majority of students worked from home.
Investments	3	<u>Investments</u>	Medium. Derived from carbon intensity of portfolio value.

Table 1 Observations on data quality for the University's GHG emissions inventory. New emission categories are identified in bold text and new activity datasets in bold underlined text. 'Downstream transportation and distribution' emissions were formerly reported as 'employee commuting'.

Inventory & Emissions

In 2021-22 GCU's GHG emissions' inventory was 30,775 tonnes CO₂e, 10% lower than in 2018-19 (the last full pre-pandemic inventory and 22% lower than the 2014-15 baseline. Figure 1 and Table 2 provide a summary of GCU's current and historic GHG emissions. Figure 3 offers a breakdown by activity and thematic grouping, with trends within these discussed in the next section. Appendix A contains the University's full GHG emissions' inventory for 2021-22.

Overall, GCU's GHG emissions continue on a downward trajectory since a peak in 2015-16. There was a sharp decline in emissions as on-campus activity was curtailed during the Corona Virus pandemic (2019-20 and 2020-21), but emissions rebounded in 2021-22 with the University returning to a pre-pandemic operating model (Figure 1 and Table 2), as is highlighted in the following sections.

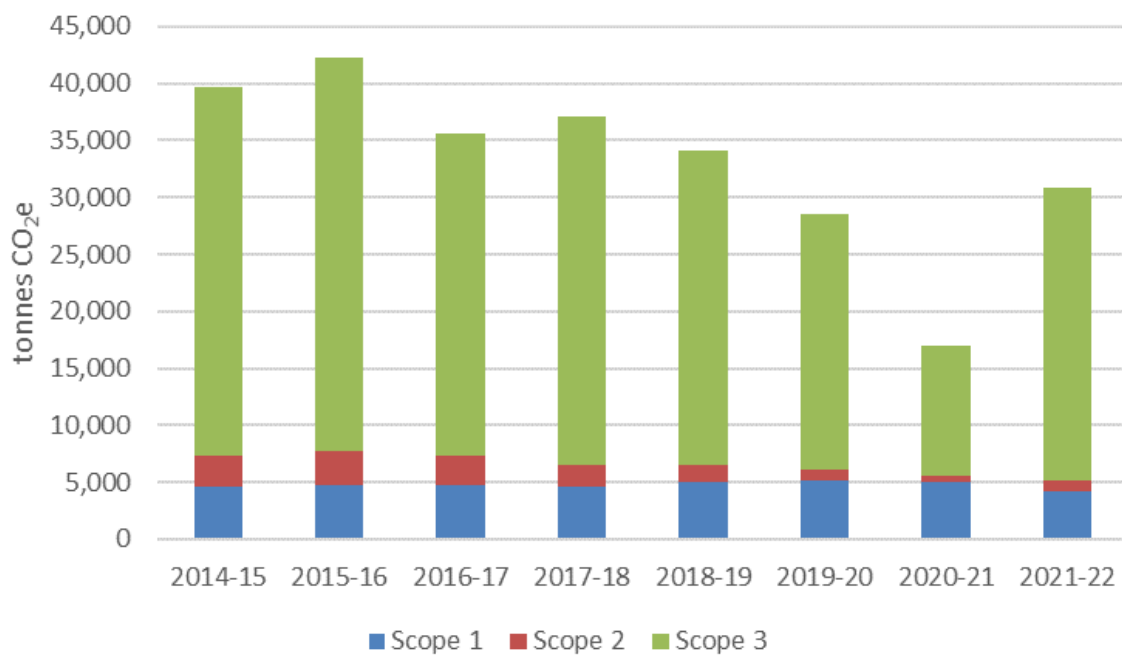


Figure 1 Emissions (tonnes CO₂e by scope) at GCU since 2014-15

Scope	Academic Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
1	Direct combustion of fuels and other fugitive emissions.	4,598	4,794	4,745	4,589	4,974	5,136	4,970	4,169
2	Electricity from the National Grid.	2,784	2,902	2,613	1,881	1,576	998	601	1,005
3	Other up- and downstream activities out-with GCU's operational control.	32,232	34,509	28,200	30,625	27,503	22,415	11,421	25,600
Total		39,615	42,205	35,557	37,095	34,053	28,549	16,992	30,775

Table 2 Emissions (tonnes CO₂e) by scope for since 2014-15.

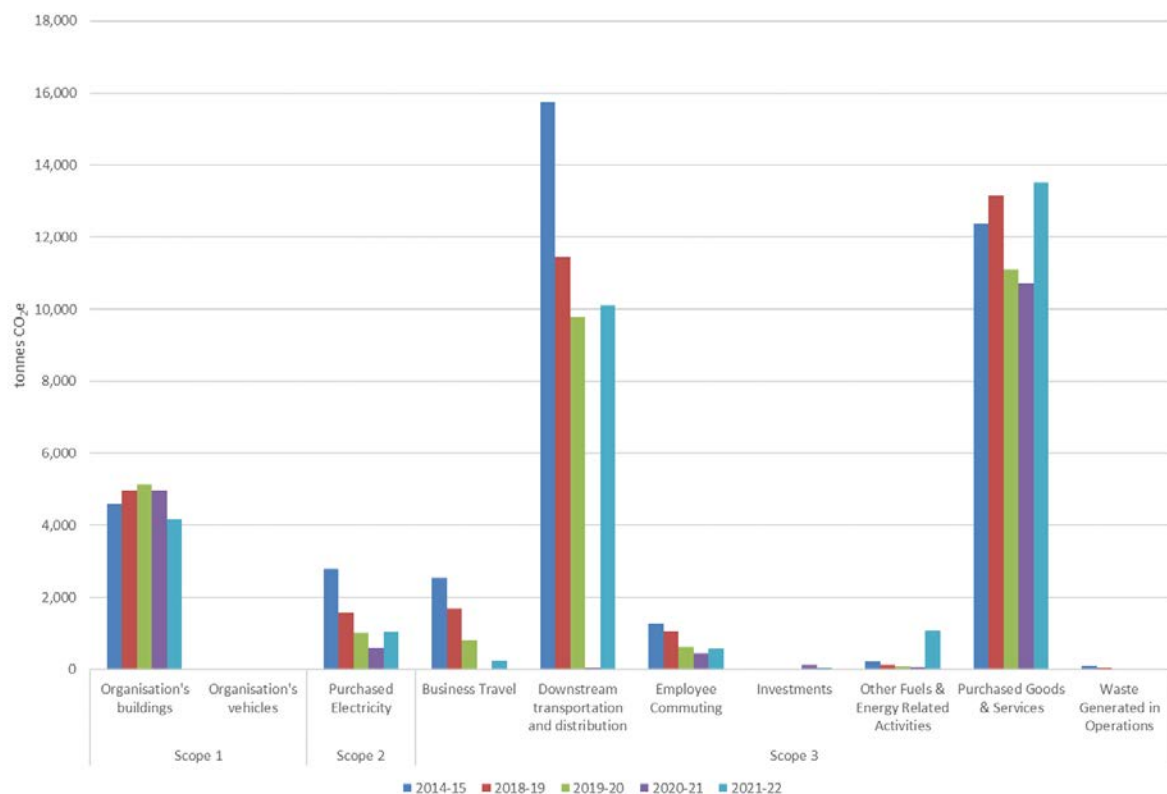


Figure 2 GCU's GHG emissions by activity category for 2020-22 and 2014-15 (the baseline), 2018-19 (the last pre-pandemic year) and 2019-20 and 2020-21 (representing operations during the pandemic).

Emissions are typically reported by scope (according to the GHG Protocol), but to help contextualise them around particularly activities, GCU also aggregates emissions into four thematic groups: energy, supply chain, travel and other. Energy, supply chain and travel represent 99% of reported emission (Figure 3). The following section evaluates the data underlying these emissions to explore the permanence of these changes.

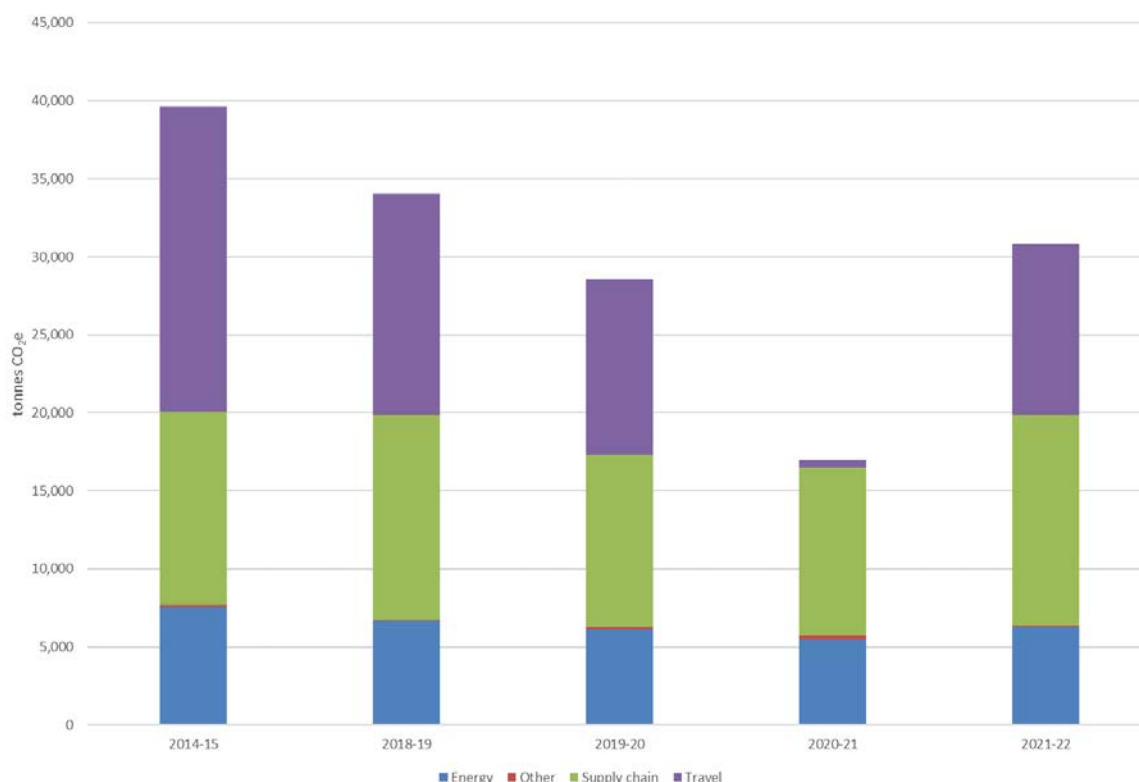


Figure 3 GHG emissions by thematic group, with energy, supply chain and travel dominating inventories. In addition to 2020-22 and 2014-15 (the baseline), 2018-19 (the last pre-pandemic year) and 2019-20 and 2020-21 (representing operations during the pandemic) are included for comparative purposes.

Trends & Observations

The 2021-22 GHG inventory reflects the operation of the University as it returns to the pre-pandemic operating model following the introduction of restrictions to deal with the Corona Virus pandemic. Whilst this has resulted in a rebound of emissions across most emission activity categories, there are a few notable exceptions that are likely to need some more time to return to pre-pandemic levels (if at all). Further detail on these trends and observations are provided below.

Travel

In the 2021-22 reporting period, travel activity at the University emitted 10,914 tCO₂e, (slightly over 35% of total reported emissions). The majority of emissions in the group were associated with international student travel and student commuting (combined 89% of total travel emissions). The present report also includes well-to-tank (WTT) emissions for fuels associated with business travel as these provide a more comprehensive insight into the climate impact of business travel. A breakdown of emissions in this category is provided in Figure 4.

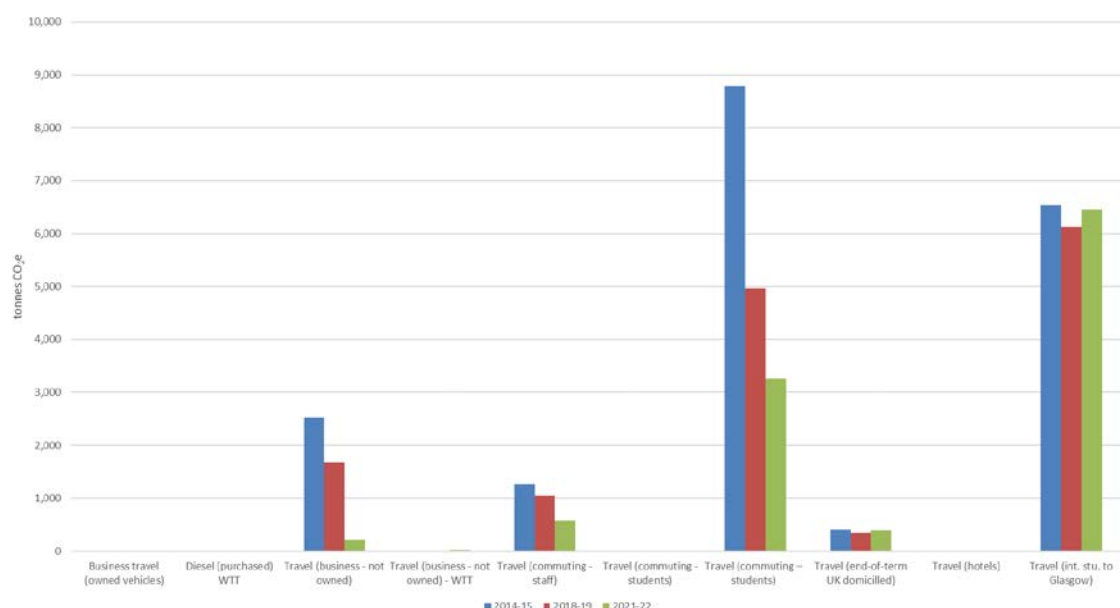


Figure 4 GHG emissions from travel to, from and on-behalf of the University.

Figure 4 shows that emissions from student and staff commuting are below pre-pandemic levels, possibly reflecting the University's hybrid operating model; business travel is significantly lower; and student travel home (for both UK and international students) has returned to pre-pandemic level.

It is worthwhile noting that emissions from student travel home are derived from historic travel habits and the University currently does not have any insights into whether these changed as a result of the pandemic.

Supply Chain

In 2021-22 emissions attributed to GCU's supply chain contribute 13,516 tCO₂e to the University's GHG inventory, representing 44% of all reported emissions. Although marginally higher than in previous reporting periods, they are overall comparable (Figure 5).

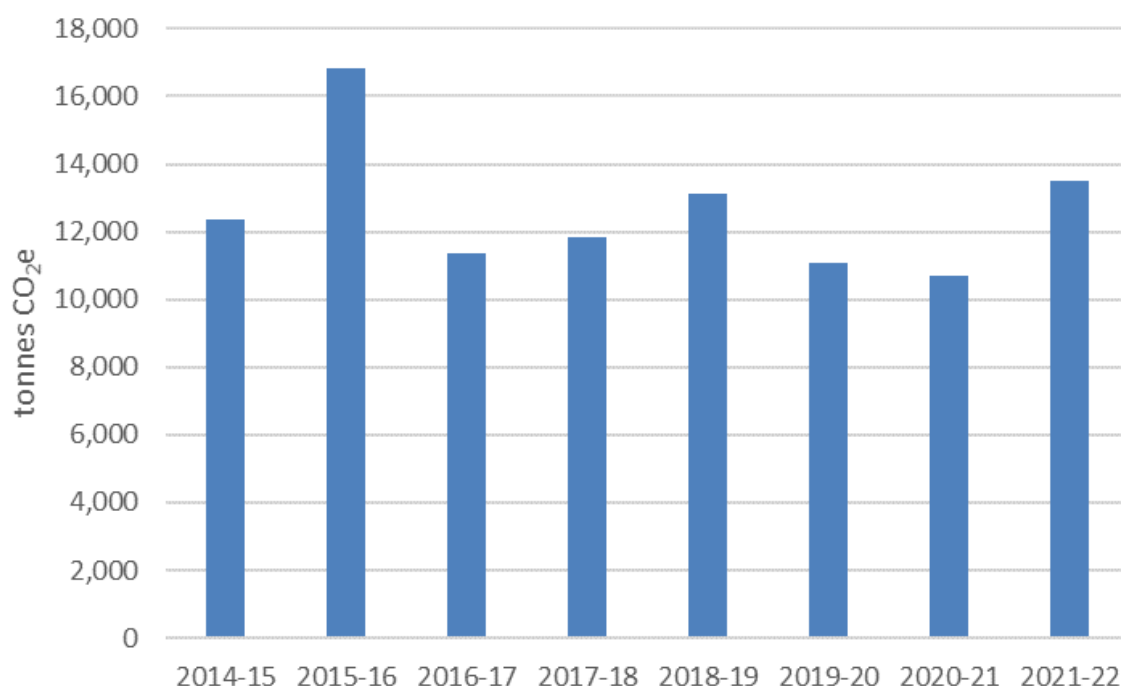


Figure 5 Supply chain emissions (tCO₂e) by academic year.

The main source of emissions (by Proc HE category⁴) is software supplies which represented 30% of all supply chain emissions (Table 3). The top 10 Proc HE categories account for 73% of supply chain emissions.

Proc HE category description	tCO ₂ e	No. Suppliers	Percentage of supply chain emissions	Rank
IT Software including Bespoke Licences Maintenance	4173	54	30.33%	1
Coach Hire (Direct)	1246	5	9.05%	2
Catering Services Outsourced at a fixed site	632	1	4.59%	3
Laboratory Capital Equipment	581	22	4.22%	4
Other/General Computer Supplies and services	487	32	3.54%	5
Temporary & Recruitment Employment Agencies (Staff)	437	17	3.18%	6
Data Information Services	406	19	2.95%	7
Medical, Small Apparatus, Equipment and Instruments	395	27	2.87%	8
Desktop, Laptop, Tablet Purchase inc. Apple	364	5	2.64%	9
Building Related Professional Services	358	14	2.60%	10

Table 3 Top 10 Proc HE categories for GHG emissions (tCO₂e) in GCU's supply chain in 2021-22.

Supply chain emissions are derived from spend with 914 suppliers, with the top 50 suppliers (by GHG emissions) being responsible for nearly 69% of all supply chain emissions.

⁴ Proc HE is a national Commodity Coding convention used by the HE Sector and Local Authorities.

Whilst the methodology for estimating supply chain emissions is not sufficiently sensitive to reflect the University's individual procurement decisions, it helps identify hot spots to focus on and suppliers to engage to understand how they can support the University's climate commitments.

Energy

In 2021-22 the University emitted 6,235 tCO₂e (20% of all reported emissions), 7% lower than in 2018-19. 66% of emissions were attributed to gas, 17% to purchased electricity and the remainder 17% to transmission and distribution losses of purchased electricity and well-to-tank emissions for all purchased energy (Figure 6).

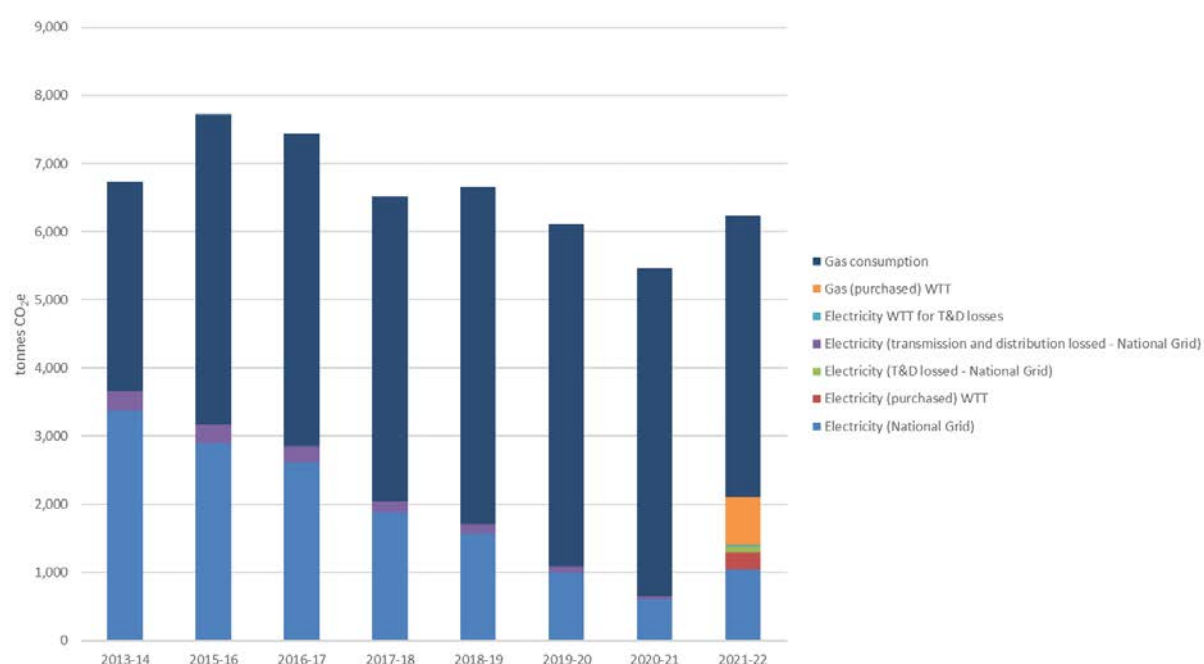


Figure 6 GHG emissions for energy use at GCU (including 'other energy emissions' such as transmission and distribution losses and well-to-tank emissions).

Improvements in data collection have permitted the inclusion of emissions of emissions from electricity used in the GCU London. Historically these emissions would have been included as Supply Chain emissions, but are now included in the Energy emissions. This disaggregation and the addition of well-to-tank emissions, not retrospectively added to previous reporting periods, restricts the direct comparison of energy emissions. Figure 7 is therefore included to facilitate a like-for-like comparison of emissions from energy consumption only.

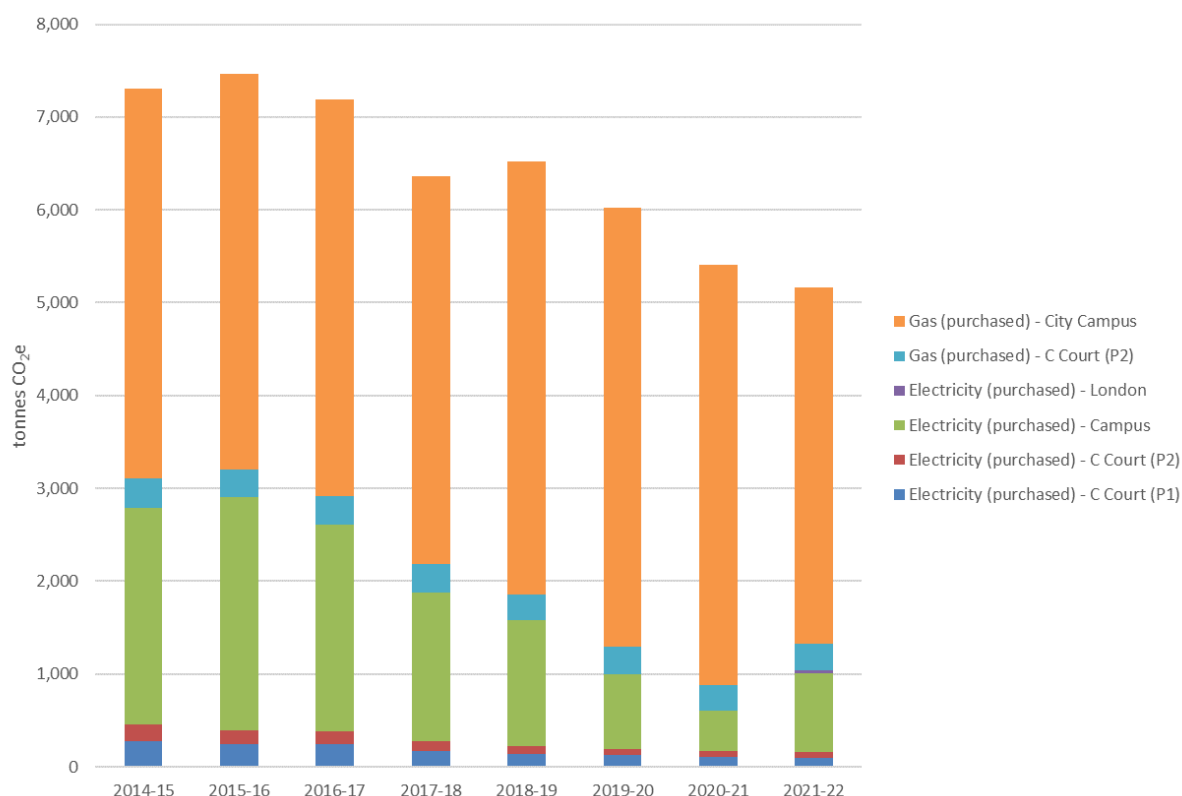


Figure 7 Energy consumption emissions only (i.e. without scope 3 emissions for transmission and distribution losses or well to tank emissions).

The downward trend in emissions from energy use continues and is driven by declining consumption, falling carbon intensity of purchased energy (mainly electricity) and improved energy efficiency. There is also an exceptional factor influencing energy emissions for 2021-22, which is the half-life refurbishment of the gas-powered Combined Heat and Power (CHP) plant at the University's Energy Centre. As a result of this, the CHP was off-line for a short period of time during the start of the reporting period and the University had to source electricity from the National Grid. It is anticipated that energy emissions will continue to fall as a result of further demand reduction, improved efficiency and further supply decarbonisation. There may also be an additional opportunity to accentuate this trend by considering space utilization and productivity.

Other

Emissions from other activity, which includes waste, water, wastewater, refrigerated gases and investments (new to the 2021-22 inventory) were 109 tCO₂e (Figure 8). In this group, there were reductions in emissions from waste and recycling, water and wastewater, which are linked to on-campus activity. There was also a reduction in emissions from investments (back-dated to 2020-21) due to changes in the University's portfolio. Emissions from refrigerants (used in the University's cooling systems and linked to equipment condition) were lower than in the previous reporting period.

Source	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Investments	N/A	N/A	N/A	N/A	N/A	N/A	140	47
Refrigerant Gases	61	225	162	100	25	103	159	42
Waste Management	67	62	84	81	17	13	3	14
Wastewater	34	32	14	27	27	7	2	4
Water	17	16	15	14	14	3	1	2
Total	179	335	275	222	82	125	306	109

Table 4 Other emissions in GCU's emission inventory.

Although it was anticipated that emissions in this category would rebound with the return of on-campus activity (in the previous reporting period), the present inventory indicates that with a few exceptions, emissions are stable and likely to remain below the materiality threshold (i.e. 1% of total reported emission). The exception are emissions from refrigeration (influenced by equipment age and operating condition) and investments (for which there are relatively few data points).

Closing Remarks

The 2021-22 inventory reflects the return of University operations to the pre-pandemic operating model. Although a rebound is noted across many emissions groups (e.g. energy and student travel), it has yet to manifest itself in others (e.g. business travel). It is anticipated that the rebound will have fully manifested itself by the next reporting period.

Appendix A - Full GHG Emissions Inventory

GCU’s full GHG emissions inventory for 2021-22 is presented below. A spreadsheet with this and previous inventories is available from:

<https://www.gcu.ac.uk/aboutgcu/commongood/sustainability/data>

Emission Category	Scope	Emission Activity	Source	Qty	Qty (U)	EF	EF (U)	EF Source	tonnes CO2e	
Organisation's buildings	1	Gas consumption	City Campus	21,012,032	kWh		0.18254	kg CO2e.kWh	Defra: Fuels (Energy gross - CV) 2022	3,835.54
Organisation's buildings	1	Gas consumption	Caledonian Court (P2)	1,588,195	kWh		0.18254	kg CO2e.kWh	Defra: Fuels (Energy gross - CV) 2022	289.91
Organisation's buildings	1	Refrigerant Gases	R134A		kg		1430	kg CO2e.kg	Defra: Refrigerant & Other (2022)	-
Organisation's buildings	1	Refrigerant Gases	R410A		kg		2088	kg CO2e.kg	Defra: Refrigerant & Other (2022)	-
Organisation's buildings	1	Refrigerant Gases	R404A	3.3	kg		3992	kg CO2e.kg	Defra: Refrigerant & Other (2022)	12.97
Organisation's buildings	1	Refrigerant Gases	R407C	13.8	kg		1774	kg CO2e.kg	Defra: Refrigerant & Other (2022)	24.48
Organisation's buildings	1	Refrigerant Gases	R22		kg		1810	kg CO2e.kg	Defra: Refrigerant & Other (2022)	-
Organisation's buildings	2	Refrigerant Gases	R453a	0.8	kg		1765	kg CO2e.kg	https://nationalref.com/products/r453a/ (31/8	1.41
Organisation's buildings	1	Refrigerant Gases	R422D	1.2	kg		2729	kg CO2e.kg	Defra: Refrigerant & Other (2022)	3.36
Organisation's vehicles	1	Business travel (owned vehicles)	Petrol		litres			kg CO2e.litre	Defra: Fuels	-
Organisation's vehicles	1	Business travel (owned vehicles)	Diesel	1,218	litres		2.55784	kg CO2e.litre	Defra: Fuels - Diesel (average biofuel blend) 202	3.11
Purchased Electricity	2	Electricity (National Grid)	Campus	4,367,700	kWh		0.19338	kg CO2e.kWh	Defra: UK electricity	844.63
Purchased Electricity	2	Electricity (National Grid)	C Court (P1)	490,200	kWh		0.19338	kg CO2e.kWh	Defra: UK electricity	94.79
Purchased Electricity	2	Electricity (National Grid)	C Court (P2)	334,167	kWh		0.19338	kg CO2e.kWh	Defra: UK electricity	64.62
Purchased Electricity	3	Electricity (National Grid)	London	187,207	kWh		0.19338	kg CO2e.kWh	Defra: UK electricity	36.20
Purchased Good & Service	3	Water	Glasgow	18,135	m3		0.11	kg CO2e.m3	Scottish Water - Sustainability Report 2019 (pag	1.99
Purchased Good & Service	3	Water	London	619	m3		0.149	kg CO2e.m3	DEFRA: Water Supply 2022	0.09
Purchased Good & Service	3	Supply chain (not otherwise accounted for)	HESCET dataset (redacted)		HESCET kgCO2e			HESCET kgCO2e.£	HESCET	13,516.47
Other fuels & energy relat	3	Electricity (T&D lossed - National Grid)	All	5,379,274	kWh		0.01769	kg CO2e.kWh	Defra: T&D - UK Electricity 2022	95.16
Other fuels & energy relat	3	Electricity (purchased) WTT	All	5,379,274	kWh		0.04625	kg CO2e.kWh	DEFRA: WTT UK electricity (generation) 2022	248.79
Other fuels & energy relat	3	Electricity WTT for T&D losses	All	5,379,274	kWh		0.00423	kg CO2e.kWh	DEFRA: WTT UK electricity (T&D) 2022	22.75
Other fuels & energy relat	3	Gas (purchased) WTT	All	22,600,227	kWh		0.0311	kg CO2e.kWh	DEFRA: WTT Fuels 2022	702.87
Other fuels & energy relat	3	Petrol (purchased) WTT	Petrol - All		litres			kg CO2e.litre	DEFRA: WTT Fuels 2022	-
Other fuels & energy relat	3	Diesel (purchased) WTT	Diesel - All	1,218	litres		0.60986	kg CO2e.litre	DEFRA: WTT Fuels 2022	0.74
Waste Generated in Oper:	3	Waste & Recycling (C&I) - London	Landfill [Est.]	-	tonnes		467.008	kg CO2e.tonne	Defra: Waste Disposal (Refuse)	-
Waste Generated in Oper:	3	Waste & Recycling (C&I) - London	Mixed Recycling [Est.]	-	tonnes		21.280	kg CO2e.tonne	Defra: Waste Disposal (Refuse) 2022	-
Waste Generated in Oper:	3	Waste & Recycling (C&I) - London	Combustion [Est.]	7.80	tonnes		21.280	kg CO2e.tonne	Defra: Waste Disposal (Refuse)	0.17
Waste Generated in Oper:	3	Waste & Recycling (C&I) - Campus	Landfill - SAMPRO/GW [Est.]	6.18	tonnes		467.008	kg CO2e.tonne	Defra: Waste Disposal (Refuse)	2.89
Waste Generated in Oper:	3	Waste & Recycling (C&I) - Campus	Combustion	16.60	tonnes		21.280	kg CO2e.tonne	Defra: Waste Disposal (Refuse)	0.35
Waste Generated in Oper:	3	Waste & Recycling (C&I) - Campus	Mixed Recycling	171.44	tonnes		21.280	kg CO2e.tonne	Defra: Waste Disposal (Refuse)	3.65
Waste Generated in Oper:	3	Waste & Recycling (C&I) - Campus	Organic: Food & drink waste Al	5.50	tonnes		8.911	kg CO2e.tonne	Defra: Waste Disposal (Refuse) 2022	0.05
Waste Generated in Oper:	3	Waste & Recycling (C&I) - Campus	Glass - Recycling		tonnes			kg CO2e.tonne	Defra: Waste Disposal (Other)	-
Waste Generated in Oper:	3	Waste & Recycling (C&I) - Campus	Paper - Recycling		tonnes			kg CO2e.tonne	Defra: Waste Disposal (Paper)	-
Waste Generated in Oper:	3	Waste & Recycling (C&I) - Campus	Metal - Recycling		tonnes			kg CO2e.tonne	Defra: Waste Disposal (Paper)	-
Waste Generated in Oper:	3	Waste & Recycling (C&I) - Campus	Cardboard - Recycling		tonnes			kg CO2e.tonne	Defra: Waste Disposal (Paper)	-
Waste Generated in Oper:	3	Waste & Recycling (C&I) - Campus	WEEE - Recycling	14.61	tonnes		21.280	kg CO2e.tonne	Defra: Waste Disposal (Electrical Items)	0.31
Waste Generated in Oper:	3	Waste & Recycling (Municipal) - CCourt	Landfill [Est.]	7.30	tonnes		446.20	kg CO2e.tonne	Defra: Waste Disposal (Refuse) 2022	3.26
Waste Generated in Oper:	3	Waste & Recycling (Municipal) - Court	Combustion [Est.]	123.80	tonnes		21	kg CO2e.tonne	Defra: Waste Disposal (Refuse)	2.63
Waste Generated in Oper:	3	Waste & Recycling (Municipal) - Ccourt	Food Waste - AD [Est.]		tonnes		8.911	kg CO2e.tonne	Defra: Waste Disposal (Refuse)	-
Waste Generated in Oper:	3	Waste & Recycling (Municipal) - Ccourt	Mixed Recycling [Est.]	28.38	tonnes		21	kg CO2e.tonne	Defra: Waste Disposal (Refuse)	0.60
Waste Generated in Oper:	3	Waste & Recycling (C&D) - Campus	Average construction [treatme		tonnes			kg CO2e.tonne	Defra: Waste Disposal (Construction)	-
Waste Generated in Oper:	3	Wastewater	Glasgow	17,228	m3		0.2300	kg CO2e.m3	Scottish Water - Sustainability Reports - 2019	3.96
Waste Generated in Oper:	3	Wastewater	London	588	m3		0.272	kg CO2e.m3	DEFRA: water treatment 2022	0.16
Business Travel	3	Travel (business - not owned)	Grey fleet - Average car - unk	16,147	miles		0.27039	kg CO2e.mile	Defra: Business travel - land (cars (average - un	4.37
Business Travel	3	Travel (business - not owned)	Grey fleet - Average motorbike		miles			kg CO2e.mile	Defra: Business travel - land (motorbike - avera	-
Business Travel	3	Travel (business - not owned)	Hired - Medium petrol car - W	3,718	miles		0.29724	kg CO2e.mile	Defra: Business travel - land (cars (by size))	1.11
Business Travel	3	Travel (business - not owned)	Hired - Medium diesel car - W	2,230	miles		0.27039	kg CO2e.mile	Defra: Business travel - land (cars (by size))	0.60
Business Travel	3	Travel (business - not owned)	Hired - Medium hybrid car - W		miles		0.0	kg CO2e.mile	Defra: Business travel - land (cars (by size))	-
Business Travel	3	Travel (business - not owned)	Taxis - Black Cab (Glasgow)	11,715	km		0.30624	kg CO2e.km	Defra: Business travel - taxi - black cab - km (20	3.59
Business Travel	3	Travel (business - not owned)	Coach		km			kg CO2e.mile	Defra: Business travel - land - bus	-
Business Travel	3	Travel (business - not owned)	Air - D - Average	52,264	km		0.24587	kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	12.85
Business Travel	3	Travel (business - not owned)	Air - SH - Average		km			kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	-
Business Travel	3	Travel (business - not owned)	Air - SH - Economy	257,172	km		0.15102	kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	38.84
Business Travel	3	Travel (business - not owned)	Air - SH - Business	14,954	km		0.22652	kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	3.39
Business Travel	3	Travel (business - not owned)	Air - LH -Average		km			kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	-
Business Travel	3	Travel (business - not owned)	Air - LH -Economy	247,164	km		0.14787	kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	36.55
Business Travel	3	Travel (business - not owned)	Air - LH -Premium economy	95,517	km		0.23659	kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	22.60
Business Travel	3	Travel (business - not owned)	Air - LH -Business	79,381	km		0.42882	kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	34.04
Business Travel	3	Travel (business - not owned)	Air - LH -First		km			kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	-
Business Travel	3	Travel (business - not owned)	Air - Int -Average		km			kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	-
Business Travel	3	Travel (business - not owned)	Air - Int -Economy	274,527	km		0.140625	kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	38.61
Business Travel	3	Travel (business - not owned)	Air - Int -Premium economy		km			kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	-
Business Travel	3	Travel (business - not owned)	Air - Int -Business	42,741	km		0.40781	kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	17.43
Business Travel	3	Travel (business - not owned)	Air - Int -First		km			kg CO2e.pass.km	Defra: Business travel - air - with RF 2022	-
Business Travel	3	Travel (business - not owned)	Rail - National - TMC	68,762	km		0.03549	kg CO2e.pass.km	Defra: Business travel - land - rail (2022)	2.44
Business Travel	3	Travel (business - not owned)	Rail - National - i-expenses	98,590	km		0.03549	kg CO2e.pass.km	Defra: Business travel - land - rail (2022)	3.50
Business Travel	3	Travel (business - not owned)	Rail - International	7,719	km		0.00446	kg CO2e.pass.km	Defra: Business travel - land - rail (2022)	0.03
Business Travel	3	Travel (hotels)	Hotel nights - TMC - aggregated					kg CO2e.room.night	Defra: Hotel 2022	-
Business Travel	3	Travel (hotels)	Hotel nights - i-expense - aggre							-
Business Travel	3	Travel (business - not owned) - WTT	Grey fleet - Average car - unk	16,147	miles		0.07255	kg CO2e.mile	WTT- pass vehs & travel- land 2022	1.17
Business Travel	3	Travel (business - not owned) - WTT	Grey fleet - Average motorbike		miles			kg CO2e.mile	WTT- pass vehs & travel- land 2022	-
Business Travel	3	Travel (business - not owned) - WTT	Hired - Medium petrol car - W	3,718	miles		0.08475	kg CO2e.mile	WTT- pass vehs & travel- land 2022	0.32
Business Travel	3	Travel (business - not owned) - WTT	Hired - Medium diesel car - W	2,230	miles		0.06467	kg CO2e.mile	WTT- pass vehs & travel- land 2022	0.14
Business Travel	3	Travel (business - not owned) - WTT	Hired - Medium hybrid car - W		miles		0.0	kg CO2e.mile	WTT- pass vehs & travel- land 2022	-
Business Travel	3	Travel (business - not owned) - WTT	Taxis - Black Cab (Glasgow) - W	11,715	km		0.075	kg CO2e.km	WTT- pass vehs & travel- land 2022	0.88
Business Travel	3	Travel (business - not owned) - WTT	Coach - WTT		km			kg CO2e.mile	WTT- pass vehs & travel- land 2022	-
Business Travel	3	Travel (business - not owned) - WTT	Air - D - Average - WTT	52,264	km		0.02691	kg CO2e.pass.km	WTT- business travel- air with RF (2022)	1.41
Business Travel	3	Travel (business - not owned) - WTT	Air - SH - Average - WTT		km			kg CO2e.pass.km	WTT- business travel- air with RF (2022)	-
Business Travel	3	Travel (business - not owned) - WTT	Air - SH - Economy - WTT	257,172	km		0.01654	kg CO2e.pass.km	WTT- business travel- air with RF (2022)	4.25
Business Travel	3	Travel (business - not owned) - WTT	Air - SH - Business - WTT	14,954	km		0.0248	kg CO2e.pass.km	WTT- business travel- air with RF (2022)	0.37
Business Travel	3	Travel (business - not owned) - WTT	Air - LH -Average - WTT		km			kg CO2e.pass.km	WTT- business travel- air with RF (2022)	-
Business Travel	3	Travel (business - not owned) - WTT	Air - LH -Economy - WTT	247,164	km		0.01619	kg CO2e.pass.km	WTT- business travel- air with RF (2022)	4.00
Business Travel	3	Travel (business - not owned) - WTT	Air - LH -Premium economy - W	95,517	km		0.02591	kg CO2e.pass.km	WTT- business travel- air with RF (2022)	2.47
Business Travel	3	Travel (business - not owned) - WTT	Air - LH -Business - WTT	79,381	km		0.04696	kg CO2e.pass.km	WTT- business travel- air with RF (2022)	3.73
Business Travel	3	Travel (business - not owned) - WTT	Air - LH -Firstv - WTT		km			kg CO2e.pass.km	WTT- business travel- air with RF (2022)	-
Business Travel	3	Travel (business - not owned) - WTT	Air - Int -Average - WTT		km			kg CO2e.pass.km	WTT- business travel- air with RF (2022)	-
Business Travel	3	Travel (business - not owned) - WTT	Air - Int -Economy - WTT	274,527	km		0.0154	kg CO2e.pass.km	WTT- business travel- air with RF (2022)	4.23
Business Travel	3	Travel (business - not owned) - WTT	Air - Int -Premium economy - W		km			kg CO2e.pass.km	WTT- business travel- air with RF (2022)	-
Business Travel	3	Travel (business - not owned) - WTT	Air - Int -Business - WTT	42,741	km		0.04466	kg CO2e.pass.km	WTT- business travel- air with RF (2022)	1.91
Business Travel	3	Travel (business - not owned) - WTT	Air - Int -First - WTT		km			kg CO2e.pass.km	WTT- business travel- air with RF (2022)	-
Business Travel	3	Travel (business - not owned) - WTT	Rail - National - TMC - WTT	68,762	km		0.00892	kg CO2e.pass.km	WTT- pass vehs & travel- land 2022	0.61
Business Travel	3	Travel (business - not owned) - WTT	Rail - National - i-expenses - W	98,590	km		0.00892	kg CO2e.pass.km	WTT- pass vehs & travel- land 2022	0.88
Business Travel	3	Travel (business - not owned) - WTT	Rail - International - WTT	7,719	km		0.00116	kg CO2e.pass.km	WTT- pass vehs & travel- land 2022	0.01
Employee Commuting	3	Travel (commuting - staff)	Rail	2,172,132	km		0.03549	kg CO2e.pass.km	Defra: Business travel - land - rail (2022)	77.09
Employee Commuting	3	Travel (commuting - staff)	Underground	11,767	km		0.02861	kg CO2e.pass.km	Defra: Business travel - land - rail - light rail and	0.34
Employee Commuting	3	Travel (commuting - staff)	Public bus	639,346	km		0.10778	kg CO2e.pass.km	Defra: Business travel - land - local bus (not Lon	68.91
Employee Commuting	3	Travel (commuting - staff)	Car - Average - unknown	1,183,160	km		0.17067	kg CO2e.km	Defra: Business travel - land (cars (average - un	201.93
Employee Commuting	3	Travel (commuting - staff)	Motorcycle/ Moped (average)	-	km		0.11355	kg CO2e.pass.km	Defra: Business travel - land - motorbike	-
Employee Commuting	3	Travel (commuting - staff)	Working from Home	755.29	FTE		300	kgCO2e.FTE.year	SN Guidnace for 2021	226.59
Downstream transportati	3	Travel (commuting - students)	Rail - National	22,904,117.44	km		0.03549	kg CO2e.pass.km	Defra: Business travel - land - rail	812.87
Downstream transportati	3	Travel (commuting - students)	Underground	1,831,464	km		0.02861	kg CO2e.pass.km	Defra: Business travel - land - rail - light rail and	52.40
Downstream transportati	3	Travel (commuting - students)	Public bus	13,793,773	km		0.10778	kg CO2e.pass.km	Defra: Business travel - land - local bus (not Lon	1,486.69
Downstream transportati	3	Travel (commuting - students)	Car - Average - unknown	5,359,937	km		0.17067	kg CO2e.km	Defra: Business travel - land (cars (average - un	914.78
Downstream transportati	3	Travel (commuting - students)	Motorcycle/ Moped (average)		km		0.11355	kg CO2e.pass.km	Defra: Business travel - land - motorbike	-
Downstream transportati	3	Travel (end-of-term UK domicilled)	Coach	435,711	km		0.02733	kg CO2e.pass.km	DEFRA: Business Travel - land - bus 2022	11.91
Downstream transportati	3	Travel (end-of-term UK domicilled)	Car - Average - unknown	601,555	km		0.17067	kg CO2e.pass.km	DEFRA: Business Travel - land - car - average (ur	102.67
Downstream transportati	3	Travel (end-of-term UK domicilled)	Air - Domestic (average)	735,723	km		0.24587	kg CO2e.pass.km	Defra: Business travel - air (average passenger)	180.89
Downstream transportati	3	Travel (end-of-term UK domicilled)	Rail - National	2,260,426	km		0.03549	kg CO2e.pass.km	DEFRA: Busines travel - land - rail 2022	80.22
Downstream transportati	3	Travel (int. stu. to Glasgow)	Air - Long-haul (average)	29,001,027	km		0.19309	kg CO2e.pass.km	Defra: Business travel - air (average passenger)	5,599.81
Downstream transportati	3	Travel (int. stu. to Glasgow)	Air - Short-haul (average)	5,515,016	km		0.15353	kg CO2e.pass.km	Defra: Business travel - air (average passenger)	846.72
Investments	3	Investments	Endowment A	0.0886	£ million		13.14928	T CO2e.£ million	[ESG Report]	1.17
Investments	3	Investments	Endowment B	0.2420	£ million		13.14928	T CO2e.£ million	[ESG Report]	3.18
Investments	3	Investments	Pension (New Blood)	3.2416	£ million		13.14928	T CO2e.£ million	[ESG Report]	42.63