

Carbon Footprint Report for Jesus College



Reporting Period:

August 2022 – July 2023

Unverified Inventory

31st July 2024

www.greener-edge.co.uk

stu@greener-edge.co.uk

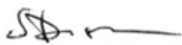


Contents

Summary:.....	3
Executive summary:.....	5
1.0 Background.....	7
2.0 Process and methodology.....	10
2.1 Compliance	10
2.2 Data collection and methodology.....	10
2.3 Accuracy and uncertainty	12
3.0 Carbon footprint overview	13
3.1 Scope 1 – direct emissions from operations	14
3.2 Scope 2 – indirect emissions from purchased electricity.....	14
3.3 Scope 3 – all other indirect emissions.....	15
3.3.1 Analysis of emissions from purchased goods and services	16
3.4 Greenhouse gas hotspots across all Scopes	19
4.0 Student travel emissions	21
5.0 Benchmarking against other universities.....	22
6.0 Recommendations and future considerations.....	23
5.1 Top recommendations – decarbonisation.....	23
5.2 Recommendations – data collection.....	24
References	25

All information, intensity metrics and recommendations contained within this report are accurate at the date of issue.

Prepared by:



Sara Dusza

Date: 20th September 2024

Reviewed by:



Will Miller

Date: 23rd September 2024

Approved by:



Stu Meades

Date: 23rd September 2024

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V1 - draft	Draft	SD	WM	SM	31/07/2024
V2 - final	Final version	SD	WM	SM	23/09/2024
V3 - final	Final version	SD	WM	SM	02/10/2024

Summary:

This carbon footprint inventory was prepared for Jesus College, Oxford for the reporting period 1st August 2022 - 31st July 2023.

Organisation Background

Name: Jesus College, Oxford
Business Area: Academic Institution
Business Description: Part of a public research university, University of Oxford, Jesus College provides college courses to undergraduate and postgraduate students.

Organisational Boundary This measurement covers all operational sites of the college, including emissions occurred during business travel, but excluding student travel and commute

Report Period 1st August 2022 - 31st July 2023

Reporting Boundary

Scope 1: Direct Emissions

- Fuel combustion in organisation's facilities
- Organisation's vehicles
- Fugitive emissions from organisation-controlled sources

Scope 2: Indirect Emissions from Energy

- Purchased electricity, steam, heating and cooling for own use

Scope 3: Indirect Emissions

- Purchased goods and services
- Waste generated in operations
- Fuel and energy-related activities
- Employee commuting
- Business travel
- Investments

Reporting Omissions Employee wages

Total Emissions 17,032.64 tCO₂e

Scope 1 Emissions 519.94 tCO₂e

*Scope 2 Emissions*¹ 0 tCO₂e

Scope 3 Emissions 16,512.70 tCO₂e

Student travel² 688.73 tCO₂e

Emissions / Student¹ 23.72 tCO₂e / student

¹ Market-based emissions

² Student commute is not included in an organisational boundary of Jesus College

Executive summary:

Background and methodology

This report is the first Scope 1,2 and 3 greenhouse gas (GHG) emission inventory prepared for Jesus College, Oxford. It was prepared in accordance with the requirements of GHG Protocol and covers the period 1st August - 31st July 2023. All emissions over which Jesus College has operational control have been included in the inventory. This report was prepared for Jesus College to assist in managing its response to climate change and aid the reduction of greenhouse gas emissions.

Carbon footprint overview

For the reporting period August 1st, 2022, to July 31st, 2023 the total market-based emissions were estimated to be **17,032.64 tCO₂e**. The total number excludes student travel emissions that are not included in the operational boundary of Jesus College. The largest portion of the footprint form emissions from investments, purchased goods and services, gas consumption and purchased electricity.

Scope 1 category		Carbon emissions (tCO ₂ e)
Gas consumption		509.99
Site fuel consumption		5.64
Fugitive emissions		4.30
Total Scope 1		519.94
Scope 2 category		Carbon emissions (tCO ₂ e)
Electricity consumption – market based		0
Total Scope 2 – market based		0
Scope 3 category		Carbon emissions (tCO ₂ e)
1	Purchased goods and services	2,233.53
3	Fuel-and-energy-related activities	205.62
5	Waste generated in operations	22.13
6	Business travel	11.09
7	Employee commuting	76.33
15	Investments	13,964.00
Total Scope 3, ex. student travel		16,434.19
Total - Market - based		17,032.64

Student travel emissions

Student emissions were not included in the operational boundary of Jesus College but were calculated as part of this project. Student travel emissions were divided into three categories: term-time travel, academic business travel, and daily commutes. Nearly 73% of these emissions result from term-time travel between the university and home, primarily involving international air travel. An additional 27% comes from postgraduate academic travel, also with a high carbon footprint due to international flights. Daily commute emissions are minimal, making up only 0.45% of the total, as most students walk or cycle. Of the small commute emissions, 70% are generated by undergraduate students.

Activity	Emissions tCO _{2e}	Percentage
Term time student travel	500.95	72.88%
Postgraduate student academic business travel	184.69	26.82%
Student daily commute	3.09	0.45%
Total	688.73	100%

Future recommendations to reduce carbon emissions

To reduce carbon emissions, several key actions are recommended for Jesus College. The most impactful step is transitioning the investment portfolio towards low-carbon assets, significantly decreasing the overall carbon footprint. Electrifying onsite gas heating could further reduce emissions, while an in-depth energy audit would help identify additional efficiency savings. Implementing energy-efficient technologies, such as LED lighting and optimised building management systems, would decrease emissions from electricity use. Engaging with top suppliers to lower emissions in purchased goods and services, as well as reducing carbon-intensive food purchases like meat products, would also contribute to emission reductions. Additionally, developing a low-carbon business travel strategy and conducting a waste audit could provide further insights for targeted waste reduction. Improving data accuracy is key to refining Jesus College's carbon footprint estimates. Greener Edge recommends implementing reporting systems for staff and student commutes by surveying individuals, enhancing business travel tracking to prevent overlooked emissions, and gathering custom emission factors for purchased goods. These measures will support more precise carbon reduction efforts.

1.0 Background

This report is the first Scope 1,2 and 3 greenhouse gas (GHG) emission inventory prepared for Jesus College, Oxford. It was prepared in accordance with the requirements of GHG Protocol and covers the period 1st August - 31st July 2023.

Communication and dissemination

This report was prepared for Jesus College to assist in managing its response to climate change and aid the reduction of greenhouse gas emissions. The report is also intended to be a communication tool to demonstrate to stakeholders that Jesus College has identified its emissions profile and is taking the issues of climate change seriously. The intended users of this report are the staff and students at Jesus College, their existing and potential clients as well as members of the public.

Preparation accordance and disclaimer

The inventory has been prepared in compliance with Greenhouse Gas Protocol (2023) and covers the reporting period. It should be noted that this measurement is an unverified inventory, and no verification audit has been conducted of the findings.

Reporting period

The reporting period of this report covers 1st August 2022 - 31st July 2023. This period will act as a base year for future measurements to track corporate GHG emissions comprehensively and consistently across all categories and all three scopes.

Reporting boundary

All emissions over which Jesus College has operational control have been included in the inventory. This being all emissions sources that occur within Jesus College. The reporting boundary identifies which emission sources are included in the carbon inventory and which are excluded (Figure 1). The GHG Protocol Standard (GHG Protocol, 2004) and Corporate Value Chain Accounting and Reporting Standard (GHG Protocol, 2013) categorises emissions as follows (Figure 2).

Scope 1 emissions are those resulting directly from the organisation's operations including stationary energy sources and vehicles owned by the company.

Scope 2 emissions are indirectly created by the company through the importation of electricity, heat or steam generated elsewhere.

Scope 3 emissions are from indirect sources such as business travel and waste production that the organisation cause to be emitted by others due to their purchase of goods and services.

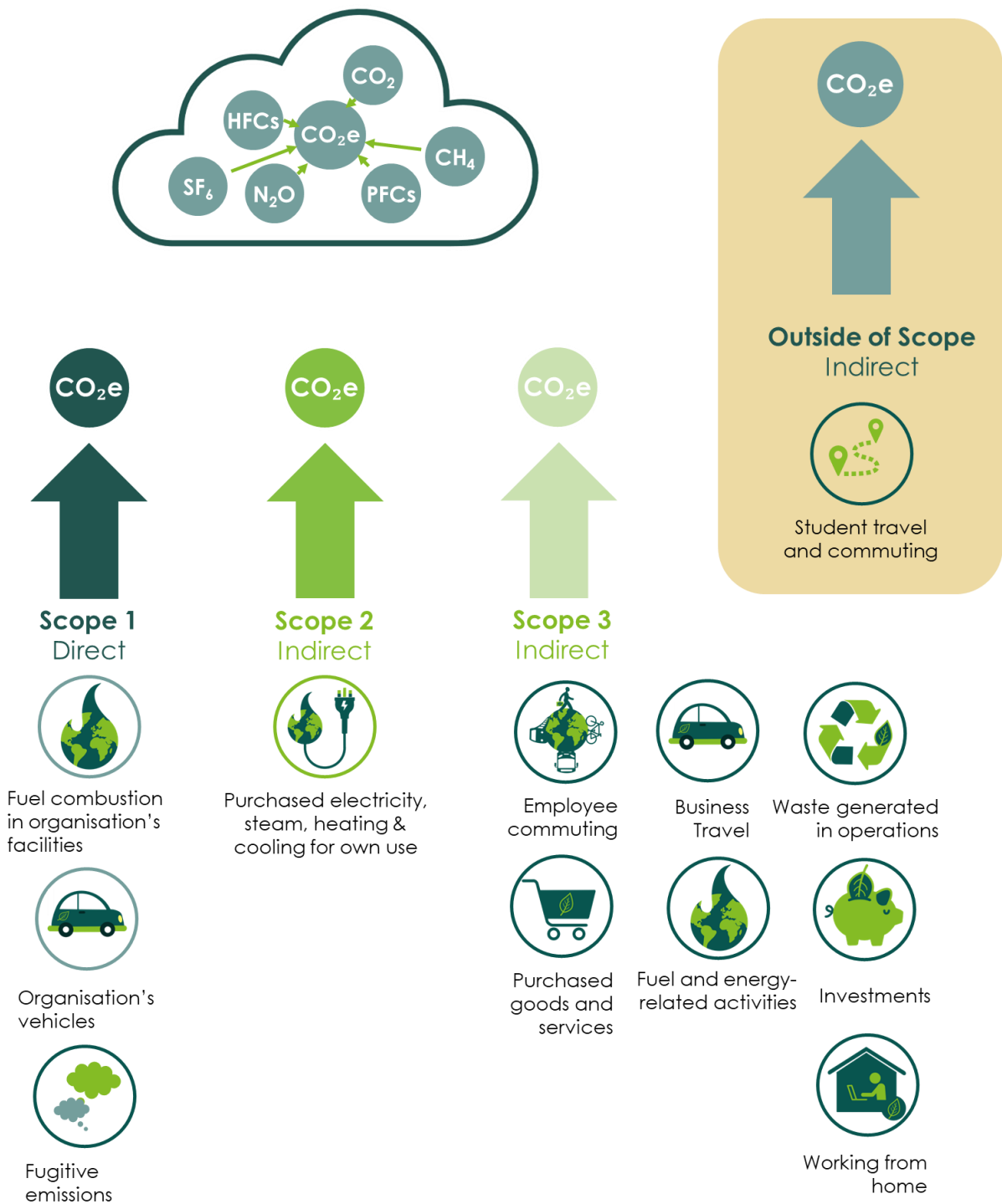
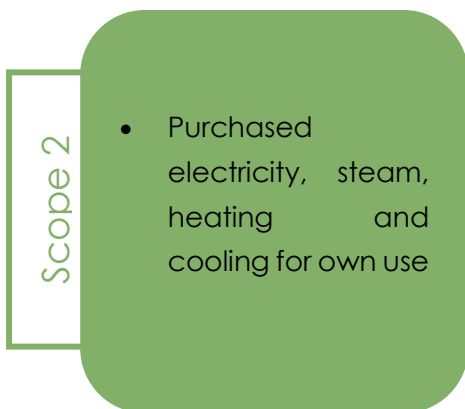


Figure 1. Sources of carbon emissions included in the inventory of Jesus College. Student emissions have been calculated to account for the complete breakdown of emissions, however student emissions are currently accounted for in University of Oxford total emissions. The inventory covers six greenhouse gases outlined in Kyoto Protocol - carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆), expressed as CO₂e.

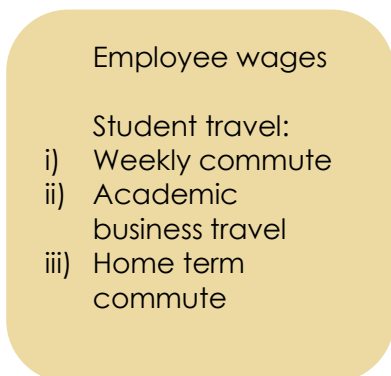
Direct emissions:



Indirect emissions from energy:



Exclusions:



Indirect emissions:

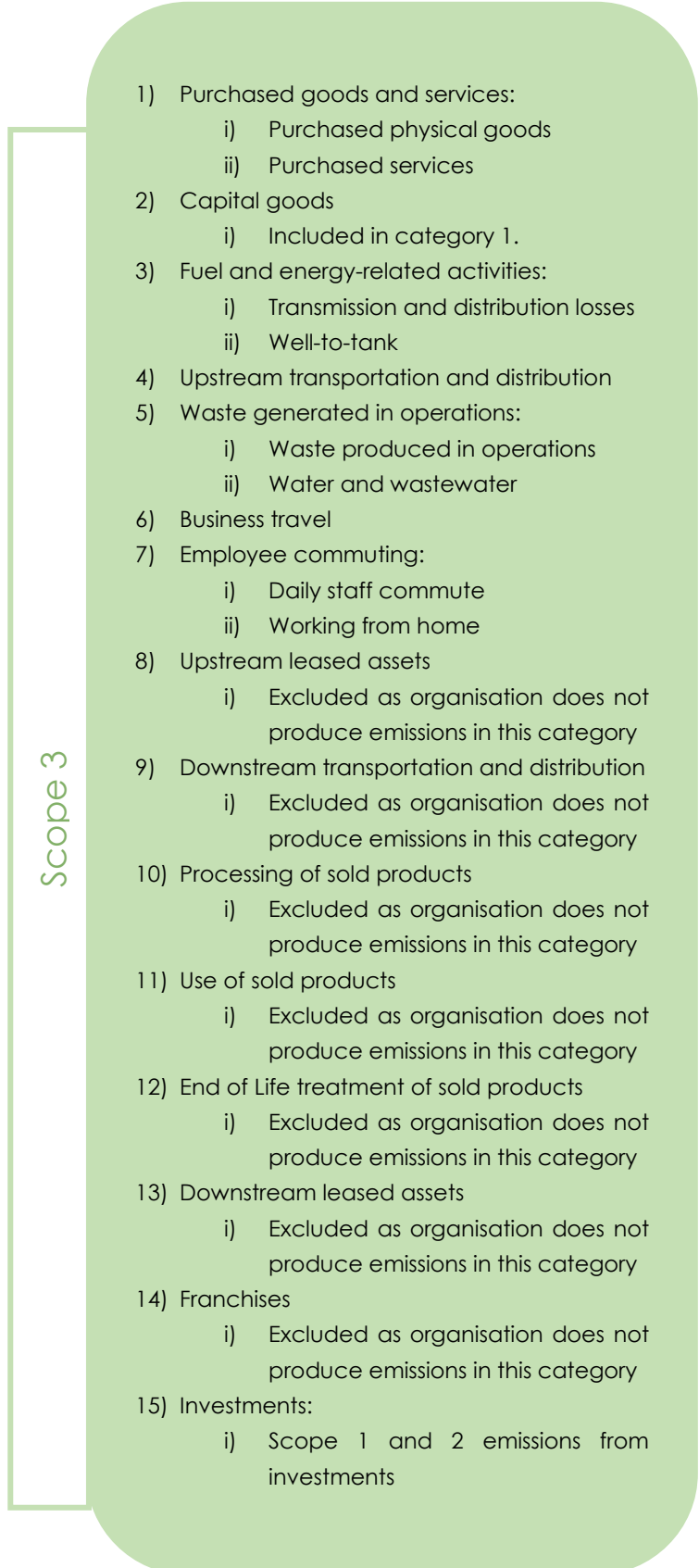


Figure 2. Scope 1, 2 and 3 carbon emission categories included and excluded in the inventory of Jesus College, as outlined in GHG Protocol

2.0 Process and methodology

2.1 Compliance

The GHG inventory adheres to the standards outlined in the Greenhouse Gas Protocol guidance, "A Corporate Accounting and Reporting Standard, The Greenhouse Gas Protocol" (GHG Protocol, 2004). In measuring this inventory, we followed the principles outlined in both ISO 14064-1 and The Greenhouse Gas Protocol reporting approach.

2.2 Data collection and methodology

Jesus College obtained the required data with support from Greener Edge. Table 1. provides an overview of where data was collected for each emission source. Emissions were mainly determined using carbon intensity factors obtained from "Greenhouse Gas Reporting: Conversion Factors" (DESNZ, 2023) and "Table 13 Indirect Emissions from the Supply Chain" (DEFRA, 1990-2019). The calculation employed for determining Jesus College greenhouse gas emissions inventory was by multiplying the emissions source activity data with the emissions factor, as indicated in the formula below.

$$\text{Tonnes } CO_2e = \sum \text{ghg activity} \times EF$$

Where $\sum \text{ghg activity}$ equals the sum of greenhouse gas activity and EF equals the emissions factor for the greenhouse gas activity. Multiplying these gives the total quantity of greenhouse gas emissions per activity. For example, 1,000 kilowatt hours (KWH) of electricity (the greenhouse gas activity) is multiplied by 0.207074 (the emission factor, kg of CO₂e per kwh of electricity) to equal 207.07 kgCO₂e.

Carbon Footprint Reporting Process and Methodology

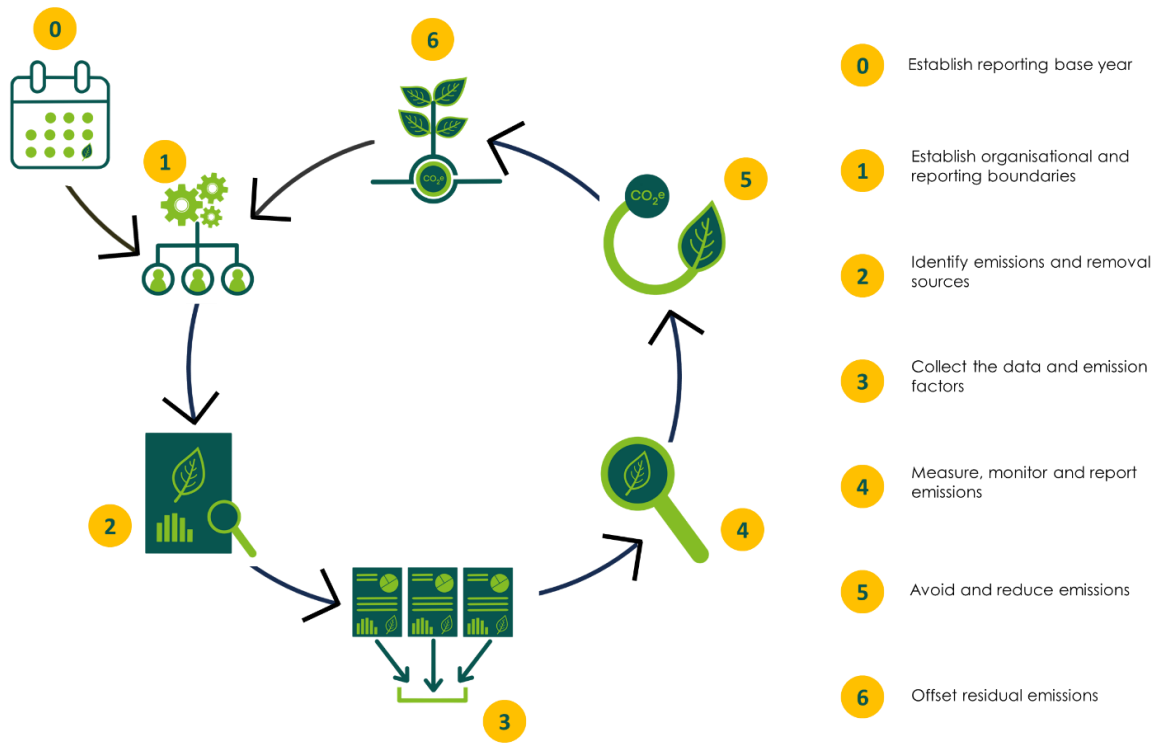


Figure 3. Reporting cycle of the carbon footprinting process

Activity data for Jesus College was obtained from a range of sources, these sources are fully outlined in Table 1 below. Greenhouse gas emissions factors were generally sourced from GHG conversion factors (DESNZ, 2023) and "Table 13 Indirect Emissions from the Supply Chain" (DEFRA, 1990-2019).

Table 1. Jesus College's data sources

Emission Source	Unit	Data Source
Electricity	kWh	Internal logbook
Gas	kWh	Internal logbook
Water Supply	m ³	Internal communication
Supply Chain	£	Internal procurement spend data
Employee Commuting	Miles	Staff travel survey
Business Travel	Miles	Staff travel survey, internal procurement spend data
Waste Disposal	kg, £	Internal logbook
Student Commute	-	Data sourced from student survey
Investments	tCO ₂ e	Emission estimates provided by Cambridge Associates, investment managers of Jesus College

2.3 Accuracy and uncertainty

Calculating carbon emissions introduces uncertainty stemming from incomplete or inaccurate data, double-counted information, and variability in emission factors. Achieving complete elimination of uncertainty in carbon reporting is currently not possible. To account for this and assess uncertainty the relative standard deviation (RSD), a statistical measure expressing the range of uncertainty around the mean value was used. It is essential to acknowledge that uncertainty levels vary across emission sources and activity data types. For example, electricity meters typically have an uncertainty of about 2.5%. Organizations should explore options to enhance activity data for future reporting cycles, particularly in categories with significant emission sources coinciding with high uncertainty levels. Yet, it is crucial to note that some emission sources may have limited accuracy due to current methodologies, making complete elimination of uncertainty infeasible. Addressing uncertainty is vital for sustainability plans – each section of the carbon footprint has been assigned an accuracy level and uncertainty score, as seen in Table 2.

Table 2. Accuracy and uncertainty for each calculation tier.

Accuracy Levels	Uncertainty (RSD)
High	+/- 20
Intermediate	+/- 15%
Low	+/- 10%

3.0 Carbon footprint overview

The total location-based carbon emissions for Jesus College were estimated to be **17,324.43 tCO_{2e}** for the reporting period August 1st, 2022, to July 31st, 2023.

Table 3 and Figure 4. Scope 1, 2 and 3 location-based emissions.

Scope	Emissions (tCO _{2e})	Percentage
Scope 1	519.94	2.99%
Scope 2	370.29	2.13%
Scope 1 & 2	890.23	5.12%
Scope 3	16,512.70	94.88%
Total	17,402.93	100%

Breaking the calculated emissions down by scope - Scope 3: Indirect Emissions has the largest contribution of 94.88%, followed by Scope 2: Indirect Emissions from Energy with 2.13% and then Scope 1: Direct Emissions with 2.99%, as seen in Table 3 and Figure 4. It is typical for Scope 3: Indirect Emissions to be the majority of an organisation's carbon footprint.

Jesus College Carbon Footprint



Student emissions were not included in the total footprint of Jesus College, as are currently included in the organisational boundary of University of Oxford. The calculated student emissions were estimated to be 688.73 tCO_{2e}. If included in the total carbon footprint – the emissions would account for 3.81% of total footprint, as seen in Table 4.

Table 4. Student emissions

Activity	Emissions tCO _{2e}	Percentage
Scope 1, 2 and 3	17,402.93	96.19%
Student emissions	688.73	3.81%
Total	18,091.66	100%

3.1 Scope 1 – direct emissions from operations

The total Scope 1 emissions of Jesus College were estimated to be 519.94 tCO_{2e}. The Scope 1 emissions consist of carbon emissions from onsite gas consumption, other fuel consumption and fugitive emissions. The breakdown of Jesus College's Scope 1 emissions by activity can be seen in the Table 4 below.

Table 5. Jesus College's emission distribution across Scope 1

Scope	Activity	Consumption (kWh/£)	Emissions (tCO _{2e})	Uncertainty	Percentage
Scope 1: Direct Emissions	Onsite gas consumption	2,793,870	509.99	+/- 2%	98.09%
Scope 1: Direct Emissions	Other fuel consumption	£	5.64	+/- 5%	1.09%
Scope 1: Direct Emissions	Fugitive emissions	-	4.30	+/- 10%	0.83%

3.2 Scope 2 – indirect emissions from purchased electricity

The dual reporting methodology reports emissions from electricity consumption using two different methods: the location-based method and the market-based method. The location-based method calculates emissions based on a national average emission factor and the specific grid where energy consumption occurs. This shows what the company is physically releasing into the air. The market-based method calculates emissions using supplier-specific data from contractual instruments such as REGOs (Ofgem, 2021), indicating the emissions the company is responsible for through purchasing decisions.

The total annual electricity consumption for the reporting year was 1,788,203 kWh.

Table 6. Jesus College's emission distribution across Scope 2.

Scope	Activity	Consumption (kWh)	Emissions (tCO _{2e}) Location-Based	Emissions (tCO _{2e}) Market-Based	Uncertainty (%)
Scope 2: Indirect Emissions	Purchased electricity	1,788,203	370.29	0	+ / - 2.5%

3.3 Scope 3 – all other indirect emissions

The total Scope 3 emissions were estimated to be 16,512.70 tCO_{2e}. The largest contributor to Jesus College's Scope 3: Indirect Emissions are emissions from Investments making up 84.57% of Scope 3 emissions with a contribution of 13,964.00 tCO_{2e}. Following this, the emissions associated with Purchased Goods and Services make up 13.53% with a contribution of 2,233.53 tCO_{2e}.

The remaining 1.91% of Scope 3 emissions can be contributed to emissions from fuel and energy related activities (1.25%), employee commuting (0.46%), waste generated in operations (0.13%) and business travel (0.07%). Further analysis into purchased goods and services can be found in section 3.4.



The emissions from student travel and commute were also calculated, however not included in an operational boundary. If included in this inventory, emissions associated with student commute would account for around 4.00% of Scope 3 emissions with a contribution of 688.73 tCO_{2e}, as seen in Table 7.

Table 7. Jesus College's emission distribution across Scope 3

Source	Emissions tCO _{2e}	Uncertainty	Percentage
Investments	13,964.00	-	84.57%
Purchased goods and services	2,233.53	~20%	13.53%
Scope 3 Fuel-and-energy-related activities	205.62	~5%	1.25%
Employee commuting	76.33	15-20%	0.46%
Waste generated in operations	22.13	~5%	0.13%
Business travel	11.09	~20%	0.07%
Total	16,512.70	~13.5%	100%
Student travel – not included towards total	688.73	~20%	4.00%

3.3.1 Analysis of emissions from purchased goods and services

The emissions associated with Purchased Goods and Services make up 13.53% of all Scope 3 emissions. This has been further analysed to locate the areas of highest impact (Table 8 and Figure 6).

The supply of education services emitted around 919.88 tCO₂ during the reporting period, accounting for 41.18% of total emissions from Purchased Goods of Services, being the largest contributor. Following this, emissions associated with building and construction works make up 14.92% producing 333.15 tCO_{2e} annually and emissions arising from purchase of food and drink products account for 11.23% in total. The supply of financial, accounting and legal services was found to emit around 8.74% of this category.

The remaining sources of emissions produce 24% of purchased goods and services total and further details can be seen in Table 7 and Figure 6.

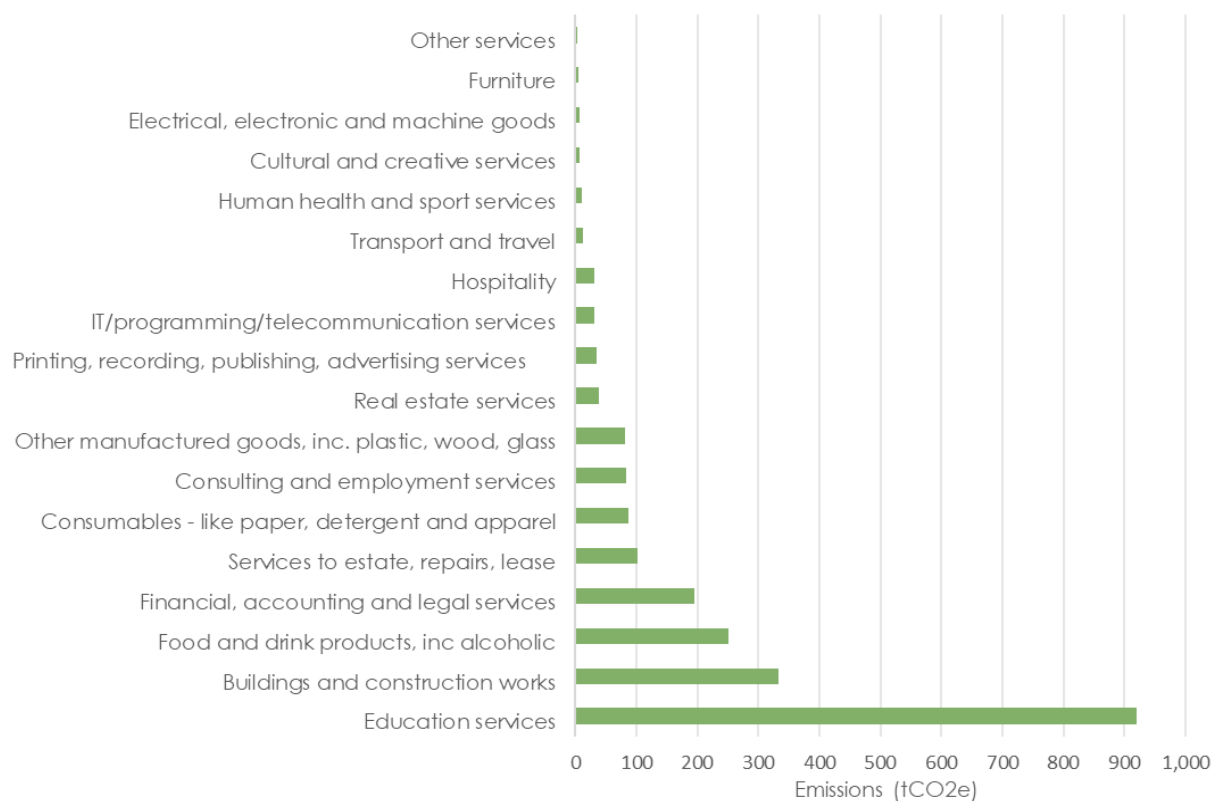


Figure 6. Jesus College's emission distribution across Purchased Goods and Services

Table 8. Jesus College's emission distribution across purchased goods and services

Source	Emissions tCO _{2e}	Percentage
Education services	919.88	41.18%
Buildings and construction work	333.15	14.92%
Food and drink products, inc. alcoholic	250.88	11.23%
Financial, accounting and legal services	195.22	8.74%
Services to estate, repairs, lease	102.41	4.59%
Consumables - like paper, detergent and apparel	87.57	3.92%
Consulting and employment services	83.64	3.74%
Other manufactured goods, inc. plastic, wood, glass	80.93	3.62%
Real estate services	39.26	1.76%
Printing, recording, publishing, advertising services	34.39	1.54%
IT/programming/telecommunication services	31.25	1.40%
Hospitality	30.56	1.37%
Transport and travel	12.32	0.55%
Human health and sport services	11.02	0.49%
Cultural and creative services	7.13	0.32%
Electrical, electronic and machine goods	6.39	0.29%
Furniture	5.01	0.22%
Other services	2.55	0.11%
Total	2,233.53	100%

The majority of emissions (67%) from Purchased Goods and Services come from education services, construction/building work and purchased food and drink. The top 5 suppliers of Jesus College were found to be Savvy Maintenance & Renovations, Oxford City Council, Cambridge Associates Ltd, R R Alden Oxford Ltd and Savvy Construction Ltd (Table 9). The majority of top suppliers were found to be providing building and construction services with RR Alden supplying meat products. The top two suppliers - The University of Oxford and the subsidiary, Jesus College Developments were excluded from the list.

Table 9. Top 35 suppliers of Jesus College

Position	Supplier	Spend (£)	Emissions (tCO2e)
1	Savvy Maintenance & Renovations	£479,450	155.34
2	Oxford City Council	£293,447	73.36
3	Cambridge Associates Ltd	£553,886	65.91
4	R R Alden Oxford Ltd	£62,518	51.08
5	Savvy Construction Ltd	£134,246	43.50
6	Bidfood	£59,154	42.89
7	Smy Electrical	£130,799	40.81
8	Mica Architects	£109,707	34.23
9	Rochester Midland Corporation Ltd	£40,858	34.20
10	Hoare Lea Llp	£83,377	26.01
11	Savills	£224,808	23.38
12	Source Office Supplies Ltd	£34,678	21.40
13	Roots Of Oxford Ltd	£60,107	18.99
14	Binbrook Hill Farm Llp	£8,112	18.78
15	Blackwell Uk Ltd (Waterstones Booksellers Ltd)	£24,642	18.63
16	Barclaycard Business Card	£156,236	18.59
17	S.H. Jones & Co. Ltd	£24,328	17.71
18	Browns Books for Students	£21,749	16.44
19	Planet Recruitment Services Ltd	£118,259	14.90
20	Woodstock Roofing Ltd	£68,088	13.96
21	Deloitte LLP	£85,026	13.69
22	Oxford Chefshop	£22,018	13.58
23	Neeshams Farms Ltd	£5,622	13.01
24	Fred G. Alden (Heating) Ltd	£62,377	12.79
25	Drain Doctor Plumbing	£52,485	10.76
26	Another Perfect Delivery Ltd	£24,714	10.73
27	The Menu Partners	£14,392	10.43
28	Goldstar Recruitment Ltd	£80,588	10.15
29	J K Flooring	£49,403	10.13
30	Carlsberg U K Ltd	£13,728	9.99
31	Acorn Press Swindon Limited	£22,670	9.84
32	Trinity Protection Systems	£86,360	9.67
33	Gill Cooke Personnel T/A The Recruitment Group	£74,058	9.33
34	Permanent Health Company Ltd	£96,027	9.31
35	G. Monaghan Electrical	£45,378	9.30

3.4 Greenhouse gas hotspots across all Scopes

The top 10 areas of business account for 97% of total carbon footprint, as seen in Table 10. The decarbonisation effort should be focused on these areas.

Table 10. Jesus College's activities and greenhouse gas hotspots (in bold).

Scope	Activity	Emissions (tCO _{2e})	Percentage
3	Investments - equity fund holdings	13,964.00	80.24%
3	Education services	919.88	5.29%
1	Gas - Scope 1	509.99	2.93%
2	Electricity - Scope 2	370.29	2.13%
3	Buildings and construction work	333.15	1.91%
3	Food and drink products, inc alcoholic	250.88	1.44%
3	Financial, accounting and legal services	195.22	1.12%
3	Electricity - T&D, WTT	121.21	0.70%
3	Services to estate, repairs, lease	102.41	0.59%
3	Consumables - like paper, detergent and apparel	87.57	0.50%
3	Gas - WTT	84.4	0.48%
3	Consulting and employment services	83.64	0.48%
3	Other manufactured goods, including plastic, wood, glass	80.93	0.47%
3	Staff commute	56.9	0.33%
3	Real estate services	39.26	0.23%
3	Printing, recording, publishing, advertising services	34.39	0.20%
3	IT/programming/telecommunication services	31.25	0.18%
3	Hospitality	30.56	0.18%
3	Work from home	19.43	0.11%
3	Transport and travel	12.32	0.07%
3	Waste category	12.26	0.07%
3	Business travel	11.09	0.06%
3	Human health and sport services	11.02	0.06%
3	Water and sewerage	9.87	0.06%
3	Cultural and creative services	7.13	0.04%
3	Electrical, electronic and machine goods	6.39	0.04%
1	Industrial gasses	5.64	0.03%
3	Furniture	5.01	0.03%
1	Fugitive emissions	4.3	0.02%
3	Other services	2.55	0.01%
	Total	17,402.94	100.00%

Further breakdown of all hotspot activities can be seen in Figure 7, featuring top 9 activities, excluding emissions from Investments

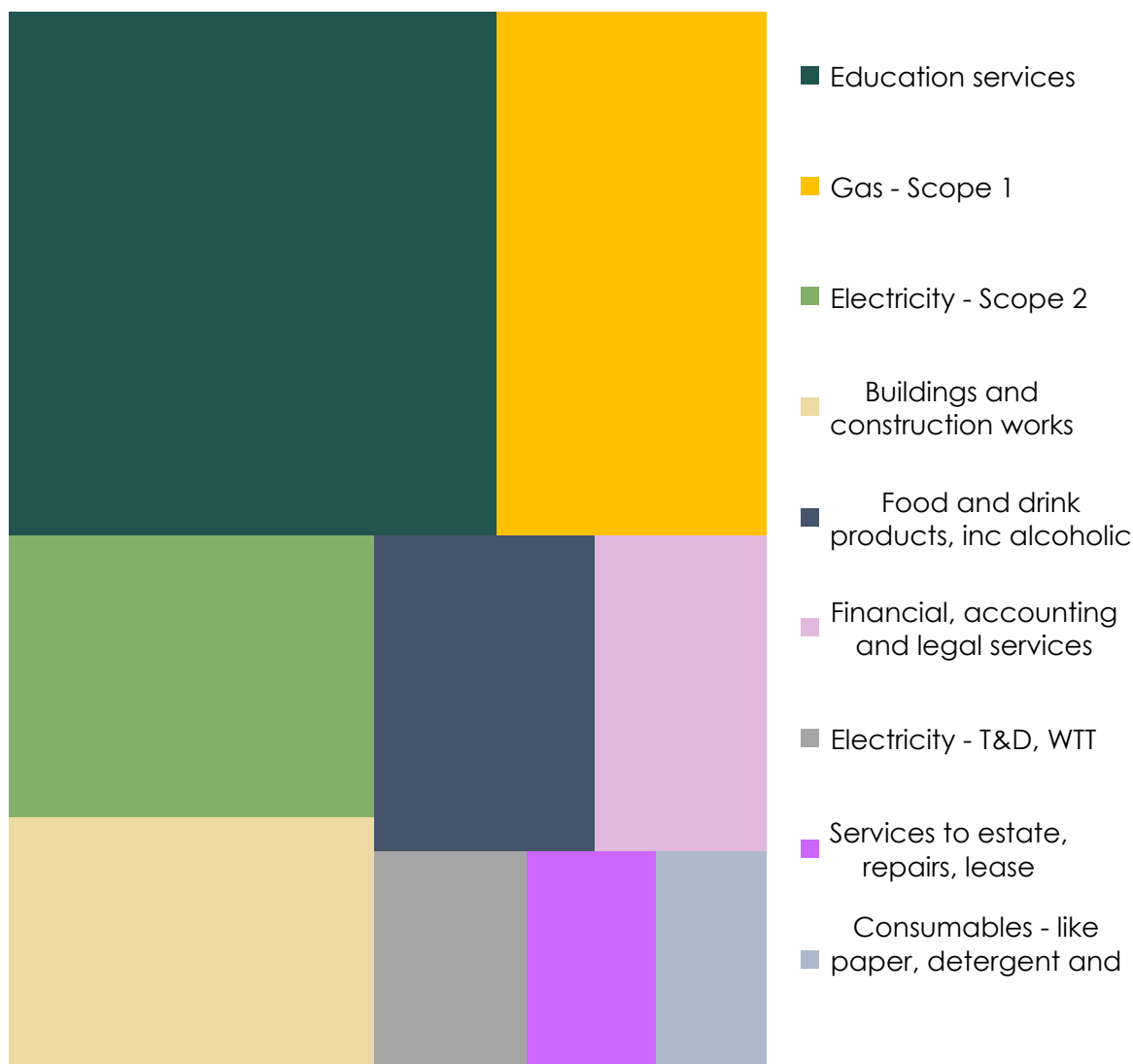


Figure 7. Jesus College's greenhouse gas hotspots, top 9 sources, excluding the largest activity – investments.

Emissions arising from investments are by far the largest source of carbon, accounting for over 80% of all emissions, releasing around 13,964.00 tCO_{2e} annually. Purchased education services are the second largest activity – contributing 5.29% of all emissions. The third and fourth largest activity are emissions arising from gas and electricity consumption, emitting around 509.99 and 370.29 tCO_{2e} during the reporting period – 2.93% of all emissions come from the use of gas and 2.13% from electricity use.

These top three emission activities account for 87% of total emissions in 2022/23.

4.0 Student travel emissions

The carbon emissions associated with student related travel activities was divided into three categories:

- term time student travel
- student academic business travel
- student daily commute.

Nearly 73% of emissions arising from student related travel comes from term time student travel between university and home destination. Further 27% of comes from postgraduate academic business travel. Both of those activities have high carbon footprints as large proportion of travel milage includes international air travel. Emissions associated with air travel are normally high. The majority of term time travel emissions are emitted by undergraduate students – 76.55% of total, as opposed to 23.45% for postgraduate students.

Student daily commute emissions were found to be low, accounting only for 0.45% of total student travel emissions. This is largely caused by students choosing to travel actively – walking and cycling, which does not produce carbon emissions. 70.40% of emissions from student daily commute are emitted by undergraduate students and only 29.60% by postgraduate students.

Table 11. Outside of Scope student travel emissions

Activity	Emissions tCO _{2e}		Percentage	
Term time student travel	500.95		72.74%	
Undergraduate/postgraduate student travel	383.48	117.47	76.55%	23.45%
Postgraduate student academic business travel	184.69		26.82%	
Student daily commute	3.09		0.45%	
Undergraduate/postgraduate daily commute	2.17	0.91	70.40%	29.60%
Total	688.73		100%	

5.0 Benchmarking against other universities

The direct comparison of carbon reduction between academic institutions is not possible due to lack of data. Carbon reporting of the entirety of the inventory – Scope 1, 2 and 3, is not currently published and not mandatory. A select number of institutions choose to voluntarily report their carbon emissions, by publishing their annual carbon inventories, however making direct comparisons would be difficult due to differences between methodologies and variations in reporting boundaries. To benchmark the College's carbon emissions against those of other universities, Scope 1 and 2 emissions were compared relative to the total student population, utilising The Higher Education Statistics Agency (HESA) dataset (HESA, 2024). HESA collects and publishes Estate Management Record (EMR) data of the academic institutions in the UK, which includes carbon emission data. The annual dataset includes Scope 1 and 2 emissions, however at present, only partial Scope 3 data is published. Data submitted to HESA is self-reported and may be subject to differences in methodologies.

In comparison to other academic institutions, Jesus College's Scope 1 and 2 emissions are small, however the number of students is also lower (Figure 8).

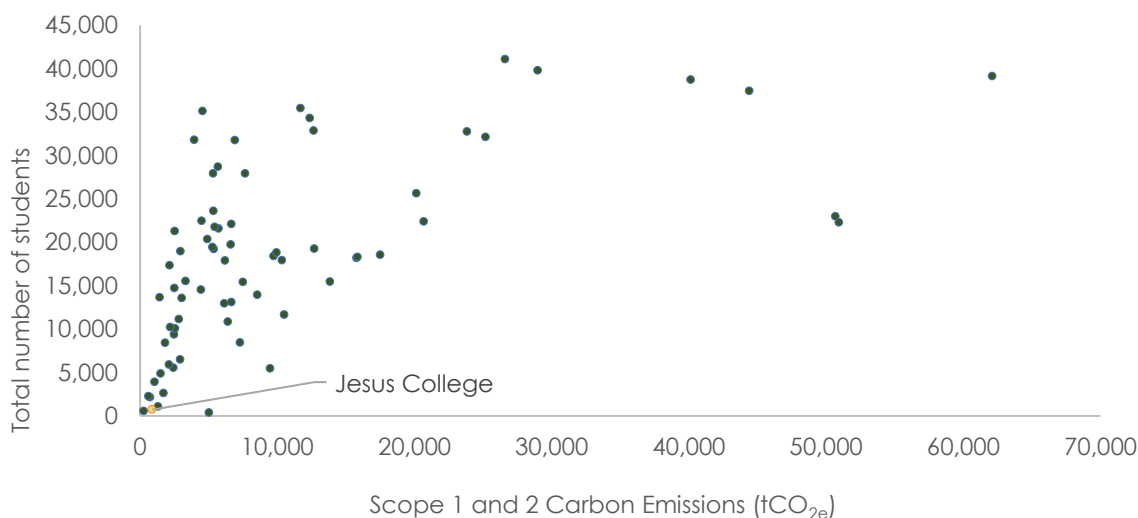


Figure 8. Relationship between carbon emissions and number of students of 71 academic institutions in the UK in academic year 2022/23.

During the academic year 2022/23, the Scope 1 and 2 carbon intensity of Jesus College per student (1.24 tCO_{2e}/student) was higher than an average of 0.73 tCO_{2e}/student, however this is likely due to difference in sizes between institutions. The other smaller institutions, like Guildhall School of Music and Drama, have comparable carbon intensity. Moreover, as Jesus College is a part of University of Oxford, not a standalone academic institution, the direct comparisons should be interpreted with caution.

6.0 Recommendations and future considerations

The upcoming section of the report provides suggestions for decarbonising key operational sectors and proposes measures to improve the accuracy of future carbon reporting at Jesus College.

5.1 Top recommendations – decarbonisation

The following top actions have been proposed by Greener Edge to reduce future carbon emissions at Jesus College:

Table 12. Carbon saving recommendations.

Recommended actions to reduce carbon emissions:	Emissions (tCO _{2e}) influenced	% of total footprint influenced
Scope 3 Investments: Jesus College should ensure that their investment portfolio is transferred towards low-carbon investments, divesting from high-carbon assets	13,964.00	80.24%
Scope 1 Onsite gas consumption: electrification of gas heating supply	509.99	2.93%
Scope 1 and 2: Greener Edge recommends carrying out an In-depth audit identifying energy efficient savings	890.23	5.12%
Scope 2 Electricity supply: deployment of energy efficient technologies, such as LED lighting, variable speed drives, intelligent controls, and optimised building management systems etc., would decrease emissions from electricity supply	370.29	2.13%
Scope 3 Purchased Goods and Services: Engagement with top suppliers to reduce emissions	2,233.53	12.83%
Scope 3 Purchased Goods and Services, Food and drink products, inc. alcoholic: Reduction in purchase of carbon intense food products, such as beef and other meats.	250.88	1.44%
Scope 3 Business Travel: Development of the business travel strategy, incentivising the adoption of low-carbon practices. Business strategy should focus on cultivating an organisational culture that promotes carbon reduction practices in business travel and discourages high-carbon practices, such as offering generous expense rates for long-distance driving	11.09	0.06%
Scope 3 Waste disposal: Greener Edge recommends carrying out a waste audit to investigate the current waste management process at the College, offering invaluable insights for targeted waste reduction	22.13	0.13%

5.2 Recommendations – data collection



Continuous improvement of the accuracy of data used to calculate Jesus College carbon footprint will give higher confidence in future estimations of emissions.

Greener Edge suggests enhancing future carbon emission reporting and enabling more precise tracking of potential carbon reduction efforts at Jesus College, Oxford, through the implementation of the following improvements in data collection processes:

- **Staff commute** – an implementation of a staff commuting reporting system would strengthen the accuracy of carbon reporting. Jesus College could strive towards surveying each employee separately to avoid inaccuracies caused by extrapolation of data.
- **Student commute** – enhancement of student commute carbon reporting mimics the staff commute recommendations. Greener Edge recommends striving towards a system that closely monitors student commute where each student should be surveyed to capture behaviour data in greater details. This would greatly improve the accuracy of the future emission reporting.
- **Business travel** – accuracy of business travel emissions can be improved by development of an internal tracking system to capture all business travel. Current system may allow for business travel emissions to be omitted. This will enhance data granularity and prevent emissions from being overlooked or double-counted.
- **Purchased goods and services** – emissions from purchased goods and services were calculated utilising a general emission factor for supplier category, which carries high level of uncertainty. To improve the accuracy of carbon emissions associated with purchased goods and services, Jesus College should begin gathering custom emission factors for each supplier, or even begin to investigate emission factors on a by product basis. This effort should include collaboration with distributors and retailers, focusing on top suppliers.

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