



PROGRESS AGAINST CARBON EMISSIONS TARGETS 2024-2025



Approved 2 December 2025

In July 2019, the University declared a Climate Emergency. Shortly after, in September 2020, the University Executive Board approved a new Sustainability Strategy 2020-2030, which reviewed the University’s carbon journey since a 2008/09 baseline year and set out the University’s aim to achieve net zero emissions by 2030 against a new baseline year of 2018/19. The University's total emissions during this new baseline year were 21,931 tCO₂e.

As set out in the Strategy, the University aims to reduce its direct and indirect carbon emissions by 50%. It will offset the remaining emissions in credible sector-specific offsetting and carbon sequestration schemes. The following report discusses the University’s performance against its overarching carbon emissions targets, including year-on-year comparisons.

Direct Emissions (Scopes 1&2)

The University’s direct carbon footprint includes both Scope 1 and Scope 2 emissions. Scope 1 emissions include emissions from:

- Gas burned in university boilers
- Fuel used in university fleet vehicles
- Fugitive emissions from any leaks in university air conditioning and refrigeration units
- Any other fuels burned on-site

Scope 2 emissions include emissions from:

- Purchased electricity

Of these emissions categories, emissions from gas and electricity are the most material and are therefore prioritised for measuring, monitoring, and reporting.

The University measures and reports on its direct carbon footprint in three ways:

1. Absolute carbon emissions

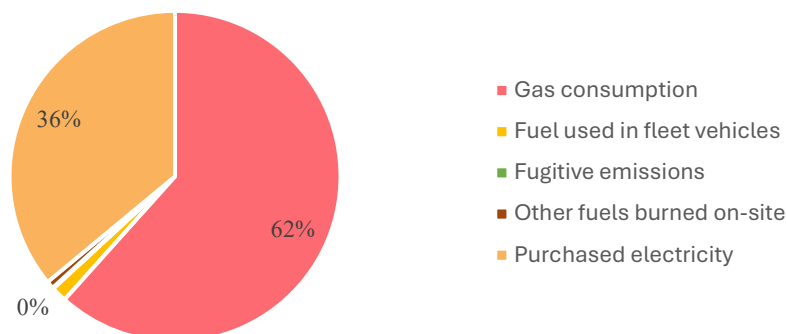
The University’s direct carbon footprint decreased by 6% between 2023/24 and 2024/25, with a decrease of 35% from the 2018/19 baseline year.

2018/19	2023/24	2024/25
3,230 tCO ₂ e	2,241 tCO ₂ e	2,107 tCO ₂ e

Table to show direct carbon emissions across FYs 2018/19, 2023/24, and 2024/25

As shown in the chart below, emissions from gas accounted for 62% of the University’s direct carbon footprint in 2024/25, with emissions from electricity accounting for 36%.

Direct Emissions across 2024/25 by Emission Source





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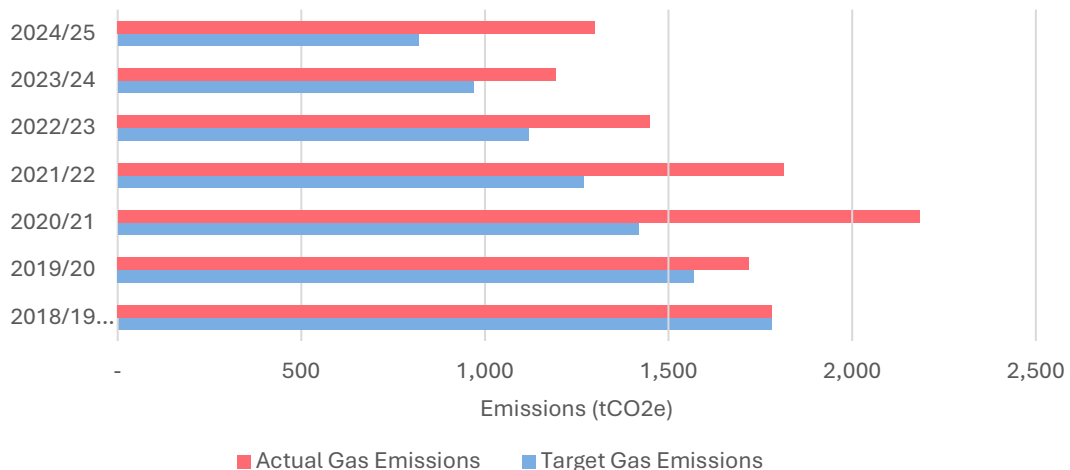
As set out in the Energy and Water Management Strategy, to achieve net zero by 2030, combined emissions from gas and electricity consumption must be reduced by an average of 8.4%. In terms of emissions from gas (baseline figure: 1,782 tCO₂e), this translates to an average reduction of 150 tCO₂e per year. In terms of electricity emissions (baseline figure of 1,398 tCO₂e), this translates to an average reduction of 117 tCO₂e per year.

Between 2023/24 and 2024/25, the University increased gas emissions by 115 tCO₂e (10%). This is largely due to:

- colder weather -1,936 heating degree days in the 2024/25 period, compared with 1,777 in the 2023/24 period (base temperature of 15.5 C)
- a fault affecting the operation of the Sports Centre’s radiant heating system across the 2024/25 Christmas shutdown period
- rectification of a hot water services issue at Bishop Bosel Hall that shifted the primary source of heat for hot water services from immersion heaters to gas boilers

The University has not achieved the targeted 8.4% per annum reduction in gas emissions between the 2023/24 and 2024/25 periods. The University has also not achieved the required overall reduction of 50.4% from the baseline year. Actual emissions from gas are compared with targeted emissions in the chart below:

Annual Comparisons of Gas Emissions (tCO₂e) against Target Gas Emissions



Between 2023/24 and 2024/25, the University reduced electricity-related emissions by 164 tCO₂e (18%). This is largely due to:

- a decrease in the relevant emissions conversion factor from 0.21 in 2023/24 to 0.18 in 2024/25
- rectification of energy performance issues associated with the Elizabeth Garrett Anderson Building
- optimisation of ventilation and air conditioning equipment across the estate
- lighting upgrades, including upgrades from fluorescent lighting to LED equivalents and replacing faulty sensors
- rectification of a hot water services issue at Bishop Bosel Hall that shifted the primary source of heat for hot water services from immersion heaters to gas boilers

It should also be noted that this reduction in electricity consumption has taken place against a backdrop of the following:

- the expansion of the University’s estate to include the newly developed, all-electric Duke’s Building in February 2025 & boiler upgrade works in the Orchard House wing of the Jenny Lind building, which necessitated the use of immersion heaters for hot water services across the summer period.



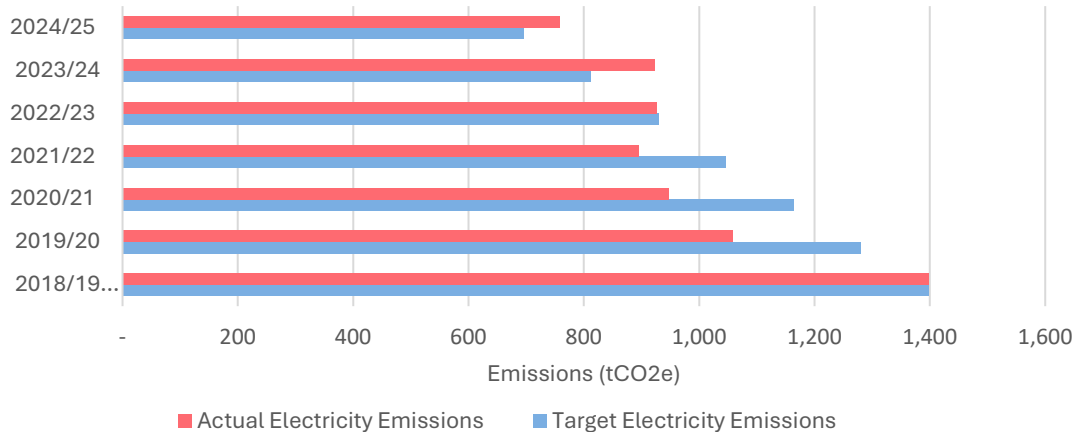
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Actual emissions from electricity are compared with targeted emissions in the chart below:

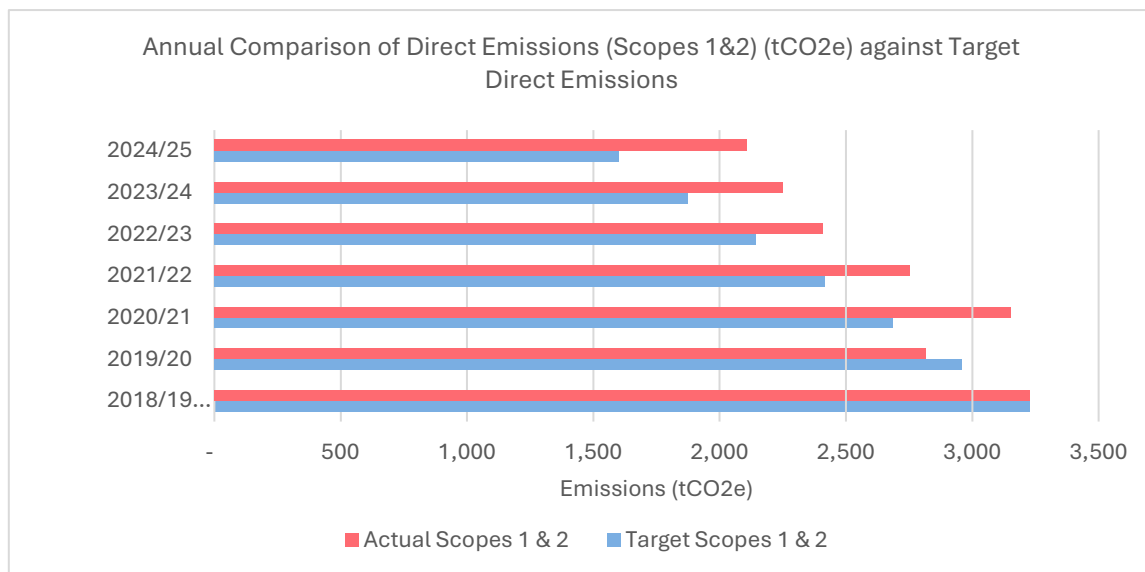
Annual Comparisons of Electricity Emissions (tCO₂e) against Target Electricity Emissions



Carbon emission conversion factors for electricity vary considerably from year to year due to ongoing work to decarbonise the national grid. For example, 1kWh of electricity was equivalent to 0.41 kg CO₂e in 2014 and 0.18 kg CO₂e in 2025. This makes it challenging to establish meaningful decarbonisation targets for electricity consumption, as carbon emissions from electricity will decrease over time, regardless of any steps the University takes to decarbonise its electricity supplies.

We are reviewing shifting away from an emissions reduction target for electricity and instead setting targets for kWh consumption and on-site generation. By setting these targets, the University will also be better positioned to account for the significant increase in electricity consumption it expects from the electrification of heating.

As well as emissions from gas and electricity, the University’s direct carbon footprint also includes emissions from fuel burned in fleet vehicles, fugitive emissions from refrigerant leaks, and any other fuels burned on-site. In line with the emissions reduction targets for gas and electricity, the University has set a target to reduce its overall direct carbon emissions by 8.4% annually from a 2018/19 baseline. Progress against this target can be seen in the chart below:





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2. In relation to the number of students and staff at the University

In 2018/19, the University had 9,304 FTE staff and students combined. Since then, this figure has fluctuated. In 2024/25, the number of FTE staff and students was 9,773, a slight increase on the baseline total. In 2018/19, direct carbon emissions per FTE staff and student were 0.35 tCO₂e/FTE. In 2024/25, this figure had dropped to 0.22 tCO₂e/FTE – a 38% reduction in carbon emissions per FTE.

3. In relation to the University’s estate

The size of the University’s estate has increased since the 2018/19 baseline year, from 81,772 m² in 2018/19 to 83,515 m² in 2024/25. At the same time, several energy efficiency projects have been delivered, including the expansion of the University’s Building Management System (BMS), the replacement of inefficient lighting with LED alternatives, and the expansion of the University’s solar photovoltaic (PV) and solar thermal estate. In 2018/19, the estate’s direct carbon emissions per m² were 0.040 tCO₂e. This figure dropped to 0.025 tCO₂e/m² in 2024/25, representing a 37% decrease in space carbon intensity and demonstrating the effectiveness of the various energy efficiency projects implemented during this period.

Indirect Emissions (Scope 3)

The University’s indirect carbon footprint consists of Scope 3 emissions. Scope 3 emissions include emissions from a wide range of activities, with the most material being:

- Purchased goods and services (procurement)
- Student travel (term-time and out of term-time), and
- Employee commuting

The University’s indirect carbon footprint refers to emissions categories that the University can influence but cannot directly control. The University does not have a blanket Scope 3 emissions reduction pathway to 2030. However, several Scope 3 activities have individual interim targets. This report assumes a Scope 3 emissions reduction target of 5% pa (from 2018/19). As shown in the table below, the University’s indirect carbon footprint decreased by 17% between 2023/24 and 2024/25. However, there has been a 27% increase from the baseline year of 2018/19.

Table to show indirect carbon emissions across FYs 2018/19, 2023/24, and 2024/25

2018/19	2023/24	2024/25
18,701 tCO ₂ e	28,479 tCO ₂ e	23,776 tCO ₂ e

In 2018/19, the University’s Scope 3 emissions totalled 18,701 tCO₂e. Between 2018/19 and 2020/21, the University exceeded its Scope 3 emissions reduction targets, achieving an average reduction of 13% per annum. This trend was reversed in 2021/22 due to a significant jump in emissions, driven by major capital projects, notably the redevelopment of the Elizabeth Garrett Anderson building.

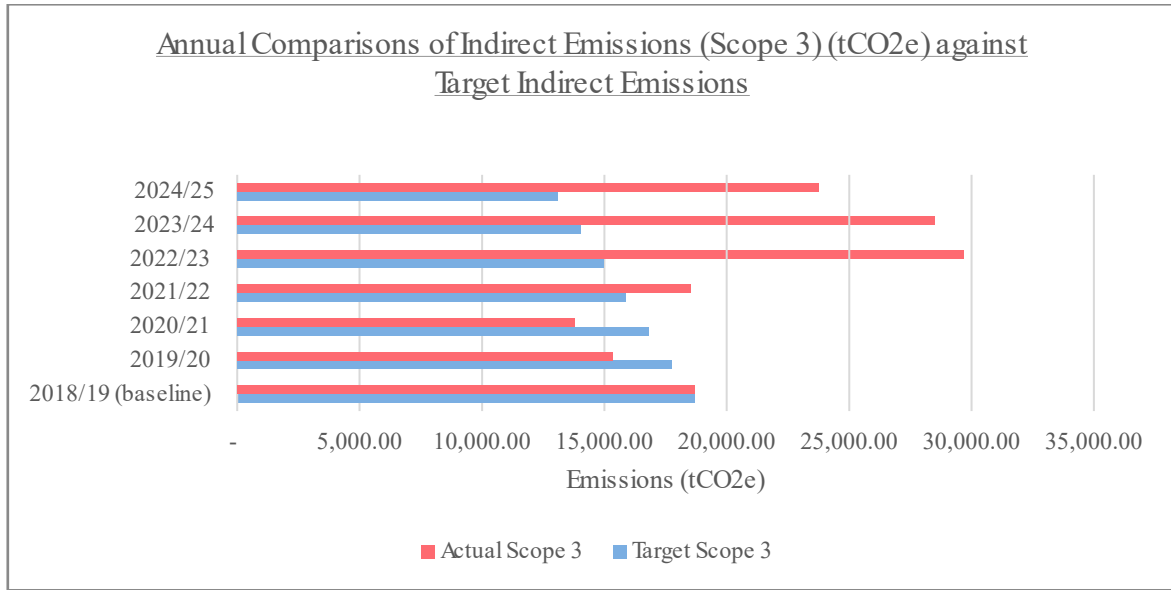
In 2022/23, the University oversaw another significant increase in Scope 3 emissions of 11,136 tCO₂e (from 18,537 tCO₂e in 2021/22 to 29,673 tCO₂e in 2022/23). This increase was due to the expansion of the University’s indirect carbon footprint, including student travel to/from home addresses and downstream leased assets. The decision to include these activities in the University’s indirect carbon footprint came after the publication of the Standardised Carbon Emissions Reporting Framework for Further and Higher Education (SCEF) in 2023. This framework aims to standardise reporting on carbon emissions across the further and higher education sectors. DEFRA has changed the carbon factors for air travel in 2025, which is why there has been a significant reduction in aviation emissions.

The University’s progress against the target of a 5% pa reduction of indirect carbon emissions from 2018/19 to 2030/31 can be seen in the chart below:



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The university will review its indirect emissions targets to accommodate the expansion of the reporting scope discussed above and to account for more recent trends across different emissions categories.



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Data Tables

The tables in this section show year-on-year progress against carbon reduction targets across all Scopes using an RAG rating system. To monitor progress in organisational change, the University also calculates carbon emissions per full-time equivalent staff and student numbers (FTE) and the gross internal area of the estate (GIA).

	Baseline 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
FTE	9304	8,863	8,466	8,705	9,147	9,915	9,773
GIA (m2)	81,172	81,172	81,904	87,698	87,698	87,405	83,515

Emissions performance against set targets is then assessed using the following RAG rating system:

Progress	RAG Rating
Target exceeded	GREEN
Target met	AMBER
Target not met	RED



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Direct Emissions (Scopes 1&2)

Scopes 1&2 Combined (tCO₂e)

TARGET: reduce combined Scope 1&2 emissions by 8.4% per annum from a 2018/19 baseline of 3,230 tCO₂e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	3230	2817	3154	2754	2409	2241	2107	-6%	-35%	-6%
Per GIA (m²)	0.04	0.04	0.04	0.03	0.03	0.03	0.03	-3%	-37%	-6%
Per FTE combined	0.35	0.32	0.37	0.32	0.26	0.23	0.22	-6%	-38%	-6%

Gas (tCO₂e)

TARGET: reduce emissions from energy by 8.4% per annum from a 2018/19 baseline of 3,188 tCO₂e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	1782	1719	2183	1813	1449	1184	1299	10%	-27%	-5%
Per GIA (m²)	0.02	0.02	0.03	0.02	0.02	0.01	0.02	11%	-29%	-5%
Per FTE combined	0.19	0.19	0.26	0.21	0.16	0.12	0.13	11%	-30%	-5%



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Fleet (tCO2e)

TARGET: reduce emissions from use of fleet vehicles by 8.4% per annum from a 2018/19 baseline of 42 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	42	30	12	22	24	27	32	20%	-25%	-4%
Per GIA (m2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25%	-27%	-5%
Per FTE combined	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22%	-29%	-5%

Fugitive Emissions (tCO2e)

TARGET: maintain fugitive emissions under 10 tCO2e annually

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	Average pa % change since baseline year (2018/19)
Annual	0	1	3	12	3	93	2	-98%	NA



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Other Fuels (tCO2e)

TARGET: reduce emissions from energy by 8.4% per annum from a 2018/19 baseline of 3,188 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	8	8	8	12	8	16	16	0%	96%	16%
Per GIA (m2)	0	0	0	0	0	0	0	5%	91%	15%
Per FTE combined	0	0	0	0	0	0	0	2%	87%	15%

Purchased Electricity (tCO2e)

TARGET: reduce emissions from energy by 8.4% per annum from a 2018/19 baseline of 3,188 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	1398	1059	947	895	927	923	759.0	-18%	-46%	-8%
Per GIA (m2)	0.02	0.01	0.01	0.01	0.01	0.01	0.01	-17%	-47%	-8%
Per FTE combined	0.15	0.12	0.11	0.1	0.1	0.09	0.08	-14%	-48%	-8%



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Indirect Emissions (Scope 3)

Scope 3 Combined (tCO2e)

TARGET: reduce Scope 3 emissions by 5% per annum from a 2018/19 baseline of 18,701 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	18701	15322	13781	18537	29673	28479	23776	-17%	27%	5%
Per GIA (m2)	0.23	0.19	0.17	0.21	0.34	0.33	0.28	-13%	24%	4%
Per FTE combined	2.01	1.73	1.63	2.13	3.24	2.87	2.43	-15%	21%	4%

Procurement - OPEX (tCO2e)

TARGET: reduce emissions from procurement by 5% per annum from a 2022-23 baseline of 11734 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2022/23)
Annual					11734	8623	8887	3%	-24%	-12%
Per GIA (m2)					0.13	0.10	0.11	8%	-55%	-11%
Per FTE combined					1.28	0.87	0.91	5%	-60%	-16%

Procurement - CAPEX (tCO2e)



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TARGET: reduce emissions from procurement by 5% per annum from a 2022-23 baseline of 3,806 tCO₂e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual					3806	995	1628	64%	-57%	-32%
Per GIA (m2)					0.04	0.01	0.02	71%	-55%	-33%
Per FTE combined					0.42	0.10	0.17	66%	-60%	-37%

Procurement - Combined OPEX and CAPEX (tCO₂e)

TARGET: reduce emissions from procurement by 5% per annum from a 2018/19 baseline of 9,784 tCO₂e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	9784	10355	8127	13962	15540	9617	10515	9%	7%	1%
Per GIA (m2)	0.12	0.13	0.10	0.16	0.18	0.11	0.13	14%	4%	1%
Per FTE combined	1.05	1.17	0.96	1.6	1.7	0.97	1.08	11%	2%	0%



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Purchased Water (tCO2e)

TARGET: reduce emissions from water by 3% per annum from a 2018/19 baseline of 23 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	23	21	6	7	11	11	□□	~□	~□	~□
Per GIA (m2)	0.00	0.00	0.00	0.00	0.00	0.00	□□	~□	~□	~□
Per FTE combined	0.00	0.00	0.00	0.00	0.00	0.00	□□	~□	~□	~□

Electricity Transmission and Distribution (tCO2e)

TARGET: 8.4% per annum reduction required (in line with purchased electricity target)

Column1	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	119	91	84	82	80	82	79	-3%	-33%	-6%
Per GIA (m2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2%	-35%	-6%
Per FTE combined	0.01	0.01	0.01	0.01	0.01	0.01	0.01	2%	-38%	-6%

Non-Construction Waste (tCO2e)

TARGET: reduce emissions from waste by 5% per annum from a 23/24 baseline of 2 tCO2e



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	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2023/24)
Annual						2	1	-50%	-50%	NA
Per GIA (m2)						0.00	0.00	-80%	-80%	NA
Per FTE combined						0.00	0.00	-81%	-81%	NA

Construction Waste (tCO2e)

TARGET: reduce emissions from waste by 5% per annum from a 23/24 baseline of 4 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2023/24)
Annual						4	0	-97%	-97%	NA
Per GIA (m2)						0.00	0.00	-97%	-97%	NA
Per FTE combined						0.00	0.00	-97%	-97%	NA

Combined Waste (tCO2e)

TARGET: reduce emissions from waste by 5% per annum from a 2018/19 baseline of 9 tCO2e



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	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	9	6	6	6	7	6	1	-79%	-86%	-14%
Per GIA (m2)	0.00	0.0	0.0	0.0	0.0	0.0	0.0	-78%	-86%	-14%
Per FTE combined	0.00	0.0	0.0	0.0	0.0	0.0	0.0	-79%	-86%	-14%

Wastewater (tCO2e)

TARGET: 3% per annum reduction required (in line with purchased water target)

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2018/19)
Annual	46	43	11	13	12	13	10	~	~	~
Per GIA (m2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	~	~	~
Per FTE combined	0.01	0.01	0.00	0.00	0.00	0.00	0.00	~	~	~

Business Travel (tCO2e)

TARGET: reduce emissions from business travel by 8.4% per annum from a 2018/19 baseline of 530 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since
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										baseline year (2018/19)
Annual	530	264	28	83	232	302	189	-37%	-64%	-11%
Per GIA (m2)	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-34%	-65%	-11%
Per FTE combined	0.06	0.03	0.00	0.01	0.03	0.03	0.02	-36%	-66%	-11%

Combined Employee and Student Commuting (tCO2e)

TARGET: reduce emissions from employee and student commuting by 5% per annum from a 2018/19 baseline of 8,190 tCO2e plus additional student out of termtime 2022/23

	2018-19 baseline	2019-20	2020-21	2021-22	2022-23 baseline	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2022/23)
Annual	8,190	4,552	5,519	4,384	17,647	18,610	13,799	-26%	68%	11%
Per FTE combined	0.88	0.51	0.65	0.5						

Student Travel - Out of Term Time (tCO2e)

TARGET: 5% per annum reduction required (in line with overarching Scope 3 reduction target)

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2022/23)
Annual					9457	10420	5609	-46%	-40%	-16%



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Student Travel - Term Time Emissions (tCO2e)

TARGET: reduce emissions from employee and student commuting by 5% per annum from a 2018/19 baseline of 8,190 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2022/23)
Annual					3446	6528	6059	-7%	76%	60%

Employee Commuting (tCO2e)

TARGET: reduce emissions from employee and student commuting by 5% per annum from a 2018/19 baseline of 8,190 tCO2e

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2022/23)
Annual					777	1317	1139	-14%	47%	21%

Employee Homeworking (tCO2e)

TARGET: 5% per annum reduction required (in line with overarching Scope 3 reduction target)

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2022/23)
Annual					73	148	132	-10%	81%	46%

Downstream Leased Assets (tCO2e)



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TARGET: 5% per annum reduction required (in line with overarching Scope 3 reduction target)

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	% change from 2023/24 figure	% change from baseline figure	Average pa % change since baseline year (2022/23)
Annual					38	35	30	-14%	-21%	-11%