

## Emissions breakdown compared with baseline and last year (tCO<sub>2</sub>)

Emissions Source	2008-09	2021-22	2022-23	% change since last year	% change since baseline
Electricity (generation)	17,764	5,031	4,238	16 % ↓	76 % ↓
Electricity (transmission)	1,381	445	388	13 % ↓	72 % ↓
Natural gas*	12,937	9,342	8,608	8 % ↓	33 % ↓
Burning Oil*	1,544	491	513	5 % ↑	67 % ↓
Business travel <sup>+</sup>	5,174	755	1,216	65 % ↑	77 % ↓
Radiative forcing	4,045	445	795	79 % ↑	80 % ↓
Refrigerants <sup>∞</sup>	207	154	342	121 % ↑	65 % ↑
General Waste <sup>#</sup>	220	20	23	11 % ↑	90 % ↓
Construction Waste <sup>#</sup>	6	9	5	44 % ↓	15 % ↓
Water <sup>^</sup>	711	106	165	56 % ↑	77 % ↓
<b>Total</b>	<b>43,990</b>	<b>16,800</b>	<b>16,294</b>	<b>3 % ↓</b>	<b>63 % ↓</b>

In line with the Greenhouse gas protocol, a re-classification of our emissions based on into Scopes 1, 2 and 3 has been done and the results of tCO<sub>2</sub> summarised in the tables presented here. With an almost complete return to normal operations post-COVID, overall emissions in 2022/23 marginally decreased in comparison with 2021/22; and continued to decrease against the baseline year.

\* Emissions for gas and oil have been degree day adjusted to enable comparison across different financial years

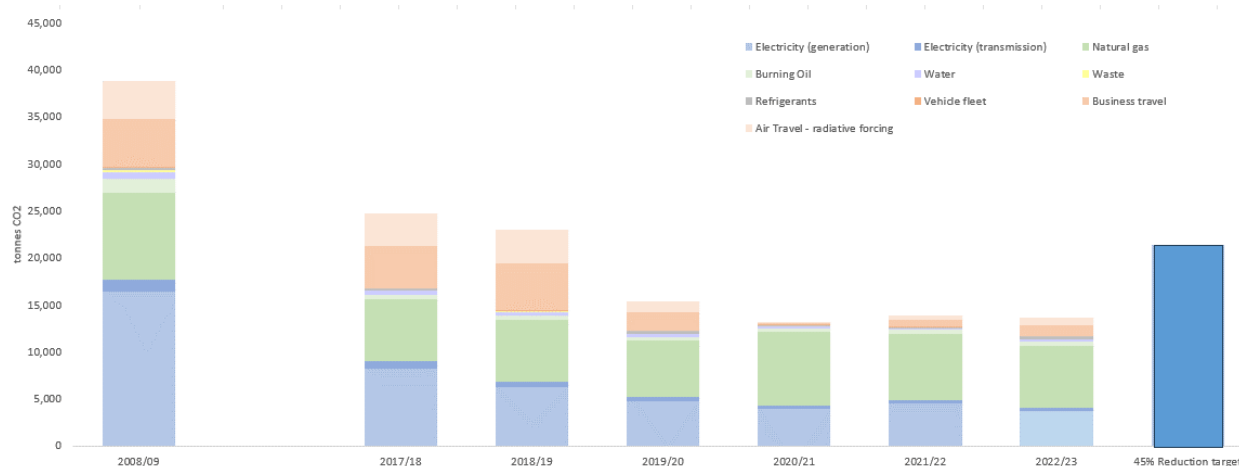
+ Business travel includes vehicle fleet

∞ Emission level tends to be more variable year to year.

# Emissions from construction waste were originally excluded, due to their wide annual variability and small impact, however have been added in 2023/24 for completeness.

^BEIS carbon emission factor for water for 2021/22 and is significantly lower than in previous years.

Emissions Scope	2008-09	2021-22	2022-23	% change since last year	% change since baseline
Scope 1	11,138	7,697	7,503	3 % ↓	73 % ↓
Scope 2	16,367	4,436	3,725	16 % ↓	77 % ↓
Scope 3	16,485	4,667	5,067	6 % ↓	29 % ↓
<b>Total</b>	<b>43,990</b>	<b>16,800</b>	<b>16,294</b>	<b>3 % ↓</b>	<b>63 % ↓</b>



## Energy breakdown compared with baseline and last year (kWh)

### Delivered Energy (including self-generation)

Energy Source	2008-09	2021-22	2022-23	% change vs average 2018-20	% change since baseline
Electricity	32,992,449	21,631,643	20,166,630	7 % ↓	39 % ↓
Natural gas*	50,274,695	38,249,628	36,244,374	5 % ↓	28 % ↓
Burning Oil*	5,584,336	1,988,162	2,077,997	5 % ↑	63 % ↓

\* Consumption for gas and oil have been degree day adjusted to enable comparison across different financial years. The energy use in 2022/23 compared to 2021/22 decreased for electricity and natural gas, but burning oil consumption increased; while the trend of continued overall reduction in consumption against the baseline year continued.

### Primary Energy

To allow for continued effective consumption monitoring, electricity, oil and gas use have been considered based on their primary source. Acknowledging the illogic of simply adding kWh consumption of these different utilities together; primary conversion factors were applied to arrive at the energy at source for each utility.

To track continuous progress in energy consumption, we normalised consumption against weather (heating degree days), floor area (m<sup>2</sup>), and also accounted for the impacts of efficiency and transmission losses on each utility. Comparing the results obtained to 2021/2022 as shown in the figure below illustrates that our primary energy consumption increased by about 1% (which was the year of gradual return to normal after the pandemic), but still is 22% lower than our baseline year.

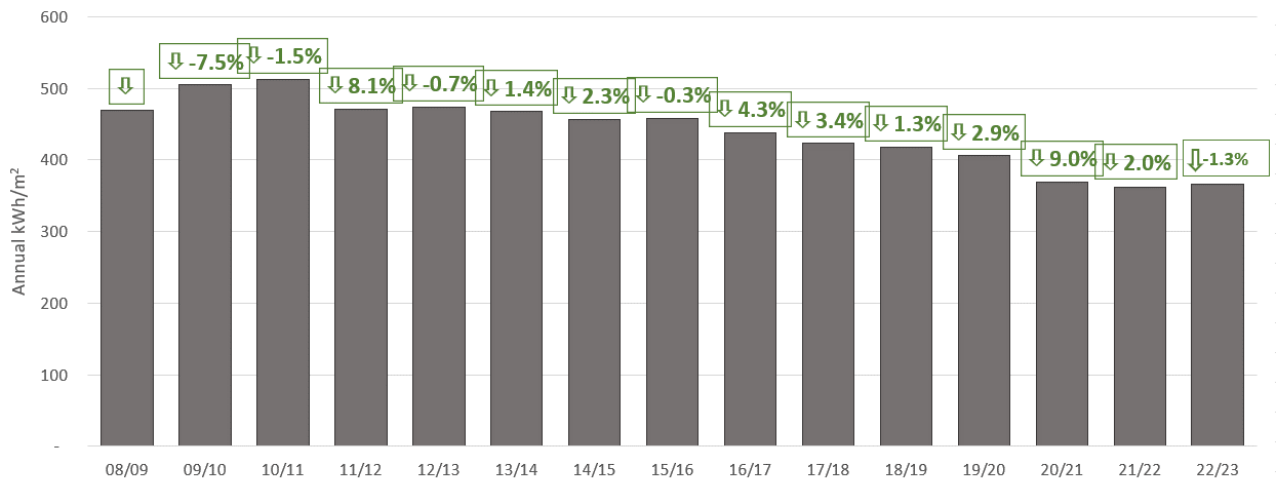
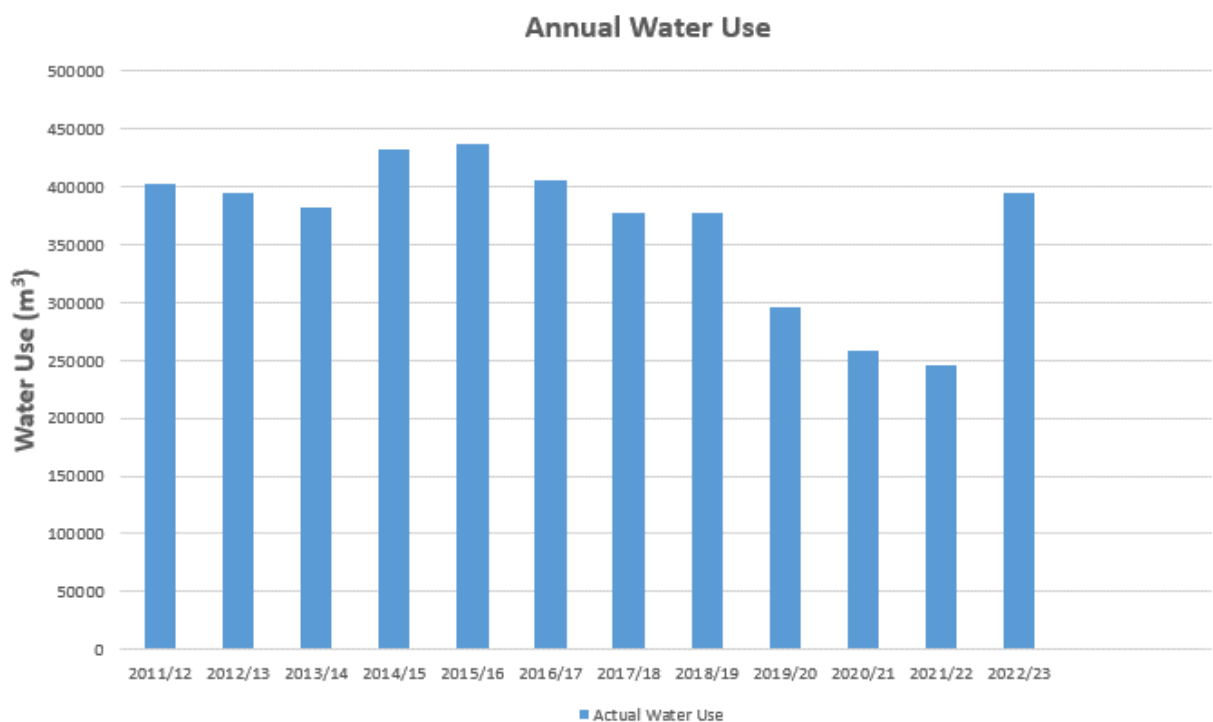


Figure 1 - Normalised primary energy use per m2

### Water use compared with baseline and last year (m<sup>3</sup>)

	2011-12	2020-21	2022-23	% change since last year	% change since baseline
Use - excluding Halls (m <sup>3</sup> )	251,341	144,052	241,047	67 % ↑	4 % ↓



Water use was observed to increase greatly, which seemed like a direct reaction to return normal operations, back to pre-COVID levels over the last year; but seemed to be further exacerbated by possible underground leaks. Following the improved metering spread and real time monitoring, isolation of areas of possible compromise has commenced, and work is currently ongoing to address these with sight set on ensuring the ongoing trend of reduced consumption against baseline is sustained.

In addition, a water re-use monitoring has been implemented and presented in the table below with contributions coming from the University's Berrybrook and Health and Life Sciences buildings. Progress against this year's numbers would be observed subsequently with the potential for improvement in this regard to be encouraged.

	<b>2011-12</b>	<b>2020-21</b>	<b>2022-23</b>	<b>% change since last year</b>	<b>% change since baseline</b>
Water re-use systems (m <sup>3</sup> )	-	-	390.03		