EXETER COLLEGE OXFORD

# Annual Sustainability Report 2022-2023

## Introduction

Sustainability is at the core of Exeter College's strategic plan, as one of Exeter's four inter-linked values besides excellence, diversity and community. Thus, Exeter College has committed to playing its part in reducing the harmful effects of climate change and biodiversity loss. In 2019 the college set up a Sustainability Working Group to consider policies and initiatives that could make the College's operations more sustainable. This Working Group has since been made a College committee, formally incorporating it into the College's structure of governance. In recognition of the importance of this work, Exeter decided to employ a Sustainability Coordinator jointly with Lincoln and Corpus Christi Colleges in 2022. The Sustainability Coordinator has been in post since September 2022 and developed a set of priorities for the academic year 2022-2023 together with the Sustainability Working Group in October 2022.

This first Annual Sustainability Report outlines the progress against those priorities. Each priority is coded according to whether it is on track or has been achieved (green), whether further work is required on this priority (orange) or whether it is off-track (red). Overall, most targets have been achieved. However, further long-term work is required to estimate scope 3 emissions and reduce college waste. The college diesel van is still in service, but a scheme has now been set up which Exeter aims to join in the new academic year.

**Achieved or On Track**

**Further Work Required**

**Off Track**

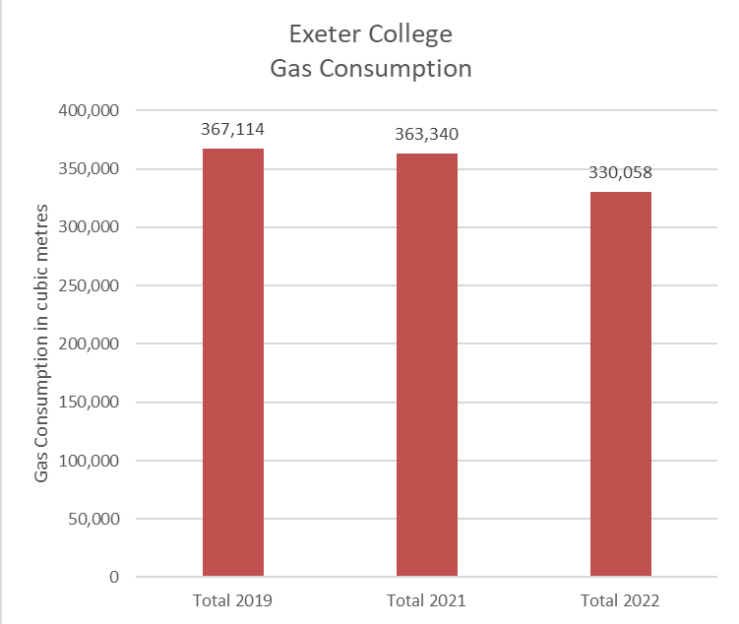
# Energy and Water Savings

**On track**

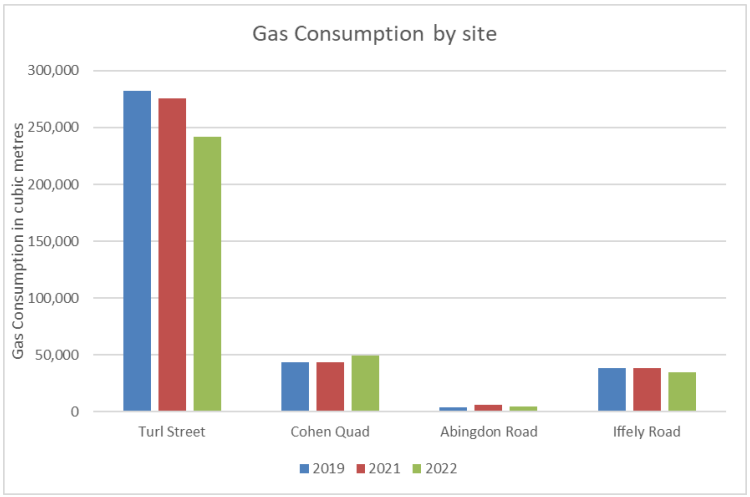
## Monitoring consumption

Over the past year, Exeter College has gained an improved understanding of its energy and water use with the Sustainability Coordinator tracking monthly consumption. Various issues with faulty meters, incorrect invoices and usage tracking were identified and remedied this way. Furthermore, most electricity and gas meters are now "smart", allowing us to have a more granular picture of daily and hourly energy consumption on many sites. This is not yet the case for water, which is nonetheless also tracked monthly. All the figures below are based on a mix of actual meter reads and information from invoices and corrected for mistakes in past utilities data.

## Reducing gas use

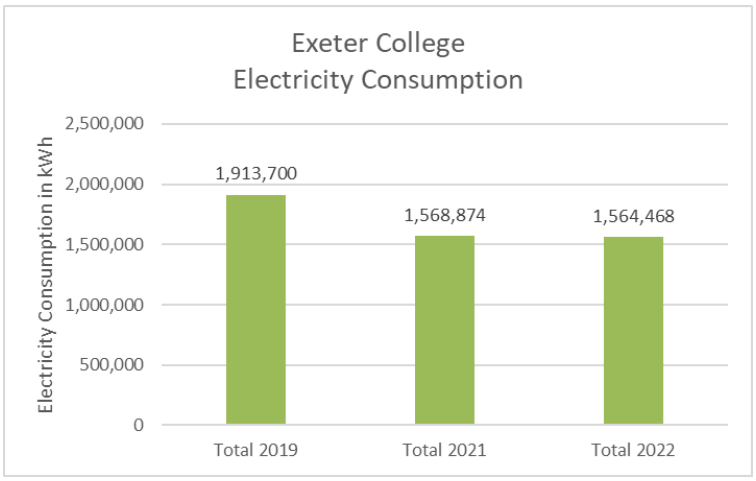



Exeter College has reduced gas consumption by 10.1% since 2019, with the majority of the reduction (9.2%) achieved in 2022. As visible in the graph on the left, the College's gas consumption was 367,114 m3 in 2019. In 2021 this slightly fell to 363,688m3 and in 2022 gas use was reduced substantially to 335,055m3.



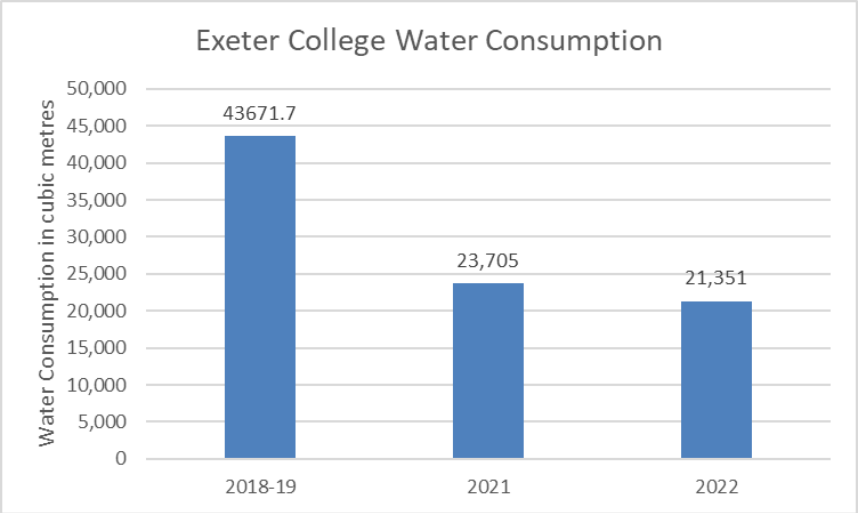

The reduction in gas use in 2022 was driven by improvements in our heating system in Turl Street from October 2022 onwards. In early 2023, the College installed smart thermostatic radiator valves in Staircases 12-14, which should result in further savings in 2023. The increased consumption at Cohen Quad reflects the return to in-person conferences during the summer of 2022.

**Reducing electricity use**




Exeter College has reduced electricity consumption by 18.3% since 2019. As the graph to the left shows, electricity consumption was 1,564,468 kWh in 2022. The smaller reduction in 2022 reflects both the inclusion of Frieze Farm in the data and that 2021 was disrupted by the pandemic, with many students not present in Hilary Term and more staff working from home.

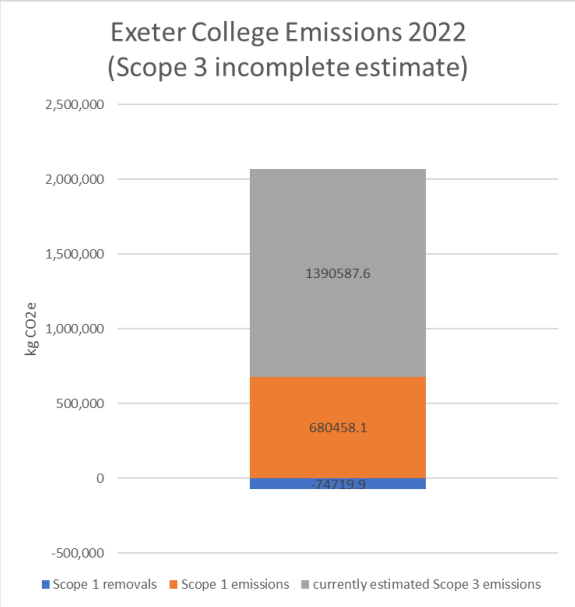
**Reducing water use**




In 2022, Exeter College used approximately 21,351 cubic metres of mains water on its metered sites. This is a 9.9% reduction from 2021, again stemming mostly from Turl Street. The figure for 2018-19 is from the Colleges Shared Purchasing Service. The water consumption was high in 2018-19 due to a water leak, highlighting the importance of monitoring consumption to prevent unnoticed water leaks.

# Carbon Accounting

**On track**




Over the past year, emissions figures for scope 1 and 2 have improved due to improved data quality with our utilities. Initial scope 3 estimates have been used as a baseline, but require substantial work to become more precise and comprehensive. The below figures were derived through the University of Oxford Carbon Accounting Tool 2020 updated using the government's 2022 Greenhouse gas reporting conversion factors (Greenhouse gas reporting: conversion factors 2022).

Scope 1 emissions were 680.5t CO2e, scope 1 emissions removals from our grass- and woodland were 74.7t CO2e and estimated scope 3 emissions were 1390.6t CO2e. More work is required to accurately calculate the College's significant Stage 3 emissions, which include student travel. Procurement of goods and services, staff commuting, business travel, postage and deliveries are not yet included in the estimate. Thus, total emissions will have been higher in 2022. Estimated total emissions were 2.956t CO2e per student in 2022.

## Scope 1: Direct Emissions

Exeter College's scope 1 emissions from gas fell from 755.7 tonnes of carbon dioxide equivalent (CO2e) in 2019 to 748 tonnes in 2021 and 679.5 in 2022. This is based on a calculation of our emissions using the government's conversion factors and our meter readings and estimates where required.
In addition, the College owns a 2.4 litre diesel van which has been estimated to be responsible for around one ton of Co2e per year (van carbon footprint calculator).

Exeter also owns and manages responsibly approximately 12 hectares of woodland and six hectares of grassland including a site of special scientific interest (SSSI). Together these absorbed approximately 74 tonnes of CO2e each year (University of Oxford Carbon Accounting Tool 2020).

**Scope 2: Electricity**

Scope 2 emissions remain zero due to our long-standing policy of procuring renewable electricity. By using electricity generated from renewable sources the College avoided the production of 366 tonnes of CO2e in 2021 (Government greenhouse gas conversion factors for company reporting, Defra, June 2020) and 302.5 tonnes of CO2e in 2022. This is again based on a calculation of our emissions using the government's conversion factors and our meter readings and estimates where required.

**Scope 3: Estimating our upstream and downstream emissions**

Scope 3 upstream emissions for energy have been fully calculated. For water and waste they have been calculated based on the available water and waste data (excluding un-metered water and non-weighed waste). The approximate estimates for food and transport emissions for 2021 are to be reassessed to develop more detailed figures which allow College to track improvements. However, major emissions related to procurement (both goods and services), investments, construction, deliveries, as well as business and commuting travel remain to be estimated.

*Energy*
In 2022 electricity use was responsible for 106.6 tCO2e in upstream emissions. This has fallen from 107t CO2e in 2021 and 130.5t CO2e in 2019. College gas use was responsible for 116 tCO2e in upstream emissions in 2022 (Greenhouse gas reporting: conversion factors 2022). This has fallen from 127.6t CO2e in 2021 and 129t CO2e in 2019.

*Water*
In 2022 water supply and treatment led to emissions of 9 tCO2e (Greenhouse gas reporting: conversion factors 2022). This has fallen from 10t CO2e in 2021 and 18t CO2e in 2018-2019.

*Waste*
In 2022, emissions from non-hazardous and non-junk waste were 13t CO2e (Greenhouse gas reporting: conversion factors 2022). In 2021, when we started measuring our waste data, emissions from waste were 11.2t CO2e.

*Food*
Emissions from food were estimated at 100 tonnes of CO2e in 2021, corresponding to circa 19,200 daily consumers at 5.2Kg/CO2e per day. This is an approximation which does not take into account which type of food is served in college and can only be reduced by less people eating in college. Thus, more detailed figures need to be calculated in collaboration with the Catering Teams.

*Student travel*
In 2021 College did an estimate of student travel emissions at 1046t CO2e, split in 872t CO2e from overseas travel and 174t CO2e from UK residents. Again, more accurate, comprehensive and comparable data is needed.

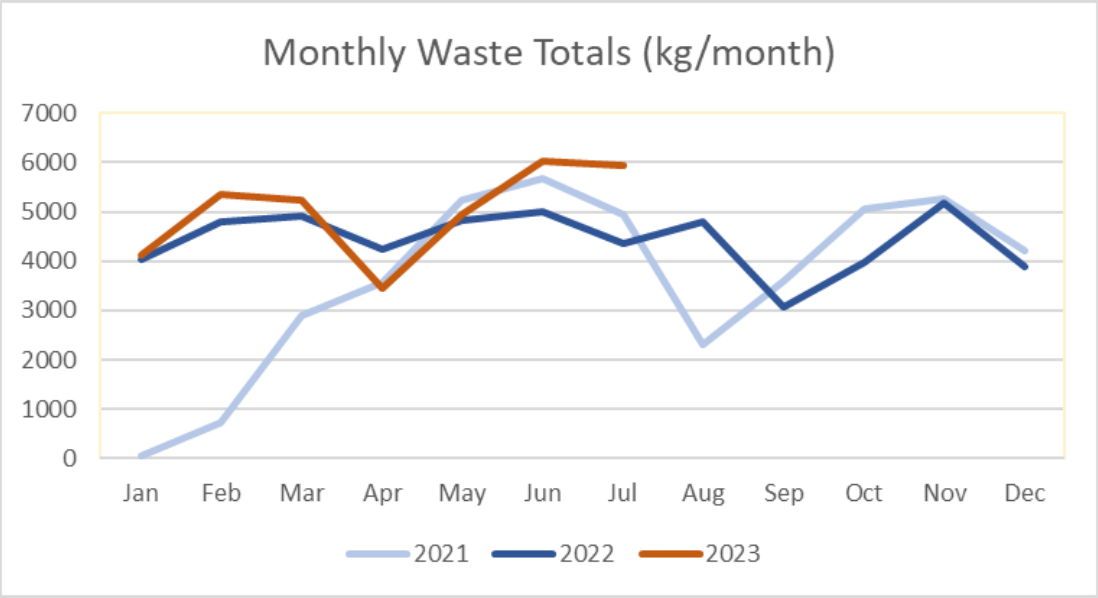
# Long-Term Building Decarbonisation Plans

**On track**

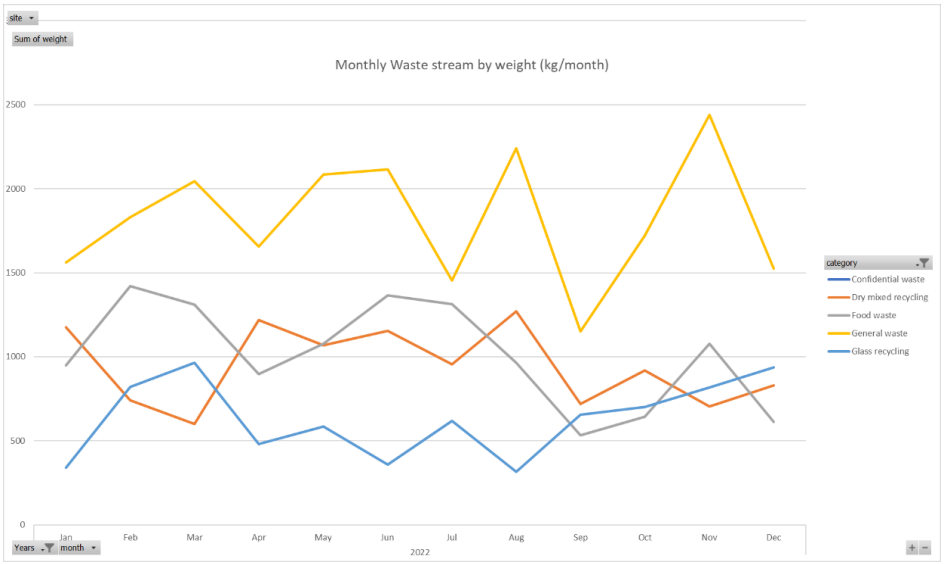
The College commissioned a feasibility study to explore decarbonisation options at our Turl Street, Exeter House, and Stapledon House sites in 2021. The study was completed in August 2021 and highlighted various options for those sites. In early 2022 the College commenced the next stage and is now assessing the detailed upgrades needed to support our long-term transition to a decarbonised mechanical and electrical infrastructure on the Turl Street site. The first projects including solar panels, improved insulation and ground source heat pumps are currently at pre-application stage.

# Waste Reductions

**Further work required**




Since the switch to SELECT Environmental Services, Exeter College's non-hazardous, non-junk waste is weighed at collection, providing a monthly picture of waste collection across Cohen Quad, Exeter House, Stapledon Houses and the main site on Turl Street. Abingdon Road and Frieze Farm are not included in this data.




In 2022, Exeter produced 53 tonnes of waste across all its sites. More than half of the College's waste is directed towards more sustainable categories: that year, 41% (by weight) was sent for energy-from-waste conversion, while 36% was recycled and 23% was sent to anaerobic digestion.
Exeter partners with SELECT Environmental Services to measure, remove, and process its waste such that none of it goes to a landfill. Refuse is instead sorted into three categories:

- Food waste is processed by anaerobic digestion, in which microorganisms break down biodegradable material, producing both energy and useful fertilisers.
- Glass and dry mixed recycling items are sent to a Materials Recovery Facility where they are separated into individual material streams such as paper, cardboard, plastics, and metals, for reprocessing.
- All other general waste is sent to an energy-from-waste plant, where it is burned to produce electricity.

At the Trinity Term meeting of the Sustainability Working Group the following targets were decided upon:

- Reduce overall waste by 6-8%, aiming to be consistently around 4 tonnes each month and below 50 tonnes for the year
- Aim for all sites to consistently achieve at least 50% recycling by weight.

## Acquiring an Electric Van to Replace the Existing Diesel Van Used by the Maintenance Team

**Further work required**

College decided to go with a university scheme for leasing electric vehicles. This has not yet occurred, but the university's leasing scheme is now in place, allowing College to replace the diesel van with an electric van in the coming year.

# Achieving Silver Status in the Green Impact Scheme

**Achieved**

Exeter's Green Impact Team met regularly throughout the academic year, including with similar teams at neighbouring colleges, to identify and implement ways of making Exeter more sustainable. Thanks to an outstanding of many student volunteers, Exeter College achieved a Gold Award. This is particularly noteworthy as this was Exeter's first participation in the Green Impact scheme. This shows the progress achieved over the last year as well as the dedication of student members to our Sustainability Strategy.