Environmental Sustainability

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OXFORD CITY COUNCIL

Greenhouse Gas Emissions from Local Authority Own Estate and Operations

Reporting Period 2023-24

Oxford City Council

Date: June 2025
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Greenhouse Gas Emissions (GHG) Report from the Council's own estate and operations covering the 2023/24 financial year

Foreword

This report includes our annual review of the Council's progress in reducing greenhouse gas emissions. Each year we publish an annual update report detailing the total carbon emissions from the Council's own estate and operations for the previous financial year. The report covers all scope 1 and 2 emission sources relevant to the Council and some scope 3 sources - including all buildings and operations where we pay the energy, fuel, and water bill.

Within this year's 2023/24 report we can see that there was a 6% annual decrease in emissions when compared to the 2022/23 reporting period, with annual emissions totalling 5,581 tCO2e. Encouragingly this is a 1% improvement on last year's reported annual decrease of 5%; however, we are still off target from the 10% year-on-year reduction necessary to meet our net zero target of 2030.

We publish this annual data to be transparent and open about our journey to net zero and the work we are doing within our own organisation to address the climate emergency. We remain committed to achieving our 2030 goal and will ensure meaningful carbon reduction measures continue to be implemented to support this target.

We are proud of the work that has been done to date and when taking a wider look at our journey, we can observe a 27% decrease in emissions when comparing the 2023/24 reporting period against our set baseline (2019/20). This year we have continued to utilise grants and schemes to enable us to implement carbon reduction measures across our estate, including making use of the Salix Recycling Fund's last year of operation to install five projects across Community, Leisure, and Depot sites. Additionally, we used Sport England funding to dramatically improve the energy efficiency of Barton Leisure Centre. with the centre exclusively now having LED lighting and energy efficiency showers - additional solar PV was also installed.

March 2025 saw the closure of the Salix Recycling Fund, a scheme which has been instrumental to our decarbonisation progress to date. Over the past 16 years the Council have used the scheme to deploy over 80 decarbonisation projects, which when combined have saved the Council £0.5m annually in energy savings and reduced our carbon emissions by over 2,000 tonnes. As we look ahead to the 25/26 financial year, the Council are pleased to have reinstated our own recycling fund, which will operate as Salix did and enable us to keep investing in decarbonisation across the estate.

I am pleased with our progress in this reporting year, and I am looking forward to working with officers, partners, councillors, and members of the public on continuing to tackle the climate emergency in Oxford.

Councillor Anna Railton, Deputy Leader, and Cabinet Member for a Zero Carbon Oxford

Greenhouse Gas Emissions (GHG) from Local Authority own estate and operations covering the 2023/24 financial year

1. Introduction

Local Authorities in England are encouraged by the Department for Energy Security and Net Zero (DESNZ) to measure and report on their annual greenhouse gas emissions. The reports summarise the total gross annual greenhouse gas emissions from a Council's own estate and operations. Oxford City Council have been conducting this exercise for over ten years, and this report outlines emissions for the financial year 1st April 2023 to 31st March 2024.

Total GHG emissions for period 1 April 2023 to 31 March 2024	
Scope	**Tonnes of CO_2e**
Scope 1	3,798
Scope 2	1,617
Scope 3	166
Total core GHG emissions	**5,581**

***Table 1**: Total GHG emissions for the period 2023/24*

The Council is currently delivering on its fourth Carbon Management Strategy and Implementation Plan (Carbon Management Plan 4: Zero Carbon Council by 2030) covering the 9 years from 2021/22 to 2029/30. The plan maps a route to a net zero Council – driving down energy, fuel and water consumption and the associated carbon dioxide emissions. Currently, the Council are working towards two key carbon reduction related targets (below), with outcomes of this report being related to monitoring progress of the delivery of target 1.

- **(1) Net Zero carbon Council by 2030 or sooner**: delivered by an acceleration of the reduction in the Council's underlying emissions. This applies to greenhouse gas emissions (CO2e) from heating and powering our buildings, fuelling our fleet vehicles and plant, through to our business travel and water consumption.
- **(2) Net Zero carbon City by 2040** recognising that the Council is responsible for 1% of city-wide emissions, this vision is to be delivered by working in partnership with key stakeholders in the city to galvanize action on climate change, with an emphasis on the two largest sources of emissions - buildings and road transport. Roadmaps have been developed and the Zero Carbon Oxford Partnership – ZCOP (now expanded to cover Oxfordshire) has been collaboratively delivering carbon reduction actions since 2021. *(See: Roadmap and Action Plans - Zero Carbon Oxford Partnership)*

2. Approach to Carbon Reporting

2.1 Organisation Information

Oxford City Council is a non-metropolitan district council as defined by Section 1(4) and Schedule 1 Part II of the Local Government Act 1972. The Local Authority main contact details are Oxford City Council, Town Hall, St Aldates, Oxford, OX1 1DS.

2.2 Base Year

The GHG reporting process follows the Net Zero by 2030 trajectory outlined in the Carbon Management Plan 4 approved in February 2021 ("Zero Carbon Council by 2030"), committing the Council to Net Zero by 2030 from a 2019/20 base year.

2.3 Reporting Approach

This report follows the Government's Guidance on how to measure and report greenhouse gas emissions as outlined in the Environmental Reporting Guidelines (publishing.service.gov.uk) using the GHG protocol and DESNZ released conversion factors to calculate annual emissions.

2.4 Organisational Boundary

There are several approaches organisations can take when reporting annual greenhouse gas emissions. The Council follows the Financial Control approach, which means all energy, water, and fuel related sources in which the Council pays the bill for are included. As such, the scope of the Council's annual greenhouse reporting covers:

- Electricity and gas consumed in all buildings and sites (e.g. emissions from our operational buildings and other sites office buildings, depots, leisure centres, car parks, sports pavilions, public conveniences, and other miscellaneous sites).
- Fuel consumption from fleet vehicles, non-road going vehicles and plant.
- Miles or kilometres travelled in staff-owned vehicles and estimated to be travelled in public transport for business purposes.
- Water consumed in Council operational buildings and other miscellaneous sites within the scope of the Council's influence and operations.

2.5 Operational Scopes

Total scope 1, 2 and some scope 3 emissions covering the areas outlined in the organisational boundary have been measured. Scope 3 sources have been included based on whether the Council is deemed to have control over the operation/activity in question – there are currently no plans to expand scope 3 reporting.

<table>
<tr><th>Scope One</th><th>Scope Two</th><th>Scope Three</th><th>Not included</th></tr>
<tr><td>Fuel used to heat buildings (e.g. natural gas, gas oil, kerosene, and liquid petroleum gas)</td><td rowspan="3">Purchased electricity for buildings and other electricity consuming sites (e.g. offices, leisure centres, depots, car park and public conveniences).</td><td rowspan="2">Electricity (transmission and distribution factors)</td><td>Perfluorocarbons (PFC), hydrofluorocarbons (HFC) and sulphur hexafluoride (SF_6)</td></tr>
<tr><td rowspan="2">Fuel used in council vehicle fleet and to power non-road going vehicles and plant such as</td><td>Staff commuting</td></tr>
<tr><td>Business mileage by car</td><td>Emissions from Council operational waste deposited in landfill sites</td></tr>
</table>

lawnmowers and, chippers.			
Fuel used in waste collection vehicle fleet		Business mileage by public transport (bus and train)	Emissions from Leased commercial properties or housing stock where tenants are paying energy/water bills.
		Water consumed (supply and treatment)	Emissions from production and delivery of fuel to power stations or transport fuel stations.
	Half-hourly metered and non-half-hourly metered electricity supplies (i.e. HH, P272 meters and Unmetered Supplies)		Emissions from goods and services purchased and employed to conduct council business and operations. Council financial investments.

Table 2: *Operational scopes*

2.6 Assurance Statement and Governance

Energy and water data is validated and managed via a market leading energy bureau database package (Team Sigma), and for half-hourly sites energy data is cross-checked with our monitoring platform Stark. Team members managing the energy and carbon reduction programmes at the Council include a trained ISO 14064 Lead Auditor and a CIBSE affiliated Chartered Engineer.

Overall governance for the delivery of a net zero Council sits with the Cabinet Member for Net Zero and Climate Justice. Officers working to deliver the target are answerable to the Net Zero Steering Group, which is made up of senior members of Council staff.

3. 2023-24 Emission Summary

3.1 Reporting Period

1 April 2023 – 31 March 2024.

3.2 2022-23 Emission Summary

A summary of underlying GHG emissions for the current reporting year (2023/24) is outlined in Table 3 below. The top three emitters for the 2023-24 period were:

1. Gas for heating
2. Fuel use in fleet
3. Purchased electricity

2022/23	Total Consumption Units	tCO2e
Scope 1		
Gas consumption (kWh)	10,709,316	1,959
Gas Oil (litres)	1,488	4
Kerosene (litres)	0	0
LPG (litres)	0	0
Diesel (litres) - average biodiesel blend	723,753	1,817
Petrol (litres) – (average biofuel blend)	8,458	18
HVO (litres)	4,574	0
	Total Scope 1	3,798
Scope 2		
Purchased Electricity (kWh)	7,810,124	1,617
Scope 3		
Electricity - Transmission and distribution	7,810,124	140
Average petrol car (miles) - unknown fuel	52,313	9
Passenger travel – train, national rail (km)	48,729	2
Passenger travel – average local bus (km)	1,451	0
Water supply(m3)	40,767	7
Water treatment(m3)	40,767	8
	Total Scope 3	**166**
	Totals	**5,581**

Table 3: *Underlying GHG emissions for the period 1 April 2023 to 31 March 2024*

3.3 Heating Degree Days

Heating degree days (to base 15.5ºC) for the Oxfordshire for the 2023/24 reporting period were 1770 (compared to 1881 for 22-23). Heating degree day figures (to base 15.5 ºC) have been referenced for each reporting year as a rough indication of the severity of the heating season. Heating degree days are a measure of how much (in degrees), and for how long (in days), the outside air temperature was below a certain level. They are commonly used in calculations relating to the energy consumption

required to heat buildings[1]. This is not a precise assessment on a building per building basis accounting for heating loads, building fabric and other factors that may influence heating related consumption but solely used as an indicator of general heating demand. A lower degree day number indicates a less severe heating requirement and may have an influence on quantity of gas used or electricity if used for heating.

3.4 Comparison to Previous Reporting Years

Scope	Source	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
1	Gas Consumption	3,008	3,138	1,758	2,802	2,464	1,959
1	Gas Oil	94	86	92	86	4	4
1	Kerosene	10	10	11	0	0	0
1	LPG	0	0	0	0	0	0
1	Diesel	1,986	1,869	1,715	1,786	1,545	1,817
1	Petrol	42	42	20	21	16	18
1	HVO	0	0	0	0	1	0
2	Electricity - Purchased	2,259	1,995	1,210	1,442	1,723	1,617
3	Electricity - Transmission and Distribution	193	169	104	128	157	140
3	Average Petrol Car - Unknown Fuel	22	19	19	9	11	9
3	Passenger Travel - Train, National Rail	3	3	3	0	0	2
3	Passenger Travel - Average Local Bus	1	1	1	0	0	0
3	Water Supply	41	30	17	14	11	7
3	Water Treatment	84	62	36	26	18	8
Total		7,741	7,425	4,985	6,314	5,995	5,581
% decrease on previous year			-4%	-32%	+26%	-5%	-6%
Scope 1		5,140	5,146	3,595	4,695	4,032	3,798
Scope 2		2,259	1,995	1,210	1,442	1,723	1,617
Scope 3		342	284	180	177	198	166

Table 4: *Summary of annual underlying GHG emissions (tCO2e) for period 1 Apr 2018 to 31 March 2024*

[1] https://www.degreedays.net/introduction

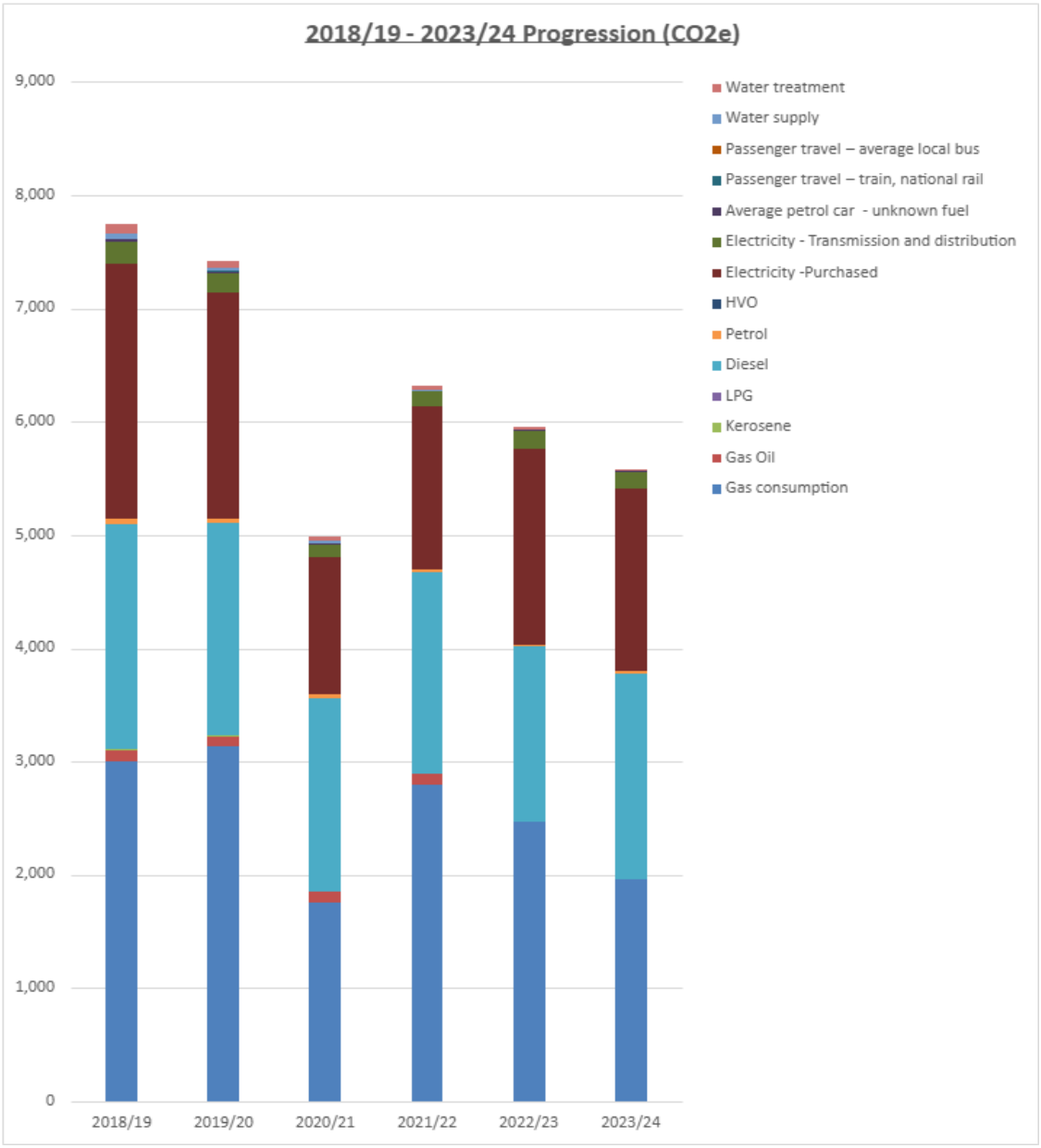

Chart 1: *Bar chart showing GHG emissions (tCO2e) from all three scopes for the past six reporting years (2018/19 to 2023/24).*

3.5 Progress Against Target

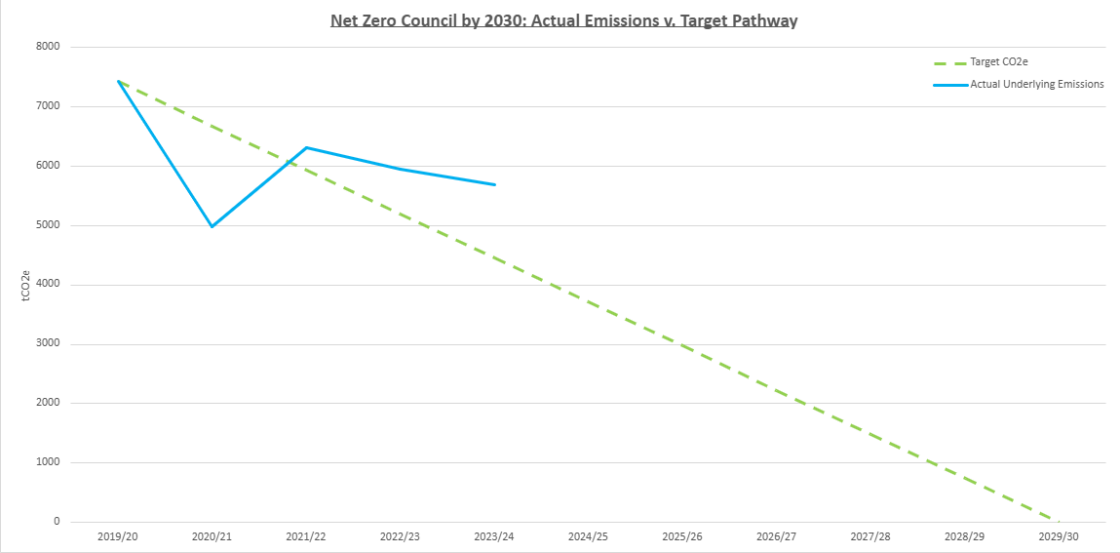

Chart 2: *Net Zero by 2030 progress and required trajectory. The blue line highlights the underlying emissions progress. The dotted green line shows the trajectory required to meet Net Zero.*

In the Carbon Management Plan covering this reporting period (2021 - 2030), the Council CO_2 reduction target for 2022/23 is to reach Net Zero Carbon by 2030. Considerable progress towards this target has been made, with this reporting year (2023-24) seeing a 27% decrease against the set baseline year (2019-20).

This year's reported annual emission decrease at 6% is slightly better than the Council's 'BAU' annual emission reduction, which on average since carbon reporting began in 2014/15 has tracked a 5% annual emission reduction. However, as Chart 2 displays the achieved emission reduction is not currently enough to keep the Council on track to meeting the set net zero by 2030 target and significant intervention will be required to deliver it.

3.6 24/25 Key Achievements .

Within the most recent financial year, the Council deployed a variety of decarbonisation projects across its estate, for example, utilising the last round of Salix Recycling Funding to install: Building Management System (BMS) improvements, including an innovative trial of an occupancy based technology at two Council community centres; a low emissivity ceiling at Oxford Ice Rink; energy efficient showers at two of the Council Leisure Centres; and a LED switch out at one of the Council's depots.

Other key activities include making use of Sport England Funding to install energy efficient showers, LEDs and additional solar at Barton Leisure Centre; and pushing on with the Council's ongoing LED replacement programme.

3.7 Lookahead

Oxford City Council remain committed to drive emission reduction and continue to focus efforts on delivering a net zero Council. Key 25/26 planned activities include the below:

- A strong focus on heat decarbonisation across the Council's estate including working through feasibility for a potential city centre heat network and commissioning investment grade heat decarbonisation studies across key gas users.

- Utilising the Council's newly incepted Recycling Fund to install a target of 5 decarbonisation projects for this financial year.
- Optimisation of installed batteries across our leisure sites to relieve the currently experienced grid capacity issues within Oxford.
- The delivery of a Net Zero by 2030 Review – to provide a realistic summary of where the Council is on delivering net zero by 2030, highlighting key barriers and providing focus on solutions going forward.
- Commision of a long-term Energy Procurement Review which will assess local PPA with local renewable energy generators.