

Broxbourne Borough Council: Carbon Emissions Report

1. Organisation information

Broxbourne Borough Council is a local authority registered at Bishops College, Churchgate, Cheshunt, Hertfordshire EN8 9XQ.

2. Reporting period

1 April 2019 – 31 March 2024

3. Reporting Approach

The Council based this report on HM Government's Environmental Reporting Guidelines [document](#).

4. Introduction

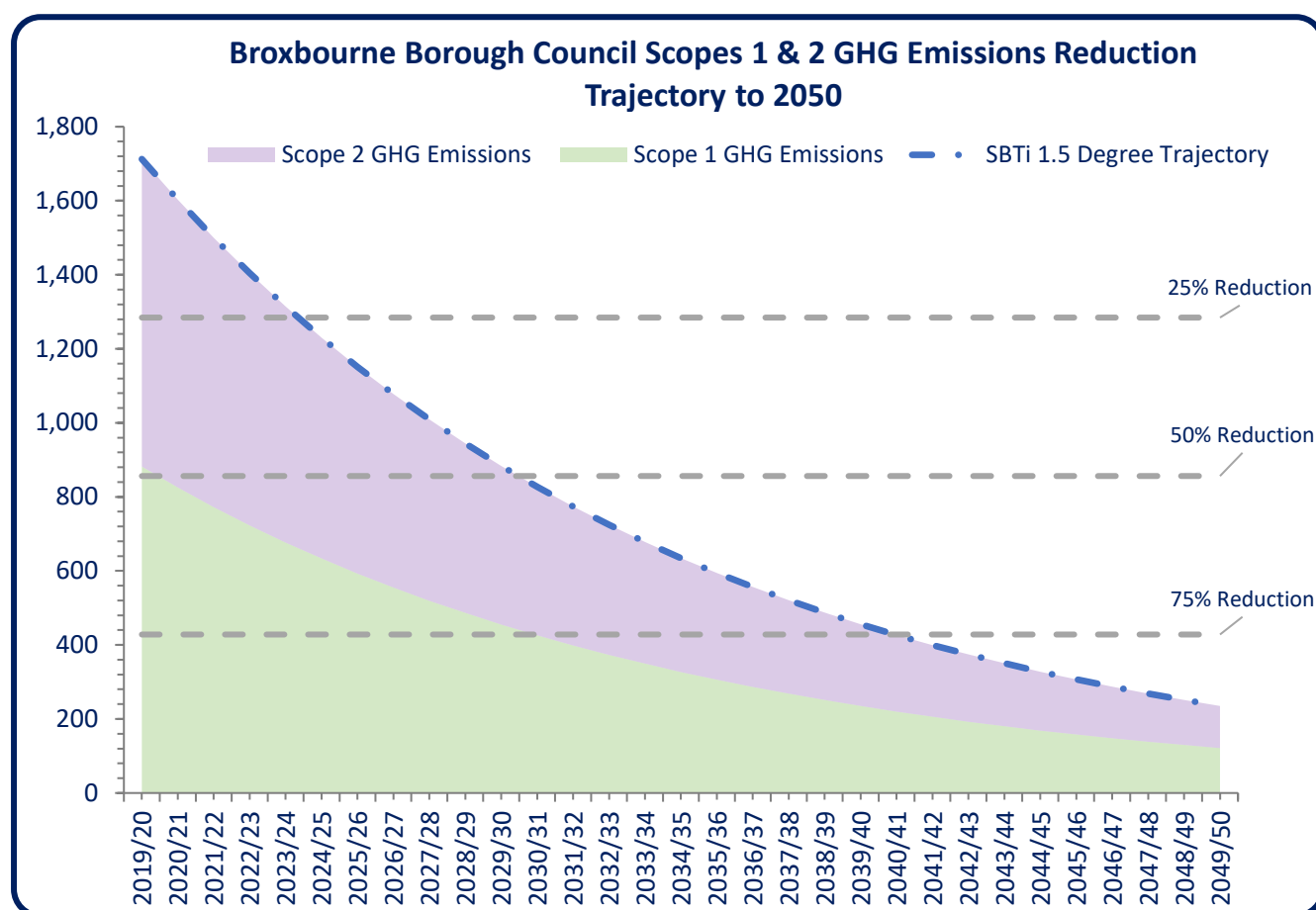
Broxbourne Borough Council is currently delivering its [Environmental Sustainability Strategy and Action Plan 2021-2025](#) which sets three main objectives:

- A Sustainable Council
- A Greener Broxbourne
- Supporting Action by Businesses and Residents

The actions that the Council is taking to reduce its carbon footprint by delivering the Environmental Sustainability Strategy and Action Plan have been complemented by a Cabinet decision in March 2023 which confirmed a commitment to achieve carbon neutrality by 2050. This means that the Council has to continuously reduce its underlying carbon emissions resulted from heating and powering its buildings and fuelling its fleet vehicles.

The Council commissioned a team of environmental consultants to develop a carbon monitoring tool, and to calculate the carbon emissions of the 2019/20 baseline year. The monitoring tool maps out an annual carbon emissions reduction of 6.4% from 2019 to 2050 so that the Council achieves its net zero target, as showed in Graph 1 below.

Graph 1: Carbon (Greenhouse Gas - GHG) Emissions Trajectory to 2050



The bulk of the Council's CO2 emissions come from:

- Gas and electricity consumption at operational sites such as office buildings, depots, leisure centres, sports pavilions, hostels etc.
- Fleet vehicles fuel e.g., vans and pool cars.

5. Organisational boundary

The Council has included emissions over which the Council has full, direct operational control (including assets, infrastructure and operations), while currently excluding other selected emissions sources which the Council has only partial influence over.

6. Operational Scopes

Table 1: Operational Scopes

Scope One	Scope Two	Scope Three	Not Included (Scope Three)
Fuel used to heat buildings (e.g. natural gas, biomass)	Purchased electricity for buildings and other electricity consuming sites	Business travel in staff member's own	Fuels used by BEST Environmental Services fleet, including the

Fuel used in council vehicle fleet	(e.g. offices, leisure centres, depots, car park and public conveniences).	vehicles ('grey fleet')	grounds maintenance machinery
			Electricity (transmissions and distribution factors)
			Business mileage by public transport (bus and train)
			Water consumed
			Staff commuting

The Council seeks to widen the scope of reported emission source in future years and is exploring methods of achieving this.

Any significant changes to the Council's organisational operational boundary (e.g. acquisitions, divestitures or outsourcing) may trigger a recalculation of the baseline emissions in line with government greenhouse gas emissions guidance. Broxbourne Borough Council has set a threshold of 5% change in baseline emissions as the trigger for any recalculation of the council's baseline.

7. Emissions Calculations

Emissions were calculated for each year based on HM Government's 'Greenhouse gas reporting: conversion factors' document corresponding to the year in cause. The calculations were then compiled into the two tables below and input into the monitoring tool to map out the annual carbon emissions reduction of 6.4% from 2019 to 2050.

Table 2: Total Carbon emissions for the 2019 -2024 period

Emissions data reported in tonnes of CO2 equivalent (tCO2e)					
Source	Baseline 2019/20	2020/21	2021/22	2022/23	2023/24
Scope 1					
Natural Gas	866.7	826.6	899.74	976.6	839.45
Biomass	1.903	0.165	1.85	2.8	3.25
Vehicle Fleet	13.08	5.21	6.26	7.1	7.51
Scope 2					
Electricity (purchased)	833.51	611.24	595.02	673.5	734.32
Scope 3					
Grey fleet	11.08	5.297	6.26	6.29	6.68
Total Emissions	1726.27	1448.51	1509.13	1666.32	1591.22

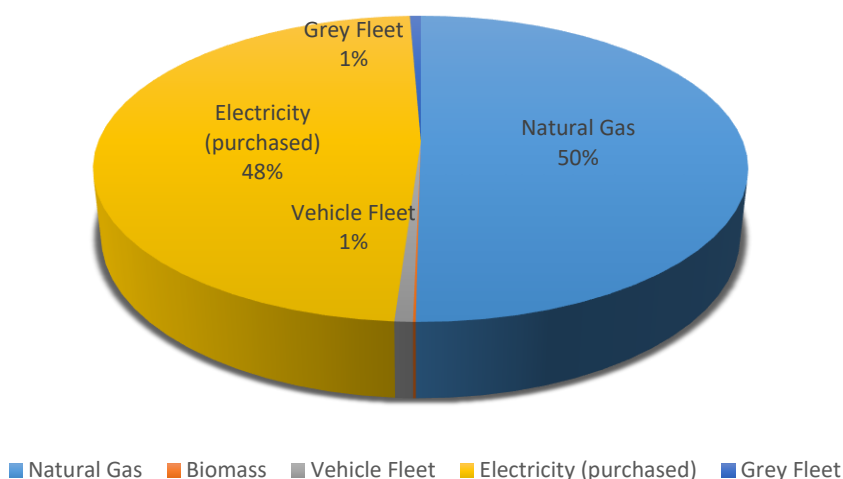
Table 3: Total Carbon emissions, target and percentage deviation from target

Emissions data reported in tonnes of CO2 equivalent (tCO2e) 2019-2024							
Year	Scope 1	Scope 2	Scope 3 Grey fleet	Total Emissions	Change vs baseline	Target Emissions (6.4% annual reduction from baseline year until 2050)	% Deviation from Target
2019/20	881.68	833.51	11.08	1726.27	0	1,715.20	0
2020/21	831.98	611.24	5.30	1448.52	-15.72%	1,605.43	-9.774%
2021/22	907.85	595.02	6.26	1509.13	-12.20%	1,502.68	0.430%
2022/23	986.53	673.50	6.29	1666.32	-3.06%	1,406.51	18.472%
2023/24	850.22	734.32	6.68	1591.22	-7.82%	1,316.49	20.868%

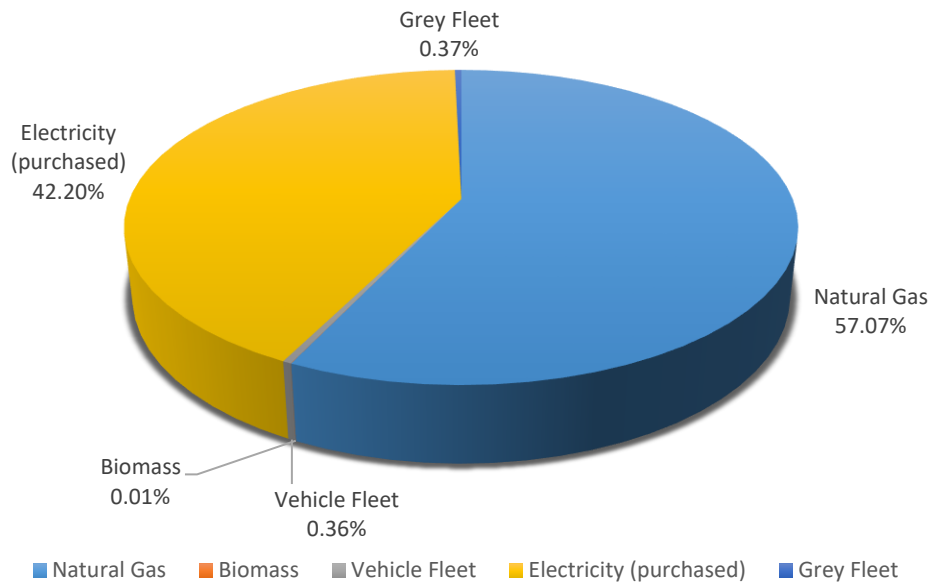
8. 2023 – 2024 Data Analysis

Year-on-year CO₂ emissions decreased by 4.7% from 1666.32 tCO₂e to 1591.22 tCO₂e. The reduction occurred mainly due to the decrease in gas consumption at the three most energy intensive buildings of the Council, namely John Warner Leisure Centre, Laura Trott Leisure Centre and Bishops' College. However, the Council is exceeding the annual reduction trajectory (as shown in Graph 1) by 20.86% (272.7 tCO₂e). To stay within the trajectory, CO₂ emissions should have not exceeded 1,316 tonnes CO₂e.

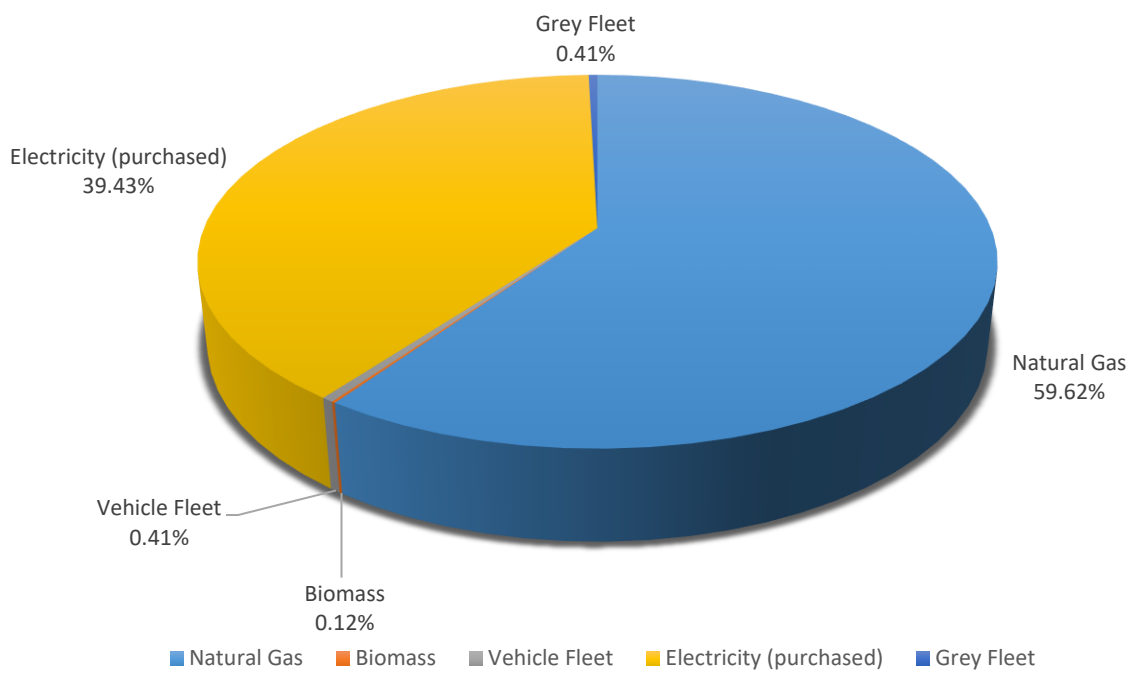
Baseline Year 2019/20



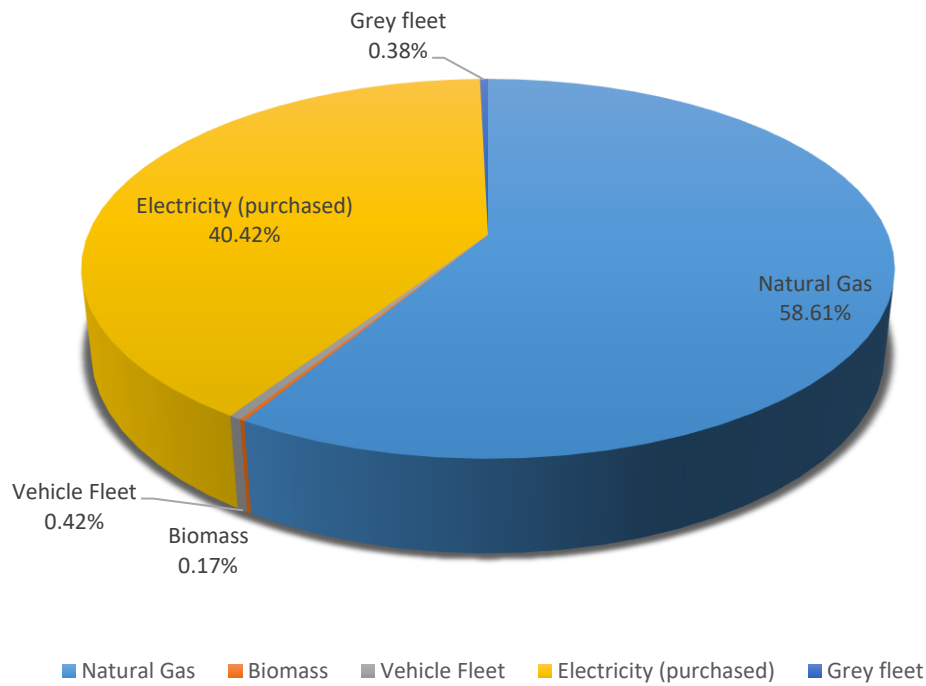
2020/21



2021/22



2022/23



2023/24

