

Cheltenham Borough Council

Greenhouse Gas Emission Report: financial year 2024/25

Executive Summary:

This report calculates that:

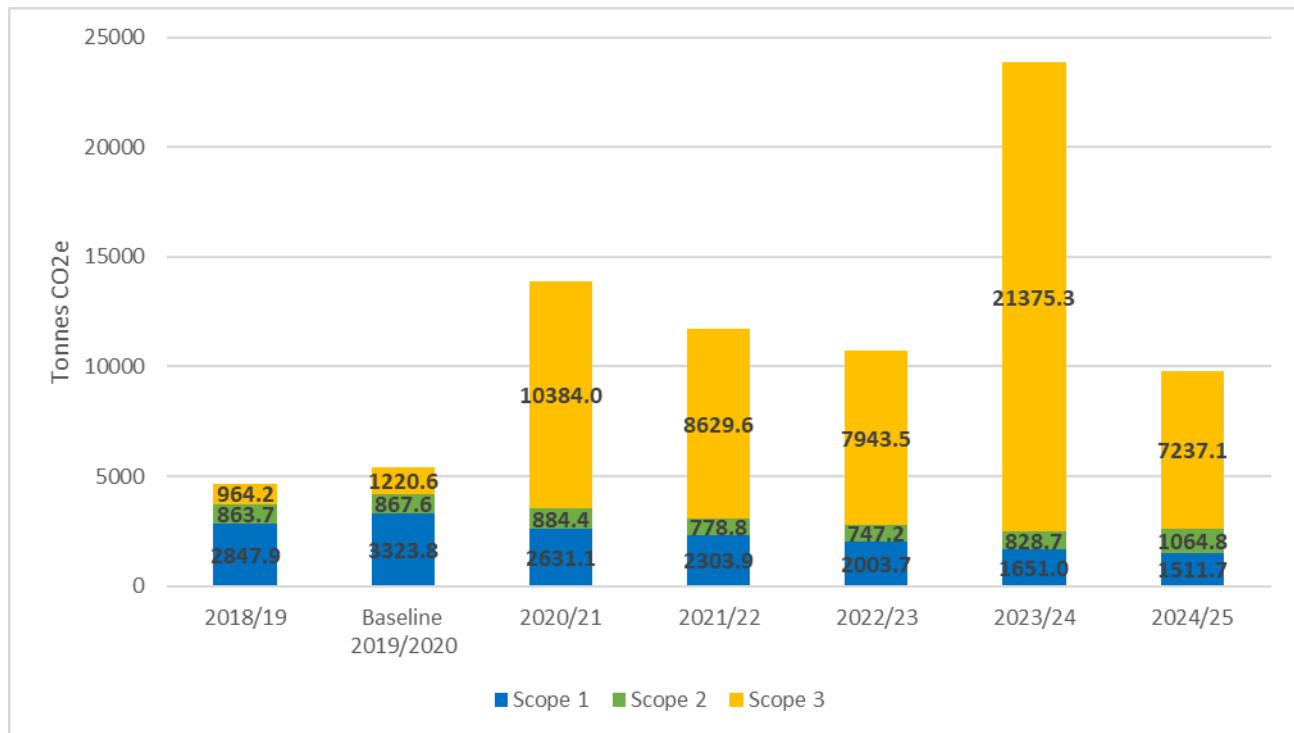


Figure 1: Total emissions from 2018 to 2025.

Scope 1: Direct emissions as a result of burning fossil fuels

- Total scope 1 emissions, those that relate to fossil fuel use, have reduced by 139.3 tCO2e (8.4%) relative to the previous year, and 1812.1 tCO2e (54.5%) when compared to the baseline.
- Diesel usage in the Cheltenham Ubico fleet, has decreased 1228.2 tCO2e in emissions from the baseline year and 47.2 compared to the previous year due to the transition to hydrogenated vegetable oil (HVO) as a fuel, fleet electrification, and further route optimization.
- There has been an increase of gas consumption at Council properties, correlating with increased occupancy and usage.

Scope 2: Indirect emissions from purchasing electricity for operations

- An increase in scope 2 emissions is evident when compared to 23/24 figures. This is due to an increased consumption of electricity across our portfolio. This trajectory is expected when considering the actions needed to decarbonise CBC's portfolio, it largely relies on large scale electrification to move away fossil fuels.

- The UK electricity factor is prone to fluctuate from year to year as the fuel mix consumed in UK power stations and the proportion of net imported electricity changes. In the 2024 update, the UK Electricity CO₂e factor has remained at a similar level to 2023 update.

Scope 3: Supply chain emissions

- Emissions relating to purchasing of good and services is the highest source of total emissions, which is common practice.
- Calculation methodology and the approach to address these supply chain emissions remains a more nascent area for development.
- As we develop our approach to working with our suppliers to explore our emissions in more detail, the numbers will likely continue fluctuate, though we provide a best estimate based on the tools available to support further work in this area.
- The 170% increase in 23/24 was down to including additional expenditure not included in this report.

Introduction

Carbon dioxide (CO₂) emissions are the primary driver of global climate change. There are several less well-known greenhouse gases such as methane (CH₄), nitrous oxide (N₂O), and hydrofluorocarbons (HFCs). These various greenhouse gases have different global warming potentials in the atmosphere which, for ease, are converted into a single metric of carbon dioxide equivalents (CO₂e). This unit of measurement will be utilised throughout this report.

In line with the Department for Energy Security and Net Zero (DESNZ, 2024) reporting guidance, the collated emissions are categorised into Scope 1, Scope 2 and Scope 3 emissions as detailed below:

Table 1: Definition of Scope 1, 2 and 3 emissions.

Category	Description	Source
Scope 1	Direct emissions as a result of burning fossil fuels	Gas usage within Council, Ubico, Cheltenham Trust sites, miscellaneous properties and vehicle fleet gas/fuel use
Scope 2	Indirect emissions from purchasing energy for operations	Metered electricity use for Council, Ubico, Cheltenham Trust sites and miscellaneous properties
Scope 3	All other quantifiable indirect emissions produced in relation to the organisational activity	Staff commuting & business travel, water usage, procurement, 50% of airport electricity and ground operations, transmission and distribution of electricity

Cheltenham Borough Council (CBC) declared a climate emergency in 2019 and committed to becoming a net zero council by 2030. This means that greenhouse gas (GHG) emissions relating to the council’s production and consumption activities will need be reduced to almost zero. The

primary focus is the reduction of scope 1 & 2 emissions. Although efforts will be made to reduce our scope 3 emissions as much as possible, this is an area where the organization has less direct control.

Currently, there is no requirement for Local Authorities to report on their organisational carbon footprint. CBC, is committed to its net zero aims and the actions detailed in the Climate Emergency Action Plan and as part of this, publishing our annual carbon footprint which informs progress towards the net zero target. Our Climate Emergency Action Plan was updated during 2024. Continuing to refine our plan to 2030 to include costs and milestones to address remaining scope 1 and 2 emissions, with mitigation for residual emissions, alongside a strategic approach to address scope 3 emissions, remains a key enabler.

Organisational scope:

CBC is liable for the emissions relating to a diverse range of properties. Cheltenham Trust sites include Cheltenham Town Hall, Pittville Pump Room, Leisure at Cheltenham, Prince of Wales Stadium and The Wilson Art Gallery & Museum. Smaller sites in CBC's portfolio include public toilets, pavilions, car parks, fountains, and other miscellaneous properties. CBC is currently responsible for purchasing the energy and water for these properties. The water supplier currently used is Water Plus, the main electricity supplier is Bryt, and gas supplier is Total Energies. The miscellaneous properties vary year to year and only properties with annual energy payments of over £1,000 are a material consideration in the emission total. There are several energy suppliers for these sites.

Ubico Ltd has been responsible for the borough's household waste and recycling service since April 2012. This company itself is owned by several authorities, including CBC. The emission calculations in this report account for the fleet fuel use operating in the Cheltenham Borough, and energy and water supply at the depot and main site.

The waste and treatment considered is only the organisational waste produced by staff in the Municipal Offices. Remaining waste services are included as supply chain emissions in Scope 3.

CBC has a 50% shareholding in Gloucestershire airport. Half of the emissions related to the site's electricity use, and ground fleet fuel use, have been accounted for by CBC. Emission figure has been rolled over from previous year reporting year and will not need to be calculated again.

Operational emissions relating to Cheltenham Borough Council Housing Services are accounted for in Section 2 of this report. With the organisational integration occurring in during 2024/25, further consideration is necessary regarding the:

- a) Approach to calculating the Cheltenham Borough Council & Cheltenham Borough Council Housing Services carbon emissions moving forward.
- b) Revising the baseline figures and future assessment to net zero progress across the organisations.

Results:

The carbon emissions detailed in this report have been calculated using the 2024 UK Government GHG Conversion Factors¹. Activity data, from April 2024 to March 2025, is multiplied by the relevant emission conversion factor, to calculate GHG emissions, which is then converted into tonnes of CO₂e. Full emissions breakdown is available in Appendix 1.

Total emissions:

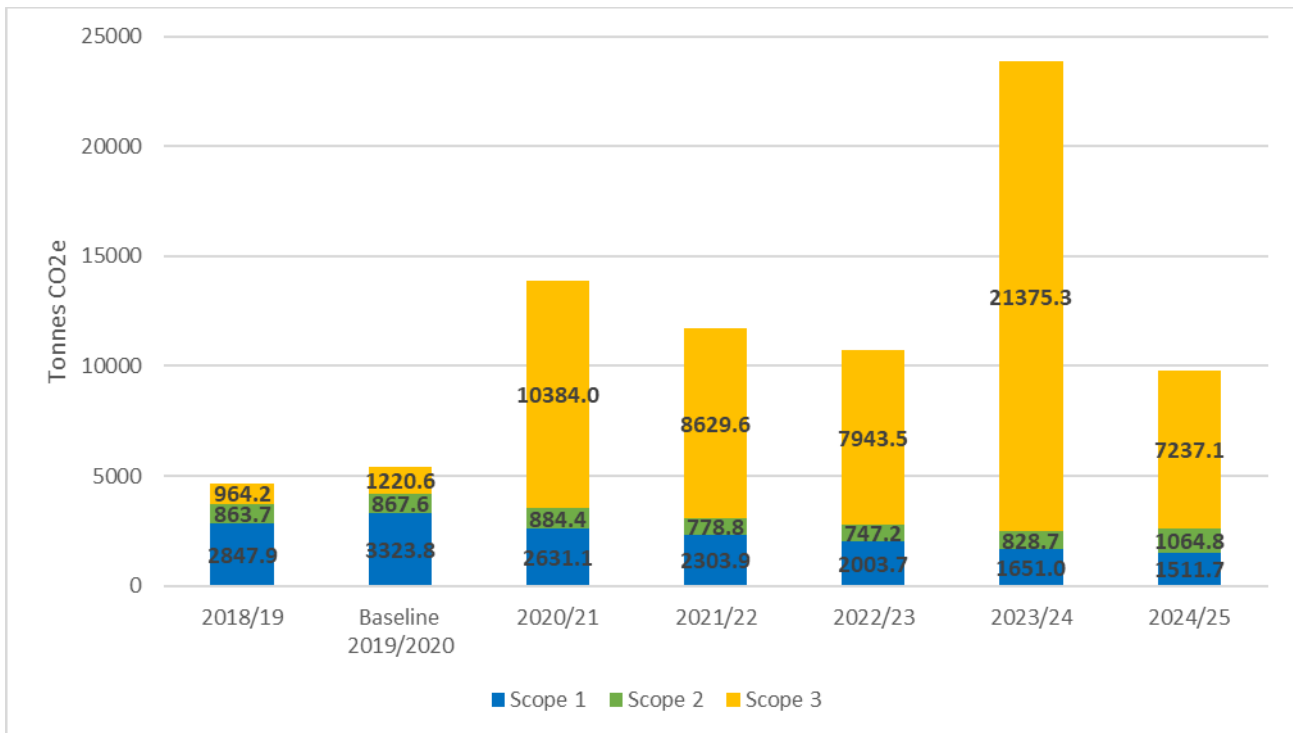


Figure 2: Total emissions from 2018 to 2025.

¹ <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024>
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Scope analysis:

In this section individual scope results will be explored.

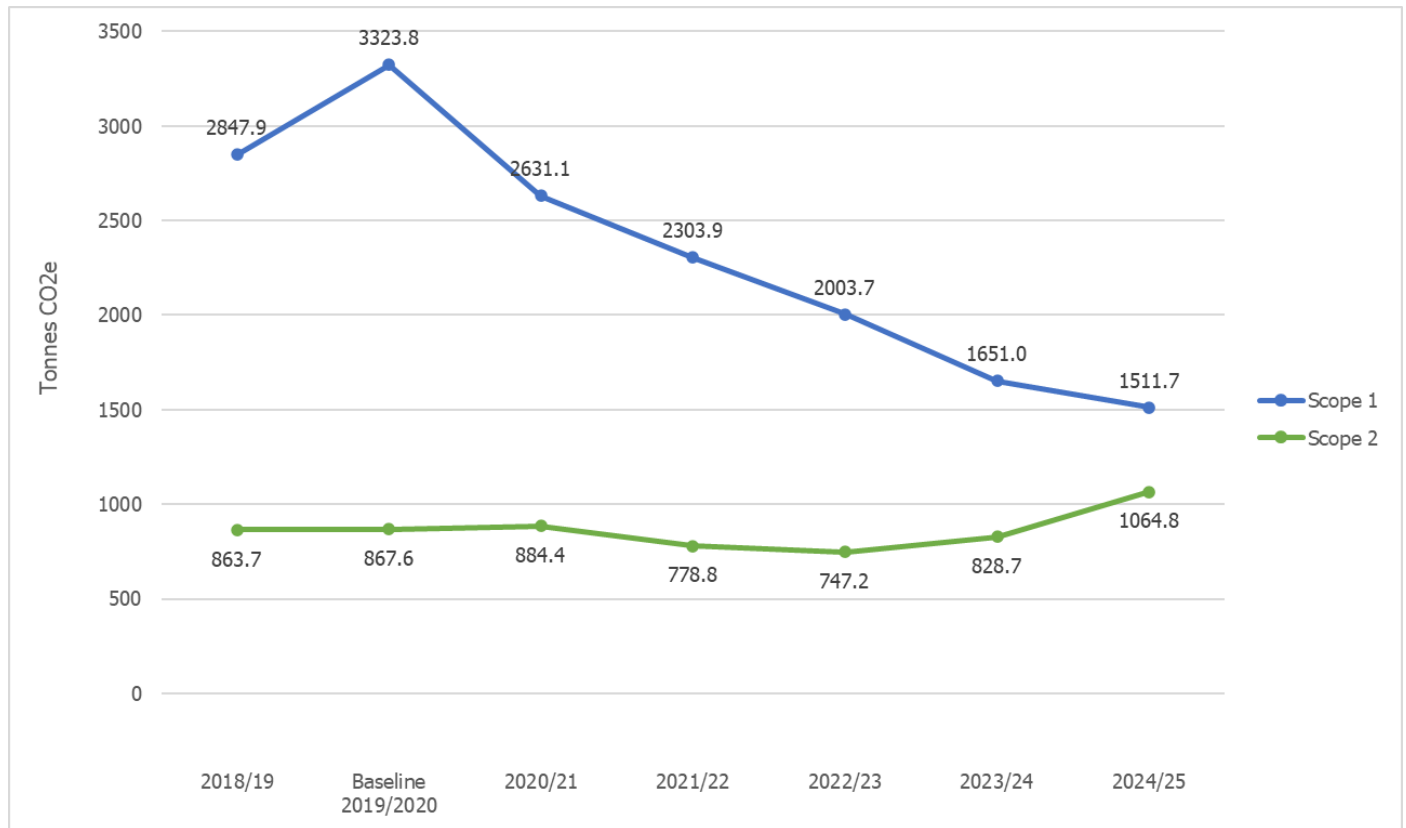


Figure 3: Scope 1 & 2 comparison from 2018 to 2025.

Scope 1:

Table 3: Source specific breakdown for change in Scope 1 emissions, comparing against prior year in tCO2e and percent, rounded to 2 significant figures.

Emission source	tCO2e compared to previous year	Percentage change compared to previous year
Council gas	+47.74	+19%
Council fleet diesel	+0.35	+3%
Council fleet petrol	-1.45	-16%
Council HVO	+0.05	+93%
Cheltenham Trust gas	-28.44	-3%
Ubico & Depot gas	-39.64	-34%
Ubico & Depot fleet diesel	-47.23	-22%
Ubico & Depot fleet petrol	+1.03	+6%
Ubico HVO	+0.66	+7%
Miscellaneous Properties Gas	0.00	-100%
Total Scope 1	-139.31	-8%

Table 4: Source specific breakdown for change in Scope 1 emissions, comparing against baseline year in tCO2e and percent, rounded to 2 significant figures.

Emission source	tCO2e Compared to baseline year	Percentage change Compared to baseline year
Council gas	-72.79	-20%
Council fleet diesel	+2.15	+21%
Council fleet petrol	-10.38	-57%
Cheltenham Trust gas	-372.55	-29%
Ubico & Depot gas	-25.81	-25%
Ubico & Depot fleet diesel	-1228.18	-88%
Ubico & Depot fleet petrol	-5.41	-23%
Ubico & Depot gas oil	-80.26	-100%
Miscellaneous properties gas	-29.67	-100%
Total Scope 1	-1812.08	-55%

The total of all scope 1 emission sources is 1511.7 tCO2e, this is a decrease of 139.3 tCO2e compared to 2023/24 and 1812.1 tCO2e compared to the baseline year (Table 3&4). Specific reasoning for material decreases are as follows:

- The Building Management System is a standardised approach, which is centrally controlled, remotely setting all key systems including lighting, heating, and water temperatures The Building Management System is now starting to see the return on investment. With efforts being put into refining the use of the system, it will continue to contribute towards significant improvements of energy efficiency resulting in a decrease in gas consumption across the property portfolio.
- The vehicles which transitioned to hydrotreated-vegetable oil (HVO) fuel and electrification have been operational for the full reporting year. An 88% reduction in emissions are evident for Ubico diesel emission when compared to the baseline year.
- A change in occupancy and use at CBC owned sites will result in varying energy consumption. Whilst this contributes to a higher carbon emission for this category, it also indicates that properties are being utilised.
- There were no miscellaneous gas consumptions to account for this year, however this is likely to change next year.

Scope 2:

Table 5: Source specific breakdown for change in Scope 2 emissions, comparing against prior year in tCO2e and percent, rounded up to 2 significant figures.

Emission source	tCO2e compared to previous year	Percentage change compared to previous year
Council electricity	+205.3	+128%
Cheltenham Trust electricity	+75.6	+15%
Ubico electricity	+22.9	+37%
Recharged properties electricity	-7.4	-42%
Miscellaneous properties not included Electric	-60.3	-79%
Total scope 2	+236.1	+28%

Table 6: Source specific breakdown for change in Scope 2 emissions, comparing against baseline year in tCO2e and percent, rounded up to 2 significant figures.

Emission source	tCO2e compared to baseline	Percentage change compared to baseline
Council electricity	+128.7	54%
Cheltenham Trust electricity	+69.5	13%
Ubico electricity	11.0	-12%
Recharged properties electricity	5.6	-35%
Miscellaneous properties not included Electric	Not previously included	Not previously included
Total scope 2	+181.6	+21%

Relative to the baseline, overall electricity has increased 21% and increased 28% compared to the prior year (Table 5&6), now totalling 1064.82 TCO2e. Comments on the individual electricity uses are:

- Electricity purchased from Bryt is supplied by renewable sources such as wind, bioenergy, photovoltaic and hydropower from the UK and Europe. This is backed by Renewable Energy Certificates and Renewable Energy Guarantees of Origin certificates. The figures presented are calculated on the 'location based' basis, which use grid-averages to present full emissions. If a 'market based' reporting method was adopted, emissions relating to electricity purchased from Bryt would be 0 tCO2e². However, the only way to ensure zero-emission electricity is to consume electricity directly sourced from 'own generation' renewables such as solar panels or a physical connection to local generation projects for example.

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/850130/Env-reporting-guidance_inc_SECR_31March.pdf

- When considering the actions needed to decarbonise CBC’s portfolio, this heavily relies on large scale electrification of activity, moving away from gas. In the absence of CBC’s own generation or a direct supply of renewable electricity, this relies on the decarbonisation of the national electricity grid. It is reported³ that a fully decarbonised power system is possible by the year 2035, however current rates of delivery and deployment of infrastructure need to be accelerated.
- The increased use of CBC owned sites by staff, and the community has resulted in an increase consumption of electricity.
- There are a number of electricity meters included this year which are new and therefore have not been accounted for previously.

Scope 3:

Table 7: Source specific breakdown for change in Scope 3 emissions comparing against prior year in tCO2e and percent, rounded up to 2 significant figures.

Emission source	tCO2e compared to previous year	Percentage change compared to previous year
Mileage claims	No change	No change
Rail travel	No change	No change
Council electricity (T&D ⁴)	+32.27	+133%
Miscellaneous (T&D)	+5.19	+79%
Twinning travel	NA	NA
Commuting	-31.21	-19%
Waste	-0.09	-64%
Water from Council properties	-6.31	-47%
Cheltenham Trust electricity T&D	+7.64	+17%
Recharged properties electricity T&D	-0.62	-41%
Ubico electricity (T&D)	+2.14	+40%
Purchasing of goods & services	-14121.29	-67%
50% airport emissions from ground operations	No change	No change
Total scope 3	-14138.2	-66%

³ <https://www.theccc.org.uk/2023/03/09/a-reliable-secure-and-decarbonised-power-system-by-2035-is-possible-but-not-at-this-pace-of-delivery/#:~:text=Since%202010%2C%20emissions%20from%20electricity,electric%20vehicles%20and%20heat%20pumps.>

⁴ T&D refers to emissions related to transmissions and distribution of electricity. This accounts for the large-scale movement of electricity at high voltage levels from a power plant to a substation. Whereas power distribution is the conversion of high voltage electricity at substations to lower voltages that can be distributed and used. (<https://www.iec.ch/energies/transmission-distribution#:~:text=Power%20transmission%20is%20the%20large,%2C%20public%2C%20and%20industrial%20customers.>)

Table 8: Source specific breakdown for change in Scope 3 emissions comparing against baseline in tCO2e and percent, rounded up to 2 significant figures.

Emission source	tCO2e compared to baseline	Percentage change compared to baseline
Council mileage claims	-5.61	-34%
Council rail travel	-0.22	-49%
Council electricity (T&D)	+12.3	+62%
Miscellaneous (T&D)	Not previously included	Not previously included
Twining travel	NA	NA
Commuting	-96.5	-42%
Waste	Not previously included	Not previously included
Water from Council properties	+8.16	+19%
Cheltenham Trust electricity T&D	-0.43	-32%
Recharged properties electricity T&D	-0.61	-8%
Ubico electricity (T&D)	-0.61	+788%
Purchasing of goods & services	+6159.15	-54%
50% airport emissions from ground operations	-57.76	-19%
Total scope 3	+6016.5	+493%

The methodology used to measure scope 3 emissions been updated to improve accuracy, resulting in an increase in emissions (Table 7). Although a decrease in emissions from the previous year and increase from the baseline year is evident, it is important to consider the various changes in calculating activity and emissions. Notable changes are:

- Compared to the baseline, procurement (purchasing of goods and services) emissions have increased a material amount. The figure used in the baseline year had been rolled over from 2018/19. This, however, only included approximately 16% of CBC's total expenditure.
- A carbon calculating tool, devised by Newport City Council and shared within a regional best practice group, has been utilised for this reporting year.
- Using Standard Industrial Classification (SIC) codes, product categories have been devised which have an associated specific emission factor. Each pound of council expenditure has been allocated to a category, which has totalled the procurement emission total.
- This process is entirely based on monetary value and does not account for the specific emissions associated with each specific contract. Under this scheme, the only way, therefore, to report a reduction in emissions, is to reduce the total annual spend.
- There has been approximately £3.7 million less expenditure accounted for in this reporting year compared to 2023/24.

- Previously reported commuting emissions from Housing Services and CBC staff have been merged to reflect the total number of staff and to ensure the emissions are comparable.

Looking forward:

- Projects are underway to improve the energy efficiency at the leisure centre, these include heat retention pool covers and LED lighting which will result in a reduction of energy.
- UKSPF has been allocated towards decarbonisation feasibility studies for the leisure centre, and this will outline the steps for addressing emission reduction across scope 1 and 2 emissions, alongside a robust plan to address mitigation of any residual emissions.
- Funding needs to be secured to enable the capital works & additional decarbonisation studies to take place.
- To develop a supplier-engagement approach that allows for a detailed, segmented analysis of our Scope 3 supply chain emissions, starting with the Council's highest spending areas.
- With Housing Services now combined to form one organisation, it is recommended that for the reporting year 2025/26, careful consideration is taken to revise the baseline and previous emissions calculated.

Appendix 1:

Scope 1 emission source	2024/25 tCO2e	2023/24 tCO2e	2022/23 tCO2e	2021/22 tCO2e	2020/21 tCO2e	Baseline 2019/20 tCO2e	2018/19 tCO2e	% change from baseline	% change from 23/24
Council gas	294.25	246.51	268.22	320.73	347.13	367.04	355.2	-20%	+19%
Council fleet diesel	12.5	12.15	17.70	10.95	14.53	10.35	28.2	+21%	+3%
Council fleet petrol	7.84	9.29	7.74	14.50	1.19	18.22	7.1	-57%	-16%
HVO	0.12	0.06	NA	NA	NA	NA	NA	NA	+93%
Cheltenham Trust gas	926.4	954.83	995.59	826.90	882.04	1298.94	1246.0	-29%	-3%
Ubico & Depot Gas	75.6	115.26	77.55	106.79	102.34	101.43	186.5	-25%	-34%
Ubico & Depot fleet diesel	166.2	213.47	589.86	868.47	1,125.37	1394.41	970.3	-88%	-22%
Ubico & Depot fleet petrol	18.1	17.04	15.24	21.35	26.85	23.48	27.7	-23%	+6%
Ubico fleet HVO	10.7	10.03	4.65	NA	NA	NA	NA	NA	+7%
Ubico & Depot gas oil	75.6	0	3.55	118.93	101.96	80.26	26.9	-100%	-100%
Miscellaneous properties - gas	0	72.37	23.59	15.33	29.67	29.7	NA	-100%	-8%
Total scope 1	1511.7	1,651	2,003.7	2,303.9	2,631.1	3,323.8	2,847.9	-55%	+19%

Scope 2 emission source	2024/25 tCO2e	2023/24 tCO2e	2022/23 tCO2e	2021/22 tCO2e	2020/21 tCO2e	2018/19 tCO2e	% change from baseline	% change from 23/24
Council electricity	365.1	159.84	138.35	190.52	158.65	220.4	54%	+128%
Cheltenham Trust electricity	589.7	514.14	491.96	483.24	441.95	524.8	13%	+15%
Ubico electricity	84.2	61.23	96.93	71.26	75.46	105.1	-12%	+37%
Recharged properties electricity	10.2	17.62	5.73	9.25	10.91	13.5	-35%	-42%
Misc. Properties - Electric	15.61	75.90	14.23	24.55	197.46	NA	NA	-79%
Total scope 2	1064.81	828.7	781.8	778.8	884.4	863.7	+21%	+28%

Scope 3 emission source	2024/25 tCO2e	2023/24 tCO2e	2022/23 tCO2e	2021/22 tCO2e	2020/21 tCO2e	2018/19 tCO2e	% change from baseline	% change from 2023/24
Council mileage claims	10.8	10.79	10.52	7.60	5.87	18.0	-34%	No change
Council rail travel	0.2	0.24	0.10	0.00	0.00	0.6	-49%	No change
Council electricity (T&D)	32.3	13.83	12.55	16.86	13.64	18.8	+62%	+133%
Misc. (T&D)	1.38	6.57	1.30	2.17	16.98	NA	NA	-79%
Twinning travel	NA	1.73	0	0	0	6.1	NA	NA
Commuting	134.7	165.89	246.49	74.0	38	61.7	-42%	-19%
Waste	0.05	0.14	0.07	1	NA	NA	Not previously included	-64%
Water from Council properties	7.0	13.35	6.09	4.24	8.47	NA	+19%	-47%
Cheltenham Trust	52.1	44.48	45.00	42.8	38.0	44.7	-32%	+17%

electricity T&D								
Recharged properties electricity T&D	0.9	1.52	0.52	0.8	0.9	1.2	-8%	-41%
Ubico electricity (T&D)	7.4	5.30	8.87	6.3	6.5	9.0	+788%	+40%
Purchasing of goods & services	6941.2	21062.44	7,566.86	8441.0	10210.0	782.0	-54%	-67%
50% airport emissions from ground operations	49.04	49.04	45.02	32.9	45.9	22.2	-19%	No change
Total scope 3	21375.3						+484%	-66%
	7235.7		7,943.49	8,629.6	10,384.0	964.2		
Total 1, 2 and 3 scopes	9,813.62	23,855.06	10,694.39	11,712.4	13,899.5	4,675.8	+61	-59%