



Environment and Sustainability Panel

Item

9

21st September 2023

Report of	Climate Emergency Project Officer	Author	Ben Plummer
Title	Colchester City Council emissions – Draft figures for Financial year 2022/2023		
Wards affected	Not applicable		

1. Executive Summary

- 1.1 As part of the Council's climate emergency declaration, a target was set to reach carbon neutrality for Council services and operations by 2030. The Council monitors and annually reports on its emissions, and this report contains information on emissions from the 2022/23 financial year.
- 1.2 Figures are being finalised for 2022/23, but a provisional total figure for emissions in this year is 5491.81 tonnes of CO₂e. A full greenhouse gas report will be published in late Autumn 2023 to show the finalised figures and analysis of the results.
- 1.3 The Council is now creating a Carbon Management Plan to identify actions to reduce emissions from the Council's buildings, with the plan containing overall upfront costs, cost savings, greenhouse gas emission savings, timescales and possible funding routes for each action.
- 1.4 The Council is also beginning a project with Anthesis to understand more about the costs and level of resource required to develop and monitor offsetting projects. The Council will have a proportion of emissions it will not be able to reduce, so it is important that the Council understand and can plan for how it will achieve carbon neutrality which will include a contribution from offsetting.

2. Recommended Decision

- 2.1 The Panel note this report detailing the Council's emissions, and are encouraged to ask questions about how carbon emissions have been calculated and reasons for any changes in emissions between financial years. As detailed in the report, values for emissions may differ slightly between this report and the finalised published Greenhouse Gas Emissions report as data is queried.

3. Reason for Recommended Decision

- 3.1 The report is for information only.

4. Alternative Options

- 4.1 Not applicable

5. Background Information

Council emissions

- 5.1 As part of monitoring progress towards achieving the carbon neutral target by 2030 for Council operations, the Council records and publishes its emissions for each financial year annually. The Council re-established a calculation of its emissions in financial year 2018/19. This was set as the 'baseline year' after the declaration of the climate emergency, with progress measured in reducing emissions from this year.
- 5.2 The Council reports its emissions in the unit, tonnes of CO₂ equivalent (tCO_{2e}). There are a range of different greenhouse gas emissions from Council operations including carbon dioxide (CO₂), methane, nitrous oxides and more. All greenhouse gas emissions have different '[global warming potentials](#)', which quantifies how much each of them contribute to warming (i.e. their varying ability to trap heat). CO₂ is the most abundant greenhouse gas and thus the global warming potential of all greenhouse gases are equilibrated to that of CO₂ to make reporting easier.
- 5.3 The Council calculated its emissions using [emission conversion factors](#) provided by Government. These conversion factors are embedded within the free bespoke [Greenhouse Gas Accounting Tool](#) for local authorities produced by consultant [Local Partnerships](#) which the Council uses for its emissions reporting.
- 5.4 The Council reports its emissions in the form of different 'scopes', as set out in the [Greenhouse Gas Protocol](#), an internationally recognised standard for measuring emissions. These scopes are defined below:
- Scope 1: These are direct emissions arising from activities of an organisation, including fuel consumption on site, including that from gas boilers and fuel used in fleet vehicles.
 - Scope 2: These are indirect emissions produced from electricity that is purchased and used by the organisation. The emissions are generated during the production of this electricity which is then used by the organisation.
 - Scope 3: These are all other indirect emissions from activities of the organisation, but that occur from sources which the organisation does not own or control. Activities included in this scope of the GHG report are staff commuting and business travel, water supply and treatment, waste production, emissions from staff working from home and transmission and distribution losses of electricity from the National Grid.
- 5.5 A summary of the sources of the Council's emissions are provided below:
- **Gas consumption** used for heating Council buildings
 - **Electricity consumption** used within Council buildings
 - **Fugitive emissions** – These are emissions involved with the leakage of refrigerants used in air conditioning units in the Council's buildings. This will be reported on for the first time in financial year 2022/2023.
 - **Fuel consumption** from Council's fleet, staff commuting and business travel. This includes electricity consumption from electric vehicles in the fleet.
 - **Water consumption** in Council buildings/sites – Emissions involved in the supply and treatment of the water that is used.

- **Waste production** from Council building/sites – Emissions involved in the transportation of this waste and its disposal (the latter only for landfill).
- **Working from Home (WFH)** – Estimated emissions associated with gas and electricity consumption used by employees working from home.
- **Transmission and Distribution (T&D) losses** – These are emissions associated with the losses of electricity during its transmission from electrical generation sites to where it is used.

These are all emission sources recorded for reporting on in the Council’s carbon neutral target.

Council’s emissions in 2022/23

5.6 A breakdown of the Council’s emissions as recorded for financial year 2022/23 is shown in table 1 and figure 1. Figure 2 shows progress in reducing the Council’s emissions since the baseline financial year of 2018/19.

Table 1: Council greenhouse gas emissions recorded for financial year 2022/2023

Emission source	Emissions in financial year 2022/23 in tonnes of CO ₂ equivalent (% of total)	Scope of reporting
Gas	2658.71 (48.4%)	Scope 1
Electricity	814.49 (14.8%)	Scope 2
Fugitive emissions	To be calculated	Scope 1
Fleet	1354.9 (24.7%)	Scope 1
Commuting	41.62 (0.8%)	Scope 3
Water	32.32 (0.6%)	Scope 3
Business travel	26.66 (0.5%)	Scope 3
Waste	254.63 (4.6%)	Scope 3
Working from home	233.18 (4.2%)	Scope 3
Transmission and Distribution losses	75.30 (1.4%)	Scope 3
Total	5491.81	N/A

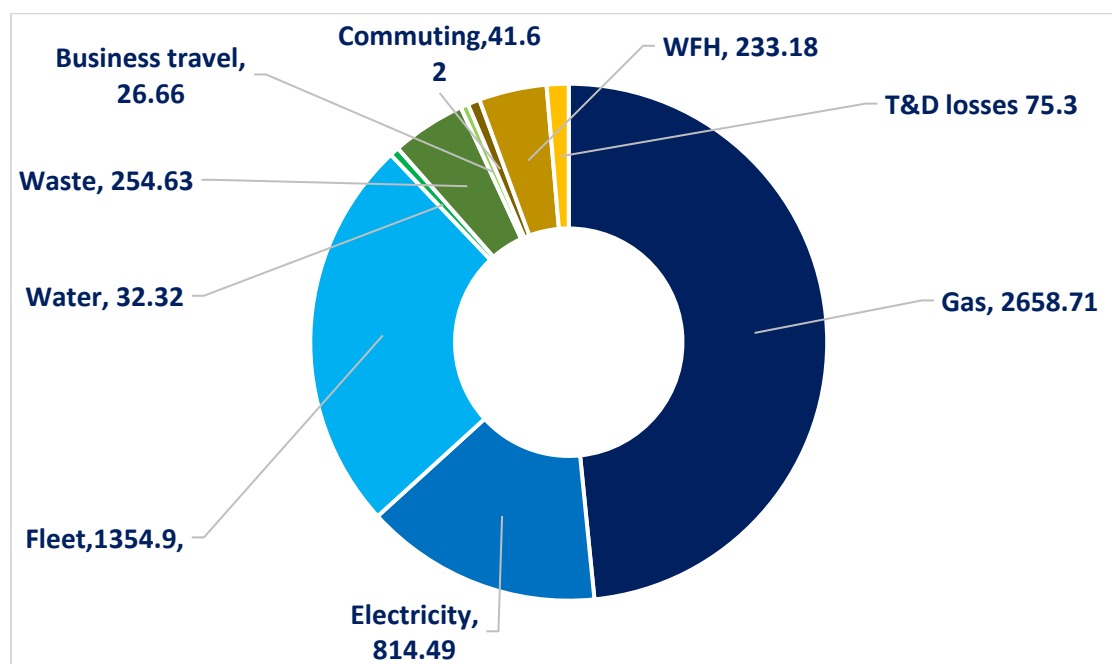


Figure 1: A breakdown of the Council’s emissions in financial year 2022/23, with emissions in tonnes of CO₂e outlined, along with each emission source contribution as a percentage.

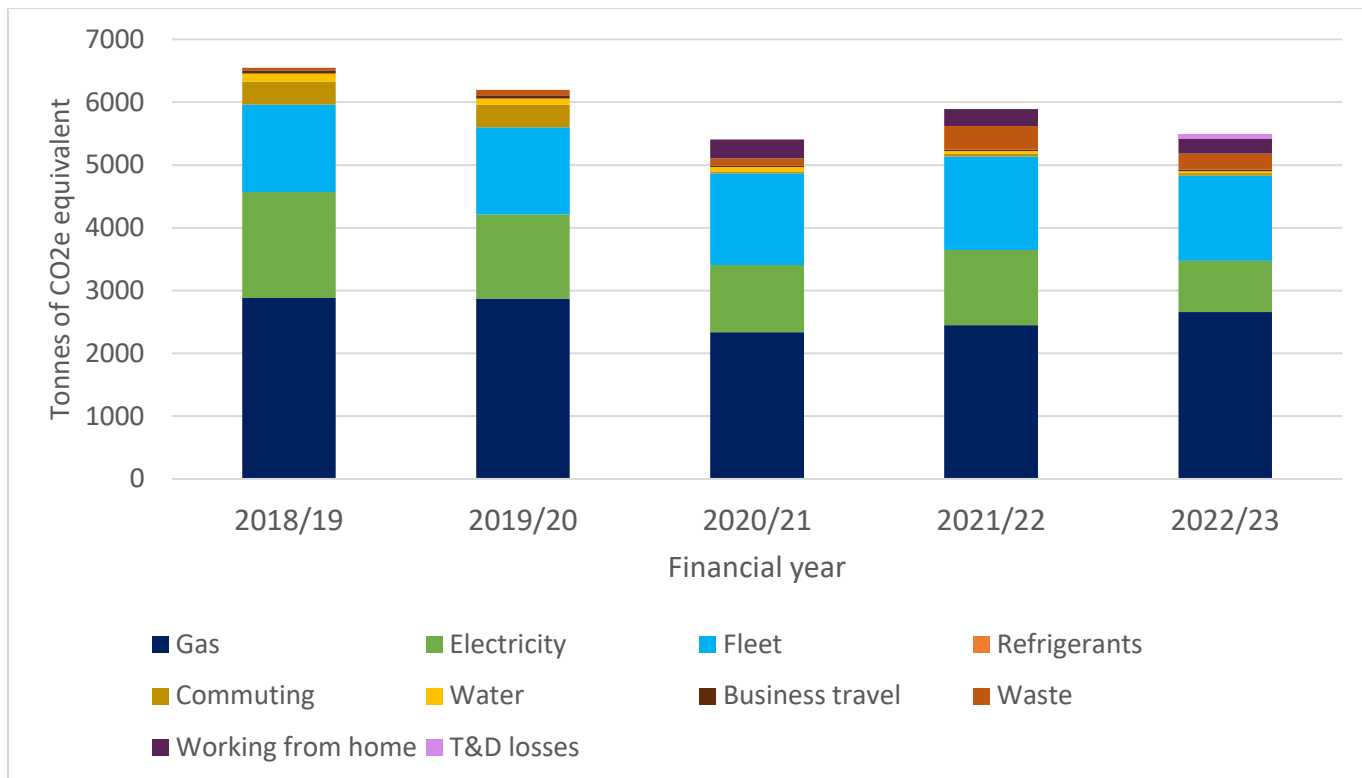


Figure 2: Council's greenhouse gas emissions over the last five financial years that are included in the Council's carbon neutral target.

5.7 It should be noted that the figures for financial year 2022/23 are subject to change while some queries around energy consumption data in this year are resolved. A full greenhouse gas emissions report will be published in late Autumn 2023 confirming final figures to be reported for this financial year.

Initial analysis of results

5.8 As shown in figure 2, the Council's emissions have decreased by approximately 6.7% in 2022/23 compared to 2021/22. An explanation of some of the key reasons for this are explained below:

- Misreporting of electricity calculations** – In previous years, a portion of the electricity consumption at Leisure World had been double counted. This is because although electricity consumption at this site comes from the Grid and rooftop Solar PV, a portion also comes from electricity produced from a combined heat and power (CHP) unit on site. This unit is fuelled by gas and acts like a mini generator to produce electricity for heating pumps and air handling units, whilst also producing heat as a by-product to be used. In previous years, emissions associated with electricity produced by the CHP was being linked to the gas used by the CHP **and** emissions produced from electricity from Grid, hence a double counting of emissions. In 2022/23, 1,417,220 kWh of electricity were produced from the CHP, which would equate to 274.06 tonnes of CO₂e if from the grid. Essentially this figure is a reduction made on the Council's emissions in 22/23, which was being over-reported in previous years.
- Decarbonisation of the electricity grid** – Year on year, the proportion of electricity produced from the national grid by renewable energy is increasing, meaning a reduction in emissions associated with electricity consumption. Between financial years 2021-22 and 2022-23, approximately 80 tonnes of carbon has been reduced from the decarbonisation of the electricity grid, based on the electricity consumption used by CCC.

- **Electrification of the fleet** – In early 2022, the Council procured six electric vans alongside the five electric vehicles used in the North Essex Parking Partnership fleet and the four hybrid vehicles used by Helpline. These were the first electric vehicles the Council had got, and hence the first time the difference they made to vehicle emissions recorded in 2022/23. It was calculated that the emissions saved by the electric and hybrid vehicles was approximately 31.1 tonnes of CO₂e. This was calculated by comparing the emissions produced by these electric and hybrid vehicles in 2022/23 (based on their mileage), with the emissions associated with the same mileage if completed in equivalent diesel vehicles.
- 5.9 However, in 2022-23, several buildings have been shut or added to the Council's portfolio which leads to fluctuations in emissions between financial years. For example, Rowan House, the Council's main office, was shut for the whole of financial year 2022-23 while it was refurbished. New buildings to be added to reporting for 2022-2023 included the temporary usage of the Gosbecks Road Office, alongside a full year of reporting for the Colchester SportsPark which was reported on in 2021-22 (but not for the full financial year).

Carbon Management Plan

- 5.10 The Council will now be progressing on to creating a Carbon Management Plan to help identify further actions to reduce greenhouse gas emissions produced in the Council's buildings. Work has been continuing to collect data on each of these possible actions to identify upfront costs, energy and cost savings, greenhouse gas emission savings, timescales for implementation and possible ways to fund these actions.
- 5.11 For example, phase 2 of the Government's Swimming Pool Support Fund being administered by Sport England will open for applications in October 2023, which will fund energy efficiency and decarbonisation works. The Council are preparing an application to fund works at Leisure World which include a water filtration system, pool covers, 'smart' motors and LED lighting improvements. The Council is also expecting to prepare a bid to the Government's Public Sector Decarbonisation Scheme for funding to contribute to the installation of a low carbon heating system and LED lighting for the Natural History Museum.
- 5.12 The plan will aim to have several project ideas developed for consideration for investment in 2024/25 capital budgets, plus further aspirational projects for potential implementation in future years. The Council will present a copy of this plan to the Environment and Sustainability Panel at the next meeting on 6th December 2023.

Carbon Offsetting

- 5.13 The Council will attempt to reduce emissions from its estate and operational activities as much as possible, but there will be a proportion of residual emissions remaining that cannot be eliminated. This will be for a variety of reasons including economic unviability (e.g. high costs to retrofit some of the Council's historic buildings) and lack of technical feasibility. Therefore, in order to reach our carbon neutral target, the Council will need to invest in opportunities to help offset emissions. This means that the Council will have to either develop its own projects to offset emissions or invest in existing projects that are reducing greenhouse gas emissions in order to claim carbon savings.
- 5.14 Over the last two years, [Anthesis Group](#), a sustainability consultancy, have been developing a framework to facilitate the development of local projects that can help reduce greenhouse gas emissions through offsetting to receive funding. The framework is called '[Area Based Insetting](#) (ABI)' and has been set up to enable organisations like

local authorities to either; develop projects for offsetting that need top up funding to enable them to happen, or contribute top up funding to emission saving projects in their locality to help reach carbon targets.

5.15 The Council will be working with Anthesis between September 2023 – April 2024 to build a suggested approach for the Council to develop and/or invest in offsetting. This will include:

- Identifying the costs and resource required to implement, monitor and verify projects that deliver emission savings for offsetting through different offsetting mechanisms (such as the voluntary carbon market, regulated market, through ABI).
- Understanding how the Council can get involved in the ABI framework to either fund or develop projects for offsetting.
- Developing ideas for offsetting projects that are validated by Anthesis to identify opportunities for carbon saving and check they meet recognised offsetting principles of additionality (i.e. project wouldn't happen without top up funding), permanence (i.e. once carbon savings are achieved they cannot be reversed) and verification (i.e. can carbon savings be monitored effectively). This aims to then give confidence into developing these ideas into projects that the Council can use for its offsetting.

5.16 This work will include engagement with staff within CCC along with other local authorities in Essex and partner organisations like the University of Essex to help share knowledge on local offsetting and potentially identify shared opportunities for investing in offsetting projects locally. A final presentation of results will be shared with councillors, with an aim that a meeting is arranged for this in March/April 2024.

6. Equality, Diversity and Human Rights implications

6.1 There are no equality, diversity and human rights implications of the report.

7. Strategic Plan References

7.1 This report directly links to the Strategic Plan 2023-2026 theme of 'Respond to the climate emergency'.

8. Consultation

8.1 There are no consultation considerations.

9. Publicity Considerations

9.1 There are no publicity considerations.

10. Financial implications

10.1 There are no financial implications of this report. Financial implications involved in the implementation of actions to be in the forthcoming Carbon Management Plan will be discussed with the Finance team as appropriate.

11. Health, Wellbeing and Community Safety Implications

11.1 There are no direct health, wellbeing and community safety implications of this report.

12. Health and Safety Implications

12.1 There are no health and safety implications.

13. Risk Management Implications

13.1 There are no risk management implications.

14. Environmental and Sustainability Implications

14.1 The report details how the Council is reducing greenhouse gas emissions from its operations and assets, and how some of these will have positive co-benefits such as cost savings (from reducing energy consumption) and improvements in air quality (from reducing use of fossil fuel vehicles). Further actions to reduce emissions will be outlined in the forthcoming Carbon Management Plan, alongside work to understand the need and opportunities for offsetting which will be identified through work on carbon offsetting that is being completed with Anthesis Group.