

29 November 2022

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| Report of | Assistant Director of Place and Client Services | Author | Ben Plummer ☎ 508965 |
| Title | Carbon Management Plan and the Council's emissions | | |
| Wards affected | Not applicable | | |

1. Executive Summary

- 1.1 As part of the Council's climate emergency declaration, a target was set to reach net zero emissions 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 2021/22 financial year.
- 1.2 The Council has also been working with Ingleton Wood to identify new actions that can be taken to help reduce emissions within 6 key corporate assets, alongside Colchester Arts Centre which the Council owns but leases out. Ingleton Wood have conducted building surveys in each of these assets, alongside speaking to key staff that operate in each building to understand options and actions for reducing emissions and increasing energy efficiency in these buildings. This has resulted in them producing a Heat Decarbonisation Plan for each asset, which will outline options for decarbonising each building with ballpark costs, energy savings, payback time and emission savings outlined.
- 1.3 This report outlines how the Council will take forward the options outlined in the Heat Decarbonisation Plans, with the main headline being that a report summarising the findings of the Heat Decarbonisation Plans will be brought to the Environment and Sustainability Panel on 31st January 2023.
- 1.4 With rising energy bills, there is an even greater mandate for increasing energy efficiency with the opportunity to deliver greater cost savings as well as contributing to reducing emissions. However, this work must be situated within the wider picture of the development and use of CBC assets, alongside the financial constraints faced by the Council.

2. Recommended Decision

- 2.1 The panel note the contents of the report recognising the need to reduce emissions and increase the energy efficiency of Council buildings, but that this will have to be financed and decisions taken in the context of the future use of Council buildings.

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 net zero 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 (tCO₂e). 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 (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.
- 5.2 A summary of the sources of the Council's emissions are provided below:
- **Gas consumption** used for heating Council buildings (and estimations produced associated with working from home)
 - **Electricity consumption** used within Council buildings (and estimations produced associated with working from home). Electricity consumption from the Council's fleet will be reported on from financial year 2022/23 onwards as some electric vehicles started to be introduced.
 - **Fuel consumption** from Council's fleet, staff commuting and business travel
 - **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).
- 5.3 A breakdown of the Council's emissions as recorded for financial year 2021/22 is shown in the below table and figure 1.

| Emission source | Emissions in financial year 2021/22 (tonnes of CO ₂ equivalent) |
|---|---|
| Gas (including working from home) | 2695 |
| Electricity (including working from home) | 1218.2 |
| Fleet | 1490.3 |
| Commuting | 44.7 |
| Water | 39.3 |
| Business travel | 22 |
| Waste | 337.6 |
| Total | 5887.2 |

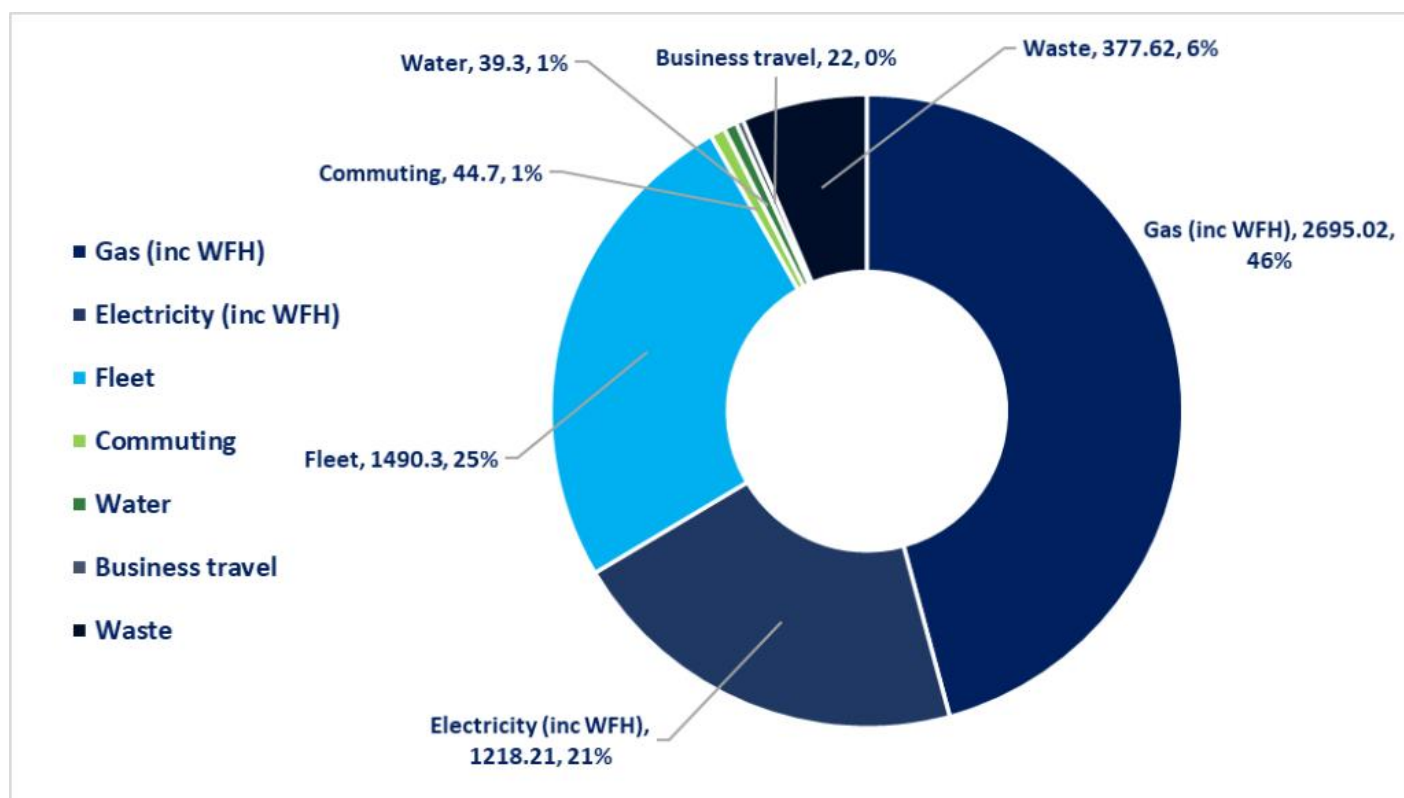


Figure 1: A breakdown of the Council's emissions in financial year 2021/22, with emissions in tonnes of CO₂e outlined, along with each emission source contribution as a percentage.

- 5.4 Calculating an estimation of emissions associated with working from home is something the Council has been doing since financial year 2020/21. The [open source methodology](#) produced by EcoAct consultancy has been used to do this, using a staff questionnaire to get more refined data on working from home patterns and use of heating and electricity at home.
- 5.5 The figures for the Council's emissions in financial year 2021-22 reflect an 8.9% increase since those recorded in financial year 2020-21. However, in financial year 2020-21, many of the Council's buildings were closed for long periods meaning emissions from these were much lower than to be expected. The figure of 5887.2 tCO₂e represents a 4.3% decrease in emissions compared to those recorded prior to the covid-19 pandemic in financial year 2019/20.
- 5.6 Overall progress in reducing emissions since financial year 2018/19 is shown in figure 2. This shows an overall 10.1% decrease in emissions since financial year 2018/19.

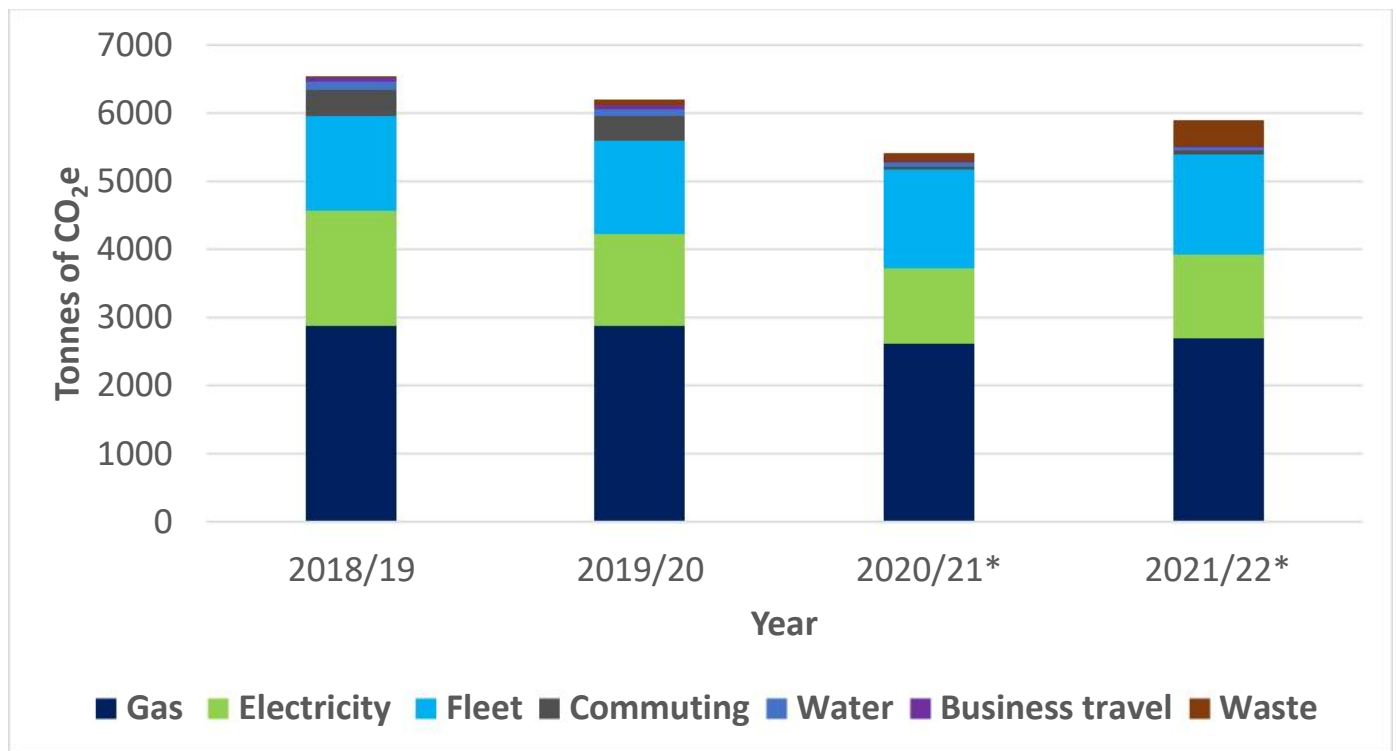


Figure 2: A breakdown of the Council's emissions recorded since financial year 2018/19. The asterisk (*) indicates years where working from home emissions have been calculated and included within the overall Council emissions calculations.

- 5.7 As can be seen from figure 2, there is a notable increase in emissions from waste in more recent years. This is not because of an increase in actual waste produced, instead it is mainly because of a change to the waste to landfill emission factors provided by the UK Government, which increased substantially between reporting years 2019 and 2020. The explanation for why this emission factor changed is based on a change to the methodology for calculating the emission factor for waste to landfill. This can be viewed [here](#) (page 26).

Heat Decarbonisation Plans

- 5.8 The Council has been working with Ingleton Wood to identify actions that could be taken to reduce the emissions produced from several Council buildings. Heat decarbonisation plans have been produced for each building. These plans are a strategic document outlining a 'whole building' approach, to transitioning a building to a low carbon heating system, alongside relevant opportunities to increase energy efficiency that will facilitate this transition.
- 5.9 The assets that have had Heat Decarbonisation Plans written for them are:
- Leisure World Colchester
 - Colchester Town Hall
 - Colchester Crematorium
 - Natural History Museum
 - Hollytrees Museum
 - Colchester Castle Museum
 - Colchester Arts Centre – Colchester Arts Centre is a building that the Council owns and leases out to the Arts Centre. It was included in this work for Ingleton Wood, as the Council is responsible for maintaining the heating system in this building and the current heating system was reaching the end of its life. Therefore, the opportunity was

taken to explore looking at the possibility of introducing a low carbon heating system into the building, especially as there was Government grant funding available that could partly contribute to this.

- 5.10 Ingleton Wood completed site surveys at each of the assets and spoke to each of the building owners to discuss the current and potential future operation of the buildings. This enabled them to make informed proposals for energy saving and decarbonisation opportunities at each of the buildings, considering the wider context of how the buildings were operated.
- 5.11 The Council only received these Heat Decarbonisation Plans for each of the assets in mid-November 2022 and can therefore not provide a summary of the findings in this report. However, it can be outlined that each Heat Decarbonisation Plan includes the following content:
- Options for decarbonising the heating system of each building
 - Opportunities to increase the energy efficiency of each building (e.g. insulation), or produce other cost savings (e.g. solar PV)
 - Costs of all decarbonisation and energy efficiency opportunities, including cost savings, carbon savings and payback times for each measure taken.
 - Further considerations of upgrades that could be made to each building that could supplement other decarbonisation and energy efficiency opportunities outlined e.g. sub-metering of buildings to provide increased data to better inform the potential for opportunities to save energy in CBC buildings.
- 5.12 The Council will review the findings of each heat decarbonisation plan with the different building owner/operator, alongside reviewing with other staff to determine which opportunities and actions outlined in each plan could be implemented and when. Some actions will be more short term, or have clear payback opportunities so can be budgeted in to happen sooner, whereas others will be complex and will not be implemented immediately. The plans will be reviewed in the wider context of the future for the operation of these CBC assets, alongside how we can consider funding some of these opportunities considering the Council's constrained budget.
- 5.13 The Council will explore opportunities to gain funding to implement some of the measures identified in the heat decarbonisation plans. For example, the Government has been giving the public sector funding for decarbonising heating systems and energy efficiency measures in buildings through the Public Sector Decarbonisation Scheme. The Council received £528,250 of funding through phase 1 of this scheme to contribute towards the retrofit of Rowan House, and has recently made a bid to the scheme to source funding to contribute to the installation of an air source heat pump and underfloor heating system in Colchester Arts Centre, an action fast tracked from the Arts Centre's heat decarbonisation plan so as to access this funding. It is expected there will be a further funding through this scheme coming from Government in 2023, so CBC will look to see if any actions outlined in the heat decarbonisation plans could be funded through this scheme.
- 5.14 The Council plans to bring back an update to the Environment and Sustainability Panel on 31st January 2023, containing information on some of the actions we will be looking to take forward, as well as information that will require further consideration. When works could be completed will depend on a number of factors including impacts on closure of buildings, when any other refurbishment work may be taking place, when future funding might be available to help implement projects. This will limit the amount of information that will be able to be provided at the next Panel meeting, but the report will aim to be as detailed as possible.

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 2020-2023 theme of 'Tackling the Climate Challenge and Sustainability'.

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.

11. Community Safety Implications

11.1 There are no community safety implications.

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 highlights how the Council will need to continue to reduce emissions from its operations and assets. The Council will need to put in a place a new carbon management plan to identify detailed projects and actions the Council can take to reduce emissions from its operations and assets going forward.