

Report to:	Climate and Environment Advisory Committee 21/06/2022
Lead Cabinet Member:	Cllr Brian Milnes
Lead Officer:	Head of Climate, Environment and Waste: Bode Esan

Greenhouse Gas Emissions Accounts for the Council's Estate and Operations, 2021-22

Executive Summary

This report provides the Committee with Greenhouse Gas (GHG) emissions accounts for the Council's estate and operations for 2021-22. It is provided to the committee for information.

Key Decision

1. No

Details

2. Annual GHG emissions accounts for 2021-22 for the Council's estate and operations are provided in **Appendix A**. This is the fourth set of annual GHG emissions accounts produced for the Council. As in previous years, they have been drawn up according to principles and procedures outlined in the latest Environmental Reporting Guidelines issued by the Government's Departments for Environment, Farming and Rural Affairs (DEFRA), and Business Energy and Industrial Strategy (BEIS). As such, they aim to be relevant, quantitative, accurate (insofar as this is practical), complete (with any exclusions specified, disclosed, and justified), consistent, comparable, and transparent.

Overview

3. **Gross emissions totalled 1,667 tCO₂e, a 11.2% reduction from the 2018-19 baseline year.**
4. **Progress towards reduction target**

From the gross data, compared to the baseline year the 2021-22 emissions are lower for all scopes:

- scope 1 – 0.8% decrease in direct emissions
- scope 2 – 38.3% decrease in indirect emissions from electricity

- scope 3 – 39.3% decrease in other indirect emissions (business travel is the only category of scope 3 emissions currently included in our accounts)

5. Scope 1 emissions continue to stay roughly the same.

There has been a decrease in emissions from gas consumption in South Cambridgeshire Hall, which is projected to decrease further with the introduction of a Ground Source Heat Pump (GSHP) due to be completed in 2022. However, there has been an increase in Fleet diesel usage due to a growth in the number of houses served by the waste service. That said, the number of diesel vehicles has stayed the same, and increased efficiency has been implemented to accommodate this increase. There has been a slight decrease in emissions from small sites.

6. Scope 2 emissions have decreased for a second year.

- The greatest decrease in Scope 2 emission has been from the footway LED lighting upgrades (68.1% from baseline levels). This is estimated based on a total of 1,809 lights, with 90 ornate lights, and 88 standard lights awaiting upgrade.
- Emissions from electricity usage at South Cambridgeshire Hall have decreased by 31.2% from baseline levels. This may be due to the ongoing energy efficiency improvement work in the building, and the continuing high levels of staff working from the home, as started during the pandemic.
- Emissions from electricity usage at the Waterbeach Depot have increased due to the charging of Electric Refuse Collection Vehicles (ERCVs). This will reduce the direct CO_{2e} and particulate emissions in the district but increase emissions from electricity generation elsewhere. This is expected to increase as the number of ERCVs grows until provision for on-site renewable electricity is completed.
- Emissions from electricity from small sites have decreased.

7. Scope 3 emissions have increased, but have remained below baseline levels:

- A decrease in mileage in 2020/21 resulted from reduced business travel due to the Covid-19 pandemic. This has now increased again as staff have returned to the office. These figures remain below baseline levels.

8. Avoided emissions from green electricity tariffs

Reporting guidelines advise that emissions from grid electricity usage are calculated and reported using standard grid conversion factors supplied by UK Government. Avoided emissions are included in our net accounts, including the green electricity tariff and the electricity exported to the grid from the Waterbeach Solar PV roof panels (50% as agreed in the Feed in Tariff Terms of Agreement). Avoided emissions from green electricity tariffs have decreased since 2020 – 21. This is due to an overall reduction in electricity usage in South Cambridgeshire Hall and the small sites.

9. An external assurance statement on the accounts was completed by the Council's internal auditors in June 2022. Audit have provided written assurance that all figures used in calculating the tCO₂ reflected the data presented to (the service), and all formulas used were appropriate.

Scope and Assumptions

10. In line with the Guidelines, the accounts include emissions from the estate and operations owned and controlled by the Council. Full details of inclusions and exclusions are included in the report, but the following are highlighted:
11. The baseline year used in these accounts is 1 April 2018 - 31 March 2019. All reductions in emissions are based on this reporting period. For the same period in 2021-22 there has been an overall 11.2% decrease in gross emissions for scope 1 (direct emissions), scope 2 (indirect energy emissions) and scope 3 (other indirect emissions). For the same period in 2020-21, there was an overall 8.8% decrease in gross emissions.
12. In line with standard reporting procedures, GHG emissions avoided are included in a report of the net total in the 2021-22 accounts. These amount to 203.6 tCO₂e (202.3 tCO₂e for the green electricity tariffs and 1.4 tCO₂e for electricity exported to the grid from the solar PV panels on the Waterbeach Depot). Using this data, the Council's total net emissions compared to the baseline year, show a reduction of 22.0%. This remains roughly the same as in 2020/21 (21.9%) as, although the Gross emissions are lower, the total electricity used (and therefore avoided) under the green tariff is also lower.
13. Emissions from the Council's housing stock are excluded because the Council does not control energy use from these properties, (nor does it have access to this data). However, it does include gas (25 small sites) and electricity (85 small sites and two gypsy traveller sites) for external, stairwell and communal areas for community facilities and sheltered accommodation.
14. Emissions from 1,809 streetlights owned by the Council, and defined as 'footway lighting', are included in these accounts, on the grounds that they are owned and controlled by the Council (although energy costs for these are paid for by Parish Councils).
15. **Scope 3 emissions** are defined as those resulting from assets not owned and/or controlled by the reporting organisation, but that the organisation indirectly impacts in its value chain. The reporting of scope 3 emissions is relatively new, and methodologies are still emerging. We currently report only business travel emissions under scope 3, as data for these is readily available. Our current approach is to limit this to the available data.
16. During 2021-22 the Council's small sites switched to a green electricity tariff. Electricity data from two traveller sites (Whaddon and Blackwell) are included in the list of small sites. The solar PV panels on the Waterbeach Depot continue to provide electricity generation. The solar PV panels installed on the roof of South

Cambridgeshire Hall belong to Cambourne Town Council and are therefore not included in SCDC's GHG emission accounts.

17. As in 2020-21, the GHG emission accounts for 2021-22 include 50% (instead of 100% as previously reported) of electricity consumed at the Depot, on the grounds that the service is shared with Cambridge City Council. Accordingly, the CO₂ avoided through the energy generated by the solar PV panels is also split by 50%. This approach is agreed with and shared by Cambridge City Council. In 2020-21 a baseline recalculation was made to provide consistency with previous accounts.
18. The conversion factor used for business mileage classes the fuel type as 'unknown', as has been calculated in previous years. This accounts for the mixture in fuel types expected for a large organisation.
19. The Local Government Association (LGA) has produced an accounting tool to help councils to calculate their GHG emissions. Although a useful tool, this was not used to solely calculate the council's carbon emissions but was completed alongside the 2021/22 accounts to assess its accuracy and use as a tool for calculating GHG emissions and to provide continuity with previous years. This tool calculates emissions from home working and transmission and distribution (T+D) losses automatically. Emissions from home working are estimated at 20.63 tCO_{2e} and those from T+D at 0.15 tCO_{2e}. Gross emissions as calculated by the tool are therefore 1,685.77 tCO_{2e}. This would make our emission decrease from the baseline year 10.2% rather than 11.2%. To use this tool in the future a baseline recalculation would be required.

20. Future plans

- Gas consumption is expected to decrease by 79% due to the recent installation of the GSHP at South Cambridgeshire Hall. The introduction of improved energy management systems in the building is expected to reduce the gas consumption further, through improved heating efficiency.
- The biggest producer of GHG emissions is our refuse collection fleet vehicles which run on diesel. The emissions produced by these are projected to stay the same in the coming years as new housing developments will be incorporated into the collection schedules. The need for the purchase of new diesel vehicles due to this growth will be mitigated by the electrification of the fleet. A trial using HVO as an alternative fuel was conducted, finding that HVO produced 0.036kgCO_{2e} per mile whereas diesel produced 2.75kgCO_{2e} per mile, showing the resultant emission reduction of this transition.
- The introduction of the solar carport is expected to generate 20% of the electricity used by South Cambridgeshire Hall. 18 fast and 2 rapid electric vehicle charging points will also be installed encouraging a reduction in Scope 3 business mileage emissions.

- Plans have been approved to build a solar farm to supply the Waterbeach Depot with Solar PV. This will help to power the fleet when electrified and contribute to the emissions avoided at the depot. This is expected to reduce future Scope 2 emissions through fleet diesel usage and Scope 2 emissions through electricity required from the grid.
- The introduction of an Electric/Hybrid vehicle incentive scheme for staff members is expected to increase the number of staff using electric vehicles for travel, decreasing Scope 3 emissions.

Implications

21. In the writing of this report, considering financial, legal, staffing, risk, equality and diversity, climate change, and any other key issues, the following implications have been considered: -

Risks/Opportunities

22. Prior to 2020, there were no existing risks on the Corporate Risk register in respect to a reduction in carbon emissions. A new risk, 'Failure to meet carbon emission reduction target' was added by Internal Audit in November 2020 following the actions highlighted from the Internal audit Carbon Management report.

Appendices

Appendix A: GHG Emissions accounts for the Council's estate and operations 2021-22

Report Author:

Eleanor Haines, Project Officer, Climate, Environment and Waste
Telephone: 01954 713490