

Cambridge City Council Annual Greenhouse Gas Report 2021-22

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1. Introduction

Local authorities in England were requested by the Department of Energy and Climate Change (DECC), which has now become part of Department for Business, Energy & Industrial Strategy, to measure and publish their greenhouse gas (GHG) report, detailing the total gross greenhouse gas emissions from their own estate and operations, on an annual basis. In this report, we give details of Cambridge City Council's total gross greenhouse gas emissions for the financial year 1st April 2021 to 31st March 2022.

2. Summary of Achievements

The Council's total gross greenhouse gas emissions for the financial year 1st April 2021 to 31st March 2022 was 5,248 tonnes of carbon dioxide equivalent (tCO_{2e}). Emissions were 17.2% higher in 2021/22 than in 2020/21 when many of the council's sites, particularly the leisure sites were closed due to Covid restrictions (emissions total was 4,478 tCO_{2e}) and 34.7% lower than the 2014/15 baseline (emissions total was 8,041 tCO_{2e}) and so the emissions total is lower over the period by 2,793 tCO_{2e}. The 2021/22 emissions are, however, 8.3% lower than the pre-Covid year of 2019/20 when the emissions total was 5,721 tCO_{2e}.

The Council's new Carbon Management Plan 2021-2026 was adopted in March 2021 and set a target to reduce the Council's direct carbon emissions (from our corporate buildings, our vehicles and business travel) to net zero by 2030.

3. Cambridge City Council's Greenhouse Gas Emissions

Scopes	GHG Emissions (tonnes CO _{2e})							
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Scope 1	2,749	2,641	2,819	2,618	2,727	2,819	2,704	2,692
Scope 2	2,975	2,597	2,080	1,678	1,254	1,256	1,136	1,013
Scope 3	2,317	2,346	2,335	2,268	2,030	1,646	638	1,543
Total Gross Emissions	8,041	7,584	7,234	6,564	6,011	5,721	4,478	5,248
Intensity Measurement Tonnes of CO _{2e} per head of population ¹	0.0626	0.0579	0.0549	0.0525	0.0478	0.0452	0.0358	0.0360
Carbon Offsets	-	-	-	-	-	-	-	
Green Tariff	3,386	2,821	2,588	2,002	1,601	1,432	1,287	1,102
Total Net Emissions	4,655	4,763	4,646	4,562	4,410	4,289	3,191	4,146

Scopes	GHG Emissions (tonnes CO _{2e})							
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Scope 1								
Gas Consumption	1,540	1,637	1,544	1,303	1,347	1,478	1,438	1,392
Owned Transport	1,209	1,004	1,275	1,315	1,379	1,341	1,260	1,300
Process Emissions	-	-	-	-	-	-	-	-

¹ March 2021 Census figure of 145,700 used for 2021/22.

Fugitive Emissions	-	-	-	-	-	-	6	0
Total Scope 1	2,749	2,641	2,819	2,618	2,727	2,819	2,704	2,692
Scope 2								
Purchased Electricity	2,975	2,597	2,080	1,678	1,254	1,256	1,136	1,013
Total Scope 2	2,975	2,597	2,080	1,678	1,254	1,256	1,136	1,013
Scope 3								
Business Travel	52	57	59	62	61	64	34	41
Outsourced Activities Gas & Electricity	1,904	2,001	2,012	1,985	1,819	1,449	495	1,399
Transmission and distribution (T&D) losses	361	288	264	221	150	132	109	103
Employee Commuting	-	-	-	-	-	-	-	-
Waste Disposal	-	-	-	-	-	-	-	-
Total Scope 3	2,317	2,346	2,335	2,268	2,030	1,646	638	1,543
Total Gross Emissions	8,041	7,584	7,234	6,564	6,011	5,721	4,478	5,248

4. General Organisation Information

Cambridge City Council is a district authority and is responsible for providing a wide range of services to people who live within the City of Cambridge, to people who visit the City, and to businesses and other organisations based in Cambridge including housing, refuse and recycling collections, licensing, planning and building control, Council Tax collection, and environmental health services. It currently serves a population of 145,700²; currently has 42 elected Members; and employed 816 members of staff as at 31 March 2021. Further information on the Council can be found on the Council's [website](#) and within its [constitution](#), which sets out the responsibilities of the Council, its Members and its employees.

5. Reporting Period

1 April 2021 – 31 March 2022.

6. Significant Changes in Emissions

As detailed in Table 1, the Council's gross emissions for 2021/22 was 5,248 tonnes of carbon dioxide equivalent (tCO_{2e}) which is a reduction in emissions of 2,793 tCO_{2e} from the 2014/15 baseline when the emissions total was 8,041 tCO_{2e}. Our emissions have therefore reduced by 34.7% since the baseline year of 2014/15.

² Based on Office for National Statistics, March 2021 Census:
www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/populationandhouseholdestimatesenglandandwales/census2021#population-sizes-and-changes-for-regions-and-local-authorities

The average of the last 3 years' emissions totals (2019/20, 2020/21 and 2021/22) is 5,149 tCO₂e:

Table 3: 3 Year Average Emissions

Year	tCO ₂ e
2019/20	5,721
2020/21	4,478
2021/22	5,248
3 Year Average	5,149

Last year's 3-year average figure was 5,403 tCO₂e, which has reduced in 2021/22 to 5,149 tCO₂e. This comparison of the average figure will reduce the impact of fluctuations in energy consumption due to factors such as a warm winter requiring less energy for heating and allow us to assess if the Council's emissions are reducing overall, over a longer time period.

This three-year average figure will be used to compare with next year's 3-year average figure which will be calculated when next year's 2022/23 emissions total is compiled.

Carbon Management Plan Projects

During 2021/22 the Council completed the following carbon reduction projects as part of the Council's Carbon Management Plan 2021-2026, which will have contributed, in part, to the reduction in this year's emissions total, including:

- Grand Arcade Annex: Air Handling Unit replacement
- Sackville Close: Replacement of communal lights with LED lamps and appropriate controls.

Covid Restrictions

The Council's emissions were expected to increase in 2021/22, from 2020/21's emissions total as coronavirus pandemic restrictions imposed by the government were lifted during this year, increasing the use of buildings and consumption of gas and electricity. The main contribution to the increase in the Council's emissions from the previous year was the increased consumption of electricity and gas at the leisure sites. These has been required to be closed or had reduced opening hours or capacity for certain periods during 2020/21 and were re-opened in 2021/22. In contrast, the consumption of electricity and gas in the non-leisure sites were both lower than in both 2019/20 and 2020/21 due to lower occupancies. The Council's car parks also used significantly lower amounts of electricity in 2021/22 than in the previous two years.

Electricity and gas consumption increased in a number of the council's leisure sites, particularly Jesus Green Outdoor Pool, which was opened all year round during 2021/22 (additional 7 months during instead of the usual 5 months) and also later in

the evening for the health and wellbeing benefit of users during the coronavirus pandemic. This increased opening of the pool required more electricity to provide light, heat for the showers and power for the pool pump filter system. Some sites, such as Cherry Hinton Village Centre were used as Covid vaccination centres and so energy use increased instead of reduced in contrast to other leisure sites. The Corn Exchange was also open for performances from August 2021.

Carbon emissions from the Council’s vehicle fleet has increased since 2020/21 as the Council continues to provide essential services however, there is still a marked reduction in business mileage for staff and Councillors as a result of a significant number of meetings continuing to be held online, where previously travel may have been required.

7. Approach

We have followed the [Government’s guidance](#), published by Defra, on how to measure and report greenhouse gas emissions and the guidance in the [Greenhouse Gas Accounting Tool](#) developed for councils by Local Partnerships, working with the LGA.

8. Organisational Boundary

We have defined our organisational boundary following the Financial Control approach. Further detail on which operations or activities have been included within our organisational boundary for the purposes of compiling this greenhouse gas report is provided under ‘Operational Scope’ below.

9. Operational Scopes

We have measured our Scope 1 and Scope 2 emissions for all properties and vehicles that we fully own and control. Our reported Scope 1 and 2 emissions also include emissions from properties that we lease in from others, where the Council is delivering a service.

We have reported some of our Scope 3 emissions, depending on the availability of comprehensive and reliable data; and the extent to which Cambridge City Council has control over the operation/ activity in question. See the table below for details:

Table 4: Rationale for Inclusion and Exclusion of Emissions.

Source of Emissions	Emissions included in our reporting?	Explanation for specific emissions excluded from our reporting
Scope 1 (Direct)		
Gas consumption: in buildings we fully own, occupy and control	Yes	This includes our office buildings, community centres, sheltered and temporary housing and crematorium (our leisure centres, are included as Scope 3

Source of Emissions	Emissions included in our reporting?	Explanation for specific emissions excluded from our reporting
		emissions because they are Outsourced Activities).
Gas consumption: in buildings we own and lease out to others	Partially	We have only included emissions arising from energy used in the communal areas of some of the buildings that we lease out (energy used in communal areas is provided and paid for by the Council). We do not have access to data on energy used by our tenants.
Gas consumption: in buildings we lease in from others	Yes	
Other fuel consumption (in owned transport)	Yes	
Process emissions	No	Not relevant
Fugitive emissions (from air conditioning units)	Yes	Included for the first time in 2020/21.
Scope 2 (Energy Indirect)		
Purchased electricity: in buildings we fully own, occupy and control	Yes	This includes our office buildings, community centres, car parks, sheltered and temporary housing and crematorium (our leisure centres are included as Scope 3 emissions because they are Outsourced Activities).
Purchased electricity: in buildings we own and lease out to others	Partially	We have only included emissions arising from energy used in the communal areas of some of the buildings that we lease out (energy used in communal areas is provided and paid for by the Council). We do not have access to data on energy used by our tenants.
Purchased electricity: in buildings we lease in from others	Yes	
Scope 3 (Other Indirect)		
Purchased materials and fuels	No	Excluded due to time/ cost of data collection.
Business travel	Yes	
Commuter travel	No	Excluded due to time/ cost of data collection.
Waste disposal	No	Excluded due to time/ cost of data collection.
Water usage	No	Excluded due to time/ cost of data collection.
Outsourced activities	Partially	Included: Management of leisure sites & swimming pools ¹ ;

¹ We share management & maintenance responsibility for our leisure sites & swimming pools with the appointed contractor.

10. Conversion/ Emissions Factors Used

The emissions factors used to calculate the emissions in this Greenhouse Gas Report are those provided by BEIS (Department for Business, Energy & Industrial Strategy) and Defra (Department for Environment Food & Rural Affairs) titled: 'UK Government GHG Conversion Factors for Company Reporting' which is available at: www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021.

11. Geographical Breakdown

All of our operations and activities are carried out in the UK.

12. Baseline Year

Our baseline year is 1st April 2014 to 31st March 2015.

13. Base Year Recalculation Policy

In establishing our base year recalculation policy, we have closely followed advice given in the [Government's guidance](#) on how to measure and report greenhouse gas emissions.

Should the Council **in-source or acquire** a facility or emission source from another party, then we will recalculate our base year emissions provided that:

- The facility or emission source in question was operational during our base year (2014/15); *and*
- We had not accounted for the emissions from this facility or emission source when we first established our base year emissions; *and*
- The emissions from the in-sourced or acquired emission source equate to more than 1% of our original base year emissions.

Should the Council **outsource** a facility or emission source to another party, we will *not* recalculate our base year emissions but we will instead report the emissions arising from the outsourced facility or activity as part of our Scope 3 emissions, provided that:

- We are able to source comprehensive and accurate data on emissions arising from the facility/ activity from the party to which the facility/ activity has been outsourced; *and*
- The emissions from the outsourced facility or activity equate to more than 1% of our original base year emissions.

Should we discover errors in the energy and fuel consumption data that we used to calculate our base year emissions, we will recalculate our base year emissions using revised/ amended data in order to correct the errors.

In all other circumstances, we will not recalculate our base year emissions, unless this is specifically required or advised in relevant guidance.

14. Target

The Council's new Carbon Management Plan 2021-2026 was adopted in March 2021 and set a target to reduce the Council's direct carbon emissions (from our corporate buildings, our vehicles and business travel) to net zero by 2030.

15. Intensity Measurement

We have included an intensity ratio of 'tonnes of CO₂e per resident of Cambridge City', which is based on the March 2021 Census, because the Council exists to deliver services for the people of Cambridge City. Full dataset:

www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/populationandhouseholdestimatesenglandandwales/census2021#population-sizes-and-changes-for-regions-and-local-authorities

16. External Assurance Statement

In August 2015 the Building Energy Manager from the University of Cambridge assessed the approach and methodology we have followed when compiling this Greenhouse Gas Report and confirmed that our approach is robust and fit for purpose.

The Greater Cambridge Shared Internal Audit team have audited the process since, to ensure that the data used to compile this report is accurate in the form of an assessment of the data collection process and the carbon emissions calculations.

17. Carbon Offsets

We have not purchased any carbon credits.

18. Amount of Electricity Purchased for use or consumption in owned or controlled sources

5,507 MWh

19. Purchased Green Tariffs – Reduction in tonnes of CO₂e per year

From October 2016, the council signed up to Total Gas and Power's Pure Green energy tariff. The energy under the Pure Green Energy tariff comes from 100% renewable sources, which includes solar, wind and hydro/wave energy. This tariff is applied to all the council's electricity meters (except outsourced sites – other than Parkside Pool - which is included because its meters are on the council's energy contract).

The amount of CO₂ saved in 2021/22 as a result of the council's green tariff is 1,102 tonnes CO₂.

The GHG report only collates gross emissions (totals for Scope 1, Scope 2 and Scope 3) and so although we can report the amount of electricity we have used on a green tariff, the net emissions are not used.

20. Amount of Electricity Generated from Owned or Controlled Sources

In 2021/22 the Council owned or part-owned 13 solar photovoltaic (PV) systems which are 'on-site' at council owned buildings where it provides services:

Table 5: Electricity Generated from Council Owned Solar PV

Site	Generated in 2021/22 (kWh)	Exported 50% deemed (kWh)
1. Buchan Street Neighbourhood Centre	46,823	23,412
2. Brandon Court	21,857	10,929
3. New Street Hostel	0 (no data available)	0 (no data available)
4. Cherry Hinton Village Centre	9,908	4,954
5. Parkside Pool	42,223	21,112
6. Kings Hedges	9,005	4,954
7. Abbey Pool	19,814	9,907
8. Clay Farm	21,298	10,649
9. Crematorium	39,210	19,605
10. Whitefriars	18,200	9,100
11. Mandela House	19,801	9,900
12. The Guildhall	20,106	10,053
13. Waterbeach (50% owned by South Cambridgeshire District Council so figures are 50% of the total)	12,787	6,394
TOTAL:	293,819	146,910

Since none of the systems have export meters installed, it is not possible for us to include the amount of own generated renewable electricity exported to the grid in this GHG Report.

21. Amount of Heat Generated from Owned or Controlled Sources

During 2021/22 two solar thermal systems installed at Abbey Pool generated 8,350 kWhth (kilowatt hours of heat).

For further information about this report, please contact the Climate Change Officer on (01223) 457176 or email: sustainablecity@cambridge.gov.uk.