

Cambridge City Council Annual Greenhouse Gas Report 2020-21

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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 2020 to 31st March 2021.

2. Summary of Achievements

The Council's total gross greenhouse gas emissions for the financial year 1st April 2020 to 31st March 2021 was 4,478 tonnes of carbon dioxide equivalent (tCO_{2e}). Emissions were 21.7% lower in 2020/21 than in 2019/20 (emissions total was 5,721 tCO_{2e}) and 44.3% lower than the 2014/15 baseline (emissions total was 8,041 tCO_{2e}) and so the emissions total is lower by 3,563 tCO_{2e}.

The Council's Carbon Management Plan 2016-2021 was adopted in January 2016 and set a target of reducing carbon emissions from the Council's estate and operations by 15% from 2014/15 levels by the end of 2020/21, with an aspiration to reduce emissions by 20% over this period.

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

Table 1: Overall Greenhouse Gas Emissions for 2020/21.

Scopes	GHG Emissions (tonnes CO _{2e})						
	2014/15 (baseline year)	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Scope 1	2,749	2,641	2,819	2,618	2,727	2,819	2,704
Scope 2	2,975	2,597	2,080	1,678	1,254	1,256	1,136
Scope 3	2,317	2,346	2,335	2,268	2,030	1,646	638
Total Gross Emissions	8,041	7,584	7,234	6,564	6,011	5,721	4,478
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
Carbon Offsets	-	-	-	-	-	-	-
Green Tariff	3,386	2,821	2,588	2,002	1,601	1,432	1,287
Total Net Emissions	4,655	4,763	4,646	4,562	4,410	4,289	3,191

¹ Mid-year Population Estimate 2020 of 125,063 used for 2020/21.

Table 2: Greenhouse Gas Emissions for 2020/21 – by Scope.

Scopes	GHG Emissions (tonnes CO ₂ e)						
	2014/15 (baseline year)	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Scope 1							
Gas Consumption	1,540	1,637	1,544	1,303	1,347	1,478	1,438
Owned Transport	1,209	1,004	1,275	1,315	1,379	1,341	1,260
Process Emissions	-	-	-	-	-	-	-
Fugitive Emissions	-	-	-	-	-	-	6
Total Scope 1	2,749	2,641	2,819	2,618	2,727	2,819	2,704
Scope 2							
Purchased Electricity	2,975	2,597	2,080	1,678	1,254	1,256	1,136
Total Scope 2	2,975	2,597	2,080	1,678	1,254	1,256	1,136
Scope 3							
Business Travel	52	57	59	62	61	64	34
Outsourced Activities Gas & Electricity	1,904	2,001	2,012	1,985	1,819	1,449	495
Transmission and distribution (T&D) losses	361	288	264	221	150	132	109
Employee Commuting	-	-	-	-	-	-	-
Waste Disposal	-	-	-	-	-	-	-
Total Scope 3	2,317	2,346	2,335	2,268	2,030	1,646	638
Total Gross Emissions	8,041	7,584	7,234	6,564	6,011	5,721	4,478

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 125,063²; 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.

² Based on Office for National Statistics 2020 Mid-Year Population Estimates released June 2021: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>.

5. Reporting Period

1 April 2020 – 31 March 2021.

6. Significant Changes in Emissions

As detailed in Table 1, the Council's gross emissions for 2020/21 was 4,478 tonnes of carbon dioxide equivalent (tCO_{2e}) which is a reduction in emissions of 3,563 tCO_{2e} from the 2014/15 baseline when the emissions total was 8,041 tCO_{2e}. Our emissions have therefore reduced by 44.3% since the baseline year of 2014/15, exceeding the council's aspiration to reduce emissions by 20% by 2020/21.

The average of the last 3 years' emissions totals (2018/19, 2019/20 and 2020/21) is 5,403 tCO_{2e}:

Table 3: 3 Year Average Emissions

Year	tCO _{2e}
2018/19	6,011
2019/20	5,721
2020/21	4,478
3 Year Average	5,403

Last year's 3-year average figure was 6,099 tCO_{2e}, which has reduced in 2020/21 to 5,403 tCO_{2e}. 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 2021/22 emissions total is compiled.

New emission sources included for 2020/21

- Electricity consumption from additional sites added to include all 'Landlord Lighting'/ communal lighting in authority owned housing/ flats.
- Fugitive emissions from air conditioning refills.
- Waterbeach workshop/ garage – now included

Carbon Management Plan Projects

During 2020/21 the Council completed the following carbon reduction projects as part of the Council's Carbon Management Plan 2016-2021, which will have contributed, in part, to the reduction in this year's emissions total, including:

- Replacement of the pool covers at Parkside Pool
- Replacement of LED lighting at Parkside Pool

Covid Restrictions

It should be noted that 2020/21 was an exceptional year due to the impact of the coronavirus pandemic and the restrictions imposed by the government. In some cases, we could operate a near “business as usual” service, such as our collection of waste bins, but some other services had to be closed for certain periods, such as our swimming pools and community centres. Whilst use of some council services reduced significantly, the council had to respond to demands for other, new services and activities to support Cambridge’s businesses and communities in ways we hadn’t anticipated or planned for. We also saw a significant increase in demand for some of our existing services at different times of the year, as a sequence of national lockdowns were implemented and then lifted.

The exceptional nature of 2020/21 is reflected in significantly lower direct carbon emissions for the Council in that year. The restrictions imposed by government resulted in the closure of some buildings during the lockdown periods (such as the Council’s leisure centres – Scope 3) and reduced opening hours or capacity of other Council buildings. As a result, a number of council buildings consumed less electricity and gas during this period.

Carbon emissions from the Council’s vehicle fleet did not reduce significantly, as the Council continued to provide essential services such as refuse collection and street cleaning. However, there was a marked reduction in business mileage for staff and Councillors (Scope 3) as a result of meetings being held online and non-essential travel being reduced.

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 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.

Source of Emissions	Emissions included in our reporting?	Explanation for specific emissions excluded from our reporting
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-2020.

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

In the Council's Carbon Management Plan 2016-21 we set a target of reducing carbon emissions from the Council's estate and operations by 15% from 2014/15 levels by the end of 2020/21 with an aspiration to reduce emissions by 20% over this period.

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 mid-year population statistics, produced in June 2021, because the Council exists to deliver services for the people of Cambridge City. Full dataset:

www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalescotlandandnorthernireland.

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

5,445 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 2020/21 as a result of the council's green tariff is 1,287 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 2020/21 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 2020/21 (kWh)	Exported 50% deemed (kWh)
1. Buchan Street Neighbourhood Centre	0 (no data available)	0 (no data available)
2. Brandon Court	24,604	12,302
3. New Street Hostel	0 (no data available)	0 (no data available)
4. Cherry Hinton Village Centre	10,242	5,121
5. Parkside Pool	44,998	22,499
6. Kings Hedges	9,194	4,597
7. Abbey Pool	22,263	11,132
8. Clay Farm	21,885	10,942
9. Crematorium	5,988	2,994
10. Whitefriars	18,070	9,035
11. Mandela House	24,562	12,281
12. The Guildhall	25,536	12,768

Site	Generated in 2020/21 (kWh)	Exported 50% deemed (kWh)
13. Waterbeach (50% owned by South Cambridgeshire District Council so figures are 50% of the total)	28,052	14,026
TOTAL:	235,394	117,697

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 2020/21 two solar thermal systems installed at Abbey Pool generated 11,100 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.