

Cambridge City Council Annual Greenhouse Gas Report 2019-20

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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 2019 to 31st March 2020.

2. Summary of Achievements

The Council's total gross greenhouse gas emissions for the financial year 1st April 2019 to 31st March 2020 was 5,721 tonnes of carbon dioxide equivalent (tCO_{2e}). This is a reduction in emissions of 2,320 tCO_{2e} from the 2014/15 baseline when the emissions total was 8,041 tCO_{2e}. Our emissions have therefore reduced a further 4.8% in 2019/20 from 2018/19 (emissions total was 6,011) and overall have reduced by 28.9% from the 2014/15 baseline.

The Council's Carbon Management Plan 2016-2021 was adopted in January 2016 and sets 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. We will measure reductions in our energy usage and greenhouse gas emissions as a result of the activities detailed in the Carbon Management Plan against the 2014/15 baseline year emissions.

3. Cambridge City Council's Greenhouse Gas Emissions

Table 1: Overall Greenhouse Gas Emissions for 2019/20.

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

¹ Mid-year Population Estimate 2019 of 124,798 used for 2019/20.

Table 2: Greenhouse Gas Emissions for 2019/20 – by Scope.

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

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 124,798²; currently has 38 elected Members; and employed 827 members of staff as at 31 March 2020. 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 2019 – 31 March 2020.

6. Significant Changes in Emissions

As detailed in Table 1, the Council's gross emissions for 2019/20 was 5,721 tonnes of carbon dioxide equivalent (tCO_{2e}) which is a reduction in emissions of 2,320 tCO_{2e} from the 2014/15 baseline when the emissions total was 8,041 tCO_{2e}. Our emissions have therefore reduced by 28.9% since the baseline year of 2014/15, ahead of the council's aspiration to reduce emissions by 20% by 2020/21.

The average of the last 3 years' emissions totals (2017/18, 2018/19 and 2019/20) is 6,072 tCO_{2e}:

Table 3: 3 Year Average Emissions

Year	tCO _{2e}
2017/18	6,564
2018/19	6,011
2019/20	5,721
3 Year Average	6,099

Last year's 3-year average figure was 6,603 tCO_{2e}, which has reduced in 2019/20 to 6,099 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 2020/21 emissions total is compiled.

New emission sources included for 2019/20

- Diesel used by generators at Cambridge Live run events in Cambridge parks (e.g. The Big Weekend and the Folk Festival)
- Electricity consumption from non-metered streetlighting owned by the council
- Electricity consumption from 'Landlord Lighting'/ communal lighting in authority owned housing/ flats.

² Based on Office for National Statistics 2019 Mid-Year Population Estimates released June 2020: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalescotlandandnorthernireland>.

Carbon Management Plan Projects

During 2019/20 the Council completed a number of carbon reduction projects as part of the Council's Carbon Management Plan 2016-2021 and so will have contributed, in part, to the reduction in this year's emissions total, including:

- Replacing more than 670 existing light fittings at the Guildhall with low energy LED light fittings and automation.
- Replacing communal lighting at Rawlyn Court and Whitefriars sheltered housing schemes with LED lighting.
- Replacing the Customer Service Centre lighting with LED lighting.
- Installing a combined heat and power system (CHP) at the Guildhall.
- Installing building automation measures, including a new Building Energy Management System (BEMS) at the Guildhall to increase the level of control over the heating systems.
- Mechanical works at the Guildhall to improve the efficiency of the heating and hot water system, and insulation of pipework and valves in the plant rooms to reduce heat loss.
- The Guildhall roof covering was replaced and additional insulation was installed.
- 16 new Euro 6 compliant fleet vehicles were scheduled to be purchased to replace older, less fuel-efficient vehicles, and 1 new electric van was due to be purchased.

Solar PV was installed at the following sites before March 2019:

- Guildhall
- Mandela House
- Crematorium
- Whitefriars
- Parkside Pool
- Abbey Pool
- Kings Hedges Pool
- Waterbeach Depot

7. Approach

We have followed the [Government's guidance](#), published by Defra, on how to measure and report greenhouse gas emissions.

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:

Change to emissions included in scope 3 for 2019/20

- The electricity and gas emissions for the Corn Exchange and Parsons Court are now included in the Scope 1 (gas) and Scope 2 (electricity) totals as Cambridge Live, who operated the sites and the services provided there, was taken back in house by the council control from 01/04/19 and so is no longer considered to be an 'outsourced' service and so has been removed from the Scope 3 emissions. As a result, the council's Scope 3 emissions have reduced, and Scope 1 and Scope 2 emissions have increased.

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)	No	Excluded due to the time it would take to collect data.

Source of Emissions	Emissions included in our reporting?	Explanation for specific emissions excluded from our reporting
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-2019

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 have 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.

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 2020, because the Council exists to deliver services for the people of Cambridge City. Full dataset:

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

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.

We have carried out our own internal checks 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 by a member of Greater Cambridge Shared Internal Audit team in July 2019.

17. Carbon Offsets

We have not purchased any carbon credits.

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

6,102 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 2019/20 as a result of the council's green tariff is 1,432 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 2019/20 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 2019/20 (kWh)	Exported 50% deemed (kWh)
1. Buchan Street Neighbourhood Centre	10,180	5,090
2. Brandon Court	42,358	21,179
3. New Street Hostel	2,608	1,304
4. Cherry Hinton Village Centre	10,850	5,425
5. Parkside Pool	445,017	222,509
6. Kings Hedges	8,934	4,467
7. Abbey Pool	22,808	11,404

Site	Generated in 2019/20 (kWh)	Exported 50% deemed (kWh)
8. Clay Farm	45,314	22,657
9. Crematorium	8,718	4,359
10. Whitefriars	25,021	12,511
11. Mandela House	25,268	12,634
12. The Guildhall	24,030	12,015
13. Waterbeach (50% owned by South Cambridgeshire District Council so figures are 50% of the total)	13,190	3,298
TOTAL:	44,811	22,405

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 2019/20 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.