

# CAMBRIDGE CITY COUNCIL ANNUAL GREENHOUSE GAS REPORT 2017-18

## 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 1<sup>st</sup> April 2017 to 31<sup>st</sup> March 2018.

## 2. Summary of Achievements

The Council's total gross greenhouse gas emissions for the financial year 1<sup>st</sup> April 2017 to 31<sup>st</sup> March 2018 was 6,564 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). This is a reduction in emissions of 1,477 tCO<sub>2</sub>e from the 2014/15 baseline when the emissions total was 8,041 tCO<sub>2</sub>e. Our emissions have therefore reduced a further 9.3% in 2017/18 from 2016/17 (emissions total was 7,234) and overall have reduced by 18.4% 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 2017/18.**

Scopes	GHG Emissions (tonnes CO <sub>2</sub> e)			
	2014/15 (baseline year)	2015/16	2016/17	2017/18
Scope 1	2,749	2,641	2,819	2,618
Scope 2	2,975	2,597	2,080	1,678
Scope 3	2,317	2,346	2,335	2,268
<b>Total Gross Emissions</b>	<b>8,041</b>	<b>7,584</b>	<b>7,234</b>	<b>6,564</b>
<b>Intensity Measurement</b> Tonnes of CO <sub>2</sub> e	0.0626	0.0579	0.0549	0.0525

per head of population <sup>1</sup>				
Carbon Offsets	-	-	-	
Green Tariff	3,386	2,821	2,588	2,002
<b>Total Net Emissions</b>	<b>4,655</b>	<b>4,763</b>	<b>4,646</b>	<b>4,562</b>

**Table 2: Greenhouse Gas Emissions for 2017/18 – by Scope.**

Scopes	GHG Emissions (tonnes CO <sub>2</sub> e)			
	2014/15 (baseline year)	2015/16	2016/17	2017/18
<b>Scope 1</b>				
Gas Consumption	1,540	1,637	1,544	1,303
Owned Transport	1,209	1,004	1,275	1,315
Process Emissions	-	-	-	-
Fugitive Emissions	-	-	-	-
<b>Total Scope 1</b>	<b>2,749</b>	<b>2,641</b>	<b>2,819</b>	<b>2,618</b>
<b>Scope 2</b>				
Purchased Electricity	2,975	2,597	2,080	1,678
<b>Total Scope 2</b>	<b>2,975</b>	<b>2,597</b>	<b>2,080</b>	<b>1,678</b>
<b>Scope 3</b>				
Business Travel	52	57	59	62
Outsourced Activities Gas & Electricity	1,904	2,001	2,012	1,985
Transmission and distribution (T&D) losses	361	288	264	221
Employee Commuting	-	-	-	-
Waste Disposal	-	-	-	-
<b>Total Scope 3</b>	<b>2,317</b>	<b>2,346</b>	<b>2,335</b>	<b>2,268</b>
<b>Total Gross Emissions</b>	<b>8,041</b>	<b>7,584</b>	<b>7,234</b>	<b>6,564</b>

#### **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

<sup>1</sup> Mid-year Population Estimate 2017 of 124,919 used for 2017/18.



population of 124,919<sup>2</sup>; has 42 elected Members; and employs 803 members of staff as at 31 March 2018. 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 2017 – 31 March 2018.

## **6. Significant changes in Emissions**

As detailed in Table 1, the Council's gross emissions for 2017/18 was 6,564 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) which is a reduction in emissions of 1,477 tCO<sub>2</sub>e from the 2014/15 baseline when the emissions total was 8,041 tCO<sub>2</sub>e. Our emissions have therefore reduced by 18.4% since the baseline year of 2014/15.

The average of the last 3 years' emissions totals (2015/16, 2016/17 and 2017/18) is 7,127 tCO<sub>2</sub>e:

Year	tCO <sub>2</sub> e
2015/16	7,584
2016/17	7,234
2017/18	6,564
3 Year Average	7,127

Last year's 3 year average figure was 7,620 tCO<sub>2</sub>e, which has reduced in 17/18 to 7,127 tCO<sub>2</sub>e. 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 2018/19 emissions total is compiled.

## **Carbon Management Plan Projects**

As part of the Council's Carbon Management Plan 2016-2021, 3 projects were delivered during 2016/17, some of which were implemented towards the end of the 2016/17 financial year. The emission reductions from these projects will therefore be reflected in this year's 2017/18 emissions total:

- The lighting at the Grand Arcade and Grafton East car parks was replaced with low-energy LED lighting. Motion and light sensors were also installed to turn off the lighting when there is sufficient daylight or no recent movement detected. These measures will result in an estimated 41% reduction in electricity consumption at Grand Arcade and 45% reduction at Grafton East.
- Loft insulation was installed at the Crematorium offices.
- At City Homes North Housing Office the boilers were replaced with new energy efficient boilers and a fully programmable heating control system was also installed, resulting in reduced gas consumption in the building.

<sup>2</sup> Based on Office for National Statistics 2017 Mid-Year Population Statistics released June 2018.

- Fleet vehicles were replaced with 7 electric vans and 6 fuel efficient vans and trucks.

The following carbon reduction projects were installed during 2017/18 and so will have contributed to the reduction in in this year's emissions total:

- Abbey Leisure Complex: Solar thermal upgrade and upgrade of the hot water calorifiers has enabled more of the heat produced by the system to be utilised in the domestic hot water system in the centre, besides the heating of the swimming pool water.
- Abbey Leisure Complex: Upgrade and replacement of air handling unit with a new air plant circulation system and heat recovery technology will have significantly reduced gas and electricity consumption at the centre.
- School Court: The individual flat boilers were replaced by a communal boiler system which is much more energy efficient.
- Ditton Court: New heating and hot water boilers were fitted in each of the 27 flats. The communal areas are now heated by new, energy efficient domestic boilers.
- Vehicle fleet: Further fleet vehicles were replaced with electric vans and fuel efficient vans and trucks

#### Office Accommodation Strategy

During 2017-18:

- Mandela House's upper floors remained vacant during 2017/18 as a result of planned refurbishment as part of the Council's Accommodation Strategy, resulting in significant reductions in gas and electricity consumption. Staff that moved out of the building were based at Hobson House and Mill Road Depot during the year, which did not show an increased consumption of energy.
- Area Housing Office South was unoccupied from June 2016 and so very little energy was used in this building during 2017/18.

#### **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:

Source of Emissions	Emissions included in our reporting?	Explanation for specific emissions excluded from our reporting
<b>Scope 1 (Direct)</b>		
Gas consumption: in buildings we fully own, occupy and control	Yes	This includes our office buildings, community centres, car parks, sheltered and temporary housing, Mill Road Depot and crematorium (our leisure centres, Corn Exchange and Parsons Court 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.
<b>Scope 2 (Energy Indirect)</b>		
Purchased electricity: in buildings we fully own, occupy and control	Yes	This includes our office buildings, community centres, car parks, sheltered and temporary housing, Mill Road Depot and crematorium (our leisure centres, Corn Exchange and Parsons Court 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	

Source of Emissions	Emissions included in our reporting?	Explanation for specific emissions excluded from our reporting
<b>Scope 3 (Other Indirect)</b>		
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 <sup>1</sup> ; Corn Exchange and Parsons Court – as managed by Cambridge Live.

<sup>1</sup> 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 report this Greenhouse Gas report are those provided by Defra (Department for Environment Food & Rural Affairs) and are available at: [www.gov.uk/government/collections/government-conversion-factors-for-company-reporting](http://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting)

### **11. Geographical Breakdown**

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

### **12. Baseline Year**

Our baseline year is 1<sup>st</sup> April 2014 to 31<sup>st</sup> 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 CO<sub>2</sub>e per resident of Cambridge City', which is based on mid-year population statistics, produced in June 2018, because the Council exists to deliver services for the people of Cambridge City. Full dataset published by BEIS on Gov.uk: [www.gov.uk/government/collections/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics](http://www.gov.uk/government/collections/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics).

#### **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 2018. The Carbon Emissions Data 2017/18 were validated with a 'significant' assurance rating.

#### **17. Carbon Offsets**

We have not purchased any carbon credits.

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

6,726 MWh

**19. Purchased Green Tariffs – Reduction in tonnes of CO<sub>2</sub>e 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 of the council's electricity meters (except outsourced sites – other than Parkside Pool, Corn Exchange and Parsons Court - which are included because they are on the council's energy contract).

The amount of CO<sub>2</sub> saved in 2017/18 as a result of the council's green tariff is 2,002 tonnes CO<sub>2</sub>.

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.**

The Council owns 5 solar photovoltaic (PV) systems which are 'on-site' at council owned buildings where it provides services:

Site	Generated in 2017/18 (kWh)	Exported 50% deemed (kWh)
1. Buchan Street Neighbourhood Centre	8,610	4,305
2. Brandon Court	22,641	11,321
3. New Street Hostel	787	393
4. Mill Road Store Yard	3,788	1,894
5. Cherry Hinton Village Centre	9,832	4,916
<b>TOTAL:</b>	<b>45,658</b>	<b>22,829</b>

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 2017/18, two solar thermal systems installed at Abbey Pool generated 59,618 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](mailto:sustainablecity@cambridge.gov.uk).