



GUILDFORD
BOROUGH

Guildford Borough Council greenhouse gas emissions report.

Reporting period: 2012/13

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Purpose of the report

This report provides an update on the greenhouse gas emissions which are under the direct control of Guildford Borough Council. It also fulfils the requirement by the Department of Communities and Local Government, DCLG and Gregory Barker, Minister of State at the Department of Energy and Climate Change for local authorities to report and share their Greenhouse gas emissions.

Background

Guildford Borough Council is part of a two-tier authority in the county of Surrey. Surrey County Council is the County authority and Guildford is one of 11 district and borough councils. The area of the borough is 270.87km² with a population of 129,701 residents¹. It is a prosperous borough with the population equally split between urban and countryside areas. Guildford Borough Council's main areas of responsibility are council tax, housing, parks, sports, arts, planning, environmental health, waste and recycling collection and street cleaning.

Reporting period

The reporting period is 1 April 2012 to 31 March 2013.

Approach and methodology

The figures used in this report have been based on our audited Carbon Reduction Commitment (CRC) Energy Efficiency Scheme submission with the addition of other (non CRC) fuels and domestic emissions which are excluded from CRC. The methodology used is in accordance with the 2009 "Guidance on how to measure and report your greenhouse gas emissions"². The document identifies the main types of emissions sources in three categories known as 'scopes'. These are defined as:

Scope 1 (Direct emissions): Emissions from activities owned or controlled by your organisation that release emissions into the atmosphere. They are direct emissions. Examples of scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces, vehicles; emissions from chemical production in owned or controlled process equipment.

Scope 2 (Energy indirect): Emissions released into the atmosphere associated with your consumption of purchased electricity, heat, steam and cooling. These are indirect emissions that are a consequence of your organisation's activities but which occur at sources you do not own or control.

Scope 3 (Other indirect): Emissions that are a consequence of your actions, which occur at sources which you do not own or control and which are not classed as scope 2 emissions. Examples of scope 3 emissions are business travel by means not owned or controlled by your organisation, waste disposal which is not owned or controlled, or purchased materials or fuels.

This report covers all scope 1 and 2 emissions. The most notable additions to our scope 1 and 2 CRC emissions are those associated with domestic accommodation and transport fuels used for travel under the Council's control. Scope 3 emissions are not information generally collected. We have however reported water from metered supplies as invoices exist to support this, but obtaining other emissions will require new procedures not yet in place. In the coming year we will be aiming to include waste and business travel from vehicles not owned by the council in our scope 3 emissions.

We use the 2008/09 financial year as a baseline for carbon emissions against which Guildford Borough Council committed to a Carbon Management Plan with targets to reduce carbon dioxide (CO₂) emissions by 34% by 2015 and 43% by 2020.

Summary of Greenhouse gas emissions for Guildford Borough Council

Emissions	Tonnes CO ₂ ^e		
	Reporting Year	Previous Year	Baseline Year
	Apr 2012 – Mar 2013	Apr 2011 – Mar 2012	Apr 2008 – Mar 2009
Scope 1, Fuels	5064	4709	5352
Natural Gas	3363	3006	3709
Fuels	1701	1703	1643
Scope 2, Electricity	6895	6763	7456
Scope 3, Water	63	Not available	Not available
Total Gross Emissions	12,022	11,472	12,808
Carbon offsets			
Hydro generated, exported (FIT paid)	80	40	91
Total Net Emissions	11,942	11,432	12,717
Renewable consumption			
Generated & consumed (CHP)	450	398	375
Biomass MWh produced	26.5	39.9	0
Generated & consumed (PV)	9	Not fitted	Not fitted
Degree Days at 15.5 °C <i>(an indicator of heat demand)</i>	2329.5	1725.5	2016.8

Scope 1 emissions include 100 per cent of our gas, diesel, unleaded petrol and heating oil consumption, for heating and transport in vehicles owned by the Council.

Scope 2 emissions consist of 100 per cent of our total electricity consumption. This is mainly used for lighting and heating.

Scope 1 and 2 data is consistent with previous years and the baseline year 2008/2009.

Some scope 3 emissions relating to all metered water supplies have been included this year for the first time. These do not include those sites charged on a rateable value basis which are small and will have little impact. Neither do these scope 3 figures include water used at Spectrum, our flagship sports centre, and our public Lido which are now contracted out to be run by Freedom Leisure who arrange water supply directly. Scope 1 and 2 data does however include Spectrum and the public Lido as these emissions are the responsibility of the Guildford Borough Council.

All conversion factors used have been sourced through the recommended “2012 greenhouse gas conversion factors for company reporting” spreadsheet from the www.gov.uk website³. Carbon offsets relate to electricity produced on site and exported to the grid.

All our main sites are half-hourly metered using HH (Half Hourly) or AMR (Automated Meter Reading) meters. They were installed starting in the summer of 2011 and finished in February 2013. This has improved the quality of the data collected over the last two years. The remainder is primarily energy used for communal areas in social housing.

Trends in 2012-13 greenhouse gas emissions

Guildford Borough Council is increasing its generation of electricity from renewable sources, some of which we consume ourselves, and some of which we export to the grid. We have accounted for the power exported to the grid by showing it as an offset in the table. Power generated and consumed by us is reflected in a reduced CO₂^e figure associated with electricity in the table above. Methane and nitrous oxide from biomass will be included in future years but factors for these are not yet available in the 2012 conversion factors. The calculations for the carbon offsets have been calculated from the factors relating to the energy they replace, quoted in the conversion factors.

Emissions for the period 2012-13 have been higher than expected as a result of the colder winter and the consequent need for more heating. Heating is a significant aspect of our overall energy consumption. An indicator of the need for heating can be seen in the “degree days” data shown in the table.

Guildford Borough Council’s Carbon Management Programme

We have been implementing energy efficiency measures under this programme since 2008. The programme is ongoing but progress to date includes:-

- combined heat and power
- solar photovoltaic (PV) electricity generation
- biomass heating systems
- variable speed drive (VSD) motors
- LED lighting
- car park lighting efficiency upgrades
- building management system (BMS) controls on many heating, ventilation and air conditioning (HVAC) systems
- voltage optimisation
- valve cover insulation
- equipment controls and timers
- gas boiler replacement programme
- radiator and emersion thermostatic and timer controls
- motion sensor controls
- automatic meter readers (AMRs) and energy monitoring system
- server virtualisation

For energy efficiency in the community please see our Home Energy conservation (HECA) report at <http://www.guildford.gov.uk/article/11199/Home-Energy-Conservation-HECA-reports>

¹ Office for National Statistics 2001

² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69282/pb13309-ghg-guidance-0909011.pdf

³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69554/pb13773-ghg-conversion-factors-2012.pdf