

Wiltshire Council's Greenhouse Gas (GHG) footprint report

Background

Wiltshire Council is a large unitary authority located in the south west of England. It covers a large geographical area that includes the population centres of Chippenham, Trowbridge, Devizes and Salisbury. Over 15,000 people are employed by the organisation, working in over 900 sites.

Whilst all council staff and departments have a responsibility to manage energy consumption and become more efficient, two teams take the lead in making strategic and operational improvements, namely the [Energy, Change and Opportunity \(ECO\)](#) and Property Services Teams. To help with promoting environmental issues, a Green Champions network consisting of volunteers at over 60 high energy consuming sites has been set up.

Like all large private and public organisations, the council is required to participate in the Carbon Reduction Commitment Energy Efficiency Scheme (CRC). Under the CRC large participating organisations have to purchase allowances for every tonne of carbon dioxide they emit.

What is covered by the GHG report?

In January 2011 central government requested that local authorities report on their greenhouse gas (GHG) footprint under the single dataset performance regime, which replaces the national indicator (NI) datasets.

Details of the GHG conversion factors can be found in annex 1. Please note that as these account for a wide basket of GHG emissions, the data produced cannot be directly compared to any other emissions footprint released by the council.

Only emissions relating to the activities of Wiltshire Council or its sub-contractors have been reported. Emissions associated with the production of purchased materials or fuels are not included.

As required, Wiltshire Council has calculated its GHG footprint for 2009/10 (baseline) and 2010/11. Data for each year covers the period 1st April to 31st March. GHG emissions are split into 3 main scopes. Table 2.1 outlines in more detail the sources that are included and exclude from the council's footprint.

In line with the previous NI reporting regime and the CRC, the GHG footprint does not include energy consumption associated with social housing operated by the council. This is because they are places where residents of the county reside. Therefore they will be covered by work the ECO Team is undertaking to reduce the county's footprint.

Table 2.1: Emissions included in each of the 3 GHG reporting scopes.

Included	Scope	Excluded
<p>Fuels combustion Emissions associated with the combustion of oil, natural gas and LPG at council owned and controlled sites (including schools).</p> <p>Owned transport Emissions associated with fuel used by council owned or controlled vehicles.</p>	Direct Emissions (scope 1)	<p>Process emissions The council contracts waste processing operations to a 3rd party so these emissions do not need to be included under scope 1.</p> <p>Fugitive emissions Emissions from air conditioning and refrigeration units currently excluded, but will be reviewed during 2011/12 to determine if it can be included.</p>
<p>Consumption of purchased electricity Emissions associated with the production of electricity used at council owned or controlled sites (including schools).</p>	Indirect emissions (scope 2)	
<p>Transport-related activities Business travel (air, rail and road) have been included.</p> <p>Leased assets and franchising, outsourcing Emissions associated with all of the council's main contractors have been included. These contractors are:</p> <ul style="list-style-type: none"> ➤ Mouchel ➤ Hills Waste Management ➤ DC Leisure ➤ FOCSA ➤ English Landscapes ➤ Ringway <p>Sold goods and services Emissions arising from residents' use of council facilities like leisure centres and libraries have been included.</p>	Other indirect emissions (scope 3)	<p>Purchased materials and fuels The embedded emissions associated with materials and fuels the council procures have not been included.</p> <p>Transport-related activities Staff commuting has been excluded due to the complexities involved in gathering accurate data.</p> <p>Waste disposal This is currently excluded but will be reviewed during 2011/12 to determine if it can be included.</p>

Wiltshire Council's GHG footprint

	Tonnes of CO ₂ e	
	2009/10 (Baseline year)	2010/11
Scope 1	18,048.51	20,608.82
Scope 2	22,427.79	28,500.35
Scope 3	19,220.53	20,438.34
TOTAL GROSS EMISSIONS	59,696.83	69,547.51
Carbon offsets	0	0
Green tariff	18,000.75	16,547.32
TOTAL ANNUAL NET EMISSIONS	41,696.08	53,000.19

Since becoming a unitary authority in April 2009, a large amount of work has taken place to develop one centralised system for storing energy consumption information. The quality of energy data gathered has also been improved. This, coupled with the cold weather conditions experienced in December 2010, are the main reasons GHG emissions have increased between 2009/10 and 2010/11.

The DEFRA GHG guidance suggests that organisations should “normalise” their footprint, by relating emissions to an appropriate activity metric. For example, retail organisations may express their emissions as tCO₂e per metre squared of gross store area.

However, Wiltshire Council's footprint covers a wide range of different services, from leisure centres to sewage pumps and from schools to car parks. As a result it is difficult to meaningfully normalise the footprint and this has not been carried out.

Since the formation of Wiltshire Council, where possible, the energy supply for sites is being transferred to a national framework. This framework supplies 10% green electricity to low consuming sites and 100% green for high consuming sources like streetlights.

How we will improve in the future

Currently one of the key priorities for the council is to reduce its carbon footprint. A target of making a 20% saving by 2014 has been set and a [carbon management plan](#) written to outline how this will be achieved. As GHG and CO₂ are inter-related, any projects to reduce the council's carbon footprint, should also reduce the GHG footprint. A £3.5m invest-to-save fund has been established which will make funds available for [energy efficiency projects](#).

Alongside this the council is also looking to reduce the number of buildings it operates through a community campus development programme. This will see services in an area co-located in one or a small number of buildings. It is anticipated that the footprint of the buildings covered by the scope of this programme will be reduced by 40%.

In section 3 it was highlighted that work has taken place to bring sites onto a national energy supply framework. This is an ongoing process as the transfer of some sites can only take place when existing supply contracts come to an end. During 2011/12 work will continue to transfer as many sites as possible onto this contract. Negotiations will also take place with the framework administrators to determine whether the proportion of energy derived from green sources can be increased.

Further information

To view a copy of the DEFRA GHG reporting guidance that the council used to prepare this footprint, please click [here](#). By monitoring and measuring emissions, organisations are able to understand their impact on the environment and develop improvement strategies. Wiltshire Council would encourage businesses to monitor their emissions using the DEFRA guidance.

Annex 1 – GHG conversion factors used

2009/10 Conversion Factor	Energy Source	2010/11 Conversion Factor
0.54284	Electricity (kWhs)	0.48462
0.18523	Natural Gas (kWhs)	0.18360
3.0212	Gas Oil (Litres)	3.0595
2.5421	Burning Oil (Litres)	2.5421
1.4920	LPG (Litres)	1.4918
Not needed	Oil (Litres)	3.0595
2.6720	Diesel (Litres)	2.5725
0.17411	Small petrol car ($\leq 1400\text{cc}$)	0.17112
0.21600	Medium petrol car ($\geq 1400 \leq 2000\text{cc}$)	0.21209
0.30051	Large petrol car ($\geq 2000\text{cc}$)	0.29907
0.21185	Average petrol car	0.20864
0.14689	Small diesel car ($\leq 1700\text{cc}$)	0.14503
0.18268	Medium diesel car ($\geq 1700 \leq 2000\text{cc}$)	0.18095
0.24717	Large diesel car ($\geq 2000\text{cc}$)	0.24329
0.19666	Average diesel car	0.19354
0.19497	Medium LPG car ($\geq 1400 \leq 2000\text{cc}$)	0.19147
0.27103	Large LPG car ($\geq 2000\text{cc}$)	0.26975
0.12020	Medium petrol hybrid	0.11818
0.15816	Small diesel van ($\leq 1.25\text{t}$)	0.15678
0.27103	Medium / large diesel van ($\geq 1.25 \leq 3.5\text{t}$)	0.27011
0.25193	Average diesel van	0.24960
0.08790	Small petrol motorbike ($\leq 125\text{cc}$)	0.08779
0.10667	Medium petrol motorbike ($\geq 125\text{cc} \leq 500\text{cc}$)	0.10649
0.14010	Large petrol motorbike ($\geq 500\text{cc}$)	0.13992
0.11930	Average petrol motorbike, unknown size	0.11912
0.05651	Rail - National rail	0.05649
0.17328	Air	0.16484
0.57142	HGV Rigid ($\geq 3.5 \leq 7.5\text{t}$)	0.59077
0.75807	HGV Rigid ($\geq 7.5\text{t} \leq 17\text{t}$)	0.74871
0.99453	HGV Rigid ($\geq 17\text{t}$)	0.97191
0.83808	HGV All rigid, UK average	0.83098
0.85763	HGV Articulated ($\geq 3.5\text{t} \leq 33\text{t}$)	0.85971
0.99304	HGV Articulated ($\geq 33\text{t}$)	0.99545
2.6720	Refuse trucks of road sweepers (rigid size)	2.5725