Lewisham Council Greenhouse Gas (GHG) reporting

Lewisham Council has published its carbon footprint annually since 2007-08. This report covers the period for 2014-15 and identifies progress against the Council's targets for reducing carbon emissions across the corporate estate and schools.

In 2011-12 Lewisham adopted the government's revised methodology for local authority greenhouse gas (GHG) reporting, using a baseline of 2010-11.

GHG reporting

The table below follows the government's revised methodology for reporting GHG emissions https://www.gov.uk/measuring-and-reporting-environmental-impacts-guidance-for-businesses

A description of the methodology and an explanation of the main amendments this year are provided on pages 5-8.

	Global tonnes of CO2e		
	2014-15	**2013-14**	**2010-11**
Scope 1 Direct emissions	11,573	12,243	14,316
Scope 2 Indirect energy emissions (including electricity)	16,973	15,770	16,067
Scope 3 Indirect emissions from energy use by third parties	16,837	15,742	14,163
Total gross emissions	**45,383**	**43,756**	**44,545**
Carbon offsets	0	0	0
Green tariff	7,255	6,647	7,426
Total net emissions	**38,128**	**37,109**	**37,120**
Intensity measurement 'Tonnes of CO2e per m2 floor area'	**Not reported on**	**Not reported on**	**Not reported on**
Estimated emissions	4,140	2,409	3,579
Percentage estimated	**10.86%**	**6.49%**	**8.03%**

1. **Organisation information**
   Lewisham Council is an inner London Borough Council and is a unitary authority.

2. **Reporting period**
   1st April 2014 – 31st March 2015

3. **Change in emissions**
   Our net reported emissions have risen from 2013-14 by about 2.8%. However, this rise is mainly accounted for due to an increase in emissions from electricity resulting from a change to the emissions factor for electricity, which increased from approximately 0.44 kg CO2e/kWh in 2013-14 to 0.49 kg CO2e/kWh in 2014-15. If the 2013-14 emissions factors are used for both years the Council's emissions would have gone down by 3.1% against both last year and the 2010-11 baseline.

Scope 1 emissions fell by 5.5% against last year and by 19% against the baseline. Scope 2 emissions rose by 7.6% but if the electricity emissions factors from last year are used this would have been a 2.9% fall. Scope 3 emissions rose by 7% but if the electricity emissions factors from last year are used this would have only been a 3.8% rise.

Some changes in Scope 1 emissions may be attributable to changes in weather, with 2014-15 being warmer on average than 2013-14, but the effect of the weather is difficult to ascertain as warmer spring and autumn temperatures may have been balanced by colder winter temperatures. It is therefore likely that most of the reduction in emissions can be accounted for by the Council's on-going programme of carbon reduction measures and disposal of surplus buildings. The rise in scope 3 emissions is mainly due to higher consumption from the Council's contracted out leisure centres.

4. Approach

We have followed the government's guidance on how to measure and report greenhouse gas emissions

5. Organisational boundary

We have used the financial control approach to defining our organisation. An organisation has financial control over an operation if the organisation has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities.

6. Operational scopes

Scope 1 emissions include any activity undertaken by the Council which directly releases greenhouse gas emissions (primarily gas consumption from operational and school buildings and fuel consumption from fleet vehicles)

Scope 2 emissions include any activity which uses energy directly, but does not directly release emissions. This includes electricity consumption for operational buildings, schools and street-lighting, and the purchase of heat through heat networks. We have measured our scope 1 and 2 emissions from all council sources other than fugitive emissions (see table for explanation).

Scope 3 emissions include any other emissions resulting from the operations of the Council but not directly caused by the Council using energy. GHG reporting should always cover scopes 1 and 2, but inclusion of scope 3 emissions is at the Council's discretion. The Council has decided to include emissions from major contractors that provide a service that would otherwise be undertaken by the Council, and staff business travel. Contractors reported on are IT, leisure, catering, parks, parking, road maintenance, and libraries, as well as community groups that provide a service on behalf of the Council.

	GHG emissions 2014-15 in tonnes CO2e	**GHG emissions 2013-14 in tonnes CO2e**	**State specific exclusions and % this represents for relevant scope (excluding geographic exclusions)**
Scope 1			
Catford complex sites	437	417	
Corporate buildings	1,810	2,175	
Other operational uses	1,119	1,131	
School sites	5,598	5,857	
Travel	2,609	2,664	
Fugitive emissions			Emissions from air conditioning and refrigeration units in office buildings excluded due to cost of data collection. These account for less than 0.5% of total scope 1 emissions

Total Scope 1	11,573	12,243	
Scope 2			
Catford complex sites Corporate buildings Other operational uses School sites Street lighting	1,463 2,576 1,362 8,202 3,370	1,417 2,612 1,243 7,253 3,246	
Total Scope 2	16,973	15,770	
Significant Scope 3			
Leisure Community groups Other outsourced services Extraction, processing and transport emissions associated with reported fuels	6,026 1,373 1,517 7,922	5,185 1,330 1,413 7,814	
Total Significant Scope 3	16,837	13,971	
Scopes 1,2, and 3			
Total Scopes 1, 2 and 3	45,383	**44,333**	
Outside of scopes			
Total Outside of scopes	249	336	

In 2014 the Council adopted a new energy policy setting out our approach to energy use and management for operational buildings and schools. As a result the data above has been broken down to include specifically the sites that are covered by the energy policy, which are those marked Catford Complex sites, Corporate Buildings and School sites.

The sources of data and emissions factors used are described below in the Notes on methodology section.

7. Geographical breakdown

All emissions fall within the UK. The Council is not responsible for emissions in other countries

8. Base year

The base year being used is 2010-11. This is the first year of the Carbon Reduction Commitment (CRC) legislation and as a result of work for CRC reporting the data for this year is significantly more accurate than for previous years.

Our base year recalculation policy is that we will recalculate our base year to reflect:

- Changes to DECC emissions figures or calculation methodology
- Changes to availability of data from 3rd parties
- Discovery of omissions or errors
- Significant changes to the Council's functions (for example losing schools to become academies or taking on a new service such as mental health)

It is not easy to envisage what changes may take place in the future that may require a base year recalculation, but the guiding principle will be to describe major changes rather than recalculate the base year.

9. Targets

The Council adopted a new energy policy in 2014 with a target to reduce emissions from corporate sites by 20% over 5 years from 2012-13 to 2017-18 and reduce emissions per pupil from school sites by 20% in the same period.

Across the sites covered by the corporate target (Catford Complex and Corporate Buildings) there has been a 5% reduction in total emissions (scope 1 and 2) from 2013-14 to 2014-15. There has been a 17% reduction in total emissions from the first year of the target, 2012-13 to 2014-15.

Across the sites covered by the schools target (Schools sites) there has been a 2.6% increase in total emissions (scope 1 and 2) per pupil from 2013-14 to 2014-15 and a 6.6% reduction since 2012-13. This figure has been calculated using the schools summer roll figures of 33,930 pupils in 2012-13, 34,762 in 2013-14 and 35,664 pupils in 2014-15.

These figures have again been influenced by the change in emissions figures explained above. These figures may be influenced by the change in weather conditions between the two years and in order to better compare yearly figures it is intended in future reports to include a metric to account for changes in the number of degree days between years.

The Council's Asset Management and Regeneration department has overall responsibility for delivering the Energy Policy and achieving the target of a 20% reduction in energy consumption. The corporate Asset Management Board leads on development and delivery of the action plan underpinning the 20% target.

10. Carbon offsetting and green tariffs

The Council currently purchases electricity for the corporate centre and some larger sites through a wind power tariff from Scottish and Southern. The Council also purchases energy on a renewable energy tariff where possible from its other electricity suppliers.

The Council does not currently purchase carbon offsetting.

10. Electricity generation

In 2014-15 the Council generated approximately 160 MWh of renewable energy from school buildings and 30 MWk from corporate buildings. The Council received FITs for 30 MWh of this generation. The Council also generated approximately 155 MWh of electricity from gas-fired CHP.

11. Heat generation

The Council generated approximately 390 MWh of heat from biomass boilers in school buildings in 2014-15. The Council also generated approximately 300 MWh of heat from gas-fired CHP The Council did not receive RHI credits for this generation.

Actions taken to reduce GHG emissions

The Council is taking the following actions to reduce GHG emissions:

- Continuing to use automated meter reader (AMR) to identify high energy consumption and reduce this
- Using a monitoring and targeting system for all school and Council sites to identify sites with higher than expected energy use and targeting them for site audits and measures to reduce energy consumption
- Carrying out site audits of highest consuming sites and identifying areas for improvement and investment
- Investing in LED lighting, boiler replacements and improved insulation
- Disposal of inefficient building stock and concentrating staff in fewer buildings to reduce energy requirements
- Replacement of inefficient plant and equipment with more energy-efficient equipment

NOTES ON METHODOLOGY

The current method for local authority greenhouse gas (GHG) reporting is based on Defra's standard reporting guidelines for greenhouse gas reporting used by organisations and businesses in the UK. Up until the end of the financial year 2013-14 the Council also reported on carbon emissions for the Carbon Reduction Commitment legislation, but the Council no longer meets the criteria to be covered by this legislation. The majority of data used for GHG reporting up until this date was collected for CRC. The methodology for GHG reporting is briefly outlined below including the differences between CRC and GHG reporting.

From 2008-09 to 2010-11 Lewisham followed the methodology of the now obsolete National Indicator 185. In 2011-12 Lewisham adopted the government's revised methodology for local authority greenhouse gas (GHG) reporting, using a baseline of 2010-11. In 2013 Defra introduced further amendments to its methodology and the baseline was revised to reflect this, as recommended by Defra.

1. Which gases are reported?

Under the CRC the only greenhouse gas reported on is carbon dioxide. The government's method for GHG reporting includes emissions from CO2, CH4 and N2O and uses these to calculate a CO2 equivalent (CO2e) figure to give an overall figure for all greenhouse gas emissions.

2. Boundaries of reporting

When defining the boundaries of the organisation for the purpose of GHG reporting the aim has been to minimise the administrative burden and provide as much continuity as possible with previous reporting.

The Council has chosen to use the Financial Control approach under the Defra guidance. Under this approach the boundaries of the organisation for GHG reporting are broadly the same as the boundaries for CRC legislation, with 3 exceptions:

- Academies are included in CRC but excluded from GHG reporting
- Transport fuels purchased by the organisation will be included, but these are excluded from CRC due to it being a buildings-based scheme
- Hostels are excluded from CRC because they are classed as domestic accommodation. However, these supplies are paid for by Lewisham Council so fall under the organisation under the financial control approach

Under CRC domestic supplies and communal supplies for domestic buildings are excluded from the organisation and they have also been excluded from GHG reporting due to the fact that they are not the financial responsibility of the Council. Domestic supplies are paid by individual tenants and costs for communal supplies are charged to a ring-fenced account by Lewisham Homes, the Arm's Length Management Organisation (ALMO), and recharged to tenants and leaseholders.

3. Reporting split into three scopes

The Defra methodology requires that carbon reporting be split into three 'scopes':

Scope 1 – Direct emissions
Any activity undertaken by the Council which directly releases greenhouse gas emissions

Scope 2 – Indirect energy emissions
Any activity undertaken by the Council that uses energy directly, but does not directly release emissions. The major example is electricity, where the energy is directly used, but the emissions of greenhouse gases occur at the power station, not at the point of use (as a result emissions are not solely affected by the Council)

Scope 3 – Indirect other emissions

Emissions as a result of activities undertaken by the Council but not directly caused by the Council using energy. For example, emissions from energy used by organisations providing a service to the Council or on the behalf of the Council. This is a very wide scope, including emissions from the Council's suppliers, contractors, partners, tenants and service users as a result of the Council's activities.

GHG reporting should always cover scopes 1 and 2, but it is at the Council's discretion as to how much of scope 3 is included. It is recommended to include those areas with the most accurate data and greatest ability to affect consumption.

The decision has been made to include business travel made by staff, and energy use from organisations that provide a service that the Council would otherwise provide in-house, but not to include any other scope 3 emissions at the present as the administrative burden of data collection would be too high in relation to the ability to influence emissions for other scope 3 sources. Including contracted out services should also make emissions more comparable with other councils that provide these functions in house. Including these particular scope 3 emissions should also keep the data broadly comparable with previous NI 185 reporting.

The methodology also makes a distinction between scope 3 emissions that result from council activities and scope 3 emissions that result from the Council's use of energy (which is covered by scope 1 and 2). For example there are emissions released in the production of natural gas and fuels from which electricity is generated that are classed as scope 3 (because they are not actually produced by the Council) but they are proportional to the Council's energy use. These were not included in the reporting for 2011-12, but following Defra's revised guidelines these have been included separately in the reporting for 2012-13 onwards. The baseline has been recalculated to reflect this change.

4. Terminology

The category Catford complex buildings includes Laurence House, the Town Hall and Civic Suite.

The category Corporate buildings includes all other buildings in the corporate estate (other than the Catford Complex) which are covered by corporate energy and maintenance contracts. Together the Catford complex buildings and Corporate buildings comprise the sites which are reported on under the Council's energy target for corporate buildings.

The category Other operational uses includes homeless hostels and small energy supplies such as public toilets, market supplies, electric vehicle charging points, car parks, nature classrooms and vacant buildings. These are not reported for the Council's energy policy but are paid directly by the Council.

The category Schools includes all primary and secondary schools, including schools built through the Building Schools for the Future (BSF) programme operated under PFI agreements. It does not include academies. Schools are also reported on under a separate emissions per pupil target as part of the Council's energy policy.

The category Travel covers only council business travel and fuel purchases. Transport used by an outside organisation comes under Outsourced or Community Group as relevant.

The category Community Groups covers community groups that provide a service on behalf of the Council. Some of these may use council buildings, but others run their own buildings.

Outsourced services cover substantial council contracts using buildings and/or fuel that would otherwise be provided by the Council. This includes school catering, parks

management, road maintenance, libraries and parking services. Leisure is included separately due to the high energy consumption of leisure services.

The category Extraction, processing and transport emissions associated with reported fuels includes all emissions that are covered under Defra's designation Well to Tank emissions, which covers all emissions from extracting a fuel to its final use. The category also includes Transmission and Distribution emissions for electricity, which have separate emissions figures from the Well to Tank emissions.

The category Outside of Scopes covers emissions of CO2 only (not CH4 and N2O) from the burning of biomass in the form of wood pellets, wood chips and liquid biofuels. Plants take up CO2 from the atmosphere while they are growing which is released again when the fuels are burnt and there is therefore no net gain in atmospheric CO2 from burning these fuels. For this reason these emissions do not come under scope 1, 2 or 3 but are reported separately.

5. Data collection

The source of data for figures for council buildings up until 2013-14 was predominantly CRC data, which was subject to rigorous checks. CRC data was predominantly collected from billing data and readings from automated meter readers (AMR), supplemented by CRC supplier statements and meter readings taken by council staff. Other data not specifically collected for the purpose of CRC legislation used similar sources, but was not subject to the same level of checking. In 2014-15 the Council ceased to be covered by CRC legislation, but similar data collection and checking methods have been used to maintain data quality.

For contractor emissions information has been requested by email from the relevant contact and has been assumed to be based on similar sources. Transport emissions have been based on purchased fuel quantities where possible and on mileage data. For non-Council buildings the Council is reliant on data from 3rd parties, which may not be subject to the same degree of quality assurance.

A more rigorous standard of deciding whether data is estimated or not has been used from 2014-15. Electricity and gas data which is based on at least two meter readings taken within the period 3 months prior to and 3 months after the reporting year, and which are not less than 6 months (180 days) apart or more than 15 months (455 days) apart have been considered actual data. Otherwise data has been considered to be estimated. Where data is missing in a single year, the method has been to estimate consumption using data from the preceding year, using a floor area estimate, or using data from a similar building as appropriate. Where new supplies are discovered that should have been reported in previous years, the current year's data will be used to estimate previous year's consumption.

The emissions factors used are the UK Government conversion factors for Company Reporting 2014. Following revised advice from Defra we have separately reported on direct and indirect emissions from electricity and fuel consumption. Indirect emissions have been reported as a total across all Council and outsourced activities.

6. Changes to methodology

Defra revised slightly the recommended methodology used to calculate GHG emissions from 2013 onwards. The main changes are set out below:

Removal of 5 year grid rolling average

Instead of using an emissions figure which is an average of the previous 5 years grid emissions figures, reporting should now use the emissions figure for the year of reporting (for example 2012-13 reporting uses the 2012 figures). This required the baseline to be recalculated with the revised emission figures

Including Transmission and Distribution losses

Defra revised the way that these are presented in their provision of emissions factors. Due to the previous unclear structure these had been reported on incorrectly prior to 2012-13. This was rectified and Transmission and Distribution losses were included in reporting, which also required a recalculation of the baseline.

Well to Tank emissions
We were advised in 2011-12 that these did not need to be included in reporting. The updated guidance recommended including these. This also required a recalculation of the baseline.

Diesel and Petrol factors amended to reflect blending of biofuels
In the UK petrol and diesel are blended with biofuels. Biofuels take in carbon dioxide while growing so emissions of carbon released during combustion should not be included in scope 1, 2 or 3. However they should be included in the Out of scopes category in reporting. The new Defra emissions factors reflect this, where previously they were not reported in Out of scopes. This did not require a recalculation of the baseline. No figures were provided by Defra in the 2012 emissions figures, so the 2013 out of scope figures were used for comparison purposes.

Changes to flight conversions
Defra previously gave the option to include two uplift factors for air travel. One factor accounts for the fact that the distance travelled by a plane is greater than the straight line distance between airports. The other accounts for the effects of air travel that are not purely related to the volume of greenhouse gases released in burning aeroplane fuel, such as the effect of water vapour emission high up in the atmosphere. This is referred to in Defra emissions figures as radiative forcing. The distance uplift is now included and the radiative forcing recommended. These are now both included in Lewisham's reporting. This required a recalculation of the baseline.

Changes in 2014-15
In 2014-15 Defra produced Scope 1 emissions factors for Biomass from CH4 and N2O where these had not previously been included. In order to make reporting consistent the same factors were used to update figures for all previous years. This required a recalculation of the baseline.