

# Leicestershire County Council

## Greenhouse Gas Emissions Report 2016-17

### Director's Report

Leicestershire County Council is committed to protecting and enhancing the environment of Leicestershire and to improving the quality of life for Leicestershire people both now and in the future. By minimising the impacts of the Council's activities and those of the community where the Council has duties or responsibilities to control and influence them, Leicestershire County Council will contribute to the improvement of the local and global environment (Environment Policy 2011).

### 1. Introduction

A greenhouse gas is the generic term for a gas that traps heat in the atmosphere and thereby contributes to climate change. The principal greenhouse gases are carbon dioxide, methane, nitrous oxide and fluorinated gases. The first three are released into the atmosphere as a consequence of burning fossil fuels. An organisation's consumption of electricity, gas, oil, petrol and diesel therefore results in the emission of greenhouse gases, either directly (eg. burning gas) or indirectly (eg. using electricity generated at a coal fired power station). Fluorinated gases are used in refrigeration and air conditioning and leakage results in emissions of these into the atmosphere.

Leicestershire County Council is committed to measuring and reporting its environmental performance in order to better understand its impacts and to monitor progress towards the targets in its Environment Strategy. This Greenhouse Gas Report is part of this commitment and in accordance with Government recommendations it is published on the Council's website.

### 2. Operational Scope

The Council has followed the Government's Environmental Reporting Guidelines, published by DEFRA (2015). As required, all Scope 1 and Scope 2 emissions have been included and Scope 3 emissions have been included where reliable data exists. A description of the three scopes is shown below:

- **Scope 1** (Direct emissions) Activities owned or controlled by your organisation that release emissions straight into the atmosphere. Examples of scope 1 emissions include emissions from combustion in owned or controlled boilers, owned or controlled vehicles.
- **Scope 2** (Energy indirect) Emissions being released into the atmosphere associated with the 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.

The most common type of Scope 2 emission is electricity purchased for own consumption from the National Grid or a third party.

- **Scope 3** (other indirect) Emissions are **discretionary** to include that are a consequence of your actions, which occur at sources which you do not own or control and which are not classified as scope 2 emissions. Examples of scope 3 emissions include business travel not owned or controlled by your organisation (eg. use of public transport), commuting, use of 'grey fleet' (i.e. use of employees' own cars for which fuel costs are claimed back via expenses), emissions from contractors, and supply chain procurement.

All emissions are expressed as CO<sub>2</sub> equivalent tonnes.

Appendix 1 lists each source and scope and briefly describes the basis for inclusion or exclusion in this report.

### 3. Organisational Boundary

The Council has used the Financial Control approach to define the boundary of Leicestershire County Council's operations and activities for the greenhouse gas report. Within the boundary the Council has excluded greenhouse gas emissions from schools (all scopes) and contracted services such as waste disposal and business travel by public transport (Scope 3) due to the cost of data collection and/or its availability. The Council has included the direct emissions resulting from the assets and operations where the Council is responsible for the purchase of energy or fuel. Transmission and Distribution losses are included for electricity consumption (Scope 3) but Well To Tank (Scope 3) emissions have not been reported as they are discretionary. The Council has excluded the emissions resulting from activities undertaken by contractors in order to ensure these emissions are not double-reported and due to limited requirements for contractors to annually monitor energy and fuel usage within existing contracts.

### 4. Geographic Breakdown:

Leicestershire County Council does not operate outside the UK, all emissions are UK based.

### 5. Base Year and Target

The adopted baseline year is 2008-09 which the Council set in its Environment Strategy using a fixed base year approach.

The base year recalculation policy is to recalculate the base year and the prior year emissions for relevant significant changes which meet the significance threshold of 5% of total base year emissions.

The Strategy includes a commitment to reduce carbon emissions from the Council's own estate and operations by 34% against this base year by the end of 2020-21.

Joanna Guyll, Assistant Director Environment of the Environment and Transport Department, is responsible for the achievement of the target.

## **6. Calculation**

Emissions have been calculated in accordance with these figures and the guidance provided. Activity data has been collected for fuel consumption in buildings and vehicles. Wherever possible this has been actual consumption based on bills, invoices and receipts. Estimated activity covers less than 5% of emissions from building energy consumption and is based on extrapolation from known previous activity data. Activity data by volume or mass e.g. kWh of energy or litres of fuel have been prioritised for accuracy, however where this is not available other methods have been employed for example km travelled have been used for some transport sources.

The appropriate emissions factors for each year are drawn from the [DEFRA Greenhouse Gas Conversion Factor Repository](#).

## **7. External Assurance Statement**

Leicestershire County Council has not sought independent external assurance of the Greenhouse Gas report.

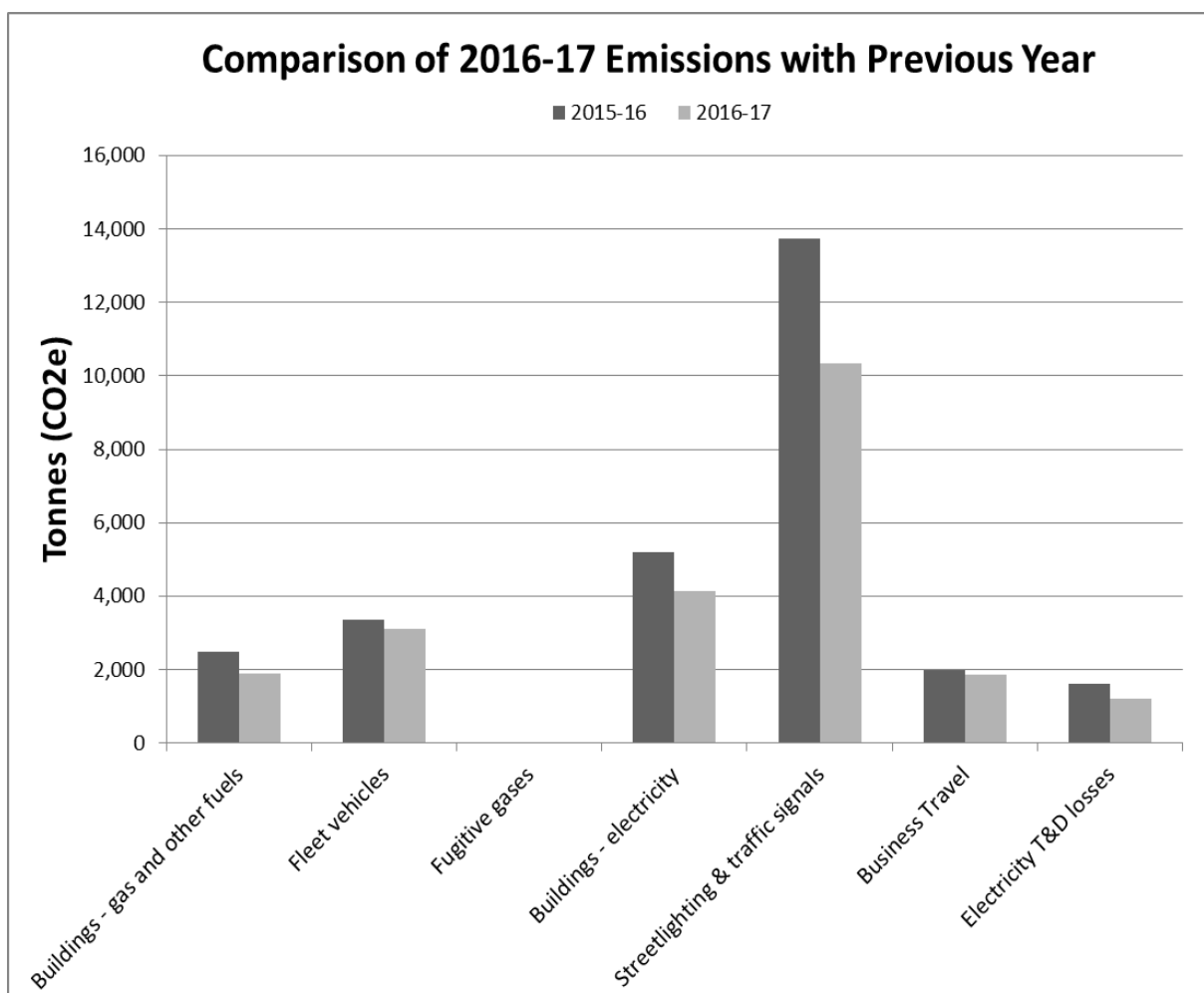
## **8. 2016-17 Emissions**

Figure 1 summarises the County Council's greenhouse gas emissions for the 2016-17 year (April to March) and compares these to emissions in the previous year (2015-16) and to the baseline year (2008-09).

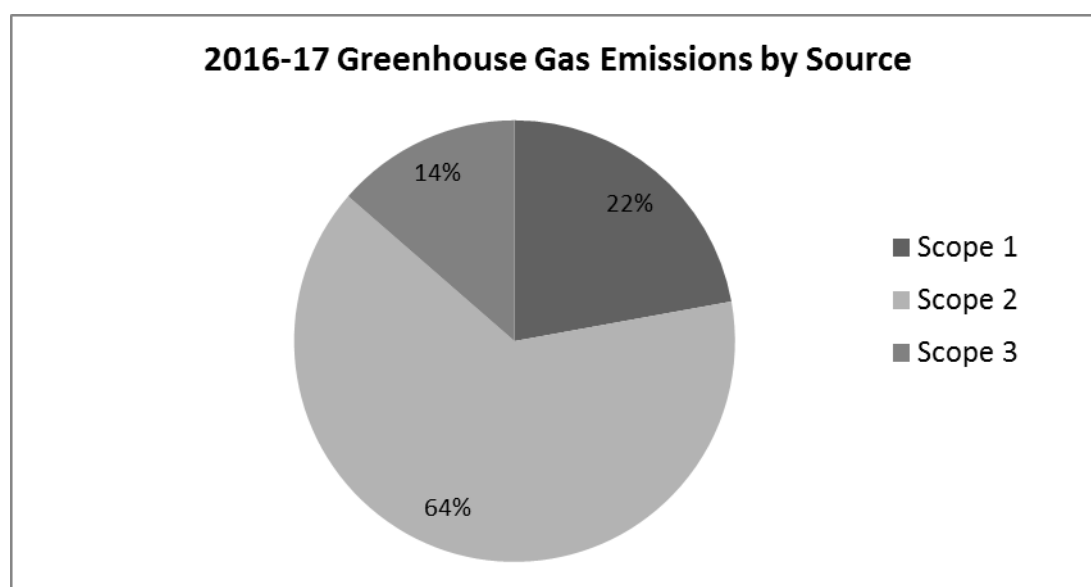
GHG emissions data for period 1 April 2016 to 31 March 2017 (tonnes of CO2e)						
	Sector	2016-17	2015-16	% change	Base Year 2008-09	% change
Scope 1 – Direct emissions e.g. boilers, owned transport, air conditioning gases	Buildings	1,878	2,484	-24.4%	4,317	-56.5%
	Fleet vehicles	3,106	3,341	-7.0%	4,358	-28.7%
	Fugitive gases	0.01	14	-100.0%	n/a	n/a
	<b>Sub-total</b>	<b>4,984</b>	<b>5,839</b>	<b>-14.6%</b>	<b>8,675</b>	<b>-42.5%</b>
Scope 2 – Energy Indirect e.g. purchased electricity	Buildings	4,138	5,186	-20.2%	6,562	-36.9%
	Streetlighting & traffic signals	10,333	13,731	-24.7%	15,581	-33.7%
	<b>Sub-total</b>	<b>14,471</b>	<b>18,917</b>	<b>-23.5%</b>	<b>22,143</b>	<b>-34.6%</b>
Scope 3 – Other Indirect e.g. business travel	Business Travel	1,865	1,974	-5.5%	3,237	-42.4%
	Electricity Transmission & Distribution losses	1,200	1,618	-25.8%	1,722	-30.3%
	<b>Sub-total</b>	<b>3,065</b>	<b>3,592</b>	<b>-14.7%</b>	<b>4,959</b>	<b>-38.2%</b>
<b>Total Gross Emissions</b>	<b>TOTAL</b>	<b>22,520</b>	<b>28,348</b>	<b>-20.6%</b>	<b>35,778</b>	<b>-37.1%</b>
Carbon offsets		0	0		0	
Renewable energy exports		-48	-19		0	
Green tariff		0	0		0	
<b>Total annual net emissions</b>		<b>22,472</b>	<b>28,329</b>	<b>-20.7%</b>	<b>35,778</b>	<b>-37.2%</b>
<b>Intensity measure: Tonnes of CO2e per Full Time Equivalent employee*</b>	FTE	4,519	4,763	-5.1%	6,880	n/a
		<b>4.97</b>	<b>5.95</b>	<b>-16.4%</b>	<b>5.2</b>	<b>-4.4%</b>
Petrol and diesel (Outside of Scope)		59	88	-32.7%		
Woodchip (Out of Scope)		652	786	-17.1%		

\*The intensity measure in 2008/09 was based on all County Council emissions/staff **including** schools, in 2014/15 and 15/16 it is based on County Council emissions/staff **excluding** schools

**Figure 1: Leicestershire County Council's greenhouse gas emissions during 2016-17 with a comparison to the previous year and the baseline year of 2008-09.**



**Figure 2:** Greenhouse gas sources in 2016-17 compared to those from 2015-16



**Figure 3:** Greenhouse gas emissions for 2016-17 in each scope

## Commentary Report

### 9. Company Information

Leicestershire County Council is the local government authority that provides council services within the Leicestershire area.

Registered address is:

County Hall  
Glenfield  
Leicestershire  
LE3 8RA.

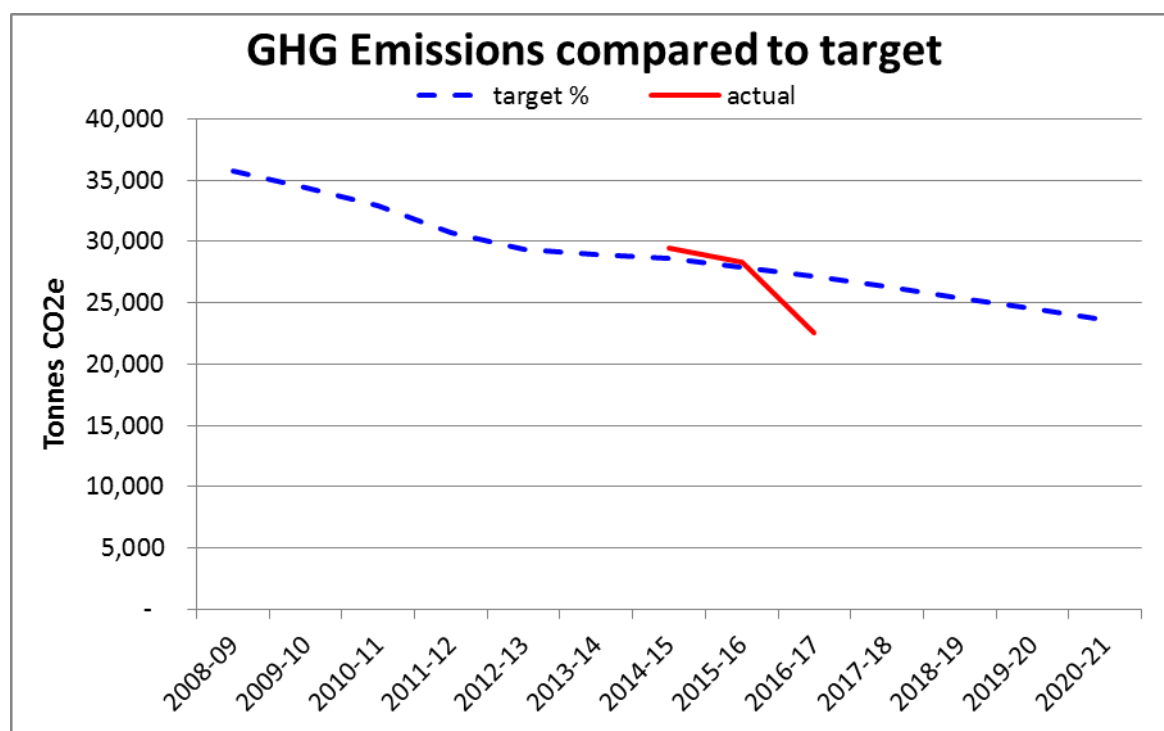
### 10. Reporting Period

1 April 2016 to 31 March 2017

### 11. Change in Emissions

Emissions have fallen by 37.3% during 2016-17 compared to the 2008-09 baseline year and by 20.8% compared to 2015-16.

The 2016-17 emissions total has fallen below the target projection for the first time and has surpassed the reduction target set for 2020-21, as illustrated in figure 4.



**Figure 4:** Leicestershire County Council's greenhouse gas emissions compared to the target stated in its Environment Strategy.

Emissions from all contributory sources of greenhouse gas emissions have fallen this year.

### **Buildings (gas and other heating fuels)**

A significant decrease (24.4%) is that from gas use in buildings, due to the installation of a biomass boiler at County Hall, the Council's largest building. This is despite the boiler being out of service for several months due to a mechanical problem.

### **Fleet vehicles**

The 7% reduction in emissions from the Council's vehicles reflects a modernisation of part of the fleet and improved monitoring of both vehicles movements and driver behaviour through a tracking system.

### **Fugitive gases**

This is calculated from the replacement gases used during maintenance of the Council's air conditioning units. Very little was needed this year though overall this source represents a minor contribution to the overall total.

### **Building electricity**

A 20.2% fall in electricity consumption and related emissions has been helped by the Council reducing the number of buildings it uses to provide services as well as a continued programme of energy efficiency and renewable energy investments in the remaining property estate. However half of this reduction (10.1%) can be attributed to a change in the carbon conversion factor reflecting decarbonisation of the national electricity supply.

### **Street lighting and traffic signals**

The 24.7% reduction in street lighting and traffic signal energy consumption is partly due to the lower carbon conversion factor but also a result of the Council's project to replace sodium lights with LEDs which is around 70% complete.

### **Business travel**

Emissions from business travel reduced by 5.5% as a result of fewer business miles claimed by staff. A number of projects are aimed at reducing the need to travel and managing staff journeys.

### **Electricity T&D losses**

The 25.8% reduction follows from the reduced consumption described above and the lower carbon conversion factor.

## **12. Intensity Measurement**

The Council has adopted 'Full Time equivalent employee' as the intensity factor across the organisation. For 2008-09 the intensity factor has been applied to both County Council and schools emissions as information on all employees was available at that time. For 2014-15 onwards the intensity measure has only been applied to the County Council's emissions (excluding schools) as the Council no longer holds comprehensive data on Academy school employees nor energy use. The Council continues to develop intensity factors for specific emissions sources which more closely reflect the nature of the service.

## **13. Carbon Offsets**

Leicestershire County Council has not purchased any carbon offsets.

## **14. Renewable energy exports**

The Council has invested in photo-voltaic solar panels on around 20 of its buildings. It is estimated that around 25% of the electricity generated is not used directly in these buildings and is instead exported to the grid for others to use. This effectively replaces the need for electricity to be generated from a fossil fuel power station and can be used as a credit in the greenhouse gas report. County Hall generation has been excluded from the calculation as the high baseload in this building is likely to mean that all generated electricity is used in situ.

## **15. Green Tariffs**

Leicestershire County Council has not purchased any green tariff electricity during 2016-17 financial year.



## Appendix 1 - Operational Scopes

The Council has measured the scope 1, 2 and significant scope 3 emissions, where accurate and annual data was available for the period.

Specific exclusions and % this represents for relevant scope (excluding geographic exclusions)	
<b>Scope 1</b>	
Council combustion e.g. gas, solid and liquid fuels in boiler plant	Less than 5% of total fuel use excluded where information was unavailable.
Owned transport	Fuel consumption has been excluded if LCC does not pay for fuel
Process emissions	Waste processing is a contracted service under Scope 3 and has not been calculated. LCC has no responsibility for any process emissions under Scope 1
Fugitive emissions	Emissions from air conditioning gas top ups have been included but information was not pursued for the school estate. Assuming the school emissions are proportionate to other emissions this represents less than 1% of Scope 1.
<b>Scope 2</b>	
Purchased electricity	No exclusions
<b>Significant Scope 3</b>	
Electricity and natural gas	Well To Tank emissions have been excluded
Solid and liquid fuels	Well To Tank emissions from liquid and solid fuels consumption have been excluded e.g. diesel, LPG, coal
Business travel	Business travel by public transport has been excluded, based on previous years this represents approximately 1% of Scope 3.
Employee commuting	LCC does not routinely monitor commuting so information was not available.
Waste disposal	LCC has excluded waste disposal but monitors waste data and has scoped the significance of this source.
Product in use	Excluded due to lack of good quality information.
<b>Out of Scope</b>	
Biomass fuel - woodchip	As a renewable fuel source, the carbon emitted from burning is not included in the calculation as this will be reabsorbed by growing fuel trees as part of the natural carbon cycle.
Vehicle fuels – petrol and diesel	Standard vehicle fuels include a small percentage of biofuels. The carbon emissions from this element is 'out of scope' as it will be reabsorbed by new biomass crops.