

Leicestershire County Council Greenhouse Gas Emissions Report 2019-20

Director's Report

There are clear drivers for action to protect and improve the environment and to tackle climate change at a global, national and local level. Leicestershire County Council (LCC) is building on its longstanding commitment to the environment and taking action to reduce the impact of its operations on the environment, its contribution to climate change and to ensure its assets are resilient to the effects of climate change. The Council is also working with partners to protect and enhance the Leicestershire environment and to help to deliver sustainable development by recognising and fostering the links between the environment, people and the economy (Environment Strategy 2018 - 2030).

A new Environment Strategy was approved in July 2018, which included a new target for greenhouse gas (GHG) reduction. The Environment Strategy was subsequently revised in July 2020 to account for the Council's declaration of a Climate Emergency in May 2019. The declaration committed the authority to achieving net zero GHG emissions by 2030 for its own operations. Furthermore, the declaration committed the Council to working with partners and lobbying government to make the wider 2050 net zero target possible for Leicestershire and to limiting global warming to less than 1.5°C in line with Paris Agreement.

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 (e.g. burning gas) or indirectly (e.g. 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 (2019). As required, 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 our 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 (e.g. 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 CO₂ equivalent tonnes i.e. CO₂e.

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 GHG 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 and purchased electricity resulting from the owned and leased assets and operations where the Council is responsible for the purchase of energy or fuel.

A change was made this year in the treatment of electricity usage by tenants at one of the council's commercial buildings. Previously the entire building's consumption was included in the County Council's emissions. However, new information revealed that tenants' electricity usage is recharged to them based on submeter readings. This means that, as with other commercial buildings, this portion of the usage should not be counted in the County Council's emissions. A correction has therefore been made in the figures for 2019-20 and 2018-19.

Transmission and Distribution losses are included for electricity consumption (Scope 3). These are emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organisations that purchase it). 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 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 2011 using a fixed base year approach.

Where there are relevant significant changes in the factors that informed the calculation of the base year emissions, such as the sale of council buildings, that result in a greater than 5% cumulative change in the total base year emissions, then the emissions for the base year and the year prior to the reporting year will be recalculated.

The Environment Strategy 2018-2030 includes a commitment to reduce carbon emissions from the Council's own estate and operations to net zero by 2030.

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

6. Calculation

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. Emissions have been calculated in accordance with these figures and the guidance provided.

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

Emissions factors published in 2019 have been used for the purpose of this report, as the majority of the period covered by this report fell in 2019.

7. External Assurance Statement

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

8. 2019-20 Emissions

Figure 1 summarises the County Council's greenhouse gas emissions for the 2019-20 year (1 April to 31 March) and compares these to emissions in the previous year (2018-19) and to the baseline year (2008-09).

GHG emissions data for period 1 April 2019 to 31 March 2020 (tonnes of CO2e)						
	Sector	2019-20	2018-19	% change	Base Year 2008-09	% change
Scope 1 – Direct emissions e.g. boilers, owned transport, air conditioning gases	Buildings	1,765	1,589	11.1%	4,317	-59.1%
	Fleet vehicles	2,944	2,739	7.5%	4,358	-32.4%
	Fugitive gases	12.57	52.826	-76.2%	n/a	n/a
	Sub-total	4,722	4,380	7.8%	8,675	-45.6%
Scope 2 – Energy Indirect e.g. purchased electricity	Buildings	2,092	2,360	-11.4%	6,562	-68.1%
	Streetlighting & traffic signals	2,845	3,435	-17.2%	15,581	-81.7%
	Sub-total	4,937	5,796	-14.8%	22,143	-77.7%
Scope 3 – Other Indirect e.g. business travel	Business Travel	1,585	1,696	-6.6%	3,237	-51.0%
	Electricity Transmission & Distribution losses	419	494	-15.2%	1,722	-75.7%
	Sub-total	2,004	2,190	-8.5%	4,959	-59.6%
Total Gross Emissions	TOTAL	11,663	12,366	-5.7%	35,778	-67.4%
Carbon offsets		0	0		0	
Renewable energy exports		-33	-33		0	
Green tariff		0	0		0	
Total Net Emissions		11,630	12,334	-5.7%	35,778	-67.5%
Intensity measure: Tonnes of CO2e per Full Time Equivalent employee*	FTE	5,129	4,624	10.9%	6,880	n/a
		2.27	2.67	-15.0%	5.2	-56.4%
Petrol and diesel (Outside of Scope)		0.09	0.06	50.5%		
Woodchip (Out of Scope)		935	753	24.2%		

Figure 1: Leicestershire County Council's greenhouse gas emissions during 2019-20, with a comparison to the previous year and the baseline year of 2008-09.

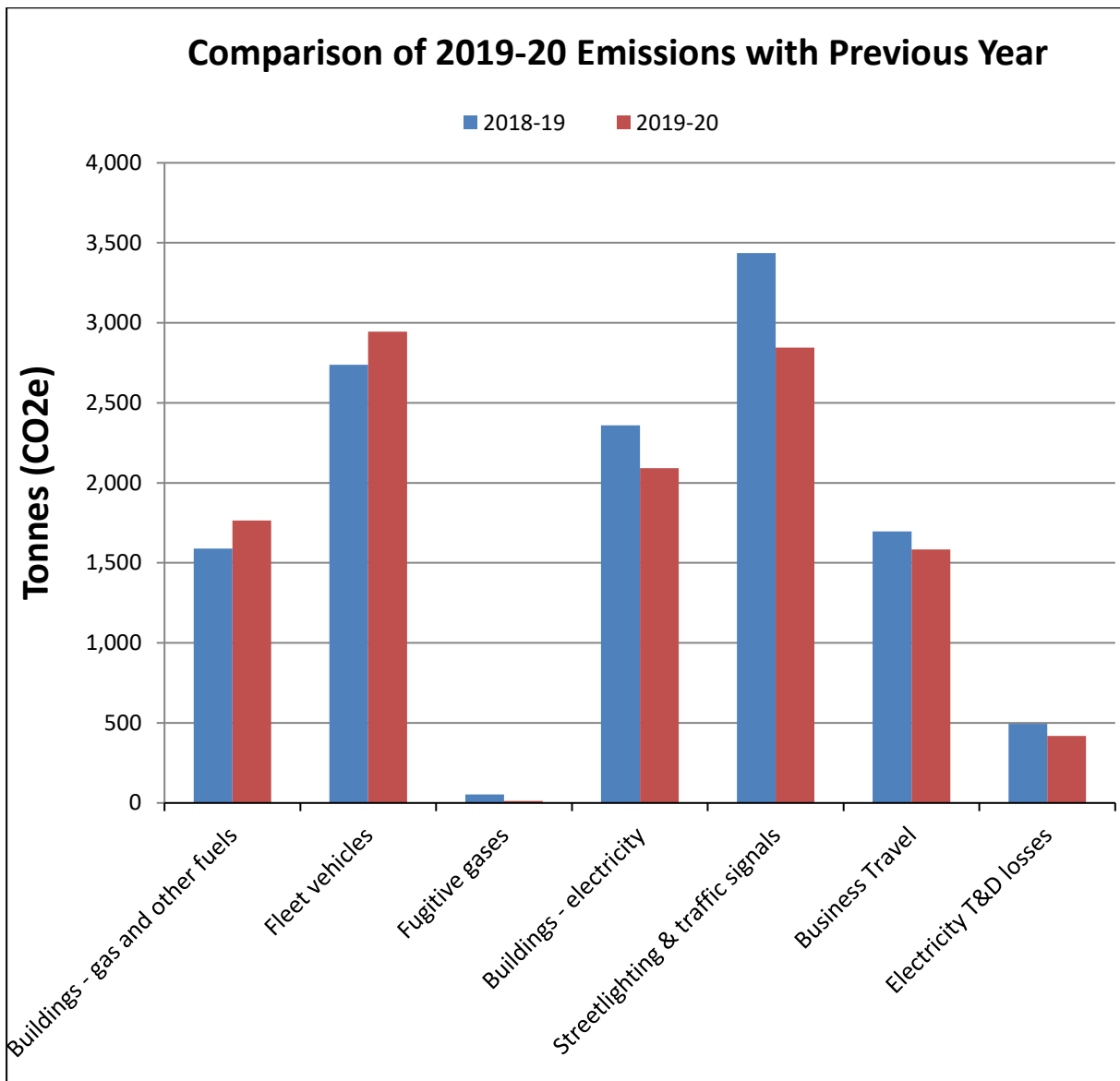


Figure 2: Greenhouse gas sources in 2019-20 compared to those from 2018-19

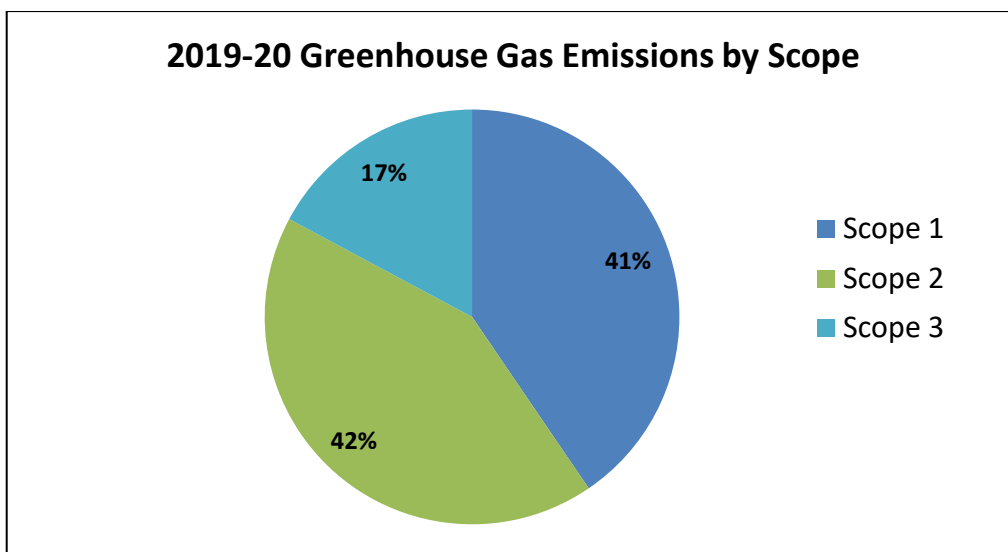


Figure 3: Percentage of greenhouse gas emissions for 2019-20 in each scope

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

1st April 2019 to 31st March 2020

11. Change in Emissions

Gross emissions have fallen by 67.4% during 2019-20 compared to the 2008-09 baseline year, and by 5.7% compared to 2018-19. The 2019-20 emissions total has continued to fall below the Council's carbon reduction targets, including its recent net zero 2030 target, included in the revised Environment Strategy 2018-2030. This is illustrated below in figure 4.

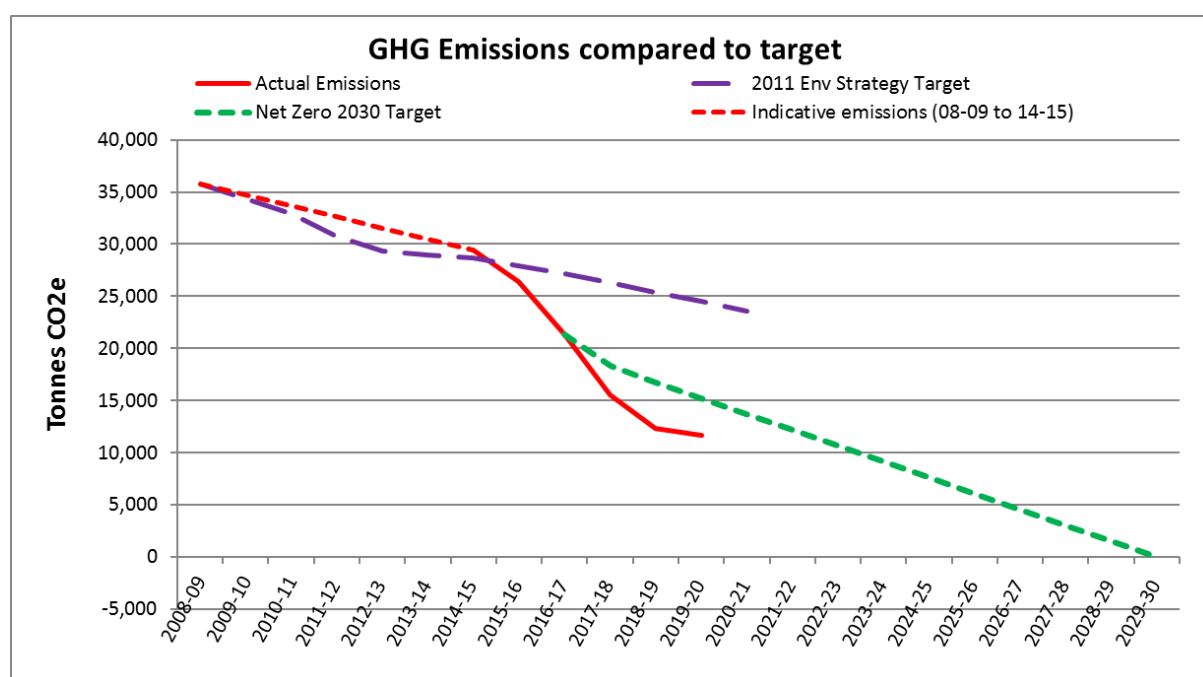


Figure 4: Leicestershire County Council's actual greenhouse gas emissions compared to the target in the 2011 Environment Strategy & the current net zero 2030 target

Emissions from most contributory sources of greenhouse gas emissions have fallen this year, except for fleet fuel and buildings gas and other fuels use.

Buildings (gas and other heating fuels)

GHG emissions from gas and other fuel use in buildings has increased this year by 11.1%. However, this was mainly due to colder weather. When the figures are adjusted for temperature, consumption shows a downward trend. In addition, woodchip consumption increased by 24%, and its carbon conversion factor also increased slightly.

On the other hand, the use of other heating fuels such as LPG and kerosene reduced on average by 12% during the year. This is due to increased staff awareness of the effective use of heating controls and systems, as well as reducing the length of time that the heating is on.

Fleet fuel and distance

Fuel emissions from Council vehicles have increased this year by 7.5%, the second year in a row to show an increase. The increase was mainly due to an increase in fuel use from surface dressing and winter gritting activities. The results of a Green Fleet Review and a Fleet Management Review are informing plans to reduce emissions in this area going forward.

Fugitive gases

This is calculated from the replacement gases used during maintenance of the Council's air conditioning units. The figure has reduced during 2019-20, down from 52.8 tonnes in 2018-19 to 12.6 tonnes in 2019-20. These figures by their nature can be highly variable.

Building electricity

An 11.4% fall in electricity consumption related emissions has been helped by a continued programme of energy efficiency and renewable energy investments in the remaining property estate. Most (84%) of this reduction can be attributed to a change in the carbon conversion factor (reduced by 9.7% compared to 2018-19), reflecting the continual decarbonisation of the national electricity supply.

Street lighting and traffic signals

Carbon emissions from LCC street lighting and traffic signs improved notably in performance, as emissions fell by 17.2% (from 3,435 tonnes in 2018-19 to 2,845 tonnes in 2019-20) and exceeded its target (6,079 tonnes). This is mainly due to the lower carbon conversion factor (brought about by increasing green energy feeding into the electricity grid), but also as a result of energy saving measures the Council has introduced such as further 'trimming and dimming' of the streetlighting system.

Business travel

Emissions from business travel reduced by 6.6% as a result of 275,000 less business miles claimed by staff in 2019-20 compared to the previous year. 71% of this reduction occurred in Q4 2019-20, which included 2 weeks of the coronavirus lockdown with most staff working from home and movement restricted. Quarter 4 2019-20 had the lowest quarterly mileage claims figure on record up to that point.

Prior to lockdown, several projects were also in place which aimed to reduce the need to travel and manage staff journeys. These included the increased use of technology to enable more online meetings, provision of an electric pool

vehicle and a flexible working policy. These may have also contributed to some of the reduction in business mileage.

Electricity transmission & distribution losses

There was a 15.2% reduction in emissions from electricity transmission & distribution losses. This was due to the reduced consumption detailed 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 22 of its buildings. It is estimated that 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, meaning 209,360 kWh of grid usage was avoided by County Hall alone in 2019-20.

15. Green Tariffs

Leicestershire County Council changed its electricity contract to a green tariff contract in October 2019, meaning from that point, all of its grid electricity use came from renewable sources. However, this renewable generation has already been taken into account in calculating the national "average grid electricity carbon emissions factor" for this year. Hence, in line with DEFRA guidance and the international Greenhouse Gas Protocol (location-based method), we calculate our emissions based on this national average factor.

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)
Scope 1	
Council combustion e.g. gas, solid and liquid fuels in boiler plant	All fuel used in LCC owned and leased buildings where we are responsible for the bills (excludes schools). Less than 5% of total fuel use excluded where information was unavailable.
Owned and leased 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	The data we currently maintain on Refrigeration and Air conditioning equipment is held to ensure compliance with F-Gas Regulations and does not directly translate to the Greenhouse Gas Emissions reporting requirements and is to be treated with some caution due to annual variability. 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.
Scope 2	
Purchased electricity	All electricity used in all LCC owned and leased buildings where we are responsible for the bills (excludes schools).
Significant Scope 3	
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.

Out of Scope	
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.