

**NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL
CABINET
WEDNESDAY, 19 JULY 2022**

ZERO CARBON REPORT APPENDIX

APPENDIX ONE

1. COVID-19 IMPACT, HYBRID WORKING AND COUNCIL ACCOMMODATION

The Department for Business, Energy and Industrial Strategy (BEIS), in their provisional emissions results reported in March 2022, advise that Covid-19 will have had a significant impact on greenhouse gas emissions in the UK in 2021, in particular from transport and business, although less so compared to 2020 as restrictions were gradually eased throughout the year.

Since March 2020, due to the global pandemic, there has been a switch to hold meetings, forums and webinars on-line and this has challenged many organisations to re-think their operating models. A BBC survey in April 2021 of 50 of the UK biggest employers reported that almost all do not plan to bring staff back to the office full-time.

During the pandemic, the council delivered its services predominantly remotely, supported by technology and flexible working arrangements. In July 2021, the council adopted its hybrid working model which embraces flexible and agile working arrangements whilst retaining a focus on delivering the best possible level of customer service. This arrangement will see many individuals mixing office work with home working, dependent on their role and personal preference, on a permanent basis.

The council has now confirmed changes to its office accommodation, downsizing the space required due to the hybrid working model, and will re-locate the main council offices to Whitwick Business Centre in autumn 2022. As well as the energy efficiency opportunities a smaller, more modern office space presents, it should also be noted that with hybrid working there will also be a reduction in personal commuting mileage, compared to the pre-pandemic operation model, another positive impact on our zero carbon agenda.

2. NET ZERO LEICESTERSHIRE 2045

Leicester County Council (LCC) published their draft net zero strategy and action plan 2045 in May 2022. The plan outlines the approach county proposes to take to achieve its net zero by 2045 ambition and includes:

- enabling actions of leadership through collaboration, research and innovation, informing, engaging and involving and finance
- carbon reduction strategic themes and net zero objectives of decarbonising transport, net zero infrastructure, green economy, climate friendly communities, nature and land use as carbon stores

A consultation has been launched which runs from 12 weeks from 4 May to 26 July 2022 (<https://www.leicestershire.gov.uk/have-your-say/current-engagement/net-zero-strategy-and-action-plan-2045>). The output will provide a useful insight for NWLDC.

The plan recognises several areas for district council involvement and shared agendas. This is an opportunity to work together across Leicestershire and drive the shared net zero carbon agenda.

3. EMISSIONS MEASUREMENT

3.1. Methodology and Considerations

Members requested that officers consider how they could report the impact of action taken on carbon emissions. This section provides an update on the work undertaken to date.

Measuring emissions is highly complex. At a simple level, usage data can be converted to emissions by applying UK Government department BEIS (Department for Business, Energy & Industrial Strategy) carbon emission factors.

Greenhouse gas emissions are divided into difference scopes:

- Scope 1 – the emissions that the council makes directly
 - e.g. running boilers and vehicles
- Scope 2 – the emissions that the council makes indirectly
 - e.g. electricity to heat or power buildings
- Scope 3 – the most complex, the emissions that the council is indirectly responsible for up and down its value chain
 - e.g. buying products from its suppliers

Greenhouse gas emissions are usually reported in the unit of “CO_{2e}” which is an abbreviation for “carbon dioxide equivalent”. It is recognised as the standard unit to measure and compare emissions from greenhouse gases based on how severely they contribute to global warming. Metrics for CO_{2e} show how much a gas would contribute to global warming if it were carbon dioxide, which is estimated to account for 80% of emissions on average in recent years.

It should be noted that in the future, emissions reporting may expand to report on more categories which may result in an increase in reported emissions at total level but actually reflect an improvement on prior year on a like-for-like basis.

At NWLDC, an example would be that our property portfolio could change through acquisition or sale impacting utility usage; but a reduction in usage could also be due to the change to a more efficient, lower carbon heating system.

The aim is to increase awareness of our greenhouse gas emissions, to use data to help influence decision making and to improve emissions reporting.

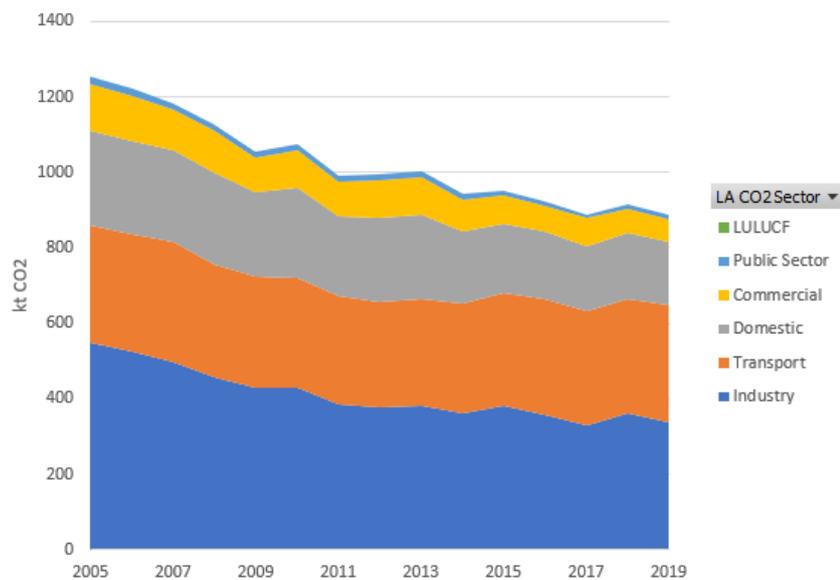
3.2. District Emissions – Government data

BEIS produces local authority territorial carbon emission estimates data released annually each summer. This data is produced two years in arrears, for example, 2020 carbon data will be published in 2022, and is based on territorial CO₂ emissions, those that occur within the district’s borders.

These statistics provide the most reliable and consistent breakdown of CO₂ emissions across the country using nationally available datasets going back to 2005. (Source: UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2019 - GOV.UK (www.gov.uk)).

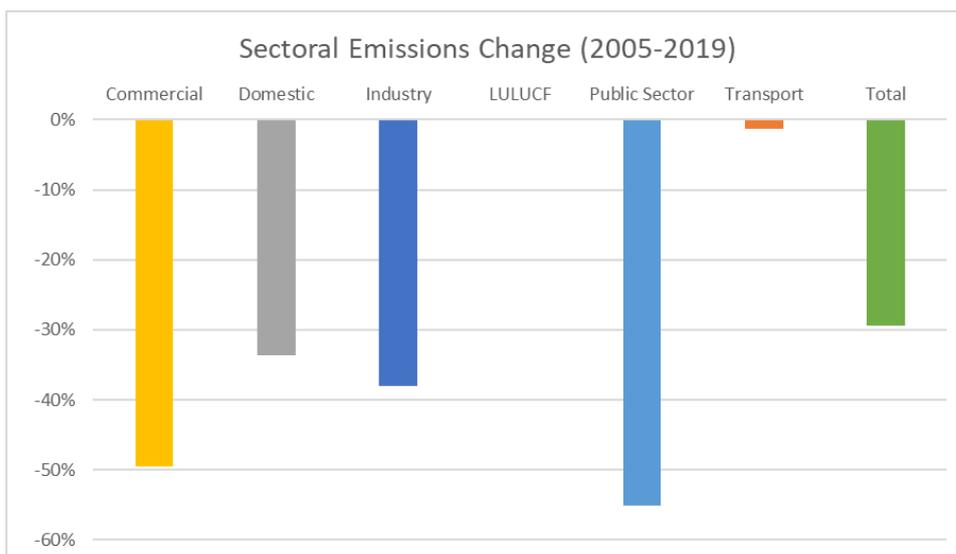
Each year, the intention is that North West Leicestershire district emissions will be assessed against our 2050 target to assess whether carbon reduction is 'on track' using the dataset that BEIS publishes of emissions within the scope of Local Authorities. The data used excludes emissions that Local Authorities do not have direct influence over – for example, transport motorway emissions are removed.

This data indicates the following reductions since 2005:

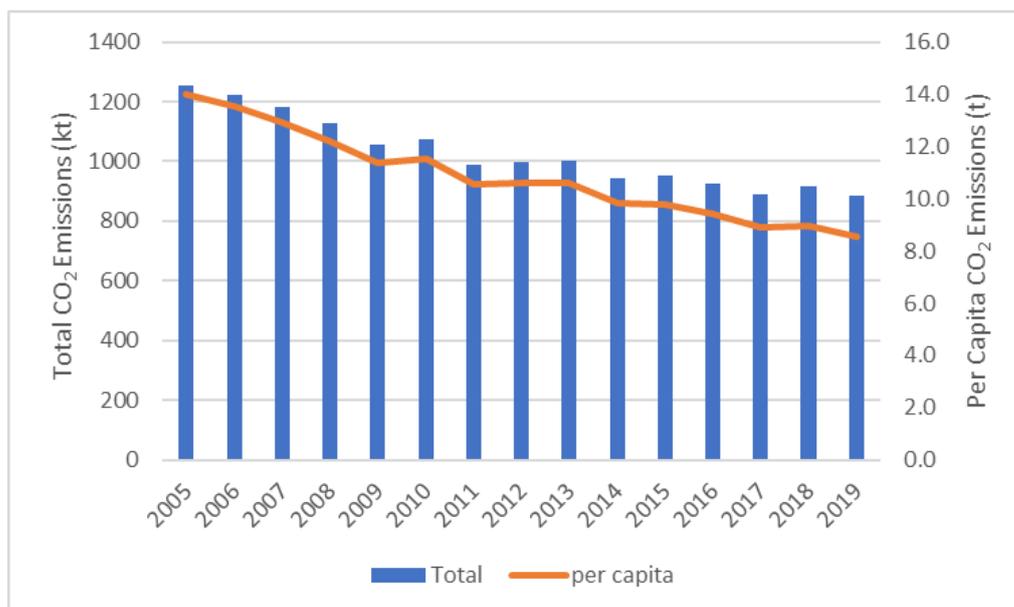


Note: LULUCF = Land use, land use change and forestry

The data is split by sector and the chart below illustrates the percentage change between 2005-2019.



Adding in population data indicates that the reduction per capita is improving at a faster rate.



A key driver of the reduction is the decrease in use of coal for electricity generation.

3.3. Council Emissions – In-house data

The Local Government Association (LGA) has developed a tool to help councils report emissions, based on the BEIS conversion factors. It is the tool that NWLDC has selected to report. NWLDC reporting has been completed for the main scope 1 (gas, fleet) and scope 2 (electricity) elements over the last three financial years.

Usage data for utilities has been sourced from NWLDC invoices whereas fleet data has been sourced from fuel systems and tracker systems. Leisure Centre usage has been excluded from this data as Hermitage and Ashby Leisure Centres moved to Everyone Active during 2019. This reporting will be a future development.

Summary of emissions status:

GHG emissions tCO ₂ e	Sector	2021-22	2020-21	% Change	2019-20	% Change 21/22 v 19/20	Difference tCO ₂ e
Scope 1 - Direct Emissions							
Gas	Buildings	681.4	720.5	-5.4%	698.1	-2.4%	-16.7
Diesel, HVO*	Fleet vehicles	797.7	880.8	-9.4%	955.8	-16.5%	-158.0
Scope 2 - Energy indirect							
Purchased electricity	Buildings	282.0	327.2	-13.8%	429.6	-34.4%	-147.6
Total Emissions		1761.2	1928.4	-8.7%	2083.5	-15.5%	-322.3

* HVO emissions assumed at 10% of diesel

HVO - fleet switched to HVO 19/1/22 (71 days); assumption is Housing switched 1/3/22 (31 days)

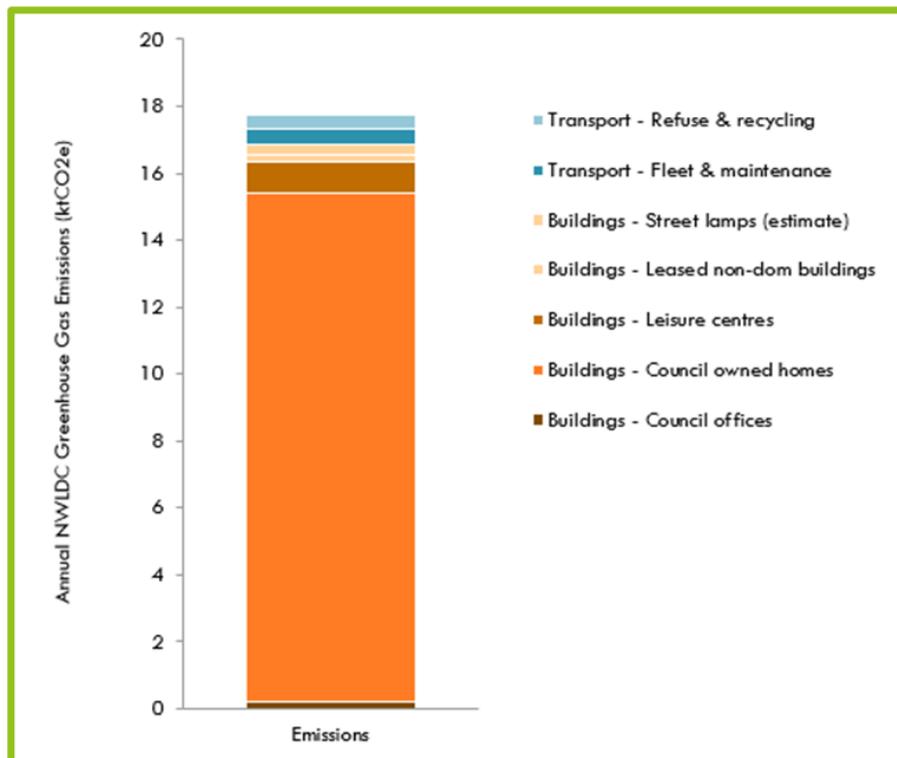
Further analysis is required to understand the causes of change. It is recognised that Covid will have impacted usage both positively and negatively during 2020/21 and 2021/22.

As data collection is improved, Scope 3 emissions need to be considered.

Scope 1	Scope 2	Scope 3
Fuel combustion Company vehicles Fugitive emissions	Purchased electricity, heat and steam	Purchased goods and services Business travel Employee commuting Waste disposal Use of sold products Transportation and distribution (up- and downstream) Investments Leased assets and franchises

3.4. Buildings

The council's zero carbon roadmap clearly identifies the importance of buildings in reducing the council's emissions.



Source: Zero Carbon Roadmap, Etude, Baseline year 2016

Buildings are rated on their energy performance as part of their “EPC” review, a “energy performance certificate”. Behind an EPC grading is a “SAP” rating, a “standard assessment procedure”.



EPC calculations consider the amount of energy used by tracing potential sources of energy loss – for example, to get a good rating, the floors, walls and roof should have good insulation so the heat remains within the building.

The SAP methodology is used by government to assess and compare the energy and environmental performance of buildings. The SAP framework will be updated in summer 2022 to reflect the updated Building Regulations Part L and will incorporate various changes to the methodology including updated CO_{2e} emissions.

As the energy efficiency ratings of our property portfolio improves, this will drive an emissions saving, however this will vary on the type of works undertaken and the specific building and will be impacted by how the tenant within the building operates. The council does not have access to all of this information.

We can, however, report a before/after status on any improvement works, based on the EPC rating of each building.

As part of the improvements to 56 of our social housing properties, supported by LAD1B scheme, the following EPC improvements have been confirmed:

LAD1 B	EPC Before	EPC After
A		4
B		30
C		22
D	2	
E	50	
F	4	
Total	56	56

NWLDC was also awarded further LAD1B funding to help improve an additional 30 social housing properties:

LAD1 B Ext	EPC Before	EPC After
A		1
B		21
C		8
D	11	
E	18	
F	1	
Total	30	30

Across the total 86 properties which were improved, based on EPC data, average carbon emissions reduced from 5.1 tCO₂ per year to 1.5 tCO₂. At property level, the average emissions per year were:

Before		After	
	Avg CO ₂		Avg CO ₂
D	4.1	A	0.5
E	5.8	B	1.0
F	7.5	C	2.4

Further work is required, together with Property Services and Asset Management, to report on the energy performance of the council's entire building portfolio across both social housing and commercial operation.

3.5. EV charging

Usage of the EV charging points in NWLDC car parks is growing across all locations, showing a recovery from the impact of Covid. There are increases in the number of users and the number of charges and a much wider variety of vehicle brands is now being seen.

The data below is a summary from the usage data. The CO_{2e} savings quoted are based on the assumption of standard electricity, not from a renewal source.

Financial Year	No. of Charges	% Change	kWh Used	% Change	Sum of CO ₂	% Change
2019-2020	297		5285		2960	
2020-2021	141	-53%	2029	-62%	1136	-62%
2021-2022	1158	721%	16855	731%	9439	731%
Grand Total	1596		24170		13535	

3.6. Food Waste

From the start of the trial in November 2019 to the end of March 2021, the service collected 137.79 tonnes of food waste which, based on a conversion rate provided by the recognised body WRAP (Waste and Resources Action Programme), represents a saving of 97.14 tCO_{2e}.

In the financial year 2021/22, 206.68 tonnes of food waste were collected, which equates to a saving of 155.01 tCO_{2e}.

3.7. Recycling

Consideration has been given to understand the greenhouse gas impacts of waste management across the district. Drawing on the methodology published by WRAP, analysis is under development to estimate emissions savings as a result of diverting waste volume from landfill through recycling.

The conversion factors and volume per tonne highlight the importance of diverting compost/garden bin waste and paper and cardboard from landfill from a carbon emissions perspective.

Leicester County Council has confirmed that in quarter 3 2021/22 (Oct-Dec 2021), 100% of waste was 100% incinerated not landfilled. This is reported quarterly and can vary but needs to be factored into the analysis.

A refresh of the Recycle more programme is planned in Year 3.