

2030 Net Zero Council Action Plan

Part of the Leicestershire County Council
Carbon Reduction Programme

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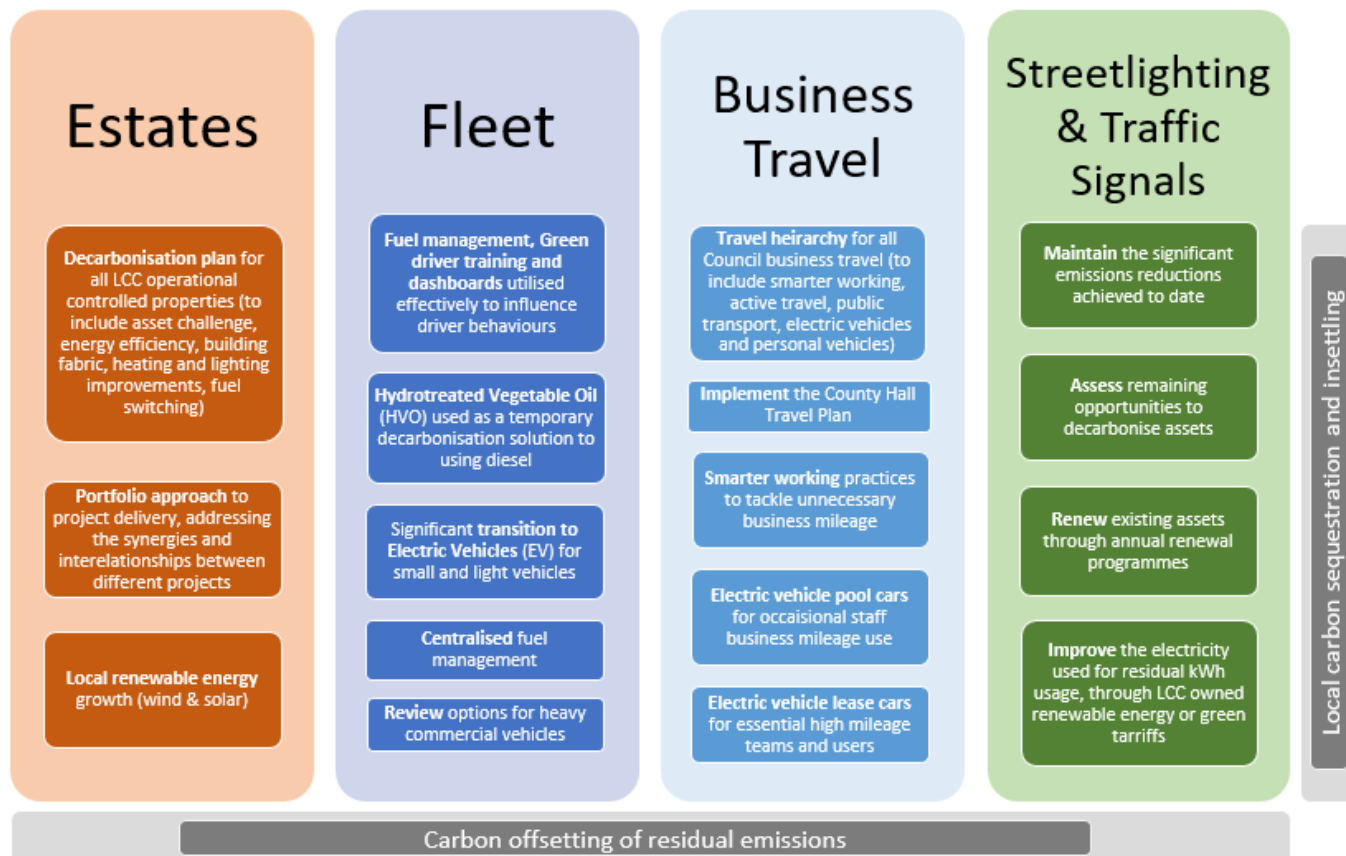
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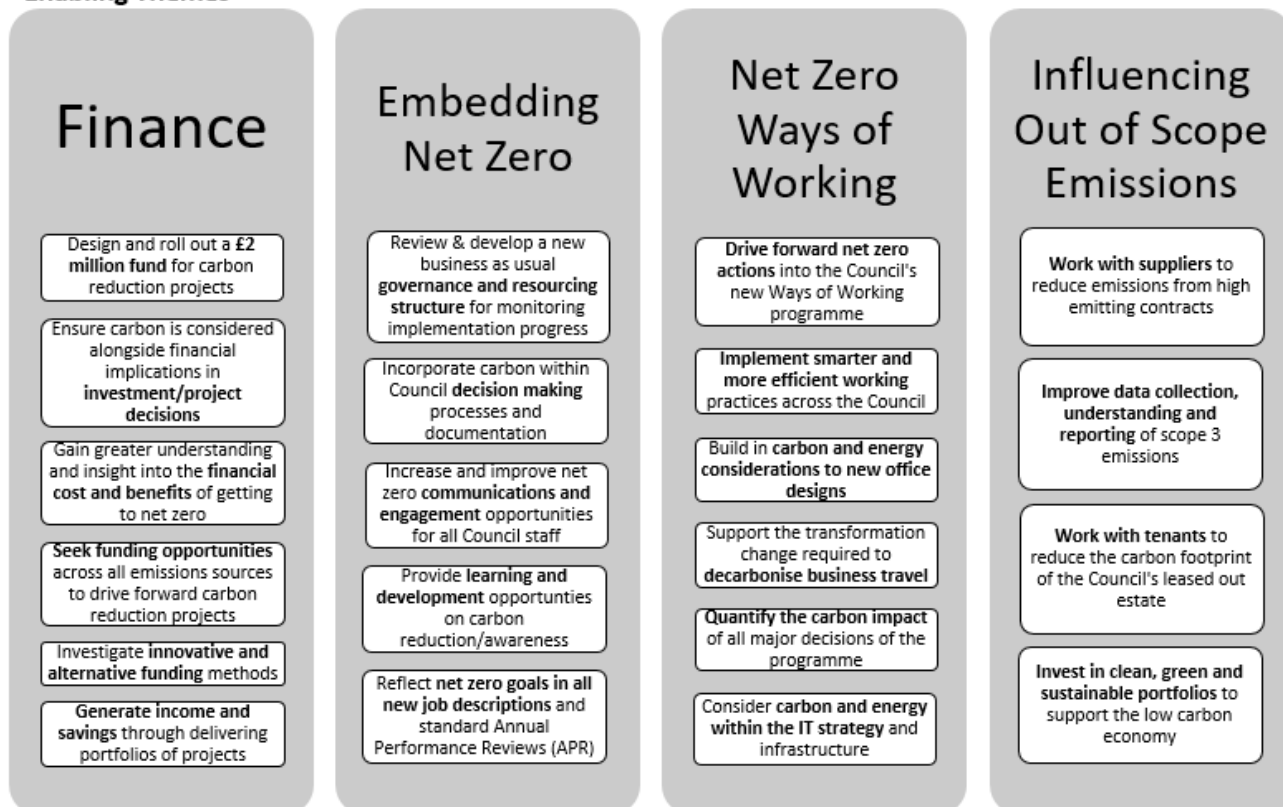
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Emissions Sources



Enabling Themes



Introduction

Leicestershire County Council is committed to becoming a Net Zero¹ council for its own operational emissions by 2030. This commitment was made in May 2019, alongside the council's declaration of a climate emergency² and later followed with a further commitment of working with Leicestershire people and organisations to become a net zero county by 2045 or before. The council has a long history of taking action to reduce its environmental impact and continues to commit to strong environmental management, as outlined in the Environment Strategy 2018-2030³. The council's Strategic Plan 2022-26 also reflects its environmental commitment and includes Clean and Green as one of its five strategic outcomes.

Following the 2030 commitment, the council's Carbon Reduction Programme was established with the main aim of achieving the council's ambition and monitoring progress towards it. Leicestershire County Council's emissions account for less than 1% of the county's emissions yet offer an opportunity for the council to show leadership and demonstrate that it has its 'own house in order'. Through setting an ambitious goal, the council hopes to end its contribution to climate change as soon as possible and inspire others to do the same.

The 2030 Net Zero Action Plan outlines the council's vision and strategic approach to delivering net zero, alongside an overview of greenhouse gas emissions and a 'do nothing' scenario, highlighting that the council has to continue to act to reduce its own emissions. Projects and actions have been identified across four emissions sources (estates, fleet, business travel, streetlighting and traffic signals) and four enabling themes (finance, embedding net zero in to the council, net zero ways of working and influencing out of scope emissions).

Carbon reduction projects are being developed through a 'Discover, Design and Deliver' process and help inform net zero projections and gap analysis. This plan identifies a number of high priority projects including the need to switch to low carbon heating, transition to an electric vehicle fleet and decarbonise the council's business travel.

Leicestershire County Council acknowledges the importance in acting to reduce its wider influence on emissions, including those that arise from the supply chain, leased assets, employee commuting and investments. Whilst these emissions are out of scope of the 2030 commitment, actions to influence and reduce emissions associated with these categories have been included within the action plan, in line with the county's 2045 net zero commitment.

Between now and 2030, the actions and projects within this plan will be monitored and reviewed on an ongoing basis as part of the Carbon Reduction Programme, and each year the council will publish its Greenhouse Gas Emissions Report, along with an update and refresh of the action plan tables.

¹ Net zero refers to the point when greenhouse gas emissions being emitted into the atmosphere are balanced with their removal, meaning there is no overall addition to atmospheric levels.

² A climate emergency is a situation in which urgent action is required to reduce or halt climate change and avoid potentially irreversible environmental damage resulting from it.

³ <https://www.leicestershire.gov.uk/environment-and-planning/conservation-and-sustainability/environmental-policies-and-reports>

Carbon Reduction Programme

Drivers for Net Zero

Climate change has become a key cause for concern across the world in recent years. The 2021 Intergovernmental Panel on Climate Change Report identified the last five-year period has been the hottest on record since 1850 and that human influence is ‘very likely’ to be the main driver of climate change. Future projections demonstrate this trend will continue, global temperatures will continue to rise, alongside more extreme heatwaves, droughts and flood events across the world as a result. However, the report notes that this catastrophe can be avoided if the world acts fast.

In 2021, the United Kingdom (UK) hosted the 26th Conference of the Parties, known as ‘COP26’, which brought together nearly 200 countries across the world to discuss and agree on taking action to tackle climate change. COP26 concluded with countries agreeing to the Glasgow Climate Pact, highlighting that urgent and accelerated climate action is needed to keep the ambition of limiting global temperature rise to 1.5°C in sight, originally agreed in the Paris Agreement in 2015. Countries also agreed to revise and strengthen their contributions and targets more frequently, ‘phase down coal’ and to meet previous finance commitments to help tackle climate change and adapt to its impacts⁴.

The UK has the world’s most ambitious climate change commitment to achieve net zero emissions by 2050 and to reduce emissions by 78% by 2035, compared to 1990 levels. Following on from these commitments, there have been several national policy documents released including the Environment Act 2021, UK Net Zero Strategy, Heat and Buildings Strategy, and the Transport Decarbonisation Plan.

Alongside national commitments, strategies and plans, local authorities across the UK are leading the drive for climate action at local scales. Over 300 UK local authorities have now declared a climate emergency, with many setting their own net zero commitments for their council and/or local area. The importance of local authorities in helping deliver the UK’s net zero commitments has become clear, with over half of the emissions needing to be cut requiring decisions and support at local and individual scales⁵.

Leicestershire County Council has a long history of taking action to reduce its environmental impact and recognised its role and responsibility in delivering net zero emissions by declaring a climate emergency in May 2019, with unanimous cross-party support and the commitment to achieve net zero emissions for its own operations by 2030. In tackling the council’s carbon emissions, the council opens itself up to opportunities for co-benefits, including financial savings, energy security, reduced financial risk, reduced air pollution, biodiversity benefits, reduced asset maintenance costs and make Leicestershire County Council a more attractive place to work and partner with.

“ Leicestershire County Council ‘declares a climate emergency’ and ‘recognises that there is an increasing urgency for action to avoid the worst impacts of climate change’. The Council ‘will aim to achieve carbon neutrality from its own operations by 2030’ and ‘commits to work with business and other public bodies across the county and region to deliver this ambitious goal through all relevant technologies, strategies and plans’.

Leicestershire County Council, 15 May 2019

”

⁴ <https://ukcop26.org/cop26-keeps-1-5c-alive-and-finalises-paris-agreement/>

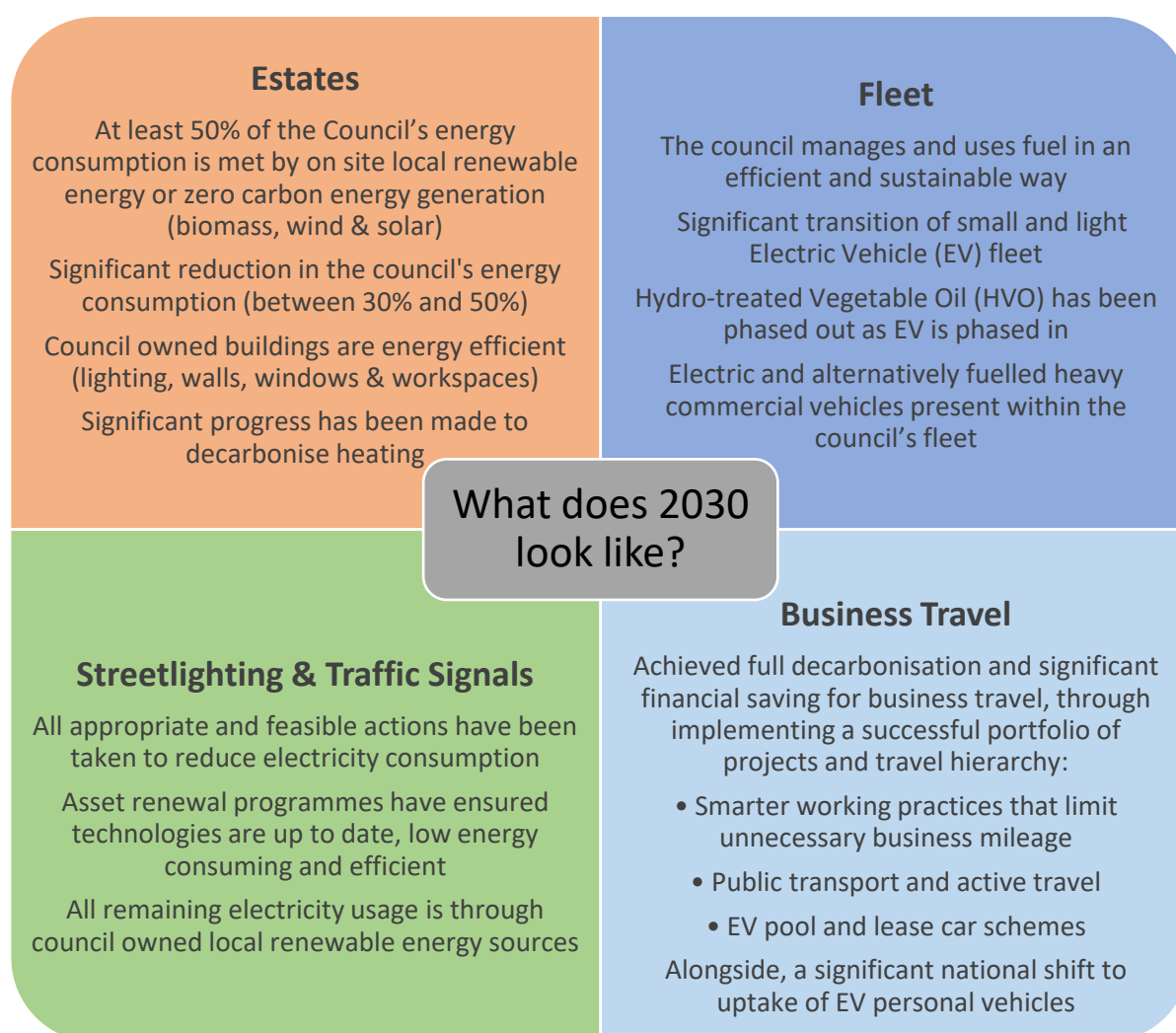
⁵ <https://www.theccc.org.uk/publication/local-authorities-and-the-sixth-carbon-budget/>

2030 Net Zero Vision

'By 2030, Leicestershire County Council is a climate active and net zero emissions authority for its own operations, no longer contributing to global climate change.'

A culture of climate and environmental awareness within the organisation has supported informed decision making and service delivery that minimises carbon impact and maximises the co-benefits of taking climate action⁶.

The County Council has further reduced its wider greenhouse gas emissions through its supply chain, alongside working with others across Leicestershire to make significant progress towards becoming a net zero County by 2045.'



Renewable energy generation netting off⁷, Local carbon sequestration and insetting⁸ through to 2030, with any residual emissions offset.

⁶ For example, by achieving financial savings and income generation, environmental improvements and health benefits for council staff and the community.

⁷ Renewable energy generated by council assets that is exported to the grid or where the carbon benefit isn't claimed by a third party can be used to net off the council's electricity emissions.

⁸ Insetting refers to projects which avoid, reduce or sequester carbon upstream or downstream to the council value chain.

Strategic Themes

Emission sources

- **Estates** – Carbon emissions from council buildings including, energy consumption (e.g. electricity and gas use), refrigerant gases, water use and waste generation, alongside the opportunities to generate local renewable energy and sequester carbon across the estate.
- **Fleet** – Carbon emissions from fuel used (e.g. diesel and petrol) in vehicles operated by the council.
- **Business travel** – Carbon emissions associated with staff journeys undertaken for work purposes in staff vehicles, also known as ‘grey fleet’ (not including council operated fleet vehicles and employee commuting).
- **Streetlighting & Traffic Signals** – Focussed on the emissions from electricity use to power streetlighting and traffic signals operated by the council.

Enabling actions

- **Financing Net Zero** – Costs and savings associated with achieving net zero and sources of funding.
- **Embedding Net Zero into the Council** – The way in which net zero is built into the normal functioning of council operations, including in procurement and decision making, learning and development opportunities and communication and engagement with internal and external stakeholders.
- **Net Zero Ways of Working** – The way in which the council and its staff operate and work, this includes emissions associated with business travel, employee commuting, hybrid and smarter working.
- **Out of Scope Emissions** – The council’s wider scope of emissions as a result of activities the council indirectly impacts in its value chain.

Targets and Objectives

Leicestershire County Council will:

Greenhouse Gas Emissions

- Reduce greenhouse gas emissions by **77% by 2025**, compared to a 2008-09 baseline.
- Become a **net zero council by 2030**, including fleet, buildings, business travel, streetlighting and traffic signals, waste and water use.

Energy

- Reduce annual energy consumption from council buildings by at least 30% by 2030⁹, compared to 2019-20.
- Source 50% of annual energy consumption in corporate council buildings from on-site renewable or zero-carbon energy generation by 2030.

	Action	Partners	Timescale
T1.1	Develop interim emissions reductions targets for all the main emissions sources (e.g. business mileage decarbonisation & EV fleet transition)	Delivery groups	2023-24

⁹ ‘lower target’ from the council’s Strategic Property Energy Strategy 2020-2030

Greenhouse Gas Emissions Overview

The council is committed to measuring and reporting on its annual net zero performance. Each year, council produces and publishes a Greenhouse Gas Report of its emissions, the sections below provide a summary of the 2030 net zero commitment scope, baseline and current emissions – for more information please see the latest 2020-21 Greenhouse Gas Report¹⁰.

Scope of Commitment

All greenhouse gas (GHG) emissions included within the 2020-21 Greenhouse Gas Report are in scope of the council's 2030 net zero commitment¹¹.

The council has followed the Government's Environmental Reporting Guidelines, published by BEIS and DEFRA (2019), alongside international best practice guidance from the Greenhouse Gas Protocol. The organisational boundary for reporting the council's GHG emissions, for its own operations and activities, is operational control.

The operational scope includes the direct emissions from building heating and fleet (scope 1) and purchased electricity for buildings, streetlighting and traffic signals (scope 2), resulting from the owned/leased assets and operations where the council is in operational control and is responsible for the purchase of energy or fuel. Some scope 3 emissions are also included: business mileage (grey fleet), transmission and distribution (T&D) losses for electricity consumption, water supply and treatment, and waste generated in offices.

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.

For the full scope of the net zero commitment, see Appendix 1 of the 2020-21 Greenhouse Gas Report.

	Council's Own Operations
2030 Net Zero Council	Scope 1: Fleet vehicles, air conditioning gases, gas use (e.g. heating of buildings) Scope 2: Purchased electricity (e.g. lighting in buildings, streetlighting & traffic signals) Scope 3: Business mileage, T&D losses, water, waste generated in operations
2045 Net Zero Leicestershire	<u>Wider Council Emissions</u> Local authority-maintained schools Scope 3: Purchased goods and services, transportation and distribution, investments, downstream leased assets, employee commuting, other business travel, upstream leased assets

Leicestershire County Council acknowledges the importance in acting to reduce its wider influence on emissions, including those that arise from local authority-maintained schools and the council's supply chain, leased assets, employee commuting and investments. Whilst these emissions are out of scope of the 2030 commitment, actions to influence and reduce emissions associated with these categories have been included within the action plan, in line with the county's 2045 net zero commitment.

¹⁰ <https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2022/2/28/greenhouse-gas-report-2020-21.pdf>

¹¹ The scope of the 2030 net zero commitment may be revised in the future as data availability and quality improves or current targets are achieved, this will be detailed in the annual Greenhouse Gas Report.

Baseline and Current Emissions Overview

The council's total net greenhouse gas emissions in 2020-21 of 9,434 tCO₂e¹² were 73.6% lower than the 2008-09 baseline year, and 19.4% less than in 2019-20. Significant progress has been made to reduce the council's emissions across all sectors since the 2008-09 baseline. The following page provides the baseline 2008-09 and 2020-21 financial year emissions, alongside the 2020-21 greenhouse gas emissions mix. An in-depth insight into the council's greenhouse gas emissions is provided in the 2020-21 Greenhouse Gas Report.

Table 1: LCC 2020-21 GHG emissions, with a comparison to the baseline year

	Sector	2008-09 Baseline	2020-21	% Change
Scope 1 – Direct Emissions e.g. boilers, owned transport, air conditioning gases	Buildings	4,317	1,810	-58.1%
	Fleet vehicles	4,358	2,489	-42.9%
	Fugitive gases	-	46	-
	Sub-total	8,675	4,345	-49.9%
Scope 2 – Energy Indirect e.g. purchased electricity	Buildings	6,562	1,621	-75.3%
	Streetlighting & traffic signals	15,581	2,424	-84.4%
	Sub-total	22,143	4,045	-81.7%
Scope 3 – Other Indirect e.g. business travel and water supply/treatment	Business travel	3,237	679	-79.0%
	Electricity transmission & distribution losses	1,722	348	-79.8%
	Water supply & treatment	-	43	-
	Waste	-	3	-
	Sub-total	4,959	1,073	-78.4%
Total Gross Emissions		35,778	9,462	-73.6%
Carbon offsets		0	0	-
Renewable energy exports		0	-29	-
Total Location-based Net Emissions		35,778	9,434	-73.6%
Full time equivalent (FTE) employees		6,880	4,789	-
Intensity measure: tCO ₂ e/FTE		5.2	1.97	-62.1%
Renewable electricity tariff		-	4,045	-
Total Market-based Net Emissions		35,778	5,418	-84.9%

2020-21 GHG Emissions by Source

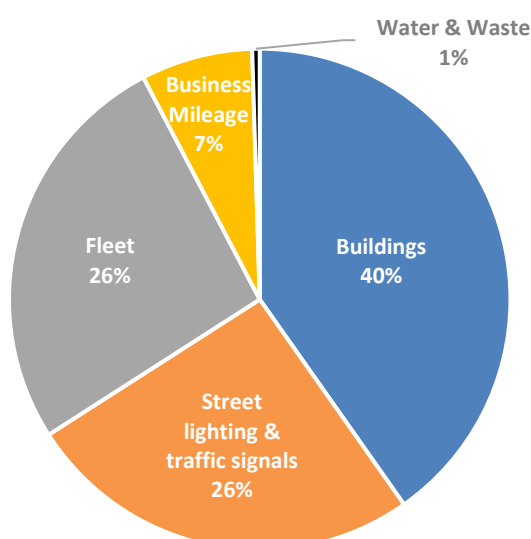


Figure 1: LCC 2020-21 GHG emissions by source.

¹² Tonnes of carbon dioxide equivalence (tCO₂e)

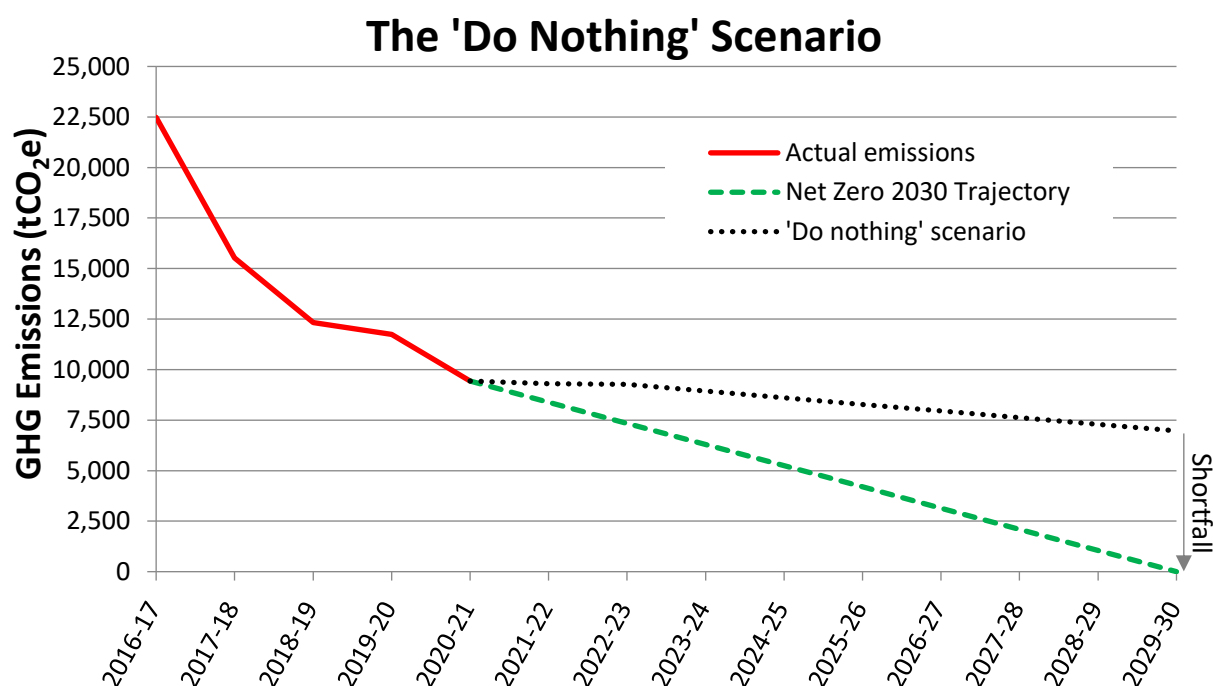
'Do Nothing' Scenario

Leicestershire County Council has made considerable progress in reducing the emissions from the council's own operations and needs to continue to reduce or remove 9,434 tCO₂e to achieve net zero by 2030. To understand what the council needs to do to succeed in this, it is important to understand what could happen if the council was to 'do nothing'.

The 'do nothing' scenario represents the projected emissions reductions associated with greening of the national electricity grid and the UK's transition to electric vehicles by 2030¹³. Following this scenario, the council's emissions are projected to reduce 26% (2,466 tCO₂e), compared to the 2020-21 financial year. This would fall short of net zero by 6,968 tCO₂e in 2030 and only achieve an 81% reduction compared to the 2008-09 baseline.

Over time, 'doing nothing' will emit double the amount of greenhouse gas emissions to the atmosphere between 2020-21 and 2029-30, compared to the 2030 net zero trajectory. This demonstrates the importance of the council continuing to take action to reduce its greenhouse gas emissions.

In addition to the impact on carbon, 'doing nothing' will mean the council's financial spend on energy consumption, water, fuel and business mileage will either remain similar or likely increase over time. This means the annual financial cost to emit these emissions will be at least £6.6million per year¹⁴ (£59.4 million between 2021-22 and 2029-30).



¹³ The scenario uses the Department of Business, Energy and Industrial Strategy projections of carbon intensity of the national grid and the Climate Change Committee's UK's transition to EV projections, applying these to the council's electricity and business mileage emissions, respectively. The scenario also assumes there is no growth in emissions, except a 50% post-Covid lockdown bounce-back in the council's business mileage emissions between 2020-21 and 2022-23.

¹⁴ Financial costs associated with heating, fuel, electricity, water and business mileage for the 2019-20 financial year.

Out of Scope Emissions

Leicestershire County Council acknowledges the importance of acting to reduce its wider influence on emissions, including those that arise from local authority-maintained schools and the council's supply chain, leased assets, employee commuting and council investments. Whilst these emissions are out of scope of the 2030 commitment, actions to influence and reduce emissions associated with these categories have been included within the action plan, in line with the county's 2045 net zero commitment. During 2021-22, the council commissioned a study into its scope 3 emissions¹⁵, a summary of these emissions is provided below.

Category 1 - Purchased goods and services	Extraction, production, and transportation of goods and services purchased or acquired by LCC
Category 2 - Capital goods	Extraction, production, and transportation of capital goods purchased or acquired by LCC
Category 3 - Fuel and energy related activities	Extraction, production, and transportation of fuels and energy purchased or acquired by LCC. This does not include use of those fuels, which are reported under Scope 1 and 2 emissions.
Category 5 - Waste generated in operations	Disposal and treatment of waste generated by LCC activities and operations. This does not include county-wide waste collection.
Category 6 - Business travel	Transportation of employees for business-related activities (in vehicles not owned or operated by LCC).
Category 7 - Employee commuting	Transportation of employees between their homes and their worksites (in vehicles not owned or operated by LCC). Also includes working from home emissions.
Category 13 - Downstream leased assets	Scope 1 and 2 emissions from the operation of assets owned by the LCC and leased to other entities, where emissions are not included in Scope 1-2 assessments.
Category 15 - Investments	Operation of investments (including equity and debt investments and project finance)

The study indicated¹⁶ that Leicestershire County Council Scope 3 emissions amounted to 145,830 tCO₂e in 2019-20. The largest scope 3 emissions categories were purchased goods and services (GHG Protocol Category 1); downstream leased assets (GHG Protocol Category 13) and investments (GHG Protocol Category 15), accounting for 43%, 26% and 20% of the total Scope 3 emissions in 2019 respectively.

The figure below provides a breakdown of these scope 3 emissions by category and sub-category, demonstrating that investments, energy use in academy schools, transport emissions linked to public buses, coach networks and school bus services and emissions linked to health and social care all made up more than 64% of the council's scope 3 emissions. These high emission sub-categories and many other sources of emissions are linked to the council's service delivery across Leicestershire.

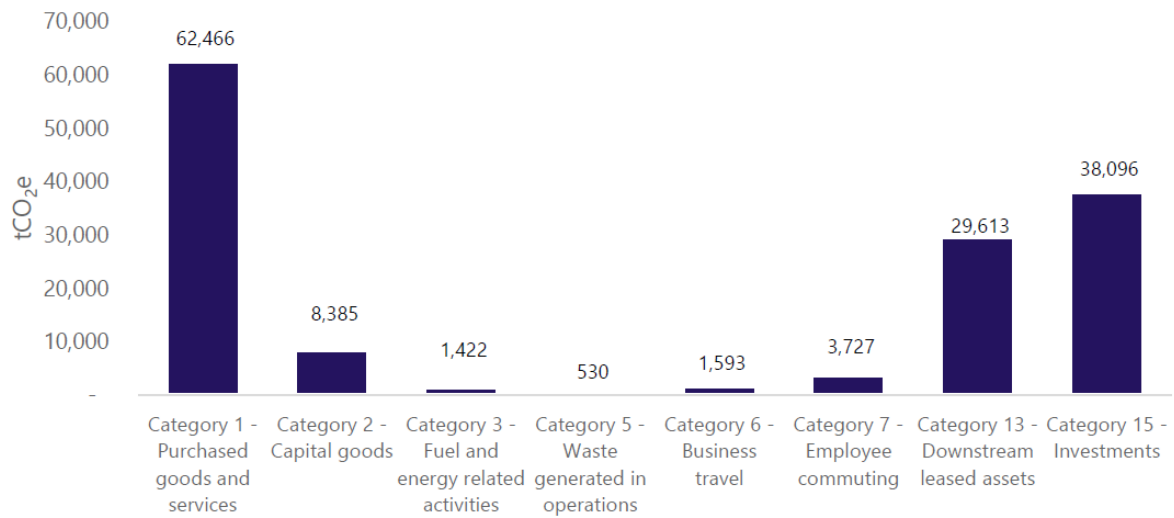
Scope 3 emissions from staff and internal activities (such as business travel, employee commuting and operational waste) each contributed over 1% to total scope 3 emissions in 2019. Whilst emissions linked to internal operations do exist and are easier to influence, they are small relative to emissions from service provision across the county.

The main scope 3 footprint lies in the systems and services the council runs for the use of the whole county. Decarbonising these areas will also unlock co-benefits across Leicestershire and contribute to emissions reductions for the whole county. As a result, these emissions are appropriately aligned to Leicestershire's 2045 net zero commitment.

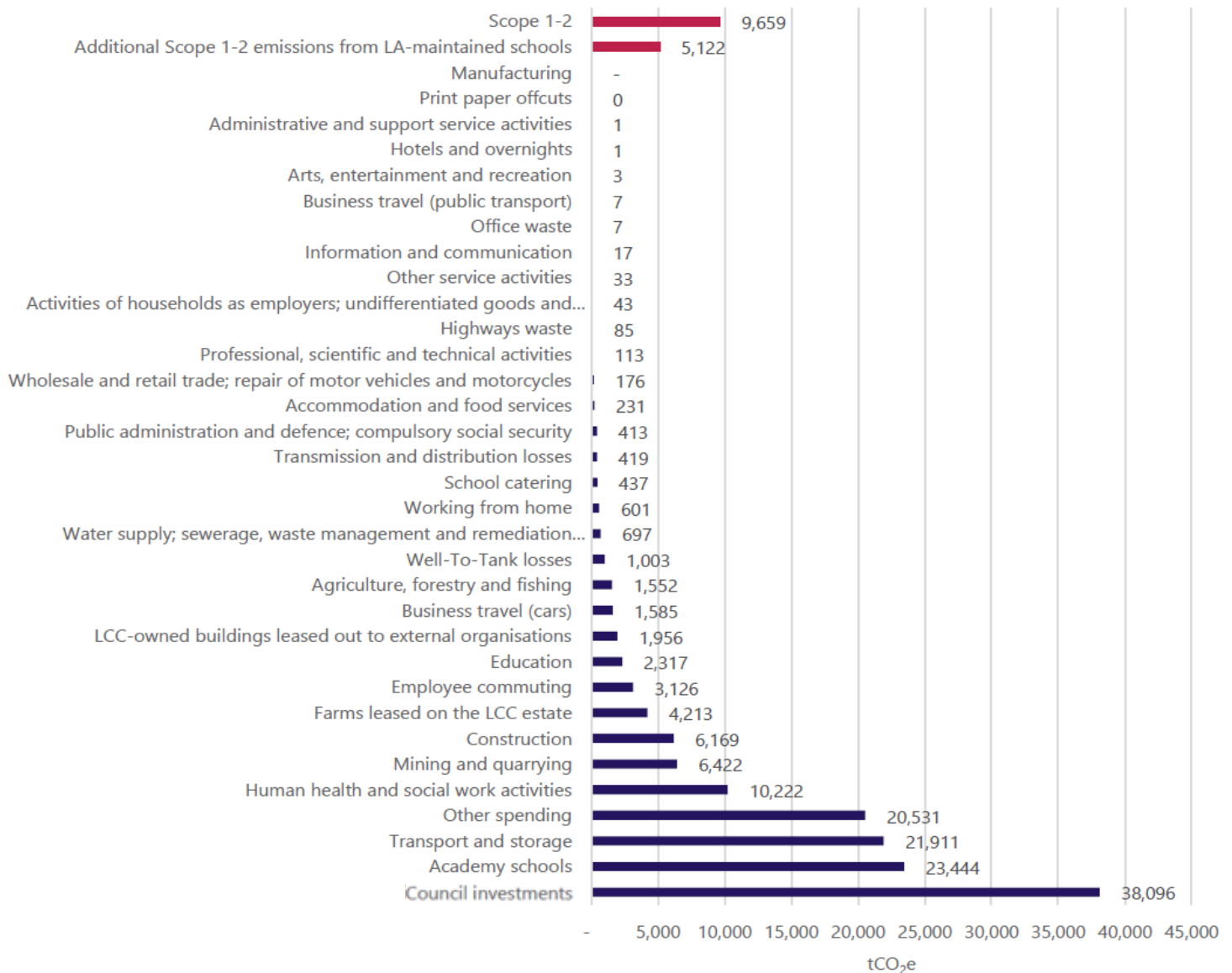
¹⁵ Scope 3 emissions are as a result of activities from assets and services not operated by the council, but that the council indirectly influences within its value chain.

¹⁶ It should be noted that data availability was limited, and methodologies for calculating Scope 3 emissions are underdeveloped.

Scope 3 emissions 2019-20 by GHG Protocol category



Scope 3 emissions 2019-20 by sub-category



Strategic Approach to Delivering Carbon Reduction Projects

Leicestershire County Council is committed to becoming a net zero local authority by 2030, through following international best practice and guidance. The council's strategy can be explained in four approaches to achieve net zero emissions (see diagram below).

The first stage is to eliminate greenhouse gas emissions at their source by preventing energy and fuel consumption, through actions such as behaviour change initiatives and smarter working, to avoid unnecessary travel for example.

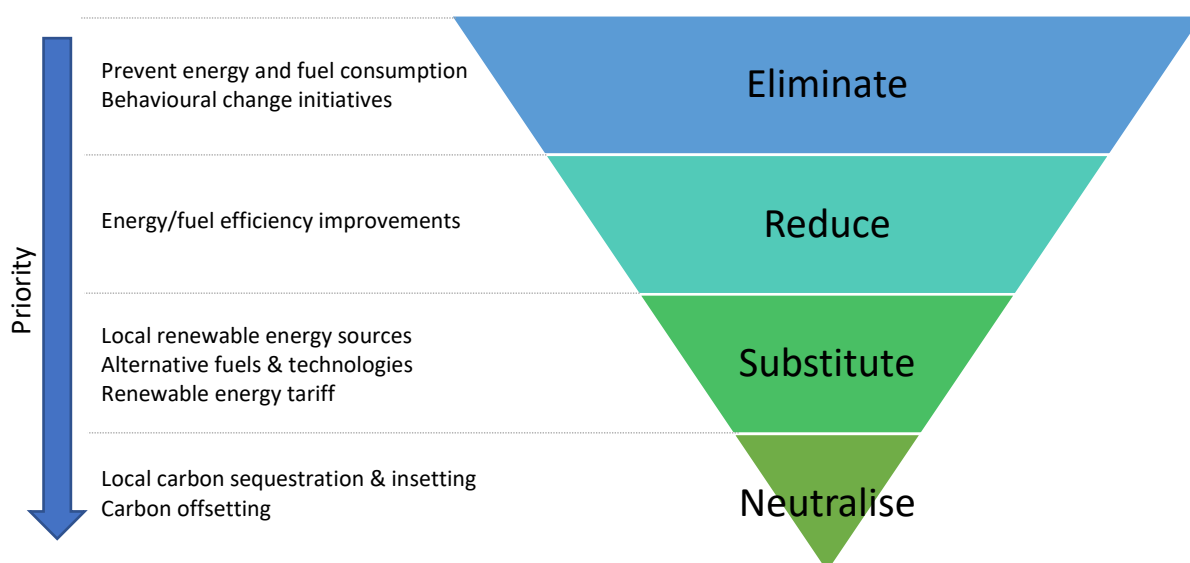
The second approach then looks to reduce the emissions the council emits through energy efficiency improvements in buildings and reducing fuel consumption.

Stage three looks to substitute and improve the energy the council does have to use by switching to clean and low carbon sources, such as using its own locally produced renewable energy or through using a renewable energy tariff, alongside using alternative low carbon fuels or technology for transport and heating.

These first three stages offer the greatest opportunity for the council to reduce greenhouse gas emissions, reduce its impact upon the environment and save the council money.

Approach four looks at local sequestration to remove carbon from the atmosphere through carbon sinks, some of these initiatives will be driven by other objectives, for example tree planting and woodland creation for delivering biodiversity net gain or wider nature recovery, where carbon reduction is a co-benefit. The approach also includes carbon insetting, where carbon offsets can be gained within the council's value chain/boundary.

Local sequestration and insetting will be prioritised above wider carbon offsets, which will only come into effect to tackle emissions that are unable to be addressed in the first three approaches, known as residual emissions, which could be offset by taking action outside of the council's value chain/boundary to remove carbon from the atmosphere.



Project Development

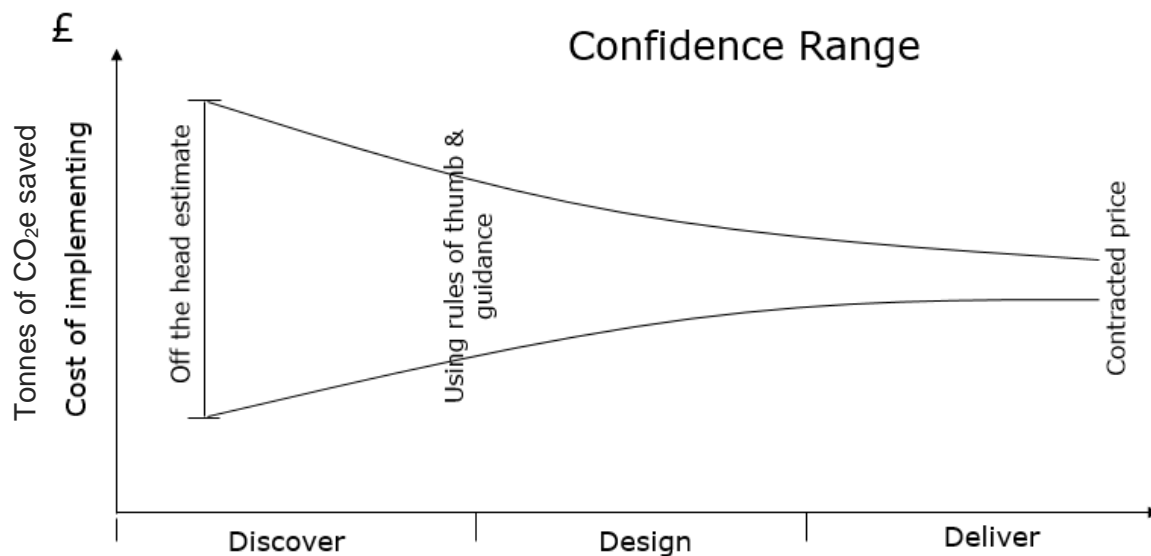
Carbon reduction projects will be developed in accordance with the council's strategic approach to net zero. Identification of opportunities and development of carbon reduction projects will be facilitated by the Carbon Reduction Team with support from the Transformation Unit, alongside specialist officers from across the council. Each project will be developed using the 'Discover, Design and Deliver' stages outlined below:

Discover – Projects which have been identified as ideas and require further investigation into their feasibility (CO₂e saving/cost/resource/deliverability) and an opportunity assessment to be carried out.

Design – Projects which have had an opportunity assessment conducted and approved by the Carbon Reduction Programme Board to be designed into a full business case.

Deliver – Projects where business cases have been approved by the relevant teams and boards, which have now progressed into implementation.

The confidence the carbon reduction potential and cost of projects will become more accurate during the process, as indicated by the diagram below. Projects will progress from their discovery through to their delivery if they are deemed to be carbon and cost effective.



Carbon Reduction Projects

The council has identified several opportunities to decarbonise its own operational emissions across all strategic themes, alongside completing significant carbon reduction projects during 2021-22. These projects are detailed below, with an analysis of the impact these projects will have towards its 2030 net zero ambition. See the 'Project Development' section for an explanation of the Discover, Design and Deliver project development process.

Completed in 2022

	Project	Estimated annual energy savings (kWh)	Estimated annual carbon savings (tCO ₂ e)	Estimated cost (£)	Estimated annual financial saving (£)
Estates					
COM1.1	Beaumanor Hall PSDS: Installation of heat pumps	282,896	78.8	£200,529	£5,274
COM1.2	County Hall PSDS: LED lighting upgrade, solar PV installation, BMS optimisation, district heat connections and thermal store	1,161,883	289.6	£3,106,282	£97,511
COM1.3	Embankment House PSDS: LED lighting upgrade, solar PV installation, BMS optimisation	212,033	20.0	£306,741	£34,795
Streetlighting and Traffic Signals					
COM2.1	Low level streetlight dimming	495,000	105.0	£28,653	£84,000
Totals		2,151,812	493.4	£3,642,205	£221,580

In Delivery

	Project	Estimated annual energy savings (litres)	Estimated annual carbon savings (tCO ₂ e)	Estimated cost (£)	Estimated annual financial saving (£)	Estimated Completion
Fleet						
DEL1.1	Fleet HVO Fuel Transition: Switch from diesel to hydrotreated vegetable oil (HVO) for all bunkered fuel	0	1,713.6	£100,000 p.a	0	2022-23
Totals		0	1,713.6	£100,000 p.a	0	

In Design

	Project	Estimated annual energy savings (kWh or litres)	Estimated annual carbon savings (tCO ₂ e)	Estimated cost (£)	Estimated annual financial saving (£)	Estimated Completion
Estates						
DES1.1	Decarbonisation of Buildings Plan: Covering all operational controlled properties energy efficiency, heating & lighting improvements	n/a	n/a	n/a	n/a	2023-24
DES1.2	Quorn Solar Farm Build and use solar energy from the farm for council operations	9,170,000 kWh	1,947.1	£6,200,000	Tbc	2023-24
Fleet						
DES2.1	Fuel Management, Green Driver Training and Dashboards	40,411 l	28.6	£36,620	£48,275	2022-23
DES2.2	EV Fleet Transition Plan For all small and light fleet vehicles, replacing HVO and diesel use.	n/a	n/a	n/a	n/a	2022-23
Streetlighting and Traffic Signals						
DES3.1	Traffic Signals Renewal: First year of the renewal programme to 2030 covering 17 sites	53,644 kWh	11.4	£684,700	£9,142	2022-23
Business Travel						
DES4.1	Automated Business Mileage Claims	n/a	57.0	£5,500	£87,213	2023-24
DES4.2	Business Mileage Decarbonisation Plan Travel hierarchy ¹⁷ : smarter working, active travel, EV pool cars, car share, EV lease car	n/a	n/a	n/a	n/a	2023-24
Totals		9,223,644 kWh / 40,411 l	2,044.1	£6,926,820	£144,630	

¹⁷ A travel hierarchy helps to think about improving the carbon impact of business travel journeys, more sustainable and greener travel options are located higher up the hierarchy ([Energy Saving Trust](#))

To Discover

	Project	Carbon Saving Potential	Cost	Financial Saving/Income	Priority
Estates					
DIS1.1	Investigate future wind and solar farm development potential on council land	H	H	H	H
DIS1.2	Decarbonise heating in council operated buildings (e.g. heat pumps)	H	H	L	H
DIS1.3	Improve the energy efficiency of all council operated buildings (e.g. wall insulation)	H	H	M	H
DIS1.4	Consider carbon within the ICT strategy and future decisions (e.g. ICT infrastructure and data centres)	L	M	L	M
DIS1.5	Upgrade external lighting to LED in council car parks and on the outside of buildings	L	M	L	L
DIS1.6	Upgrade and improve efficiency of air conditioning in council operated buildings	L	M	L	L
Fleet					
DIS2.1	Transition to EV transition for small and light vehicles, replacing HVO and diesel use	M	H	H	H
DIS2.2	Investigate centralised fuel management and subsequent benefits for implementing other projects	L	M	M	M
DIS2.3	Alternative fuel switch for heavy commercial vehicles	M	H	L	M
Streetlighting and Traffic Signals					
DIS3.1	De-illuminate and de-clutter lit street signs and bollards	L	M	L	L
DIS3.2	Upgrade heritage and wall mounted streetlighting to LED	L	M	L	L
DIS3.3	Decommission unnecessary traffic signals	L	L	L	L
DIS3.4	Investigate switching streetlighting off earlier in mornings and on later in the evenings	L	L	L	L
DIS3.5	Full traffic signal renewal programme, covering remaining 41% of sites	L	H	L	L
Business Travel					
DIS4.1	Implement a travel hierarchy to decarbonise business mileage, to include smarter working, active travel, EV pool cars, car share, EV lease car	H	M	H	H
Sequestration, Insetting and Offsetting					
DIS5.1	Prepare opportunities for local carbon sequestration on the council's estate, insetting within the council's value chain and other carbon removal practices and techniques.	M	H	-	L

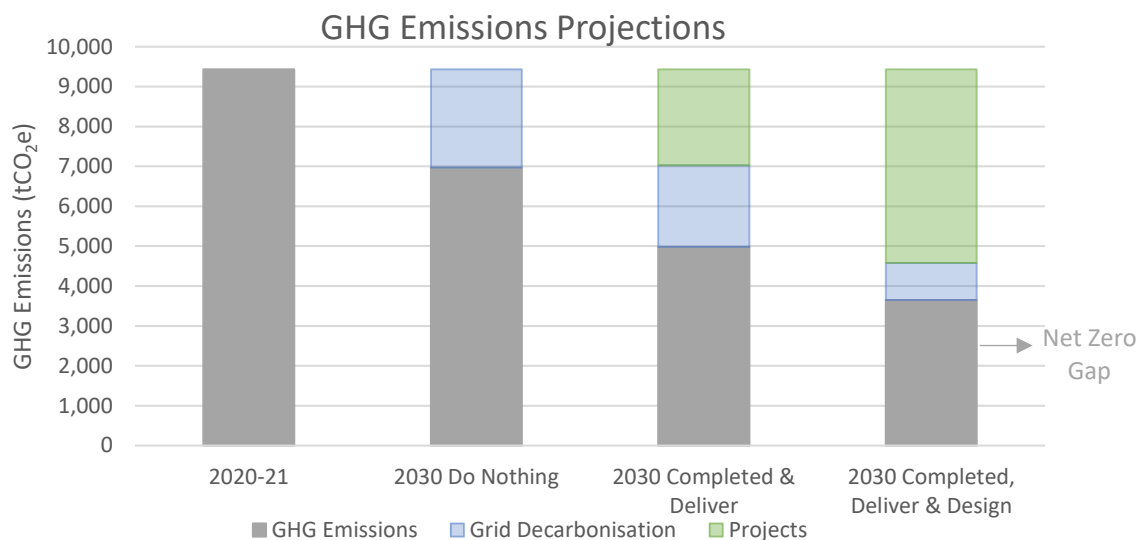
Carbon Saving: L = <1%, M = 1-3%, H = >3% of the council's greenhouse gas emissions

Cost: L = <£100k, M= £100k-£250k, H = £250k+

Financial Saving/Income: L = <£50k pa, M = £50k-£200k pa, H = £200k+ pa

Carbon Reduction Projections¹⁸

This section projects forwards the council's greenhouse gas emissions in 2030, using the 'do nothing' scenario and the projects identified above. Three scenarios are assessed to determine the scale of carbon reduction savings already identified and the emissions 'gap' to achieve net zero, compared to the 2020-21 financial year¹⁹.



'Do Nothing'

The council's 'do nothing' scenario, discussed above, would reduce emissions by 26% (2,466 tCO₂e), compared to the 2020-21 financial year. This would leave the council with 6,968 tCO₂e emissions in 2030 and only achieve an 81% reduction compared to the 2008-09 baseline. Furthermore, to 'do nothing' will emit a significant amount of cumulative carbon between now and 2030, contributing more towards climate change and demonstrating the importance of the council continuing to take action to reduce its greenhouse gas emissions.

Completed and Deliver Projects

Emissions reductions from projects completed in 2022 will mostly be realised in the 2022-23 financial year. These projects, alongside the implementation of HVO in 2022-23 are projected to deliver a saving of 2,407 tCO₂e. Under this scenario, national grid decarbonisation will contribute a further 2,050 tCO₂e. Overall, council emissions are projected to reduce by 86% by 2030, compared to the 2008-09 baseline, leaving 4,977 tCO₂e of council emissions to decarbonise to achieve net zero.

Completed, Deliver and Design Projects

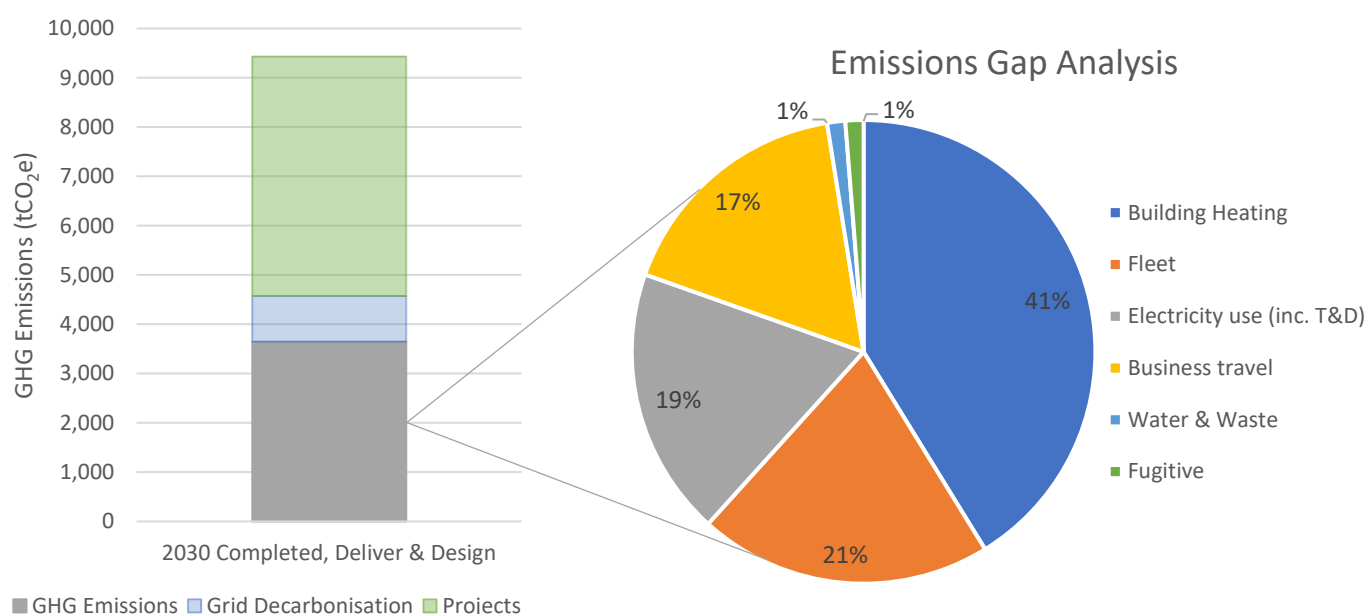
Four carbon reduction projects are currently in the design stage, which are estimated to lead to an emissions saving. The largest design project is Quorn Solar Farm, which has the potential to reduce electricity emissions by 1,947 tCO₂e. These projects in design, alongside projects completed in 2021-22 and projects in delivery, are projected to reduce the council emissions by 4,857 tCO₂e per year. Following this scenario, decarbonisation of the national grid will have a smaller impact by 2030 (931 tCO₂e). Overall, council emissions are projected to reduce by 89.8% by 2030, compared to the 2008-09 baseline. This identifies a gap of 3,646 tCO₂e, to achieve net zero emissions by 2030.

¹⁸ All projections and gap analysis use 2020 carbon conversion factors to directly compare to 2020-21 greenhouse gas emissions, the latest available full year of data for the council at the time of writing. All emissions within the project tables use 2021 carbon factors.

¹⁹ All GHG projections are presented here using a location-based approach to emissions reporting, the council may determine to use a market-based approach in the future, as discussed below.

Net Zero Gap Analysis

The Carbon Reduction Programme has identified a 3,646 tCO₂e gap to net zero, if all completed, deliver and design projects were successfully implemented, and carbon benefits realised. The pie chart below breaks down the 'net zero gap' into council emission sources. Building heating contributes 41% of the remaining gap to net zero, followed by the council's fleet fuel use (21%), electricity use (19%)²⁰, business travel (17%), waste and water (1%) and fugitive emissions (1%).



The emissions gap analysis identifies that there are still projects to be discovered in order for the council to achieve net zero by 2030. A number of these projects have been identified in the 'projects to discover' action table above, alongside these key enabling actions currently in design:

- Decarbonisation of buildings plan
- Fleet EV transition plan
- Business mileage decarbonisation plan

These plans will help inform the development of discovery projects through to their delivery as part of the ongoing Carbon Reduction Programme. Over time, as projects focussed on strategic approaches one to three (eliminate, reduce and substitute) move through the project development stages, the net zero gap will reduce as 2030 approaches.

Sequestration, Insetting and Offsetting

Residual emissions, those that are unable to be addressed by projects in the first three approaches to carbon reduction, will be tackled by approach four, 'neutralise', which looks to provide local sequestration to remove carbon from the atmosphere through carbon sinks, carbon insetting within the council's value chain and as a last resort carbon offsetting outside of the council's value chain (see action DIS5.1). There may also be the opportunity for the council to become carbon negative, depending on the success of the council's Carbon Reduction Programme.

²⁰ The council's approach to net zero prioritises eliminating and reducing energy consumption, alongside generating its own renewable energy, in doing so the council is likely to achieve its energy targets and generate financial savings. However, the council does operate on a 100% renewable energy tariff which could be used nearer to 2030 to net off its electricity emissions under a market-based emissions approach.

Financing Net Zero

A key enabling theme for the council's ambition to become net zero by 2030 is finance. The Carbon Reduction Programme acknowledges this by including the cost, financial saving and carbon saving potential early on in project development. Projects are also prioritised based on their financial cost per lifetime tonne of carbon saved (£/tCO₂e).

To date, the council has delivered a number of carbon reduction projects that have delivered significant annual financial savings and low cost per lifetime tonne of carbon saved (e.g. low level streetlight dimming saving £84k a year and Public Sector Decarbonisation Scheme funded projects saving £138k a year). There is further potential for many more opportunities to reduce revenue expenditure in delivering carbon reduction projects, including in decarbonising the council's business travel, electric vehicle fleet transition and using council generated local renewable energy. In doing so, the council could significantly reduce its annual spend compared to the 'Do Nothing' scenario (£59.4 million 2021-22 to 2029-2030).

The 2021 Medium Term Financial Strategy (MTFS) allocated a £2 million fund for carbon reduction. This fund will support the delivery of carbon reduction projects across the council, with financial savings recycled into the fund to further support more projects. Schemes will be assessed on the basis of both their carbon savings and financial payback. Longer financial payback will be permitted on projects with the biggest carbon benefits.

Not all carbon reduction projects will deliver a financial saving and some may have a higher cost per tonne of carbon saved (e.g. decarbonising heating). Where this is the case, the Carbon Reduction Programme will consider a whole portfolio approach to project delivery, alongside looking in to innovative and alternative funding sources, to enable the delivery of net zero.

The cost to net zero is difficult to determine due to several factors, including: the long-term and complex nature of the programme, differing project development stages and future technology changes. The financial costs and savings will be tracked and monitored during the implementation of the 2030 Net Zero Action Plan and further research will be carried out to better understand the total financial cost of delivering net zero.

	Action	Partners ²¹	Timescale
F1.1	Track and monitor the financial cost and savings of the Carbon Reduction Programme	Strategic Themes, Finance, CRPB, CRT	Ongoing
F1.2	Investigate innovative and alternative funding sources to drive forward carbon reduction projects	Strategic Themes, Finance, CRPB, CRT	Ongoing
F1.3	Where possible, continue to generate financial income and savings through delivering carbon reduction	Strategic Themes, CRPB, CRT	Ongoing
F1.4	Develop a £2 million recycling fund for carbon reduction projects	Finance, CRT	Sept 2022
F1.5	Trial assigning a financial value to carbon, to help inform decisions and business cases	Finance, CRT, CRPB	2022-23
F1.6	Explore the approaches recommended by the Taskforce on Climate-Related Financial Disclosures on governance, strategy, risk management and targets.	Finance, CRT, EP&S	2023-24

²¹ Carbon Reduction Programme Board (CRPB), Carbon Reduction Team (CRT), Environment Policy and Strategy (EP&S)

Embedding Net Zero into the Council

Becoming a net zero local authority requires strong and effective management and governance, alongside a collaborative effort across the council, embedding net zero at the heart of council decision making and service delivery. This involves ensuring that net zero is built into learning and development opportunities for staff and teams, procurement mechanisms and the council's communications and engagement with staff, suppliers and service users. This will also support the countywide 2045 net zero target, as staff become better able to support carbon reduction through their work.

Management and Governance of Net Zero

The Carbon Reduction Programme spans across the entire council, where effective governance and oversight of the programme is key to its success. The establishment of the programme and development of the action plan has been led and managed by the Carbon Reduction Team in the Environment and Transport Department, with support from the Transformation Unit. During this, the overall programme received oversight from the council's internal Carbon Reduction Programme Board, which further feeds into the Environment Strategy Delivery Board and the Transformation Delivery Board.

As the Carbon Reduction Programme moves towards continued implementation and monitoring of this action plan, it is important that the governance structure is embedded into the council, giving carbon reduction the spotlight in pre-existing structures and sharing the responsibility for delivery of carbon reduction initiatives to teams and departments directly responsible for the strategic theme areas. The Carbon Reduction Programme governance will also need to be aligned to Net Zero Leicestershire governance for the 2045 county-wide commitment and the emerging governance linked to the Cleaner, Greener Future outcome in the Strategy Plan 2022-26.

	Action	Partners	Timescale
MG1.1	Review and develop a new governance structure for monitoring progress with implementation of the Carbon Reduction Programme action plan	TU, CRPB, ESDB, Growth Service	Sept 2022

Decision Making and Procurement

	Action	Partners ²²	Timescale
DM1.1	Integrate the carbon impact of projects into Transformation Unit business case templates	TU, CRT, WoW	Sept 2022
DM1.2	Pilot working with key suppliers to reduce emissions of high emissions contracts and meet environmental goals	Specific departments/teams, suppliers, CRT, EP&S, Procurement	2022-23
DM1.3	Investigate common suppliers with partners and potential actions to reduce carbon	Neighbouring councils, health partners (NHS), CRT, EP&S, Procurement	2022-23
DM1.4	Integrate council sustainability specifications and requirements into supplier contracts and the procurement process	Specific departments/teams, suppliers, CRT, EP&S, Procurement, WoW	2024-25
DM1.5	Investigate incorporating net zero requirements into project approval and spend control forms	Finance, CRT, Procurement	2023-24
DM1.6	Investigate incorporating carbon impacts of key decisions into Democratic Services report templates and guidance	DS, CRT, EP&S	2023-24

²² See footnote 23 - Transformation Unit (TU), Ways of Working (WoW), Democratic Services (DS)

Learning and Development

	Action	Audience	Partners ²³	Timescale
LD1.1	Facilitate a net zero community of practice with regular opportunities to explore best practice in carbon management for key staff	Specific Officers	CRT, L&D, EP&S	Ongoing
LD1.2	Incorporate net zero into mandatory Environmental Awareness e-learning	All staff	CRT, L&D, EP&S	2022-23
LD1.3	Incorporate net zero into the new Environment Management System e-learning training course for key staff	Specific Officers	CRT, L&D, EP&S	2022-23
LD1.4	Investigate creating a dedicated net zero e-learning, detailing more in-depth information on climate change, council/county emissions & actions and staff actions	All staff	CRT, L&D, EP&S	2023-24
LD1.5	Investigate specific and professional carbon reduction training and development needs and opportunities e.g. Carbon Literacy Training	Specific Officers	CRT, L&D, EP&S	2022-23
LD1.6	Develop a business case for net zero corporate learning and development support	CMT	CRT, L&D	2022-23

Communications and Engagement

Working with our stakeholders is key to the success of the council becoming a net zero local authority by 2030. Key internal stakeholders to inform and engage with shaping and delivering net zero emissions are:

Stakeholder	Method of Engagement/Actions
Chief Executive	CMT, briefings
Corporate Management Team	CMT briefings, face-to-face
Senior Managers	Senior Manager's Conference, Senior Leadership Teams, Leadership Programme
Managers	Manager's Digest
Environment Strategy Delivery Board	Face-to-face
Go Green Champions	Go Green News, events, Yammer
Carbon Reduction Delivery Groups	Face-to-face, regular meetings, one-to-one with individuals
All Staff	Environment Bulletin, Yammer, Intranet, News for All, Environment Matters, events & focus groups
Environment Lead Member	Lead Member briefings, Members Digest
All Members	Members Digest, all member briefings
Cabinet	Cabinet briefings and reports
Environment and Climate Change Overview and Scrutiny Committee	Scrutiny briefings and reports
External Partners and Networks (As outlined in Leicestershire's 2045 Net Zero Strategy and Action Plan)	Face-to-face, network and partnership meetings, conferences, workshops, one-to-one, Environment Matters, Net Zero Communication Plan
Public	Promote the achievements of the council in its transition to net zero by 2030 for its own operations and share best practice

²³ See footnotes 23-24 – Learning and Development (L&D)

	Action	Audience	Partners ²³⁻²⁵	Timescale
CE1.1	Ensure net zero has a regular presence on the council's Yammer pages	All Staff	Comms	Ongoing
CE1.2	Provide regular representation of Net Zero Leicestershire in the Environment Bulletin	All Staff	Comms	Ongoing
CE1.3	Create a net zero information hub and resources for staff on the Intranet	All Staff	IT, Comms, CRT	2022-23
CE1.4	Develop a net zero information hub on the council's website	General public, businesses & partnerships	IT, Comms, CRT	2022-23
CE1.5	Create a net zero carbon email address and promote it as the main contact for matters relating to Net Zero Leicestershire	Everyone	CRT	Sept 2022
CE1.6	Incorporate key net zero guidance and principles in the Ways of Working Programme's communications and engagement plans	Office tenants, all staff	Comms, WoW Programme	Sept 2022
CE1.8	Host regular climate cafes/lunch & learn opportunities for all staff to have conversations about climate change	All Staff	CRT, L&D, EP&S, Comms	2022-23

Net Zero Ways of Working

The council's Ways of Working Programme offers a unique opportunity to embed net zero into future plans and decisions about how the council operates. Priority areas for the programme to contribute to and consider include supporting the transformational change required to decarbonise business travel, implementing smarter and more efficient working practices across the council, quantifying the carbon impact of all major decisions and considering carbon and energy within the IT strategy and infrastructure. Actions that need to be considered within the programme have been embedded throughout the action plan (see business travel actions and DM1.1/1.4, CE1.6, AS1.2/1.3/1.5/1.6).

Influencing Out of Scope Emissions

In recognition of the importance in acting to reduce the council's wider influence on emissions, including those that arise from local authority-maintained schools and the council's supply chain, leased assets, employee commuting and investments, actions to influence and reduce emissions associated with these categories have been included within the action plan, in line with the county's 2045 net zero commitment. Following the scope 3 emissions study, the council has identified several actions to reduce its wider influence on emissions (see business travel actions, DM1.2 to DM1.6 actions and below).

	Action	Partners ²³⁻²⁵	Timescale
AS1.1	Improve data collection, understanding and reporting of out of scope emissions (e.g. wider scope 3 emissions) to inform appropriate actions the council can take to support their reduction	EP&S, CRT, procurement, finance, property, specific departments/teams	Ongoing
AS1.2	Work towards providing a portfolio of low carbon leased assets (e.g. renewable installations and improved energy efficiency)	CRT, property, tenants, finance, WoW	Ongoing
AS1.3	Work with tenants to reduce the carbon footprint of leased assets (e.g. follow the council's net zero principles and behaviours)	CRT, property, tenants, WoW	Ongoing
AS1.4	Support the shift of council investments towards clean, green and sustainable portfolios to support the low carbon economy	Finance, property	Ongoing

AS1.5	Encourage and support staff where possible to commute to work by a low carbon method of transport (e.g. active travel, public transport, EV vehicles and charge points)	Staff, HR, WoW, comms, safe & sustainable travel	Ongoing
AS1.6	Encourage smarter and more efficient working practices across the council e.g. hybrid working, meeting/site visit planning, virtual meetings	Staff, HR, WoW, comms, safe & sustainable travel	Ongoing

Performance and Monitoring

Leicestershire County Council's emissions will be monitored on a quarterly basis, using the council's Environment Management System and RIO software, with an ambition to provide in year projections of year end emissions reductions. The council will then assess, measure and report actual emissions through the annual Greenhouse Gas Report published on the council's website, detailing the council's current emissions and progress towards net zero by 2030. A summary of this report will be provided within the Annual Net Zero Update to the Corporate Management Team and the Environment and Climate Change Overview and Scrutiny Committee.

In addition to internal reporting, during the 2022-23 financial year, the council will review and prepare to report to the Carbon Disclosure Project's Climate and Environmental Reporting Platform in the 2023-24 financial year. In doing so, the council aims to improve its credibility and accuracy in reporting on carbon and climate change, benchmarking this against other local areas.

The programme of carbon reduction projects will be monitored by each of the strategic themes on a regular basis, through the Discover, Design and Delivery process. Project progress will be updated in the council's Carbon Reduction Projects Tracker and reported to the Carbon Reduction Programme Board every two months, which will have oversight over the whole programme. Additional updates will be provided where necessary to the council's Environment Strategy Delivery Group, Departmental Management Teams, Corporate Management Team and Environment Lead Member.

Annual Progress Review

The council will conduct a review and update of the Carbon Reduction Programme action plan at the beginning of each financial year. The main aims of the annual review will be to:

1. Provide an opportunity to add new and update existing actions to the action plan e.g. opportunities workshops.
2. Inform the Greenhouse Gas Report by providing an overview of projects delivered in the last financial year and an understanding of where council action has contributed towards emissions reduction.

	Action	Partners ²³⁻²⁵	Timescale
PM1.1	Monitor and publish an annual greenhouse gas report for the council's own operational emissions and progress towards net zero 2030	CRT, EP&S, CRPB, TU	Ongoing
PM1.2	Conduct an annual review of the Carbon Reduction Programme action plan – to include new, updated and completed actions	CRT, Strategic Themes, CRPB	Ongoing
PM1.3	Review the requirements and prepare to report to the Carbon Disclosure Project	CRT, EP&S	2023-24