



**ENVIRONMENT AND CLIMATE CHANGE OVERVIEW AND
SCRUTINY COMMITTEE – 26 JANUARY 2022**

NET ZERO CARBON 2045: A ROADMAP FOR LEICESTERSHIRE

REPORT OF THE DIRECTOR OF ENVIRONMENT & TRANSPORT

Purpose of the Report

1. The purpose of this report is to:-
 - a) ensure that Members are kept up to date with the Council's response to the climate emergency;
 - b) advise of the key findings from the Net Zero Carbon 2045 Roadmap for Leicestershire research (see Appendix A) which provides a baseline assessment of greenhouse gas emissions from Leicestershire and models a number of scenarios to illustrate possible pathways to net zero carbon by 2045 target (Tranche 2) and;
 - c) provide an overview of the approach and process to be employed to develop the Council's response through the development of a Net Zero Strategy and Action Plan.

Policy Framework and Previous Decisions

2. The County Council declared a climate emergency on 15 May 2019 with unanimous cross-party support. The declaration committed the Council to achieving carbon neutrality for its own emissions by 2030 and to working with others and lobbying the Government to support delivery of this commitment. A "Tranche 1" Carbon Reduction Roadmap for the Council to achieve net zero emissions by 2030 was presented to Cabinet in April 2020 and was approved by Full Council on 8 July 2020. Net zero refers to the balance between the amount of greenhouse gas (GHG) produced and the amount removed from the atmosphere.
3. The climate emergency declaration includes a commitment to support the limiting of global warming to less than 1.5°C, in line with the Paris Agreement. This in effect means achieving carbon neutrality for Leicestershire by 2050 or before and achieving significant reductions by 2030.

4. The Council's Strategic Plan and Environment Strategy 2018-30 were updated to reflect the targets in the climate emergency declaration and were both approved by the County Council on 8 July 2020.
5. In December 2020 the County Council signed up to a UK 100 pledge to achieve net zero for Leicestershire by 2045 (UK 100 is a network for UK local leaders focused on climate, clean energy and clean air policy).

Background

International climate change commitments

6. In November 2021, the UK hosted COP26 - the 26th Conference of the Parties. The "Parties" are the signatories of the United Nations Framework Convention on Climate Change (UNFCCC) - a treaty agreed in 1994.
7. United Nations climate change conferences are among the largest international meetings in the world. The negotiations between governments are complex and involve officials from almost every country in the world as well as representatives from civil society and the global news media.
8. The Paris Agreement was agreed at COP21 in 2015. For the first time ever, it saw almost every country around the world enter a legally binding commitment to reduce emissions.
9. Under the Paris Agreement every country involved – no matter how big or small – signed up to cutting carbon emissions to limit global warming to well below 2°C and ideally to 1.5°C above pre-industrial levels. The Agreement left room for each individual country to decide how they would get there, via Nationally Determined Contributions (NDCs).
10. The Paris Agreement also set out ambitious goals on adaptation and on finance, recognising that many people around the world are already experiencing the impacts of a changing climate, and that support - financial, technical and capacity building - would be needed.

National climate change commitments

11. The Climate Change Act, as amended in 2019, commits the UK to 'net zero' carbon emissions by 2050. The original Act, passed in 2008, committed the UK to an 80% reduction of greenhouse gas emissions by 2050, compared to 1990 levels. In 2019, the Climate Change Act 2008 (2050 Target Amendment) Order 2019 was passed, which increased the UK's commitment to a 100% reduction in emissions by 2050.
12. On 20 April 2021, the Government announced that it "will set the world's most ambitious climate change target" to reduce emissions by 78% by 2035 compared to 1990 levels as part of its sixth carbon budget. The UK's carbon budgets place a restriction on the total amount of greenhouse gases the UK can emit over a five-year period.

County Council action to date

13. The Cabinet was presented with a roadmap to net zero for the Council's own operations in April 2020 – the Tranche 1 Carbon Reduction Roadmap. This is being delivered through a programme of projects to address the Council's own emissions and builds on the Council's ongoing commitment to carbon reduction which had delivered 73.6% reduction in its emissions by the end of 2020/21 compared with the 2008/09 baseline year and is currently on track to deliver the Council target by 2030.
14. The Environment Strategy 2018-2030 Action Plan included an action to develop a Net Zero Roadmap for Leicestershire to illustrate the pathways to net zero for the County. The completion of the Net Zero Leicestershire 2045 Roadmap research delivers on this action and provides a comprehensive evidence base to inform action on carbon reduction across Leicestershire.
15. The Net Zero Roadmap research addresses the greenhouse gas emissions from the whole County (Tranche 2) and is intended to provide an evidence base to inform climate action plans of the Council (and other organisations), identify gaps in policy and resources and to support partnership working. It provides information on the main emissions sources in Leicestershire and models several scenarios to understand options for delivering net zero carbon in Leicestershire by 2045.

Net Zero Report Purpose and Methodology

16. The Net Zero Roadmap research was commissioned by the Council and has been produced through a contract with Buro Happold, who are specialist consultants with expertise in sustainability and engineering.
17. The Net Zero 2045 Roadmap for Leicestershire research was commissioned by the County Council to:
 - a) Provide a comprehensive assessment of area-wide sources of carbon emissions and pathways to net zero in Leicestershire as a resource to be used by all partners for future action plans;
 - b) Inform the Council's response to the climate emergency through the development of strategy and action plans based on evidence, and
 - c) to support and encourage engagement with other organisations to develop their own climate commitments and action plans.
18. The Net Zero 2045 Roadmap for Leicestershire research report, a summary of which is appended, compiles into a single document:
 - a) an understanding of the baseline carbon emissions for Leicestershire the progress made to date and the emissions reduction trajectory based on existing local and national policy;

- b) emissions pathways for three more ambitious scenarios; Council-influenced, Balanced and Tailwinds (from the UK Climate Change Committee's Sixth Carbon Budget) to identify the interventions with the highest impact;
 - c) a supplementary analysis of the wider context of achieving net zero i.e. costs, co-benefits, key partners and gaps in policy and resources;
 - d) proposals for a high-level action plan for Leicestershire.
19. The production of the Net Zero Roadmap has been managed by the Carbon Reduction Team in the Environment and Transport Department but has been overseen by an officer Net Zero Roadmap Working Group, the membership of which included senior managers from across the Council with a direct interest in the Roadmap report and the decarbonisation themes under consideration.
20. The Cabinet Lead Member for the Environment and the Green Agenda has been regularly updated on the development of the report and the findings as they have come available.

Key findings and conclusions from the research

21. A more detailed summary of the findings from the Roadmap research is included as Appendix A.
22. However, the key findings to note are:-
- a) The total annual greenhouse gas emission baseline (2019) for Leicestershire is estimated as 8.5 Million tonnes of carbon dioxide equivalent (MtCO₂e¹). This includes territorial emissions arising from the use of energy and fuel within the County (4.5 MtCO₂e per year) plus consumption emissions (an additional 4 MtCO₂e per year) occurring out-of-boundary as a result of County activities (for example through the purchase of goods and services).
 - b) The predominant emission sources for Leicestershire are road transport (1.9 MtCO₂e), domestic energy use (1 MtCO₂e) and industrial and commercial energy use (1.1 MtCO₂e).
 - c) The Net Zero Roadmap study has modelled four scenarios (the existing policy pathway and three additional more ambitious pathways) to understand the impact of different interventions on decarbonisation.
 - d) The Balanced and Tailwinds Pathways both achieve notable reductions in emissions by 2045 (91% and 95% respectively). The Tailwinds Pathway is also notable in that it is the only pathway that delivers 50% reduction in carbon emissions by 2030, the definitive decade for climate action.

¹ "Carbon dioxide equivalent" or "CO₂e" is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO₂e signifies the amount of CO₂ (carbon dioxide) which would have the equivalent global warming impact.

- e) None of the pathways modelled are Paris Agreement Compliant pathways, although the Balanced and Tailwinds Pathways approach the 2045 target. This has also been acknowledged in the UK Climate Change Committee modelling, and the dependence of national carbon budgets and targets on removals and negative emissions technologies to meet Paris Agreement goals (these are not modelled in the Leicestershire Net Zero Pathways).
 - f) Under all emissions pathways, Leicestershire is left with some annual residual emissions. The largest residual emissions categories in both the Balanced and Tailwinds Pathways are road transport, industry (including agriculture) and building emissions.
23. In order to meet Leicestershire's net zero target by 2045 in a fair and equitable way the report recommended that future actions should include:-
- a) a massive reduction in demand for energy,
 - b) County-wide switch to low carbon fuel,
 - c) significant reduction in material demand,
 - d) public and stakeholder engagement to ensure that wider co-benefits for society and the economy are maximised,
 - e) net zero is progressed within the context of other environmental objectives to enhance biodiversity and provide resilience,
 - f) carbon capture and storage will be required,
 - g) offsetting carbon should only be considered as a last resort.
24. The conclusions to be drawn from the research to note are:
- a) **The net zero carbon 2045 target for Leicestershire cannot be delivered by the Council working alone.** Public and stakeholder engagement and action will be essential and integral to any future action plan. With this in mind, there could be a role for the County Council to show leadership, convene partners and inspire commitment and action for net zero, beginning with the development of a Council Net Zero Strategy and Action Plan;
 - b) **The pathway to net zero is challenging but feasible** if all available policy levers are employed at pace and scale. This would require near total retrofit of buildings, full roll out of electric vehicles and decrease in vehicle mileage, very high PV installation, industrial heat sources switched to electricity or hydrogen and total reduction in embodied carbon in new buildings;
 - c) **Investment will be required from all sectors** but there are benefits to be accrued for the economy, society and the environment if the transition is just and fair.

Developing a Net Zero 2045 Strategy and Action Plan for Leicestershire

25. The Council has a high level of ambition to demonstrate strong place leadership and to retain oversight of the 2045 target on behalf of the County. The Roadmap report demonstrates that the Council-influenced pathway, although highly ambitious, will only deliver 37% reductions by 2045 so a broader collaborative approach is required.
26. There is no national guidance on defining the scope and parameters for area wide net zero carbon targets. Officers will be recommending a bespoke scope for the County 2045 target based on best practice, data availability to provide annual public progress reports and to reflect the areas where the Council has control or influence. Regardless of the scope recommended, the Strategy and Action Plan will include a commitment to address all emissions where possible. The target will be limited to those that can effectively be monitored and reported on although this may change over time as data availability changes. The Strategy will also include interim targets in line with the national Government carbon budgets to address the need to support the Paris Agreement, demonstrate the steep reduction trajectory needed in the next decade and to limit cumulative greenhouse gas emissions up to 2045 which will determine overall global heating. The Strategy will also include an approach to residual emissions and offsetting as a last resort.
27. A comprehensive draft Strategy and Action Plan will be developed to address the full programme of work needed to deliver net zero which will identify the actions where the Council is the lead, others which will be stakeholder 'asks' and those which remain aspirational within current policy, technology and resources.
28. This leadership role and associated partner engagement will be developed over time to allow the Council to progress its own plans quickly. The Council has areas of direct control and significant influence, but other areas will require action from other stakeholders and wider governance to proceed, for example within other tiers of local government, business, commerce and industry and individuals.
29. The scale and pace of change required means it is essential to work with and inspire other stakeholders and residents and engage with the central Government, demonstrating leadership and facilitating others to act and back the net zero target.
30. To support this engagement, the Council will continue to work through existing partnerships in the first instance to build momentum and support. In time, it may be desirable to establish new structures, this will be the subject of a review and recommendations for partnership delivery to be included in the draft Strategy and Action Plan.
31. It is vital that the public are also engaged with the net zero carbon agenda and empowered to act. The Council's public engagement plan will address:-
 - a) Scale and ambition – for example, Citizens' Assembly/Panel one-off or ongoing, focus groups, community spaces/events, bespoke youth

engagement initiatives, community engagement toolkits, use of crowdsourcing;

- b) Timing and longevity – engagement prior to draft, consultation to influence strategy and plans, longer term structures to ‘test’ action plan implementation and/or to facilitate ongoing dialogue.
32. Public communications and engagement will be a priority objective in the Net Zero Strategy and Action Plan and will be further developed over time to inform, engage and activate individuals and communities.
 33. To support the development of the Council’s Net Zero Strategy and Action Plan, stakeholder mapping and analysis will be completed to define an engagement plan. Priority stakeholders will be targeted for early engagement to provide input to the first draft.
 34. To shape the draft Strategy and Action Plan, an internal engagement process will be conducted in parallel to the external stakeholder engagement. This will involve widespread engagement across the Council to inform staff and increase capacity for tackling the climate emergency across departments. In addition, it will be necessary to work with key staff to develop the Council’s actions for inclusion in the Net Zero Action Plan.
 35. A more formal public and stakeholder consultation will be conducted on the content of the draft Strategy and Action Plan through the ‘Have Your Say’ webpage. The consultation process will be conducted in line with best practice guidance for a period of 12 weeks. This level of engagement is possible within existing resources.
 36. Opportunities for additional funding and resources are being pursued for more ambitious public engagement and innovative consultation, such as the creation of a Citizens’ Assembly and co-designed youth engagement through the UK 100 Local Climate Engagement Programme.
 37. There will also be targeted consultation with key stakeholders via meetings and existing networks wherever possible. This will include health and district and parish councils, business and representative organisations, environmental organisations, voluntary sector and community groups and local universities.
 38. The Environment and Climate Change Overview and Scrutiny Committee will receive a report on the draft Net Zero Strategy and Action Plan as part of the consultation on 14 June 2022.

Resource Implications

39. The Cabinet approved a budget of £450,000 in September 2019 to facilitate the review of the Environment Strategy and the development of the Net Zero Roadmap and to take immediate action to implement measures to reduce carbon emissions.

40. The development of the Net Zero Strategy and Action Plan will be delivered from the existing resources allocated to the Climate Emergency declaration at Cabinet outlined above. The Net Zero Strategy and Action Plan will be accompanied by a resourcing plan when presented to Cabinet for approval.
41. The actions outlined in the net zero pathways will require action across society and both private and public investment; the Council working alone cannot deliver all the change required. However, the Council has some direct control and significant influence over many areas that can support the transition to net zero.
42. Where appropriate, business cases will be developed for potential projects to deliver the Net Zero Roadmap to assess the carbon, financial and other benefits of proposals to ensure they positively contribute to the Council's objectives.
43. Existing resources will be utilised where possible with external resources being sought through the submission of funding bids for grants and working with external partners where appropriate to leverage investment to support any costs associated with engagement and programme delivery. In addition, there will be a drive to pursue opportunities to secure revenue income from carbon reduction projects.
44. The Director of Law and Governance and Director of Corporate Resources have been consulted on the content of this report.

Timetable for decisions

45. The draft Net Zero Strategy and Action Plan will be presented to Cabinet on 29 March 2022 for approval to consult.
46. The results of the consultation and the final draft Net Zero Strategy and Action Plan will be presented to Environment and Climate Change Overview and Scrutiny Committee on 3 September 2022 for comment and will be presented to Cabinet with the Committee's comments for approval on 16 September 2022.

Background papers

[Environment Strategy 2018 – 2030: delivering a better future](#)

[Leicestershire County Council Climate Emergency Declaration](#)

[Cabinet report on Council's Net Zero Roadmap for 2030](#)

[Leicestershire County Council's Strategic Outcomes Framework and Plans 2018-22](#)

Circulation under Local Issues Alert Procedure

None.

Equalities and Human Rights Implications

47. An Equalities and Human Rights Impact Assessment (EHRIA) is not required as this report relates to a research project, however, an EHRIA will be completed for the Net Zero Strategy and Action Plan to support a just transition to net zero carbon.

Appendix

Summary of findings from the Net Zero Leicestershire Roadmap research report

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