

Derbyshire County Council's Climate Change Strategy: Achieving Net Zero

2021 - 2025

Contents

Contents	1		
Tables & Figures	2		
Glossary	3		
Foreword	4		
Executive Summary	5		
Derbyshire County Council Achieving Net Zero Strategy	5		
Where we are now	6		
What we need to do	7		
1. Introduction	13		
1.1 Context	14		
1.2 Scope of the Strategy and Action Plan	17		
1.3 Structure of the Strategy	19		
2. Our Key Targets 2020 - 2050	21		
3. Developing our Strategy	23		
3.1 What have we been working on so far?	24		
3.2 Who was engaged in the development of this Strategy?	26		
4. Delivering our Strategy	27		
4.1 Governance	30		
4.2 Engagement and Partnerships	32		
4.3 Data and Evidence	34		
4.4 Funding and Resources	34		
4.5 Skills and Training	35		
5. Our emissions pathway	37		
5.1 Derbyshire County Council's emissions	38		
5.2 Derbyshire county-wide emissions	42		
5.3 The pathway to net-zero emissions	44		
6. National Action	47		
7. Our strategic priorities and actions	49		
7.1 Council Estate and Operations	52		
7.2 Low Carbon Economy	58		
7.3 Decarbonising the Domestic Sector	64		
7.4 Transport, Travel and Infrastructure	70		
7.5 Waste	76		
8. Adaptation and natural capital	80		
9. Monitoring and reporting	84		
Action evaluation approach	86		
Sustainable Development Goals (SDGs)	88		

Content. Continued...

TABLES

Table 1 Scope of emissions generating activities and reported emissions areas

Table 2 Summarising scope 3 county-wide emissions

Table 3 Scoring approach for evaluating the resources and skills required for each action, and the existing capacity to deliver them

Table 4 Scoring approach for the cost benefit of each of the targets

Table 5 Scoring approach for the effectiveness of actions in reducing emissions for that sector

FIGURES

Figure 1 Derbyshire County Council's greenhouse gas emissions breakdown by sector (2019-2020).

Figure 2 Derbyshire's greenhouse gas emissions breakdown by sector (2018 Contains public sector information licensed under the Open Government Licence v3.0. Source agency: BEIS [2020]¹).

Figure 3 Derbyshire's district and borough councils.

Figure 4 Engagement as part of the development of this Strategy.

Figure 5 Spheres of influence for local authorities in driving climate action.

Figure 6 Key stakeholders engaged in the delivery of the Strategy.

Figure 7 Visualisation of the emissions sources included in the GHG emissions baselining © World Resources Institute, WBSCD, GHG Protocol [2021].

Figure 8 Breakdown of Derbyshire county Council emissions by source 2017 - 2019.

Figure 9 Derbyshire County's sectoral GHG emissions (2005-2018). Produced by Arup © Contains public sector information licensed under the Open Government Licence v3.0. Source agency: BEIS [2020].¹

Figure 10 Summary of business as usual emissions for Derbyshire County Council estate and operations broken down by sector.

Figure 11 Derbyshire County Council Organisation BAU and net zero emissions reduction pathway. © Arup

Figure 12 Derbyshire County target net zero emissions pathways against business as usual. Note the BAU pathway has been estimated from 2040 - 2050 using average emissions changes in the preceding five years as national data has not yet been published by BEIS for this period © Arup

Figure 13 Distribution of Energy Performance Certificate Ratings in Derbyshire for domestic properties.

Figure 14 Distribution of transport emissions in Derbyshire adapted from 'BEIS, 2020. Emissions of carbon dioxide for local authority areas'.

Figure 15 Plug in vehicle in Derbyshire adapted from Department for Transport VEH0131: Licensed plug-in cars, LGVs and quadricycles by local authority: United Kingdom.

Figure 16: Summary of soil carbon/organic matter content and woodland coverage within Derbyshire. © Natural England, 2020 NERC - Centre for Ecology & Hydrology.

Glossary

The definitions set out below have been derived from the Intergovernmental Panel on Climate Change Special Report: Global Warming of 1.5° C Glossary.¹

Adaptation	A process or action of change that can be undertaken to better suit your environment.
Afforestation	Planting of new forests on new land that previously did not contain any forests.
Baseline emissions	The greenhouse gas emissions that were emitted in the reference year against which you are reducing
Business as Usual Scenario	A scenario of emissions change that assumes the implementation of no new policies.
Carbon capture, utilisation and storage	A process in which CO ₂ is captured and then either stored or used to produce a new product for long term removal from the atmosphere.
Climate Change	A change in global and regional climate patterns as a result of anthropogenic (human) activities.
CO ₂ e	The amount of carbon dioxide (CO ₂) that would be emitted to cause the same global warming impact as the total emitted mixture of GHGs.
Cumulative emissions	Total GHG emissions given out over a time period.
Ecosystem services	Ecological process, systems and products that hold value for communities.
Green infrastructure	Interconnected natural and constructed ecosystems.
Greenhouse gas emissions (GHGs)	Natural and anthropogenic gases that absorb and emit radiation within the spectrum that causes warming.
LULUCF	Land Use, Land Use Change and Forestry emissions
Mitigation scenario	A plausible description of the future that describes how the (studied) system responds to the implementation of mitigation policies and measures.
Net zero emissions	When anthropogenic emissions given out are balanced by the anthropogenic emissions that are removed over a specific period.
Resilience	The capacity of communities, infrastructure, and the environment to cope with a hazardous event.
Scope 1,2,3 emissions	Categories of emissions related to activity type. Scope 1 emissions are the direct emissions arising from the use of fuels, scope 2 emissions are indirect from the generation of purchased electricity, and scope 3 emissions are further indirect emissions that are produced outside the boundary of an area for the purpose of providing services to that area.
Sustainable Development Goals	The 17 goals adopted by the United Nations as a blueprint for achieving a sustainable and improved future for all countries.
United Nations Framework Convention on Climate Change (UNFCCC)	The Convention's ultimate objective is the 'stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.'

Foreword

Derbyshire is no stranger to the effects of climate change. Extreme weather events are becoming more frequent with harsh winters and extreme rainfall causing severe flooding in recent years which has led to much destruction and tragically even death.

This isn't something only experienced in Derbyshire, or indeed the UK – far from it. But there's no doubt our county has felt the impact, leaving myself and others to wonder what next, where and when?

Clearly action is needed on an unprecedented scale and local authorities have a crucial role to play. That's why we're leading a once-in-a-generation opportunity to reduce carbon emissions generated in Derbyshire to help meet ambitious national targets needed to address this global crisis.

We've already begun cutting emissions from our buildings and operations and we've set ourselves ambitious targets to go further. But there's a far bigger challenge that faces us. The council's own carbon footprint makes up just one per cent of emissions from Derbyshire as a whole. And this is where we intend to grab hold of the nettle and strive to make a real difference.

Alongside targets for reducing the county council's own carbon footprint to net zero by 2032 or sooner, our aim is to help drive down carbon emissions generated across the whole of Derbyshire as quickly as possible to net zero by 2050. But it's not something we can do on our own and we need everyone to play a part.

We've already begun working alongside our communities and businesses to support them to bring about change and our Climate Change Strategy builds on this by setting the foundations to establish a sensible, credible, measured and cohesive plan in which every business and household feels empowered through effective communication and engagement to play their part in reducing the county's greenhouse gas emissions.

Changes we make now will help global issues like protecting our marine life from rising sea temperatures as well as local issues such as lowering energy bills, creating local jobs, reducing fuel poverty, improving health and wellbeing, avoiding flood damage costs, enhancing green spaces, improving air quality and boosting biodiversity.

It's a huge challenge and a defining moment in our history which requires bold decisions and changes to the way we live our daily lives – but the benefits are massive.

Action we take today will affect the way we live tomorrow and while no business, organisation or individual can halt global warming alone, by working together, we can design a new way of living and make a real difference to the world inherited by our children and generations to follow.



COUNCILLOR BARRY LEWIS
Leader of Derbyshire County Council

Executive Summary

DERBYSHIRE COUNTY COUNCIL ACHIEVING NET ZERO STRATEGY

This document sets out Derbyshire County Council’s ambition to be a net zero organisation by 2032 or sooner, and what we (Derbyshire County Council) will do to help the county to be net zero by 2050. The Derbyshire County Council Achieving Net Zero Strategy is our Council’s and county’s contribution to the national and international commitment to tackle greenhouse gas (GHG) emissions and to keep global average temperatures from rising by more than 1.5°C.

The Strategy contains 28 priority targets across five key areas (four county-wide, one concerning the Council’s estate and operations) which commits us to delivering net zero buildings, expanding local renewable energy generation, changing transport choices, generating green jobs and preventing waste being sent to landfill, and also to benefit the local economy.

These targets are supported by over 120 actions, initiatives and projects which we anticipate Derbyshire County Council will either lead or support. We want to enable and empower our partners, residents and businesses to take action to tackle climate change.

The Strategy covers the period 2021-25 and will be reviewed and updated fully in 2025 to provide a Strategy beyond 2025. The targets set for each area may be revised at any time as further studies are carried out, as well as new priority actions are identified and as existing actions are completed.

This Strategy will be complemented by the production of a Natural Capital Strategy and a strategy to build the resilience of Derbyshire to a changing climate.



Council estate and operations



Low carbon economy



Decarbonising the domestic sector



Transport, Travel and Infrastructure



Waste

Where we are now

DERBYSHIRE COUNTY COUNCIL EMISSIONS

For the 2019-2020 financial year, the emissions resulting from our activities and operations were 19,206 tonnes of carbon dioxide equivalents (tCO₂e).

We have seen considerable success already with a 55% reduction in Derbyshire County Council's emissions since 2009. However, we will need to continue to rapidly decrease Derbyshire County Council's emissions to ensure we remain on target to be net zero by 2032, or sooner.

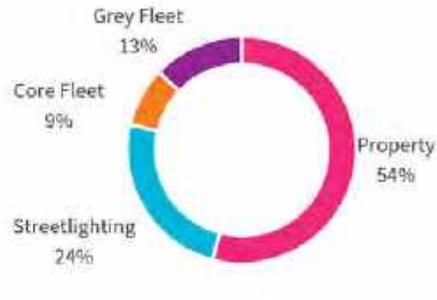


Figure 1 Derbyshire County Council's greenhouse gas emissions breakdown by sector (2019-2020)

DERBYSHIRE COUNTY-WIDE EMISSIONS

In 2018, Derbyshire's total greenhouse gas emissions across the county were 10.5 MtCO₂e. Our biggest sources of emissions are from the industry and commercial sector, alongside the transport and domestic sectors. Emissions from land use, land use change and forestry (LULUCF) were negative, demonstrating the sequestration of carbon from the atmosphere.

Derbyshire's county-wide target of net zero by 2050 is aligned with the UK's legal commitment to deliver net zero by 2050. Since 2005, Derbyshire's county-wide emissions have fallen by 21%. We will need to accelerate our emissions reductions if we are to achieve the 47% reduction in emissions by 2025 (against the 2005 baseline) which is needed to be on course to deliver net zero by 2050.

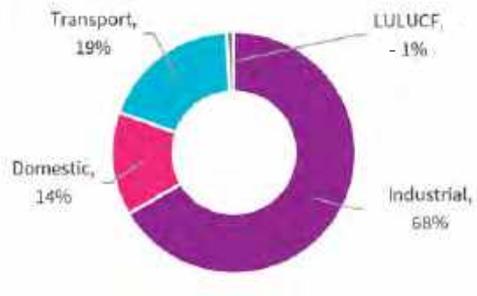


Figure 2 Derbyshire's greenhouse gas emissions breakdown by sector (2018 Contains public sector information licensed under the Open Government Licence v3.0. Source agency: BEIS [2020]¹)

What we need to do

Reaching a net zero Derbyshire will require a collective effort and support from every citizen, company, institution, third-sector organisation and industry body across the county.

We have set out a vision for each area and outlined specific interim targets along with a set of prioritised actions required to achieve the target.

We will take steps to ensure that the actions to reduce our emissions do not end up broadening inequalities across the county or lead to undesired outcomes such as increased fuel poverty and significantly increased costs for households.

As well as reducing emissions across the Council and the wider county, successful and effective delivery of the actions within the Strategy will help to address the wider key issues facing society, including improving and future-proofing homes, businesses, infrastructure and transport, reversing the decline in biodiversity, promoting community health and wellbeing, and the facilitation of a sustainable and robust low carbon economy. This will have benefits for both residents and businesses across the County.

Progress against the actions and targets presented in this Strategy will be monitored and reviewed on a regular basis. We have drawn up a comprehensive Monitoring and Evaluation programme to ensure that we are progressing in line with this Strategy. We will be tracking both our county-wide and Derbyshire County Council's emissions annually, with public disclosure to demonstrate progress. The individual emissions impact of different actions will be calculated through activity data collection from live reporting systems where possible, otherwise they will be estimated from proxy measures.



COUNCIL ESTATE AND OPERATIONS



AMBITION STATEMENT

Derbyshire County Council will become a net-zero carbon organisation that leads by example in implementing and promoting sustainable and low carbon practices across our operations, estate, service delivery and vehicle fleet. We will ensure carbon

reduction is embedded within Council procurement activities and commissioning principles, and that all of our employees will understand the importance of reducing our emissions, and wider county emissions, and their role in achieving these reductions.

WHAT ARE OUR PRIORITY ACTIONS FOR 2021-2025 TO ENSURE WE ACHIEVE THIS AMBITION?

Priority Actions	Cost of implementation and impact on reducing carbon emissions
Include as part of the Asset Management and broader Council Property review, the identification of buildings for energy efficiency retrofitting and buildings and land for the installation of renewable energy generation technologies, the development of a net zero design standard for estate development.	Low cost High impact
Develop a Sustainable Procurement Framework and ensure environmental and social sustainability is embedded within all contracting and procurement activities.	Low cost High impact
Review the Council's commissioning principles to ensure that climate change is embedded across our services and partner working.	Low cost High impact
Expand the Council's electric vehicle sharing programme and look to install electric vehicle charging points at all key Council sites, coupled with a behaviour change campaign and evaluation of working practices to facilitate a zero-emission fleet.	High cost High impact
Carry out a feasibility study to identify low carbon energy procurement options.	Low cost Medium impact
Include climate change training as part of the induction process for all Elected Members and staff to strengthen knowledge of carbon emissions, climate resilience and net zero development.	Low cost Medium impact



LOW CARBON ECONOMY

AMBITION STATEMENT

Derbyshire County Council will work with partner local authorities and other external stakeholder groups to drive forward the transition to a zero carbon economy, through low carbon recovery and good growth, creating more and better jobs in the low carbon and clean technology sectors, increasing skill levels and fostering innovation within



the County, and reducing energy consumption from all industrial and commercial sectors. Derbyshire has a high concentration of natural resources, which should be appropriately utilised to rapidly expand local renewable energy generation across the County.

WHAT ARE OUR PRIORITY ACTIONS FOR 2021-2025 TO ENSURE WE ACHIEVE THIS AMBITION?

Priority Actions

Cost of implementation and impact on reducing carbon emissions

Work with our Local Authority partners to develop a Renewable Energy Strategy for the county and identify opportunities for renewable energy generation, as well as the decarbonisation of heating and energy use in homes.	Medium cost High impact
Through Vision Derbyshire, continue working with the borough and district councils to develop a Strategic Joint Planning Framework for Derbyshire to ensure that planning measures for net zero commercial buildings are integrated into Local Plans.	Medium cost High impact
Work with local academic institutions, trade unions, and regional Chamber of Commerce to identify geographical areas for low carbon industry growth, as well as assessing and develop the capabilities and skills of the region in supplying those industries.	High cost High impact
Deliver the Derbyshire Green Entrepreneurs Fund and provide additional support for reducing environmental impacts, driving innovation, and creating sustainable growth opportunities for smaller businesses.	Medium cost High impact
Work with the Midlands Energy Hub, D2N2 LEP and universities and colleges to build technical and economic capabilities across the region to deliver renewable energy and low carbon projects.	High cost Medium impact
Liaise with Western Power Distribution (WPD) and the D2N2 LEP to understand local grid capacity and constraints for future energy generation opportunities.	Low cost Low impact
Through the COVID Recovery Strategy, identify high carbon commercial industries and support the business community in shifting to and benefiting from the low carbon economy.	High cost Low impact



DECARBONISING THE DOMESTIC SECTOR

AMBITION STATEMENT

Derbyshire County Council will work with partner local authorities and other external stakeholder groups to create low and zero carbon homes that reduce emissions but also provide economic and wellbeing benefits for our residents. This will be achieved through improving the fabric performance of homes, reducing energy consumption and



facilitating behaviour change, and removing all fossil fuels used from heating, hot water, and cooking. We will also support the national decarbonisation ambition by playing our role in the expansion of small-scale renewable energy generation in the domestic sector.

WHAT ARE OUR PRIORITY ACTIONS FOR 2021-2025 TO ENSURE WE ACHIEVE THIS AMBITION?

Priority Actions

Cost of implementation and impact on reducing carbon emissions

Conduct a feasibility assessment of the low carbon heat and renewable energy opportunities within the county's domestic property sector.	Medium cost High impact
Work with partner local authorities to adopt a whole-system Local Area Energy Planning approach to increase onsite low-carbon energy generation and reduce the demand for energy.	Medium cost High impact
Through Vision Derbyshire, continue working with the borough and district councils to develop a Strategic Joint Planning Framework for Derbyshire to ensure that planning measures for net zero domestic buildings are integrated into Local Plans.	Medium cost High impact
Work with local authority and wider government partners to develop a Regional Skills Strategy that pinpoints priority areas for upskilling of the domestic construction and retrofit sector and creates investor-ready programmes to receive support from the proposed National Skills Fund.	High cost High impact
Through Vision Derbyshire develop and implement an approach to supporting the de-carbonising of homes, recognising the specific opportunities and challenges faced by renters and homeowners and reflecting the need to particularly support those in fuel poverty.	Medium cost Medium impact
Develop an information sharing campaign to educate homeowners and renters on how to improve the energy efficiency of their property.	High cost Medium impact



TRANSPORT AND TRAVEL



AMBITION STATEMENT

Derbyshire County Council will work with partner local authorities and other external stakeholder groups to deliver a zero-carbon integrated transport offering across the county that works more effectively to meet the needs of residents in accessing the places they work, live, and socialise, as well as improving air quality for the improved health and wellbeing of our residents. Derbyshire’s flexible, accessible, affordable

and integrated system will enable everyone to make their journeys through active travel (walking and cycling), public transport, or decarbonised vehicles, whether that be individuals or businesses.

WHAT ARE OUR PRIORITY ACTIONS FOR 2021-2025 TO ENSURE WE ACHIEVE THIS AMBITION?

Cost of implementation and impact on reducing carbon emissions

Priority Actions

Promote integrated, and place-based development in transport planning as part of Derbyshire’s COVID recovery and economic revival of market towns, to reduce emissions from first and last mile journeys and provide an economic boost to local retail and businesses.	High cost High impact
Support the new Enhanced Bus Partnership arrangements being introduced in Derbyshire as part of the new National Bus Strategy. This will involve Derbyshire County Council and the bus operators investing in new service provision, improved roadside bus infrastructure, mobility as a service, inte-	High cost High impact
Continue to support the above average growth of zero emissions vehicle ownership in the country by establishing public-private investment partnerships to develop a network of mixed speed public charging and hydrogen infrastructure, which is affordable, consistent, accessible and user friendly for residents and visitors.	High cost High impact
Support the implementation of the Derbyshire Cycling Plan and the Local Cycling and Walking Investment Plan. Support actions for increasing the uptake of active transport to reduce emissions and improve health and wellbeing for all.	High cost Medium impact
Evaluate the use of smart technologies and alternative fuels to reduce the emissions associated with commercial and freight transports e.g. consolidation hubs, hydrogen sub-stations, transport mobility hubs, mobility as a service etc.	Medium cost Low impact



WASTE



AMBITION STATEMENT

Derbyshire County Council will work with partner local authorities and other external stakeholder groups to move the County towards a more sustainable and circular economy based system of resource management, where we place high value on our natural resources, whilst seeking to reduce our consumption and generation of resource and waste.

We will encourage and work with others to establish innovative approaches to waste diversion, reutilisation, and recycling.

WHAT ARE OUR PRIORITY ACTIONS FOR 2021-2025 TO ENSURE WE ACHIEVE THIS AMBITION?

Priority Actions	Cost of implementation and impact on reducing carbon emissions
Identify solutions to increase the diversion of organic waste including food, soiled materials, carpets, organic textiles, etc. from landfill	High cost Medium impact
Undertake a cross authority behaviour change campaign to promote reduction in waste and resource consumption in the home and businesses.	High cost Medium impact
Work with local producers and businesses to restrict the use of single use products and support the market for remanufactured goods.	High cost Medium impact
Explore the potential for partnering with local charities and organisation to segregate and redistribute good quality products from HWRC.	Medium cost Low impact

1. INTRODUCTION



1.1 Context



1.1.1 GLOBAL

The science is clear – human induced global warming is accelerating and changing our climate with global social, environmental and economic implications. In 2015, the United Nations came together with the international scientific community to develop the Paris Agreement, a collective recognition of climate change and the need to rapidly accelerate actions and investment to combat its impacts and pursue efforts to limit the future global temperature increase to well below 2°C. In 2018, the Intergovernmental Panel on Climate Change (IPCC) set out evidence that efforts to combat climate change should seek to limit this global temperature increase to 1.5°C.⁸

The Special Report 15 from Intergovernmental Panel on Climate Change (IPCC) estimates that human activity has caused approximately 1.0°C of global warming above pre-industrial levels.⁹ Greenhouse gas emissions from the early industrial

era (1850-1900) through to today will continue to cause changes in the climate heading into the future and lead to impacts such as sea-level rises and higher global temperatures leading to geopolitical change. Further increases in the levels of greenhouse gases in the atmosphere going forward will only exacerbate these risks. According to the IPCC model pathways, to have limited or no overshoot of a 1.5°C temperature increase, global net anthropogenic CO₂ emissions need to decline by about 45% from 2010 levels by 2030 and reaching net zero emissions around 2050. The Special Report 15 also sets out that any transition to net zero must be fair and just; ensuring the costs, benefits and impacts are shared equally across societies.



1.1.2 UK

The UK Committee on Climate Change's (CCC) Net Zero – The UK's Contribution to Stopping Global Warming Report (May 2019) recommends that the 'UK should set and vigorously pursue an ambitious target to reduce greenhouse gas emissions to 'net zero' by 2050, ending the UK's contribution to global warming within 30 years'.¹⁰

In May 2019, UK Parliament also backed a motion to declare a Climate Emergency and in June 2019, the UK became the first major economy in the world to pass laws to bring all greenhouse gas emissions to net zero by 2050.¹¹ This was passed into law through an amendment to the Climate Change Act 2008 to set a target of 100% reduction in net UK GHG emissions against the 1990 baseline (the previous target was 'at least 80% reduction').

In December 2020, the UK CCC published its recommendation for the UK's Sixth Carbon Budget. This provided advice on the amount of greenhouse gases the UK can emit between 2033-2037,¹² recommending a 78% reduction by 2035 against the 1990 baseline¹³ and that the Budget should, for the first time, include the shipping and aviation emissions. On 20th April, the UK Government accepted the UK CCC's recommendations and outlined that it will be enshrined into law by the end of June 2021.¹⁴

1.1 Context



Global

**2015
PARIS CLIMATE AGREEMENT**

Recognised the need to rapidly accelerate actions and investment to combat climate change and pursue efforts to limit the future global temperature increase to well below 2°C.

**2015
UN SDGS**

The Sustainable Development Goals adopted by all UN members including the UK.

**2018
IPCC**

Intergovernmental Panel on Climate Change (IPCC) sets out evidence that efforts to combat climate change should seek to limit global temperature increase to 1.5°C.⁴

Global net anthropogenic CO₂ emissions need to decline by about 45% from 2010 levels by 2030, reaching net zero around 2050.



UK

**2008
THE CLIMATE CHANGE ACT**

The Act committed the UK to reducing its greenhouse gas emissions by 80 per cent by 2050, compared to 1990 levels.⁶

**2019
NET ZERO
THE UK'S CONTRIBUTION TO
STOPPING GLOBAL WARMING
REPORT**

Committee on Climate Change (CCC) recommends that the 'UK should set and vigorously pursue an ambitious target to reduce greenhouse gas emissions to 'net-zero' by 2050, ending the UK's contribution to global warming within 30 years.'⁷

**2019
THE CLIMATE CHANGE
ACT (AMENDED)**

UK parliament backs a motion to declare a climate emergency, and subsequently updates the Climate Change Act (2008) to establish a target of 100% reduction in net zero GHG emissions in the UK against the 1990s baseline, this was an increase from 80%.

**2020
SIXTH CARBON BUDGET**

The CCC publishes 6th budget (2033-2037)⁸, recommending a 78% reduction by 2035 against the 1990 baseline and to include the UK's shipping and aviation emissions. This target was accepted by the UK government on 20th April 2021 and will be enshrined into law.¹⁰

1.2 Scope of the Strategy and Action Plan

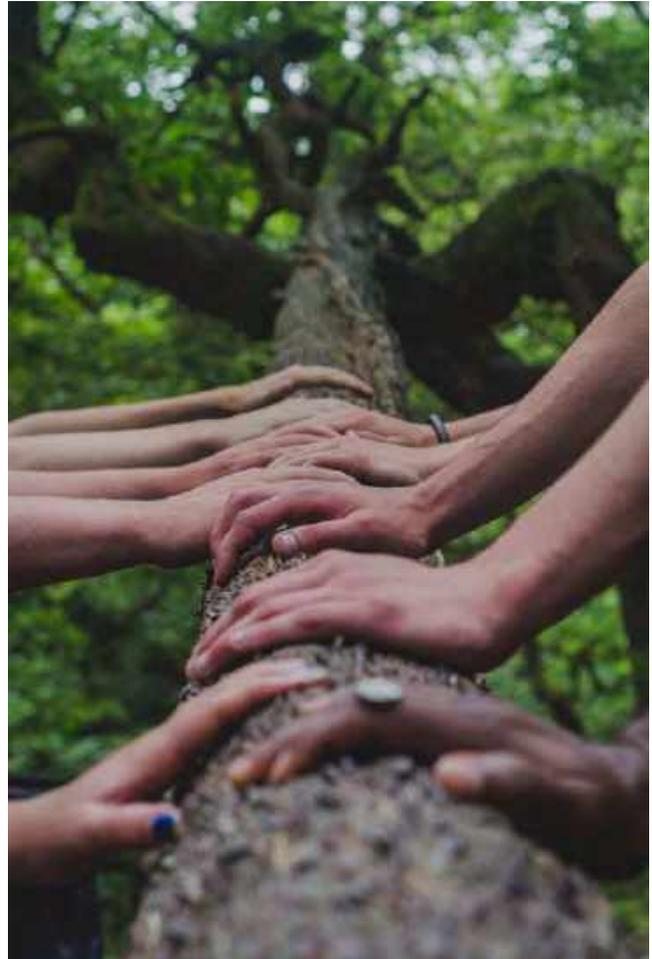
The Derbyshire County Council Achieving Net Zero Strategy and Action Plan ('the Strategy') sets out Derbyshire County Council's climate change mitigation approach, and how we can reduce emissions across our operations and estate to net zero by 2032 or sooner as well as how we can collectively work with our partners and communities to reduce emissions across the county from transport, homes, commercial sites, businesses, industry and waste to net zero by 2050. This Strategy will be reviewed and updated in 2025.

A 'net zero' emissions scenario is one in which we have taken all viable action to reduce emissions to zero in the first instance, and any remaining or residual emissions by our target date will be offset i.e. removed from the atmosphere, as a last resort.

Derbyshire County Council's own estate and operations includes emissions from non-domestic buildings, fleet vehicles and street lighting, further details of the activities included are set out in Section 7.1. Schools have been excluded from the Council's own emissions due to ongoing changes in ownership, however, these have been incorporated in county-wide emissions to recognise their contribution to Derbyshire's emissions.

County-wide emissions include emissions from domestic properties, non-domestic properties (including businesses), industry, transport, waste, and energy generation. The county-wide emissions represent emissions from across Derbyshire's districts and boroughs: Amber Valley, Bolsover, Chesterfield, Derbyshire Dales, Erewash, High Peak, North East Derbyshire, South Derbyshire, and the Peak District National Park where it falls within the county boundary.

For the five target areas identified for action



e.g. Low Carbon Economy we have sought to establish specific interim targets (that will contribute to the overarching emissions target), estimate costs and identify benefits for each target. Each of these benefits have been mapped to the Sustainable Development Goals (SDGs) to demonstrate our contribution to this global agenda.

The SDGs (adopted in 2015) build on the success of the Millennium Development Goals (MDGs) and aim to go further than tackling climate change and should aim to end poverty and other deprivations improving health and education, reduce inequality and spur economic growth. The SDGs are unique in that they call for action by all countries, poor, rich and middle income to promote prosperity while protecting the planet. The Derbyshire County Council Achieving Net Zero Strategy and Action Plan seeks to embody the ambition of the SDGs.



Figure 3 Derbyshire's district and borough councils.

To support the delivery of these targets, a short list of priority actions to be implemented over the short-term (by 2025) and long-term action list (by 2035) is presented in Appendix A. We anticipate the long list of actions being a live document that is updated in conjunction with our partners to ensure we can reflect emerging actions during the 2021-25 period. We will take steps to ensure that the actions to reduce our emissions do not end up broadening inequalities across the county or lead to undesired outcomes, such as increased fuel poverty and significantly increased costs for households.

This Strategy also includes a section on Adaptation and Natural Capital for information only. We recognise the importance of adapting to climate change and the role the natural environment however, the scope of the Strategy relates only to emissions reductions and so does not provide targets and actions for Adaptation and Natural Capital. Derbyshire County Council will explore opportunities for climate change adaptation and natural capital in addition to this Strategy.

1.3 Structure of the Strategy



DEVELOPING OUR STRATEGY

Summary of the work we have undertaken to date, and the activities carried out to develop this Strategy and Action Plan.



DELIVERING OUR STRATEGY

Sets out the role of the Council, Derbyshire's residents, businesses and communities to deliver the Strategy, the crucial partnership working that needs to be developed, the funding and resources requirements and extension of skills and training provision.



OUR EMISSIONS PATHWAY

Summary of our emissions to date and our pathways to achieve net zero emissions across the Council and the county.



NATIONAL ACTION

Outlining the progress on action delivered at a national level which is considered crucial to help us to deliver our net zero vision.



OUR STRATEGIC PRIORITIES AND ACTIONS

The strategic vision we have for net zero, including targets for each of the five key areas and the priority actions to achieve this vision.



ADAPTATION AND NATURAL CAPITAL

Adaptation and Natural Capital are crucial complementary pieces of work to this Strategy but sit outside of the scope of the Strategy. We have set out how they are to be assessed and considered.



MONITORING AND REPORTING

Our commitment to monitoring and reporting on our progress in reducing emissions and delivering climate change mitigation action.



ACTION LONG LIST

Provides a long list of direct and enabling actions that Derbyshire County Council can take across short term and long term.

⁸IPCC. 2018. Global Warming of 1.5°C. [online] Available at: <<https://www.ipcc.ch/sr15/>> [Accessed 25 March 2021].

⁹IPCC. 2018. Global Warming of 1.5°C. [online] Available at: <<https://www.ipcc.ch/sr15/>> [Accessed 25 March 2021].

¹⁰Climate Change Committee. 2019. Net Zero - The UK's contribution to stopping global warming - Climate Change Committee. [online] Available at: <<https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>> [Accessed 25 March 2021].

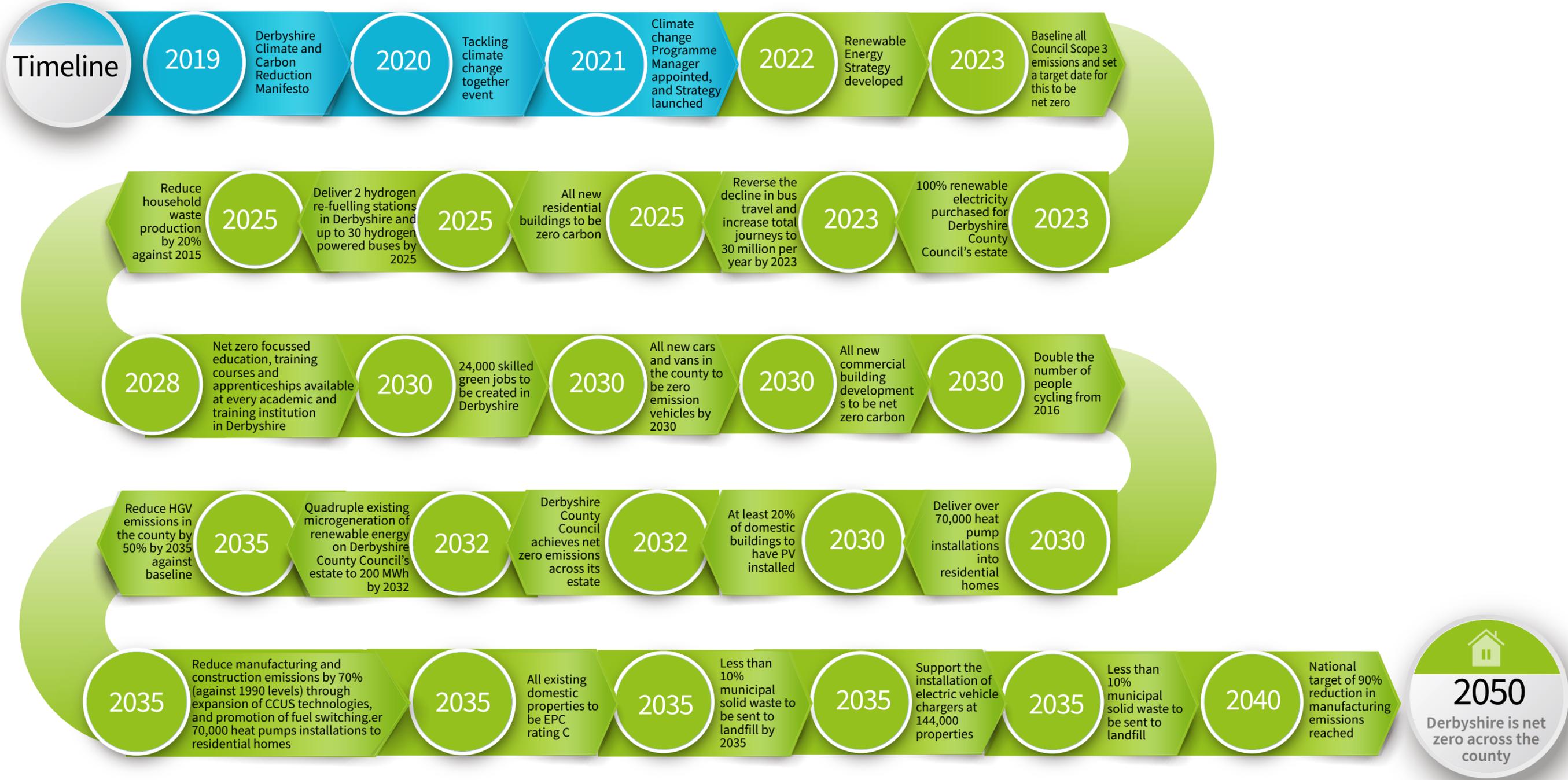
¹¹BEIS, 2019. UK becomes first major economy to pass net zero emissions law. [online] Available at: <https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law>. [Accessed 25 March 2021].

¹²Climate Change Committee. 2020. Sixth Carbon Budget - Climate Change Committee. [online] Available at: <<https://www.theccc.org.uk/publication/sixth-carbon-budget/>> [Accessed 25 March 2021].

¹³For context, in 2019, the UK had reduced emissions by 41% against a 1990 baseline.

¹⁴BEIS, 2021. UK enshrines new target in law to slash emissions by 78% by 2035. [online] <https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035#:~:text=change%20and%20energy-,UK%20%20enshrines%20new%20%20target%20in%20law,emissions%20by%2078%25%20%20by%202035&text=The%20UK's%20sixth%20Carbon%20Budget,to%20net%20zero%20by%202050>. [Accessed 25 March 2021]

2.0 Our Key Targets 2020 - 2050







3. DEVELOPING OUR STRATEGY



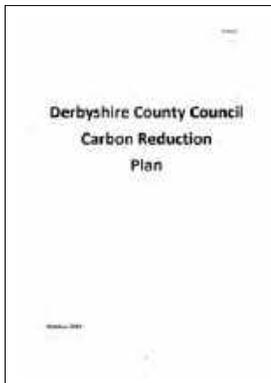
3.1 What have we been working on so far?

In May 2019, we published Derbyshire County Council’s Climate and Carbon Reduction Manifesto. We have made considerable progress against this manifesto, and a full list of the actions we have taken are outlined in the Climate Change section of the Derbyshire County Council website.¹⁵

Several local policies and strategies are being developed and adopted within Derbyshire County Council and Derbyshire districts and boroughs that will support the net zero

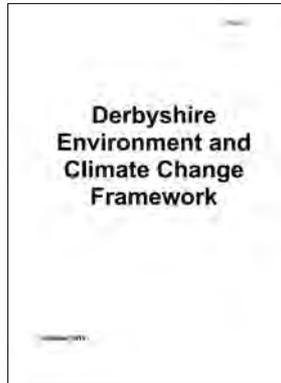
greenhouse gas emissions targets. This Strategy seeks to bring the associated actions from these policies and strategies together in one central Strategy. The Strategy also sets out further actions that will help close the current gap between the emissions reductions anticipated from existing actions and what is needed to reach net zero.

These existing local policies and strategies include:



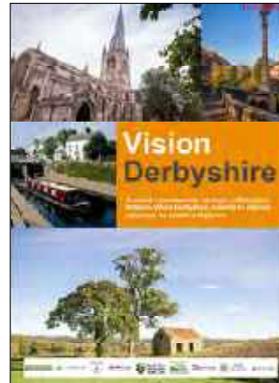
CORPORATE ENVIRONMENT POLICY AND CARBON REDUCTION PLAN

Sets out the actions the Council will undertake to reduce emissions from its own operations for the Council to reach net zero greenhouse gas emissions by 2032.



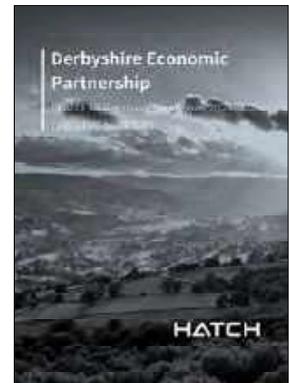
DERBYSHIRE ENVIRONMENT AND CLIMATE CHANGE FRAMEWORK

Outlines out initial approach to reduce greenhouse gas emissions for the county to reach net zero by 2050.



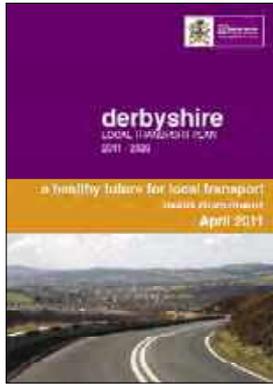
VISION DERBYSHIRE

Is our shared commitment across the county, borough and district to strategically collaborate to improve outcomes for people and places, speak with one voice as a county, and coordinate our resources better and more sustainably.



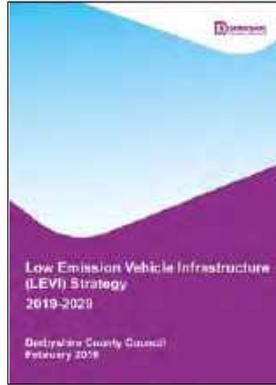
COVID-19 ECONOMIC SKILLS RECOVERY STRATEGIES 2021-2025

Identifies the priorities to protect and grow Derbyshire’s economy in a post-COVID world.



LOCAL TRANSPORT PLAN 3

Is Derbyshire County Council's long-term transport strategy out to 2026. It provides a basis for transport policy over the next five years with a focus on creating a sustainable and healthy transport system. Local Transport Plan 4 is currently under development.



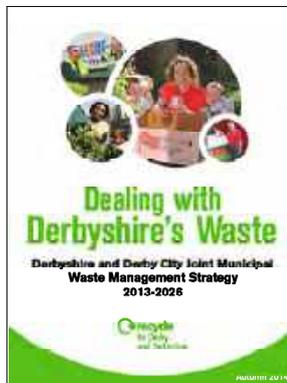
LEVI STRATEGY 2019 – 2029

The Low Emissions Vehicle Infrastructure (LEVI) Strategy sets out how, locally, we will deliver an affordable and accessible electric vehicle charging network as well as supporting other emerging low emission vehicle technologies e.g. hydrogen vehicles.



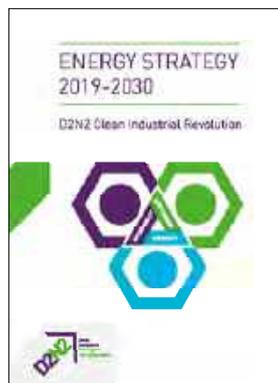
DERBYSHIRE CYCLE PLAN

Sets out our commitment to cycling development shared between all partner organisations, seeking to make Derbyshire the most connected and integrated county for cycling in England. This is underpinned by the Key Cycle Network and the regional Local Cycling & Walking Infrastructure Plan (LCWIP).



DEALING WITH DERBYSHIRE'S WASTE 2013 – 2026

produced by the Derbyshire Waste Partnership (DWP), it sets out our approach to managing household generated waste sustainably for the communities of Derbyshire and Derby City and our short-term priorities for action based on the waste hierarchy.



D2N2 ENERGY STRATEGY 2019 – 2030

This strategy was developed by the D2N2 Local Enterprise Partnership and is being implemented in collaboration with Midlands Energy Hub. The Strategy sets out how the region can align with national and regional ambitions to expand renewable and low carbon energy development and achieve a net zero future.



STRATEGIC GROWTH AND INFRASTRUCTURE FRAMEWORK

This Framework is currently being developed by Derbyshire County Council, which will identify opportunities for investment across a range of infrastructure, in order to accommodate planned growth.

3.2 Who was engaged in the development of this Strategy?

In the development of the Strategy, we engaged with technical experts and district and borough colleagues, as well as building on research carried out by academics. We also undertook an internal assessment of current Council governance for climate change and potential future delivery mechanisms for climate action

within Derbyshire County Council. This was conducted through a series of workshops and interviews held with Elected Members and Officers. To gain an external youth perspective, interviews were also undertaken with a group of young people from across the region with prior involvement in local youth boards.

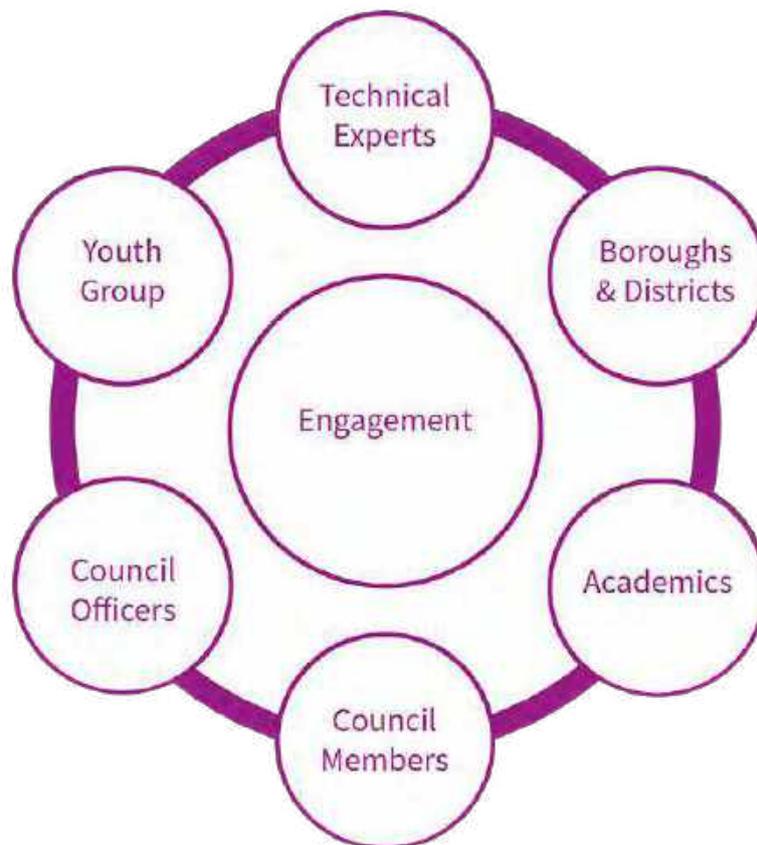


Figure 4 Engagement as part of the development of this Strategy.

¹⁵ Derbyshire.gov.uk. 2021. Climate change - Derbyshire County Council. [online] Available at: <<https://www.derbyshire.gov.uk/environment/climate-change/climate-change.aspx>> [Accessed 25 March 2021].



4. DELIVERING OUR STRATEGY



4.0 Delivering our Strategy

The Strategy is the first step in setting out how we will deliver on our net zero ambition, and brings together insight from technical experts, cross-authority officers and Elected Members and local organisations.

To deliver on our ambition we will deliver our work considering the following five key principles:

1. GOVERNANCE

We will need to continue to ensure we have committed and united leadership and a clear system of accountability, coordination and governance.

2. ENGAGEMENT & PARTNERSHIPS

We are committed to open and comprehensive dialogue on addressing climate change and want to shape our delivery programme in the coming months in partnership with key stakeholders.

3. DATA & EVIDENCE

We will ensure that our response to climate change is evidence-based with clear science-based targets that will align with the national and international ambition to keep global warming below 1.5°C.

4. FUNDING & RESOURCES

We will be innovative and explore different funding mechanisms to secure long-term financial resources to finance our ambitions.

5. SKILLS & TRAINING

We will need to identify training opportunities and enhance our skills and knowledge both internally and across our community to achieve our ambitions.



4.1 Governance

Derbyshire County Council has varied levels of control and influence over the actions required to reach the net zero targets. In the recent ‘Local Authorities and the Sixth Carbon Budget’ report, the UK CCC defined the spheres of influence of local authorities, as set out in Figure 5 (adapted from UK CCC).¹⁶

Depending upon which of these spheres of influence the actions fall into, different governance and delivery mechanisms will be appropriate for the priority actions. Derbyshire County Council will have a different role to influence its success as shown in Figure 5 and therefore it is important that we work closely with partners to ensure its delivery.

We have established a new Officer Climate Change and Environment Programme Board (CCEPB) with the responsibility for providing strategic oversight and direction for the overall delivery of our climate change programme of works. We are also exploring opportunities to have greater involvement of wider community groups and include young people’s voices in our decision making and delivery process for climate action.

A new Improvement and Scrutiny Committee for Climate Change, Biodiversity and Carbon Reduction has also been established to monitor and scrutinise the Council’s work in this area, and climate change now sits within the portfolio the Leader of Derbyshire County Council. Any significant decisions within the programme of work also have to be formally considered and approved by Cabinet.

The delivery of the Strategy has links and synergies with the work being carried out through the ‘Living and Working Sustainably’ workstream of Vision Derbyshire. As such, close engagement with the relevant Vision Derbyshire Boards, Working Groups and wider governance structures will be carried out to ensure delivery is aligned with the needs and priorities of wider Vision Derbyshire members.

DIRECT CONTROL

These are emissions sources over which Derbyshire County Council has direct control including Council owned buildings, operations, and staff business travel. For example, we have direct control of our Council fleet vehicles

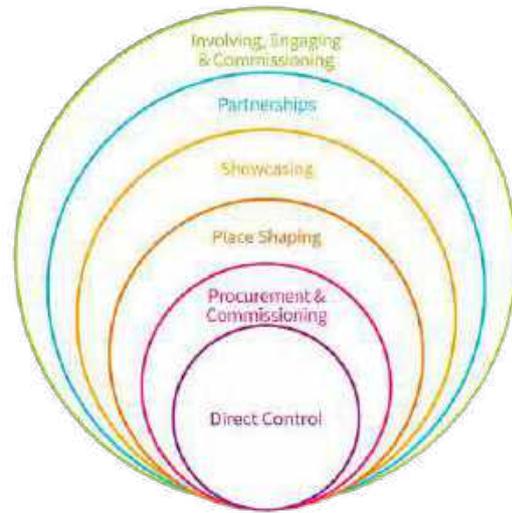


Figure 5 Spheres of influence for local authorities in driving climate action.

and have made a fleet of electric pool cars, bikes and e-bikes available for staff and councillors to use for business journeys.

PROCUREMENT AND COMMISSIONING

By defining sustainable procurement and commissioning principles we can ensure our purchasing and project development will be aligned with the ambitions of the Climate Change Strategy.

We have a successful history of using our procurement powers to deliver on key objectives, for example on Social Value, which could be expanded to include climate considerations.

PLACE SHAPING

Using powers, such as planning requirements and strategies, to control developments and transport networks. As a County Council, we have fewer powers in relation to local planning, however this could be addressed through closer collaboration with the district and borough councils. As the transport authority, we hold the funding and decision-making power for transport planning, roads, and public transport. Therefore, we have control over the actions required to change transport infrastructure and influence travel habits.

SHOWCASING

Developing schemes and pilot projects

to demonstrate and share good practice, which can then be scaled and replicated.

For example, our three pilot projects under the Public Sector Decarbonisation Scheme present an opportunity to showcase the Council's ambitions and commitment and to explore and finance low carbon heat projects within the Council's estate with a view to expanding the initiative.

PARTNERSHIPS

We can play a key role in bringing together businesses, academic, public and community and voluntary sectors together to plan and implement climate action. We have the opportunity to combine both our leadership and influencing role with our role as a partnership builder and co-ordinator. This will be particularly important when delivering resilient growth and recovery from the COVID19 pandemic.

INVOLVING, ENGAGING AND COMMISSIONING

We can use our position to work with stakeholders to educate, raise awareness and engage and involve people within the local community. Furthermore, our direct links to central government and ability to bid for some government funding streams is an important role in securing investment for decarbonisation in Derbyshire.

4.2 Engagement and Partnerships

Delivering the Strategy will require collaboration with and across partners, citizens and communities. Inclusive climate action is crucial to ensure systematic change and the delivery of policies that have a positive and fairly distributed impact across the population, whilst also effectively addressing climate change.

The need for partnerships between the public and private sector to address climate change is widely recognised and is viewed as a critical opportunity to unlock significant potential economic benefits. We have identified a range of key stakeholders across Derbyshire, who have the potential to contribute to the delivery of our ambitions, with key stakeholder groups shown in Figure 6.

The Local Authorities and the Sixth Carbon Budget report identifies the following five key types of engagement¹⁶:

1. Informing – One way, information provision.
2. Consulting – Statutory consultations on already developed plans and proposals.
3. Involving – Directly working with people to understand their views and needs e.g. Climate Commissions.
4. Co-design – Working together with people at a local level or interest groups to design solutions and projects.
5. Empowering – Handing over the power and co-creating schemes to tackle a problem or deliver a solution.

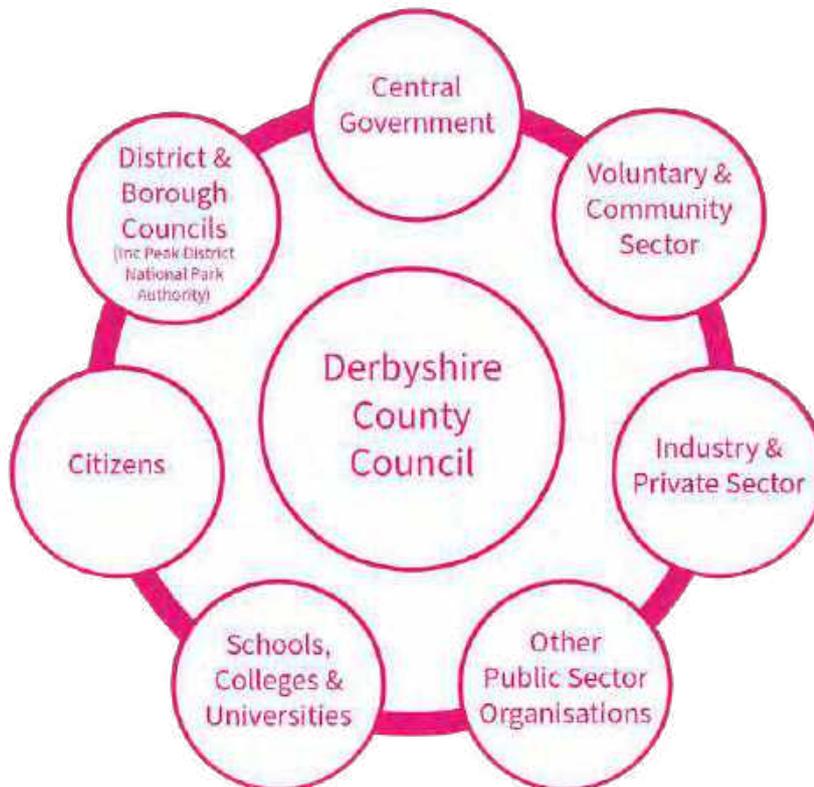


Figure 6 Key stakeholders engaged in the delivery of the Strategy.

We intend to shape and deliver our Strategy and action plan in partnership with key stakeholders. We recognise that the nature and structure of discussion and decision making on policy and climate change can at times exclude certain groups from participating. We will ensure we are using the most appropriate platforms and engagement mechanisms to support widespread participation in shaping our next steps. We will actively work to encourage engagement and participation from the following groups:

- Young people
- Climate change hesitant groups
- Low-income households
- Low-skilled workers or workers at risk during transition to zero carbon
- Socially isolated groups

We recognise that this dialogue will need to be sustained over the long term and that partnership engagement approaches should be designed to be flexible to changing needs and messages. Therefore, we are making a commitment to:

1. Ensure Elected Members and Officers engage with community groups, residents, schools, and businesses to map existing or ongoing work on climate change, and to identify and understand the role that Derbyshire County Council can play in supporting these activities
2. Explore the success and viability of different engagement methods to co-produce solutions e.g.:
 - Large group discussions – citizen panels, decision boards, participatory budgeting;
 - Digital platforms and mobile applications to connect geographically isolated groups;
 - Gamification; and,
 - The role of arts and education.
3. Work with partners such as businesses, the private sector and the Local Authorities Energy Partnership to develop demonstrator projects to be used to build understanding on retrofitting buildings and decentralised energy systems.

4.3 Data and Evidence

In developing our county-wide net zero emissions trajectory to 2050, we took a science-based¹⁸ approach which complemented the national commitments to meet net zero by 2050, whilst reflecting the context of Derbyshire's emissions and the particular challenges that we face due to our legacy of heavy industry and relatively poorer performing housing stock. Section 5 presents the approach we have taken, and our climate change targets in more detail.

A data driven principle was key in developing our targets and actions which we wanted to ensure were 'SMART'.¹⁹ This also ensures our progress in achieving them could be more easily tracked as part of our monitoring and reporting framework.

We also recognise the effective monitoring of progress relies upon the availability of good data and informed and suitably skilled/knowledgeable staff. As part of our delivery approach we will expand our current data collection and analysis processes and staff skills.

4.4 Funding and Resources

Undertaking climate change mitigation actions will require consistent and dedicated funding from both Derbyshire County Council and central government, as well as investment from residents, businesses and the wider public sector. Section 7 indicates the scale of cost associated with each of our priority actions.

To achieve the ambition and priorities set out in the Strategy we will need central government to provide greater and more diverse financial support and resources.

We will also need to be innovative and unlock alternative sources of funding. We will explore the potential for partnerships with the private sector and mechanisms used by other Councils such as crowdfunding, community share offers, climate bonds, and investment or trading platforms to identify financing approaches which could help us achieve our priorities.

4.5 Skills and Training

WITHIN THE COUNCIL

Behaviour and culture change within the Council will be an essential part of setting climate action as a key Council priority. We will continue to provide training opportunities for staff and Elected Members and develop a long-term information and awareness campaign with clear messages to support behavioural change and provide a platform for knowledge and skill sharing. We are also exploring how to include climate change awareness in our staff induction process.

For individuals/teams in functions which have a significant role to play in our climate change programme, e.g. property and transport, we will ensure they are provided with opportunities for more technical, externally sourced training. Where we lack knowledge internally, we will look to collaborate with our stakeholders and draw on the wealth of specialist, technical knowledge available within our county and nationally.

IN OUR COMMUNITIES

To achieve our ambitions we need to work with our district and borough councils, and the Peak District National Park Authority to ensure we are supporting residents and businesses and enabling them to be able to make choices which reduce carbon emissions and increase climate resilience.

We will examine how we can better engage with schools and their communities on the integration of climate change into the education system.

We will also need to work with the Midlands Energy Hub, D2N2 LEP, the private sector and educational establishments within the county to grow and upskill in key areas, e.g. building retrofit. We will also need to provide ways of connecting our newly skilled workforce with those with a demand for skills, as well as seeking to increase demand for these skills through delivering/influencing action to deliver net zero.

¹⁶ Evans, L. M., 2020. *Local Authorities and the Sixth Carbon Budget*. [online] Available at: <https://www.theccc.org.uk/wp-content/uploads/2020/12/Local-Authorities-and-the-Sixth-Carbon-Budget.pdf>. [Accessed on 25 March 2021]

¹⁸ Based on scientific evidence for the level of emissions that can be emitted to maximise the chances for global temperature rises to remain below 1.5°C.

¹⁹ SMART stands for specific, measurable, attainable, relevant, time-based.

4. DELIVERING OUR STRATEGY





5. OUR EMISSIONS PATHWAY



5.1 Derbyshire County Council's emissions



5.1.1 SCOPE 1 AND 2 EMISSIONS

This section summarises the existing GHG emissions across Scope 1 and 2 from our activities and operations as an organisation including streetlighting, fleet, and buildings. The emissions that account for Scope 1 and 2 are shown in Figure 7 below.

Table 1 below summarises the scope of emissions that we, as the Council, could calculate and report on, and those that have been included in our most recent emissions reporting for 2019-2020.

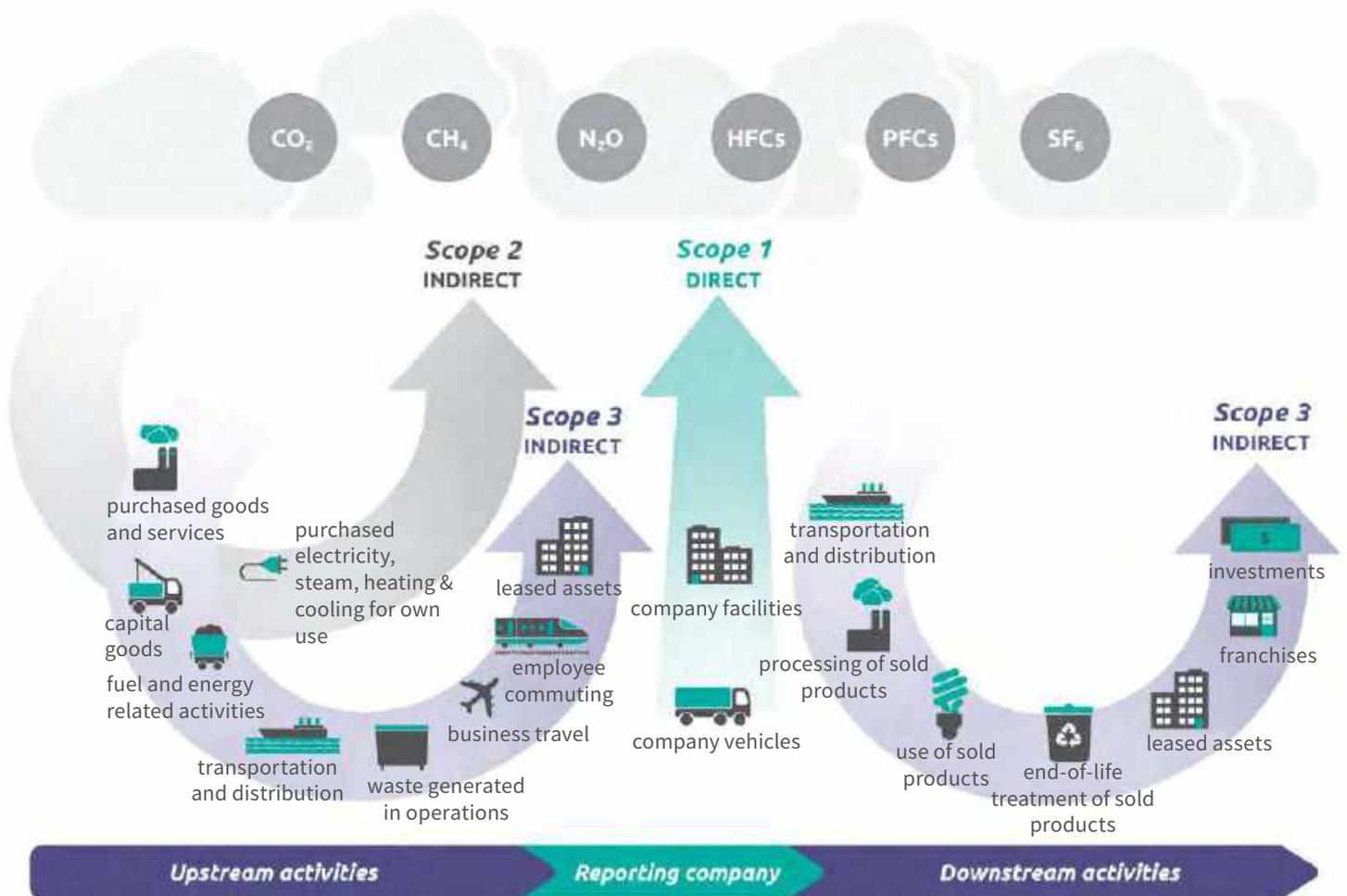


Figure 7 Visualisation of the emissions sources included in the GHG emissions baselining © World Resources Institute, WBSCD, GHG Protocol [2021].

Council activity	Scope 1  Scope 2  Scope 3 	Reported in 2019/20
Property energy consumption (oil, gas, electricity)	  	Yes
Property fugitive emissions (air conditioning leaks)		No
Property water consumption (carbon footprint of water)		No
Property maintenance supply chain		No
Waste from premises recycled or sent to landfill		Previously calculated (2017), not included
Staff business travel		Yes (partial)
Purchase of administrative goods (IT, stationery etc)		No
Systems maintenance vehicles		Yes
Residential and day care - outsourced services		No
Transport of clients: adults, social care, and children inc. SEN		Yes, scope 1 only
Agency placements		No
Premises emissions from waste management sites		No
Community Highways Officer vehicles		Yes
Highways maintenance and construction activities		No
Operation of street lighting, signs, and bollards		Yes

Table 1 Scope of Derbyshire County Council's emissions generating activities and reported emissions areas.

For the 2019-2020 financial year, we calculated the emissions resulting from our activities and operations as **19,206 tonnes of carbon dioxide equivalents (tCO₂e)**.²⁰ This represents a 55% reduction against a 2009 baseline.²¹ Achieving the implementation of the planned decarbonisation actions as outlined in this Strategy will ensure the Council continues to see a rapid decrease in emissions, and reach our net zero target by 2032, or sooner.

In addition, emissions from Derbyshire's schools amounted to 16,559 tCO₂e (2019/2020). Whilst, these emissions have not been included in our boundary assessment, they are included in the county emissions and we intend to work closely with our schools' community to reduce these emissions.

The biggest contributor to our emissions comes from property, followed by streetlighting, and just 10% each from core and grey vehicle fleet.²² Emissions reductions delivered so far have been most significant across streetlighting due to the comprehensive LED retrofit programme that has been implemented in the last few years, see Figure 8.

5. OUR EMISSIONS PATHWAY

Scope 1 and 2 emissions. Continued...

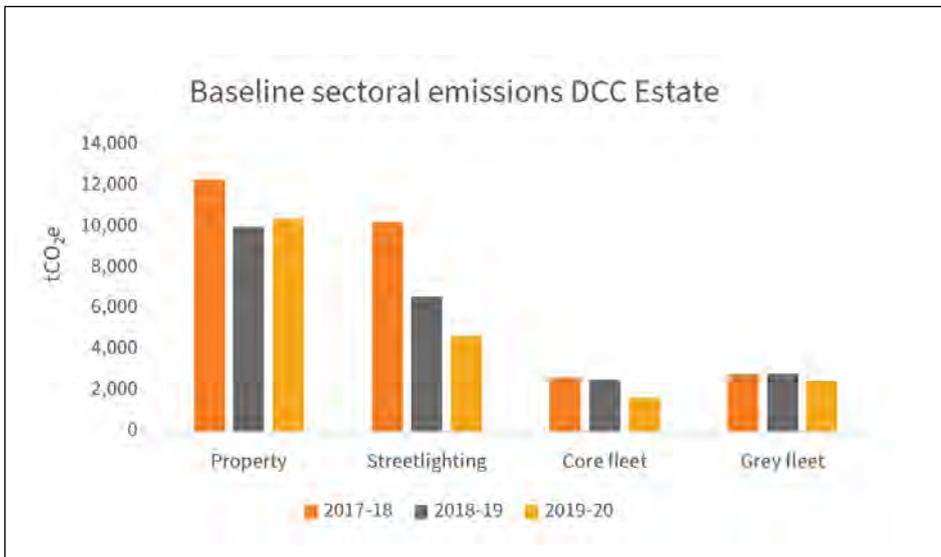


Figure 8 Breakdown of Derbyshire County Council emissions by source 2017 - 2019

Year-on-year emissions reductions have also been observed within the core fleet due to the introduction of electric vehicles, journey optimisation and efficiencies. Currently, the core fleet also produces an estimated 3,550 kg NO_x and 96 kg PM_{2.5}, which highlights the potential for reduced air pollution emissions alongside carbon emissions reductions from the introduction of electric/zero emission vehicles.

We have developed a rolling programme of asset reviews, which will look, amongst other things, at the energy efficiency of our property assets and how that can be improved. The Corporate Building Energy Policy is currently being developed to provide guidance on this and action we can take to decarbonise heating. We are also looking to expand the existing 54kWp of installed capacity of solar PV, to help reduce emissions associated with our Council properties further.

5.1.2 SCOPE 3 EMISSIONS

As shown in Table 1 Derbyshire County Council does not currently report for the most part our Scope 3 emissions. However, through our procurement and commissioning processes we have the potential to significantly influence these emissions, as explored below.

GREY FLEET

Grey fleet emissions are those that arise from the use of personal vehicles for business use. The grey fleet is included within Scope 3 emissions due to the organisation's significant ability to influence these emissions.

Analysis carried out on our business mileage shows that most business trips were made with only one occupant in the vehicle and that 99% of Council employees drove less than 10,000 grey miles during FY 2018/19.¹⁸

However, the average employee uses their own vehicle for business purposes for only 20% of journeys taken and utilises core fleet for the remaining journeys.¹⁹ Therefore, improvements to core fleet on offer can greatly reduce the emissions associated with these journeys.

WASTE

We have only previously baselined our waste generation for a limited number of departments, and therefore we intend to carry out an organisation-wide assessment of waste generated and update this on a regular basis.

It may become more challenging to monitor and reduce emissions associated with waste as there is increased working from home practices and therefore increased levels of waste generation in individual homes. Therefore, it is important that all Officers and Elected Members of the Council are engaged in positive sustainable behaviours around reducing waste generation.

5.2 Derbyshire county-wide emissions



The Derbyshire county-wide emission figures are drawn from the BEIS Local Authority Inventory, which is updated annually by the UK government. These figures include

all Scope 1 and 2 emissions across transport, industry, and housing but do not include Scope 3 emissions, e.g. it does not include emissions from international travel by Derbyshire residents.

In 2018, Derbyshire's total greenhouse gas emissions were 10.5 MtCO₂e, equivalent to 13.2 tCO₂e/capita (for Derbyshire's population of 796,142 people), which is much higher than the average for the UK of 6.8 tCO₂e/capita.²⁵ This is predominately due to the higher than average industry activity within the county,²⁶ as well as the spatially disparate nature of communities, which increases the reliance on private vehicles.

The commercial and industrial sectors result in 68% of the total emissions, transport makes up 19% of emissions, and domestic buildings contribute 14%. Emissions from land use, land use change and forestry (LULUCF) were -0.1 MtCO₂ (equivalent to -1%) demonstrating the sequestration of carbon from the atmosphere.

Between 2010 and 2018, domestic emissions fell by 31%, industrial and commercial by 10%,²⁷ and transport by just 1%. When the contribution of large industry is excluded from the industrial and commercial sector, a much sharper rate of decline of 32% is seen between 2010 and 2018, suggesting the large industry has significantly contributed to emissions over this period.

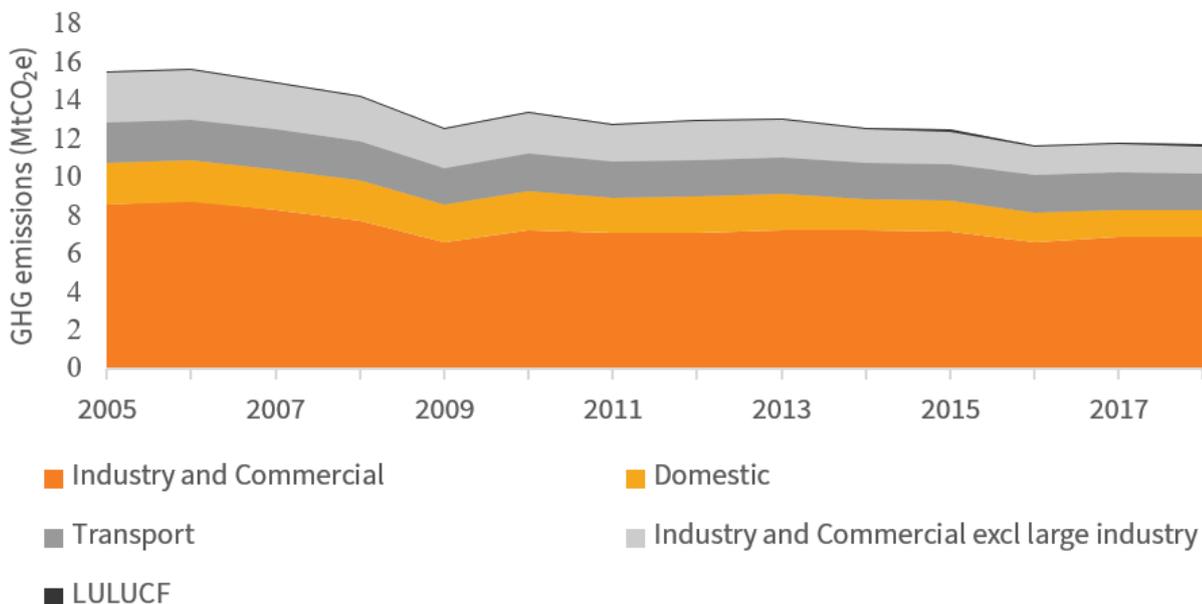


Figure 9 Derbyshire County's sectoral GHG emissions (2005-2018). Produced by Arup © Contains public sector information licensed under the Open Government Licence v3.0. Source agency: BEIS [2020]¹

5.2.2 SCOPE 3 EMISSIONS

Scope 3 emissions are those arising from activities occurring outside the boundary of the county but being driven by demand from inside the county e.g. international flights. If the emissions from goods produced outside the county and consumed by Derbyshire residents are also considered, it is estimated that total emissions for the county would increase by 58%.²⁸

We acknowledge that we have a role in reducing emissions not only locally but also nationally and internationally through the purchasing and policy decisions we take. Reducing the impact and scale of climate change is dependent on global reduction in emissions therefore taking account of our consumption patterns is crucial e.g. clothing and technological purchases, diet, and international travel.

The key activities occurring within Derbyshire, from which Scope 3 emissions may arise are summarised in Table 2. The UK government does not currently quantify Scope 3 emissions by county, however, in the Monitoring and reporting section we have outlined the next steps for developing actions collectively with partners and residents to address scope 3 emissions.

<i>Activity</i>	<i>Description</i>
Transmission and distribution of electricity	The emissions associated with the transmission and distribution of electricity. Decarbonisation of the grid, further efficiency improvements and capacity increases will be made by the National Grid and energy providers in conjunction with the national government.
Out of boundary waste and wastewater processing	This is the waste produced by the county that may be treated and/or disposed of outside of its borders. Despite occurring outside of the county boundary, Derbyshire’s residents and its managing waste authorities do have the responsibility and influence to tackle these emissions through waste reduction, improved waste management and reuse of materials
International aviation and shipping	Aviation and shipping emissions are one of the few key sectors that have seen their emissions grow rapidly over the last couple of decades, since the UK undertook concerted efforts to reduce emissions. In 2018, international shipping and aviation’s contribution to UK emissions amounted to 2.4% and 6.5% respectively.
Consumption based emissions	Consumption based emissions are the emissions arising from the consumption of goods and services e.g. food, clothing, electronic equipment, within Derbyshire. Some of these goods will be produced in Derbyshire and therefore likely to be included in the inventory through the emissions from industrial and commercial processes. However, some goods and services will be produced outside of Derbyshire’s boundary, with the demand for production being driven by Derbyshire’s businesses, residents and the Council itself – these emissions are not accounted for in the inventory.

Table 2 Summarising scope 3 country-wide emissions

5.3 The pathway to net-zero emissions



5.3.1 DERBYSHIRE COUNTY COUNCIL NET ZERO PATHWAY

Considering the existing baseline emissions at a council level outlined in Section 5.2.1, if we were to take no further action to reduce GHG emissions, i.e. a business as usual scenario,²⁹ annual emissions from across our activities and operations would fall by 64% by 2032, against the 2009 baseline,

to 15,405 tCO₂e, see Figure 10. This would be due to national interventions, such as increased renewable energy supply, and increased efficiency of fuels. However, we would fail to achieve our target of becoming net zero by 2032.

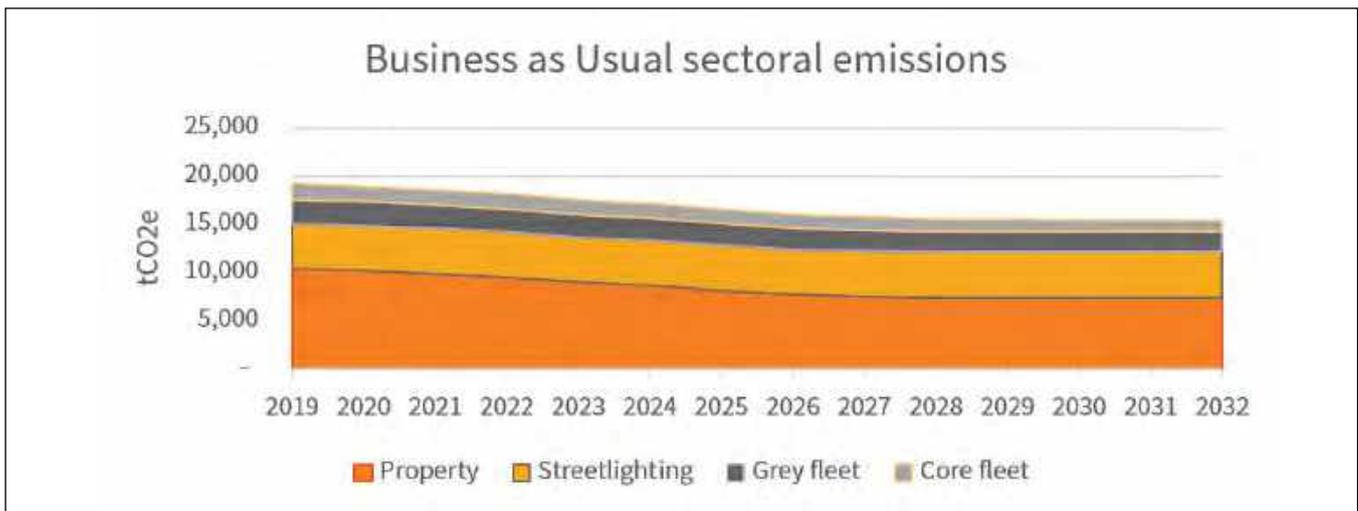


Figure 10 Summary of business as usual emissions for Derbyshire County Council estate and operations broken down by sector.

However, through implementing the actions proposed within this Strategy, we could reduce our total emissions to net zero by 2032 or sooner,

and within the next five years achieve an interim 84% reduction against the 2009 baseline year.

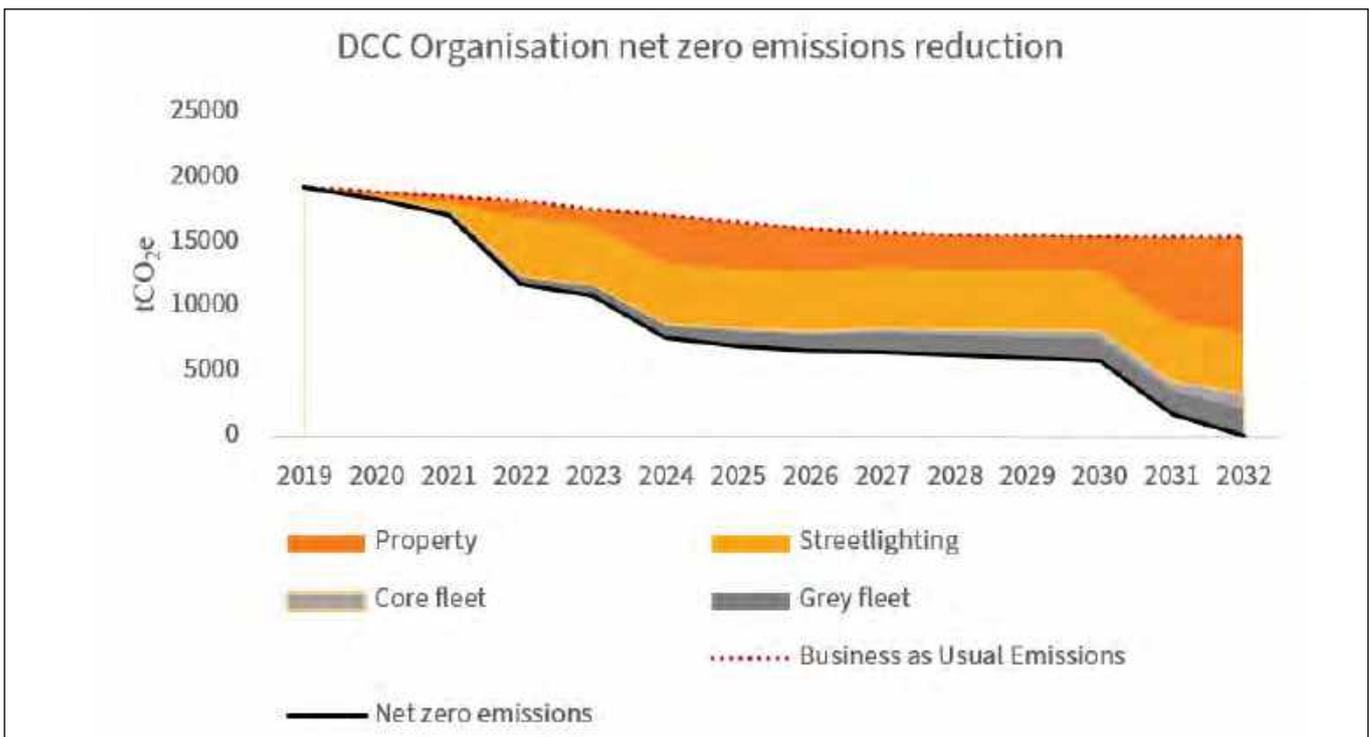


Figure 11 Derbyshire County Council Organisation BAU and net zero emissions reduction pathway. © Arup



5.3.2 COUNTY-WIDE NET ZERO PATHWAY

The county-wide target of net zero by 2050 is aligned with the UK's carbon budgets and it is assumed

that a 68% reduction by 2030 is inferred within this commitment, to demonstrate progress towards the 2050 target.³⁰

The pathway, aligned to the national emissions reductions required to meet net-zero, would require Derbyshire to adopt the emissions reductions, as outlined below, against the 2005 baseline.³¹

Figure 12 sets out Derbyshire's pathway to net zero, as well as a previously developed, more aggressive decarbonisation pathway as determined by analysis through the Tyndall Carbon Budget Tool to demonstrate an extended ambitious pathway²⁷. We will be reducing our emissions as a minimum to our net zero pathway, and where possible accelerate to the Tyndall Centre ambition. Both of these pathways highlight the need for the county to take ambitious, deep and widespread action to achieve its target of net zero by 2050.

DERBYSHIRE'S EMISSION REDUCTION TARGET

2025	-47%
2030	-63%
2035	-72%
2040	-81%
2045	-91%
2050	-100%

We should seek to achieve net zero across the county through reducing emissions directly, however, it is anticipated based on current technological developments there will be a small percentage of residual emissions remaining in 2050 which we would seek to balance residual emissions through nature-based or other forms of GHG removals.

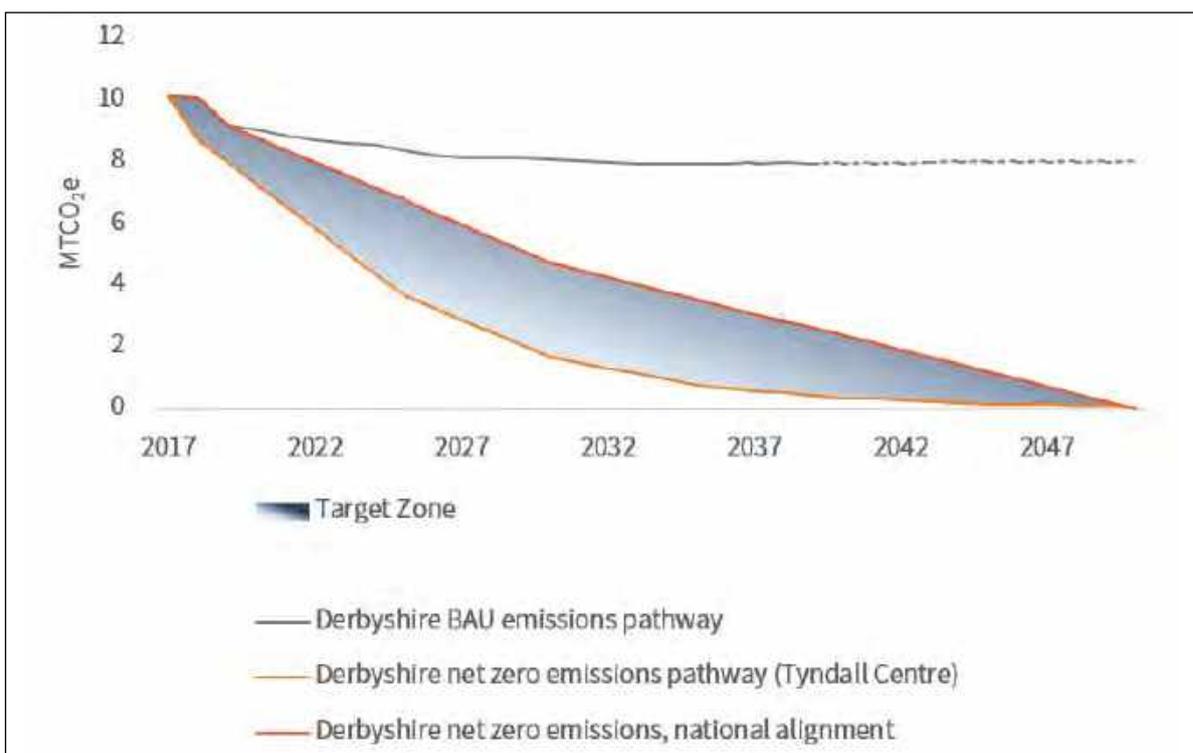


Figure 12 Derbyshire County target net zero emissions pathways against business as usual. Note the BAU pathway has been estimated from 2040 - 2050 using average emissions changes in the preceding five years as national data has not yet been published by BEIS for this period © Arup

5. OUR EMISSIONS PATHWAY

²⁰ Derbyshire County Council, 2019. *Corporate Environment Policy and Carbon Reduction Plan*. [online] Available at: <https://democracy.derbyshire.gov.uk/documents/s2338/Corporate%20Environment%20Policy%20and%20Carbon%20Reduction%20Plan.pdf>

²¹ Derbyshire County Council, 2019. *Corporate Environment Policy and Carbon Reduction Plan*. [online] Available at: <https://democracy.derbyshire.gov.uk/documents/s2338/Corporate%20Environment%20Policy%20and%20Carbon%20Reduction%20Plan.pdf>

²² Derbyshire County Council, 2020. *Organisation Emissions*. [Internal document]

²³ CENEX, 2019. *Grey Fleet Analysis for Derbyshire County Council*.

²⁴ The average number of miles travelled per day by employees is 35 miles, and the average number of journeys per day is 1.2

²⁵ BEIS, 2020. *Emissions of carbon dioxide for Local Authority areas. With scaling factors applied to take account of all GHG emissions and not just CO2*. [online] Available at: <https://data.gov.uk/dataset/723c243d-2f1a-4d27-8b61-cdb93e5b10ff/emissions-of-carbon-dioxide-for-local-authority-areas>. [Accessed 25 March 2021]

²⁶ During national allocation heavy industries contributing to the national economy are re-allocated across counties.

²⁷ These reductions are largely as a result of higher proportions of renewable energy in the UK's energy mix, which results in a lower carbon intensity of national grid electricity used by these sector (The Tyndall Carbon Budget Tool presents climate change targets for UK local authority areas that are based on the commitments in the United Nations Paris Agreement, informed by the latest science on climate change and defined by science based carbon budget setting. More information: <https://carbonbudget.manchester.ac.uk/reports/>).

²⁸ Arup, C40 Cities and Leeds University, 2019. *The Future of Urban Consumption in a 1.5 deg World*.

²⁹ This Business-As-Usual (BAU) trajectory accounts for anticipated market efficiency improvements such as fuel efficiency, vehicle performance, and building appliance performance; and decarbonisation of the electricity on the National Grid.

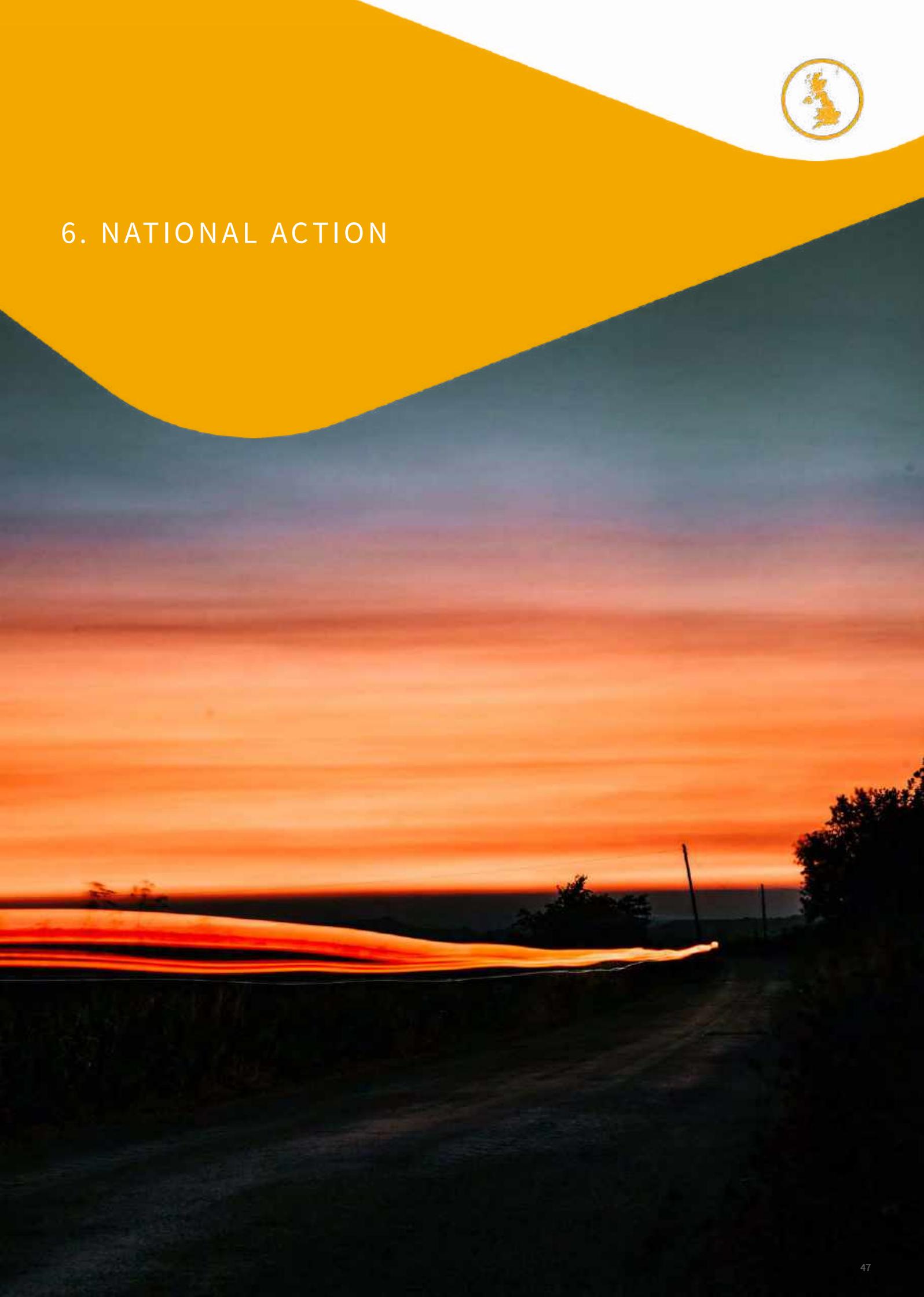
³⁰ BEIS, 2020. *Press release: UK sets ambitious new climate target ahead of UN Summit*. Available at: <https://www.gov.uk/government/news/uk-sets-ambitious-new-climate-target-ahead-of-un-summit>

³¹ The 2005 baseline has been used as it's the earliest emissions data the UK government provides for local authorities.

³² Derbyshire County Council, 2019. *Derbyshire Environment and Climate Change Framework*.



6. NATIONAL ACTION



6.0 National Action



We are committed to achieving net zero. A coordinated national effort and the demonstration of leadership from both local and national government will be required to achieve this.

This Strategy sets out the potential actions Derbyshire County Council can take to support the transition towards the national target of net zero GHG emissions by 2050. However, there are some interventions that require action by central government, to support us in reaching our aspirations for decarbonisation and to play its part in the national transition to net zero. We have identified the following key areas where clarity on the central government position is required. We specifically ask Government to:

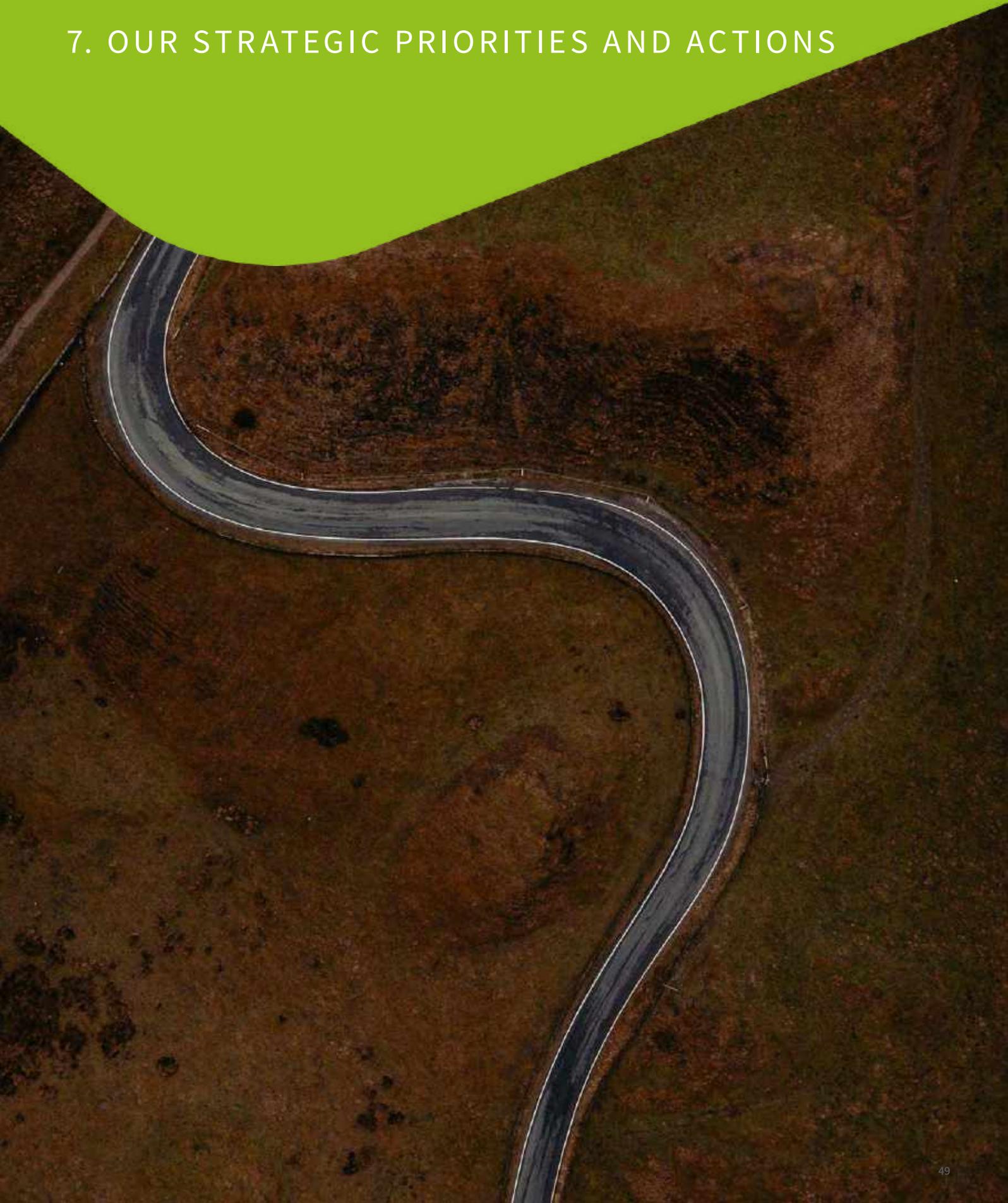
- Set out its roadmap for how the UK will achieve net zero GHG emissions as soon as possible; laying out a clear policy roadmap and funding approach to fund the transition.
- Provide financial support to de-carbonise schools and public transport in rural areas.
- Support the delivery of the national bus strategy and to empower local

authorities to introduce smart ticketing and sustainable options for travel, including providing diverse financial resources through the LEPs, National Productivity Investment Fund or other central government or regional sources to support bus improvement schemes.

- Make the necessary planning policy changes which encourage take up of low emission vehicles and more active and sustainable modes of travel.
- Introduce stricter building regulations on new developments and require alignment with regulations at the point of construction and not consent, to enforce stricter energy efficiency performance.
- Accelerate the significantly delayed timeline for the passing of the Environment Bill to ensure that we continue to restore and protect our natural environment for climate change resilience and mitigation.
- Work with transport providers to electrify all main line trains through Derbyshire by 2035.



7. OUR STRATEGIC PRIORITIES AND ACTIONS



7.0 Our strategic priorities and actions

Derbyshire County Council’s roadmap and action plan to reach net zero across our estate and operations and county-wide is set out in this section. Across the five key areas of emissions sources we outline our ambition and key priority actions, as well as the anticipated emissions impact and resources required:

- Council estate and operations
- Low carbon economy
- Decarbonising the domestic sector
- Transport and Travel
- Waste

The section ‘Council estate and operations’ contains actions and emissions savings for Derbyshire County Council’s operations and estate only. Whilst all other action areas refer to county-wide actions and emissions savings that Derbyshire County Council will be seeking to achieve in conjunction with our partners and communities.

Within each action area, the following structure has been used:

AMBITION STATEMENT

Derbyshire County Council’s long-term vision for the sector.

CONTEXT

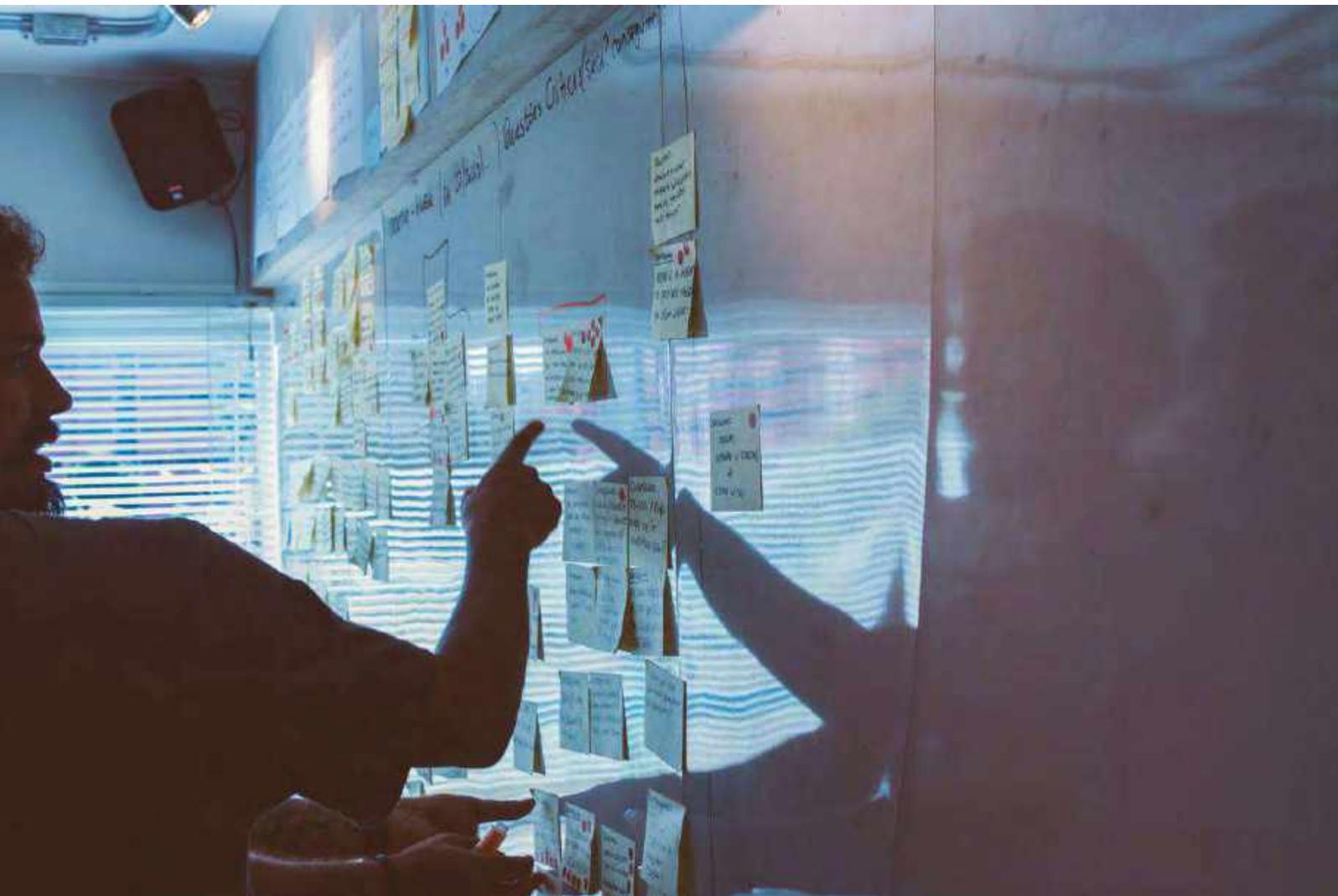
Overview and current status of the sector, any previous work carried out and commitments/strategies that are currently in place.

TARGETS

These are the key targets that Derbyshire County Council and Derbyshire county-wide will need to achieve in order to drive down emissions and reach the net zero targets.

PRIORITISED ACTIONS

The prioritised short-term (2021 – 2025) actions required to achieve the targets. For each action we have identified the target year, provided an indicative cost estimate, emissions impact and an estimate of complexity of delivery (simple, medium, complex) and we show which targets the actions contribute to. The full long list of actions is presented in Appendix A. The potential co-benefits (in addition to climate action) are shown alongside the actions. These co-benefits are aligned with the Sustainable Development Goals (see Appendix for full description) in a shared blueprint developed by UN Member States for achieving peace and prosperity for our societies e.g. job creation, education etc.



7.1 Council Estate and Operations

AMBITION STATEMENT

Derbyshire County Council will become a net-zero carbon organisation that leads by example in implementing and promoting sustainable and low carbon practices across our operations, estate, service delivery and vehicle fleet. We will ensure carbon reduction is embedded within Council procurement activities and commissioning principles, and that all of our employees will understand the importance of reducing our emissions, and wider County emissions, and their role in achieving these reductions.

CONTEXT

In May 2019, Derbyshire County Council made a commitment to reduce emissions from its estate and operations to net zero by 2032, or sooner. This target covers Scope 1 and 2 emissions, and the limited Scope 3 emissions as set out in Section 5. An initial timeline of activities to support this was laid out in the Corporate Carbon Reduction Plan, forming part of the wider Corporate Environment Policy.

Between now and 2032, we will also look to baseline our broader Scope 3 emissions, e.g. from our procurement and waste, and determine a net zero target date for our Scope 3 emissions.

Currently, 44% of our emissions footprint originates from the heating and powering of the Council's buildings. There is a wide range of assets in the Council's portfolio including day centres, country parks, libraries, adult education centres, and civic amenity sites, some of which are historic buildings. Our estate also includes land and buildings that the Council leases in from other public sector

and private sector landlords, as well as the land and buildings the Council owns.

Reducing energy consumption across each of these assets will be challenging and will involve both reducing energy demand/consumption as well as retrofitting assets, e.g. with energy efficiency measures such as building management systems. We will take care to ensure that all measures to reduce our emissions, especially those relating to property rationalisation, do not lead to simply shifting the emissions to others. We have extensive experience of implementing energy efficiency measures, including those identified in the proposed actions.

Efficiency measures will reduce our emissions as well as supporting improved alignment with service delivery, decreasing property estate costs and increasing efficiency in the delivery of property services. Beyond this we also have the opportunity to utilise our estate for renewable energy generation, increasing income from our land/assets and contributing to renewable energy generation.

Our streetlighting assets are undergoing a portfolio-wide upgrade to LED lighting, which will achieve a 60% energy efficiency saving against the previous stock and extend the timeframes for our replacement cycles from 4 to 25 years.

We intend to also switch our electricity supply to a renewable electricity tariff supported by Renewable Energy Guarantees of Origin Certificates (REGOs). Derbyshire County Council recognises that in switching tariff using a grid-based approach we should follow best practice to continue to report the average carbon content of the grid electricity rather than our tariff, maintaining a focus on reducing consumption and expanding our own renewable energy generation.

Our remaining emissions originate from our core and grey fleet, which carry out activities in relation to highways maintenance, land and property maintenance, pool vehicles, mobile libraries, staff travel, e.g. to provide care services.

Our County Transport services and procurement teams have been working closely with our vehicle leasing providers to identify fuel efficiency



savings and working with our staff to promote trip reductions since 2010, achieving a 42% reduction in emissions to date. We have more recently put in place a vehicle procurement contract to offer nine electric or hybrid vehicle options. We recognise the replacement of our HGVs with zero emission alternatives by 2032 will be challenging due to the current development timescale and practical limitations of existing zero emission heavy vehicles. Working in partnership with other local authorities and the wider public sector e.g. NHS, will be important to reduce potential procurement costs through joint contracting arrangements and increasing purchasing power for services such as vehicles.

The Council's own estate currently has 54kWp of installed capacity from small-scale building mounted energy generation using solar and wind power generating around 50,145kWh.³⁵ This meets 0.1% of the total demand from the Council's operations and activities.

The Council has previously undertaken a scoping study to identify the Council-owned sites that may be suitable for sub-5MW, ground-mounted solar PV systems. The study identified two potential sites, that would have a potential combined capacity of 8.1MW, and able to generate 6.98GWh of electricity, which would meet over 100% of Derbyshire County Council's energy needs. There is therefore the potential for any excess energy to be sold back to the grid (potentially generating income)

or used for nearby buildings/energy users.

There are also other viable low carbon energy sources that will need to be explored for their role in long term decarbonisation, including hydrogen and waste heat. The wider Corporate Environment Policy will support the implementation of these energy opportunities. We also anticipate providing further guidance on water and energy use and management through the implementation of a Corporate Operational Buildings Policy.

Despite these efforts we anticipate there may be remaining emissions to be balanced/offset from our grey fleet and some building services. In the event of residual emissions, we will be offsetting these through certified nature-based GHG removal techniques as a short-term solution whilst we continue to seek decarbonisation opportunities.

7. OUR STRATEGIC PRIORITIES AND ACTIONS

Council Estate and Operations. Continued...

DERBYSHIRE COUNTY COUNCIL TARGETS

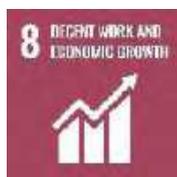
Targets

-
- T1 By 2022 all Derbyshire streetlighting will be replaced by LEDs.
-
- T2 The Council will switch its existing electricity tariff to a 100% renewable electricity tariff by 2023 with an optional buy-in for schools.
-
- T3 Reduce emissions from heating buildings to less than 700tCO_{2e} by 2032.
-
- T4 Quadruple existing microgeneration of renewable energy on Derbyshire County Council's estate to 200 MWh by 2032.
-
- T5 Replace 20 Derbyshire County Council vans per year in the core fleet with zero emission vehicles (ZEVs) from 2022.
-
- T6 Replace all Derbyshire County Council HGVs with low emission vehicles by 2032.
-
- T7 Baseline all Council Scope 3 emissions by 2023, and set a target date to achieve net zero Scope 3 emissions for the Council.
-
- T8 Achieve net zero emissions across all schools in Derbyshire by 2050, and set a more ambitious net zero target for schools within the Derbyshire County Council portfolio.
-

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)



Improved air quality
Improved
community safety



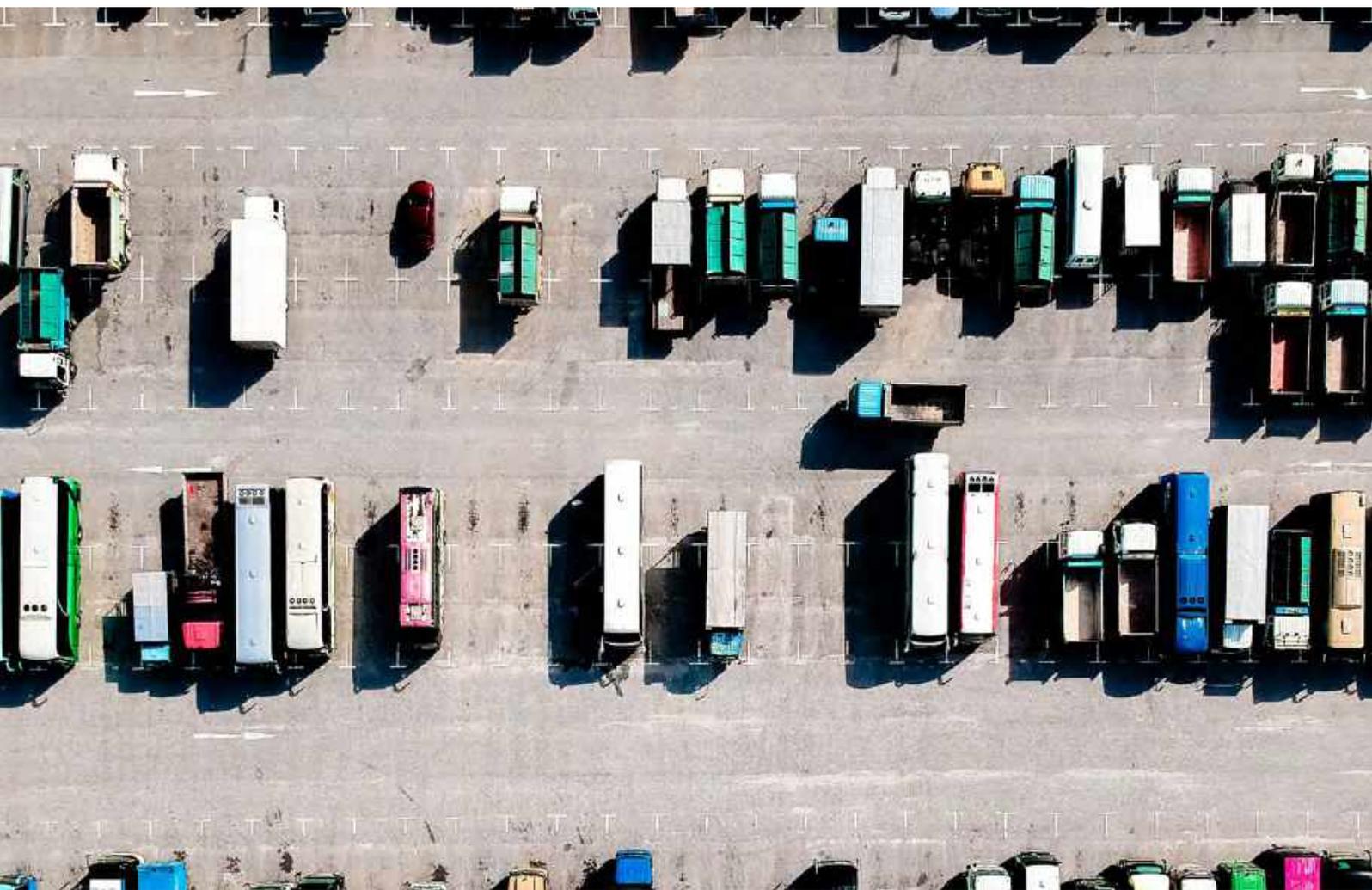
Reduced energy
costs
Workforce
development and
upskilling



Future proofing
developments



Increased
sustainability of
services



7. OUR STRATEGIC PRIORITIES AND ACTIONS

Council Estate and Operations. Continued...

<i>Prioritised action</i>	<i>Which target will this contribute to?</i>	<i>Anticipated impact on achieving targets</i>	<i>Cost</i>	<i>Complexity of delivery</i>	<i>Partners</i>	<i>Timeline/ Stage</i>
1. Low Carbon Opportunities As part of the Asset Management and broader Property review:	T2, T3, T4, T5, T6					By 2023
<ul style="list-style-type: none"> Identify land for renewable energy generation and carry out pre-feasibility assessments to identify whole life project costs. 			L per asset	Simple	District & borough councils, Western Power Distribution, Public Sector Partnerships	
<ul style="list-style-type: none"> Develop a design standard for future estate development which sets the requirement to develop net zero enabled buildings which can be net zero but also resilient to future climatic changes. 			L	Simple		
<ul style="list-style-type: none"> Deliver Public Sector Decarbonisation Schemes and evaluate to inform further work. 			M	Medium		
<ul style="list-style-type: none"> Identify buildings to be retained and undergo energy efficiency retrofit. 			L	Simple		
2. Own Fleet/Grey Fleet Roll out a Council wide electric vehicle sharing programme and electric vehicle charging points at all key Council sites, coupled with a behaviour change campaign and evaluation of working practices to facilitate a zero-emission fleet.	T6, T7, T8		H	Medium	Suppliers, Districts and boroughs	By 2025
3. Procurement Develop a Sustainable Procurement Framework using the UK government's green procurement guidance to embed environmental requirements and Social Value into all contracts.	T8		L	Medium	Central Government, Suppliers	Ongoing

<i>Prioritised action</i>	<i>Which target will this contribute to?</i>	<i>Anticipated impact on achieving targets</i>	<i>Cost</i>	<i>Complexity of delivery</i>	<i>Partners</i>	<i>Timeline/ Stage</i>
4. Commissioning Review the commissioning principles across all teams to ensure that climate change is embedded across our services and partner working.	All		L	Medium	District & borough councils, Suppliers	By 2022 To be started
5. Renewable Energy Carry out a feasibility study to identify low carbon energy procurement options.	T2, T3, T4		L	Simple	Midlands Energy, D2N2 LEP	By 2023 To be started
6. Training Include climate change training as part of the induction process for all Elected Members and staff to strengthen knowledge of carbon emissions, climate resilience and net zero development.	All		L	Medium	District & borough councils	By 2022 Ongoing

Cost

(L) Low Cost - £50K

(M) Medium - £50-150K

(H) High - >£150K

Complexity of delivery

Simple: Internal, mainly one department

Medium: Internal and external stakeholders at organisational level

Complex: Internal and external stakeholders involving residents and supported by national ambition and policy

HML impact



low impact



medium impact



high impact

7.2 Low Carbon Economy

AMBITION STATEMENT

Derbyshire County Council will work with partner local authorities and other external stakeholder groups to drive forward the transition to a zero carbon economy, through low carbon recovery and good growth, creating more and better jobs in the low carbon and clean technology sectors, increasing skill levels and fostering innovation within the county, and reducing energy consumption from all industrial and commercial sectors. Derbyshire has a high concentration of natural resources, which should be appropriately utilised to rapidly expand local renewable energy generation across the County.

CONTEXT

Achieving a low carbon economy will require greening of our commercial and industrial buildings, industrial and manufacturing processes, as well as driving a shift towards more sustainable businesses.

The emissions from the commercial and industrial sector contribute to 7,279 ktCO_{2e}, equivalent to 68% of Derbyshire's Scope 1 and 2 emissions. Fossil fuel combustion, e.g. natural gas, coal, LPG, fuel oil etc. currently accounts for 93% of the total emissions in the commercial and industrial sector.

Over two-thirds of these emissions are from heavy industrial activity/processes. Production-intensive activities represent Derbyshire's largest employment sector. Large sized industrial companies in the region include Worcester Bosch, Toyota, Rolls Royce, Bombardier, Long Cliff Quarries, Tarmac, SmartPac food

production hub, and Breedon Group. To reach the net zero carbon targets, significant change will be needed within these heavy industries to reduce Derbyshire's commercial and industrial emissions, as well as sharing good practice, resources and innovation.

In the Clean Growth Strategy, the Government set out an initial goal for businesses and industry to improve energy efficiency by at least 20% by 2030.³⁶ However, the UK Committee on Climate Change's (UKCCC) Sixth Budget has identified that manufacturing will need to reduce its emissions by 70% by 2035 and 90% by 2040, through fuel switching, resource efficiencies and Carbon Capture & Storage. The exact impact of different measures on manufacturing process will vary by industry types (example industry types are iron, paper, food and drink). Some of the biggest challenges that the UKCCC has recognised will be associated phase out of natural gas from commercial heating systems (proposed to be by 2033).

Decarbonising economic sectors, including commercial and industrial, will require increased electrification. It is anticipated that there will be a doubling of electricity demand from across the economy by 2050 compared to today.³⁷ There is also a need to significantly reduce the carbon intensity of the electricity on the national grid from 220 gCO_{2e}/kWh in 2019 to the UK CCC recommended 2 gCO_{2e}/kWh by 2050.³⁸ Therefore, doubling of electricity demand whilst decarbonising to this extent would require a quadrupling by 2050 of current renewable energy generation. There will also need to be a significant increase in grid capacity and connections to facilitate expansion of renewable energy generation. This will require action by the national government in partnership with network operators.

In 2017, Derbyshire's electricity demand was 3,851 GWh with a total energy demand across energy fuel types of 22,431 GWh. By the end of 2019, there was approximately 0.230GW of renewable electricity installed within Derbyshire, with the majority (83%) from PV and onshore wind (10%). By 2050, following the UK CCC's predictions, Derbyshire's electricity demand could be as high 7,700 GWh under a BAU



scenario, which would need to be generated entirely from renewable energy sources.³⁹ Derbyshire's current renewable energy capacity provides less than 1% of this requirement.

As the County Council, we can support the national effort of decarbonising the commercial and industrial sectors through consultation, providing updated information on the presence of heavy industry in the county and future energy demands, as well as local upskilling to provide skills in decarbonisation technologies. We can also work with our local DNOs and Local Enterprise Partnerships (LEPs) to facilitate decarbonisation and grid capacity at a local level. Measures such as deployment of Carbon Capture, Utilisation and Storage (CCUS) at scale and improving resource efficiency will also require further investment from the national government.

Approximately 65% of existing commercial properties in Derbyshire are rated EPC D or below⁴⁰. In the UK, existing regulations require all privately rented properties in England and Wales, including commercial properties, to be at least EPC E by April 2023.⁴¹ In October 2019, the Government published proposals for all non-

residential private-rented buildings in England and Wales to meet EPC B by April 2030 where cost-effective, based on meeting a seven-year payback test.⁴² To meet this target, a significant proportion of Derbyshire's commercial and industrial buildings will need retrofitting to improve their energy performance to meet an EPC B standard. Once EPC B is reached there will still be some retrofit requirements to meet net zero between 2030 and 2050, which will be explored in future updates to this Strategy.

Transitioning to the low carbon economy e.g. industries promoting the use of low carbon technologies and practices such as source heat pump manufacturing offers significant economic opportunities for Derbyshire. As part of its ten point plan the UK government estimates that 250,000 highly skilled green jobs will be created across the country by 2030.

This will be achieved through focused investment within the UK's 'industrial heartlands' – including Derbyshire, by both national government and the private sector.⁴³

7. OUR STRATEGIC PRIORITIES AND ACTIONS

Low Carbon Economy. Continued...

COUNTY-WIDE TARGETS

Targets

T1	Reduce manufacturing and construction emissions by 70% by 2035 (against 1990 levels) through energy efficiency improvements and expansion of CCUS technologies, and promotion of fuel switching.
T2	All commercial efficiency renovations complete by 2030 to be in line with UK government's industrial and commercial energy consumption reduction target of 20%.
T3	Undertake a feasibility assessment to understand the opportunities for renewable energy developments across the County and support the development of commercial scale developments where appropriate, by 2023.
T4	24,000 skilled green jobs to be created in Derbyshire by 2030 to help reach net zero emissions and enable our local economy to grow and flourish.
T5	All new commercial building developments to be net zero carbon by 2030, and all commercial and industrial properties to be net zero by 2050
T6	Net zero focussed education, training courses and apprenticeships available at every academic and training institution in Derbyshire by 2028, e.g. net zero building retrofit, renewable energy engineering, heat pump installation.

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)



Improved occupant comfort



Reduced energy costs
Creation of green jobs



Future proofing developments



Long term sustainability of services



7. OUR STRATEGIC PRIORITIES AND ACTIONS

Low Carbon Economy. Continued...

<i>Prioritised action</i>	<i>Which target will this contribute to?</i>	<i>Anticipated impact on achieving targets</i>	<i>Cost</i>	<i>Complexity of delivery</i>	<i>Partners</i>	<i>Timeline/ Stage</i>
1. Renewable Energy Develop a Renewable Energy Strategy for the county including an energy resource assessment that identifies opportunities for renewable energy generation as well as decarbonisation of heating and energy use in homes.	T1, T2, T3		M	Medium	District & borough councils, D2N2 LEP, Midlands Energy Hub	2022
2. Skills and Funding Work with the Midlands Energy Hub, D2N2 LEP and universities and colleges to build technical and economic capabilities to deliver renewable energy and low carbon heating projects.	T1, T2, T3		H	Complex	District & borough councils, Industry & Private Sector, D2N2 LEP, Midlands Energy Hub	By 2025
3. Grid Capacity Liaise with DNOs and D2N2 LEP to understand grid capacity / constraints for generation opportunities.	T1, T2, T3, T5		L	Medium	DNOs, D2N2 LEP, Midlands Energy Hub	By 2025
4. Innovation Deliver the Derbyshire Green Entrepreneurs scheme and provide additional support for reducing environmental impacts, driving innovation, and curating sustainable growth for smaller businesses.	T2, T3		H	Complex	District & borough councils, Industry & Private Sector, Universities, D2N2 LEP, Midlands Energy Hub	In progress by 2021

<i>Prioritised action</i>	<i>Which target will this contribute to?</i>	<i>Anticipated impact on achieving targets</i>	<i>Cost</i>	<i>Complexity of delivery</i>	<i>Partners</i>	<i>Timeline/ Stage</i>
5. Support and Collaboration Take forward the COVID Recovery Strategy to identify high carbon commercial industries, and support the business community in shifting to and benefiting from the low carbon economy through collaboration with climate change and carbon experts.	T1, T2, T5		H	Complex	Central government, District & borough councils, Industry & Private Sector, Universities, D2N2 LEP, Midlands Energy hub	In progress by 2021
6. Skills and Growth Work with local academic institutions, trade unions, and regional Chamber of Commerce to identify geographical areas for low carbon industry growth, as well as assessing and develop the capabilities and skills of the region in supplying those industries.	T4		H	Complex	Industry & Private Sector, Schools & Colleges, Universities, D2N2 LEP,, Midlands Energy Hub	Start by 2025
7. Net Zero Planning In line with Vision Derbyshire, continue working with Borough and district and borough councils to develop a Strategic Joint Planning Framework for Derbyshire to ensure that planning measures for net zero commercial buildings are integrated into Local Plans.	T1, T3		M	Complex	District & borough councils, Industry & Private Sector, D2N2 LEP, Midlands Energy hub	2022

Cost

(L) Low Cost - £50K

(M) Medium - £50-150K

(H) High - >£150K

Complexity of delivery

Simple: Internal, mainly one department

Medium: Internal and external stakeholders at organisational level

Complex: Internal and external stakeholders involving residents and supported by national ambition and policy

HML impact



low impact



medium impact



high impact

7.3 Decarbonising the Domestic Sector

AMBITION STATEMENT

Derbyshire County Council will work with partner local authorities and other external stakeholder groups to create low and zero carbon homes that reduce emissions but also provide economic and wellbeing benefits for our residents. This will be achieved through improving the fabric performance of homes, reducing energy consumption and facilitating behaviour change, and removing all fossil fuels used from heating, hot water, and cooking. We will also support the national decarbonisation ambition by playing our role in the expansion of small-scale renewable energy generation in the domestic sector.



CONTEXT

There are approximately 360,000 domestic properties in Derbyshire. The majority of these are a terrace (24%), semi-detached (36%) or detached (31%) properties with the remainder being flats. A high percentage of these were built either pre-1918 (23%) or between 1945-1980 (38%), with only 25% being built in the last forty years.⁴⁶

In 2018, emissions from the domestic sector in Derbyshire were 1,430 ktCO_{2e}, equivalent to 14% of Derbyshire's total emissions. Within the domestic sector, gas consumption constitutes approximately 64% of emissions and electricity consumption contributes 22% of emissions, with the remainder from other fuel sources.⁴⁷

Poorer Energy Performance Certificate (EPC)⁴⁸ ratings are associated with higher energy

consumption. Higher energy consumption produces higher carbon emissions and results in higher energy bills to homeowners. Approximately 63% of existing domestic properties in Derbyshire County are rated EPC D or below.⁴⁹ The EPC register, provides insights into the insulation, lighting and heating fuel of homes in the county, see Figure 13.

Since 1 April 2020, landlords can no longer let or continue to let properties covered by the MEES Regulations if they have an EPC rating below E, unless they have a valid exemption in place.⁵⁰ Furthermore, in the 2017 Clean Growth Strategy, the Government committed to getting all fuel poor and rented homes to EPC C by 2030, and other owner-occupied homes to EPC C by 2035. In September 2020, the Government published the Future Homes

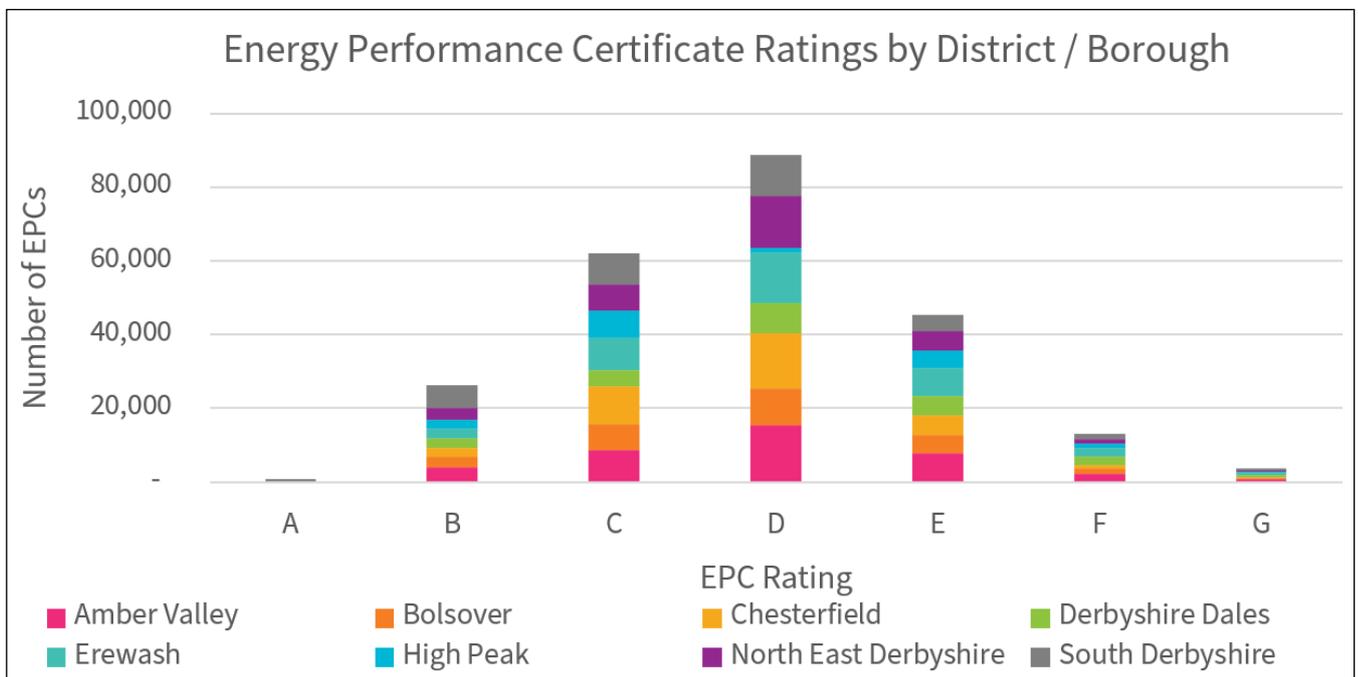


Figure 13 Distribution of Energy Performance Certificate Ratings in Derbyshire for domestic properties.

Standard consultation outcome, which proposes to bring forward the date for private-rented homes to meet EPC C from 2030 to 2028.⁵¹ Many homes across the county will require retrofitting in order to meet these targets.

Increasing the availability of skilled contractors in the region who are able to undertake retrofitting and low carbon heat installation work will help to reduce long term costs of household energy efficiency improvements. As part of our post-COVID 19 economic regeneration strategy we are focusing on developing a programme of upskilling and training with other authorities to support the low carbon agenda.

It is estimated that 66% of energy consumption within the domestic sector is attributable to space heating and 2% is associated with cooking.⁵² Homes with fossil-fuel heating and cooking will be required to switch to low-carbon alternatives e.g. heat pumps, as gas, coal and oil is phased out.

There is also potential to reduce carbon emissions in domestic properties through simple behavioural changes, such as turning off lights when not in use, smarter heating management and use (such as turning down thermostat and reducing amount of time heating

is on) or installing low-flow shower heads to reduce hot water demand. The roll out of smart meter systems by energy providers is already helping residents understand their energy use by providing them with more information on their energy use and enabling them to make more sustainable choices, which has additional benefits for their fuel bills. In conjunction with our partners we will undertake further analysis to understand the behavioural barriers to residents investing in retrofitting measures in their homes.

Retrofitting measures can be expensive with little or long-term returns on investment, which can be limiting for some residents, particularly those who are fuel poor or in rented accommodation. Therefore, we will be exploring and looking to secure funding to support retrofitting, including from more innovative funding mechanisms such as green finance or community ISAs, alongside working with the regional and national government funding bodies to secure long term investment for households to move to high energy efficiency housing stock and low carbon heating systems.

7. OUR STRATEGIC PRIORITIES AND ACTIONS

Decarbonising the Domestic Sector. Continued...

COUNTY-WIDE TARGETS

Targets

-
- T1 All new residential buildings to be zero carbon by 2025.⁵³
-
- T2 All existing owner occupier domestic properties EPC rating C by 2035.
-
- T3 All owner occupiers and renters to have access to education and training programmes to decarbonise their homes by 2025.
-
- T4 At least 20% of domestic buildings to have PV installed by 2030.
-

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)



Improved occupant comfort



*Reduced energy costs
Growth of green businesses*



Future proofing developments



7. OUR STRATEGIC PRIORITIES AND ACTIONS

Decarbonising the Domestic Sector. Continued...

<i>Prioritised action</i>	<i>Which target will this contribute to?</i>	<i>Anticipated impact on achieving targets</i>	<i>Cost</i>	<i>Complexity of delivery</i>	<i>Partners</i>	<i>Timeline/ Stage</i>
1. Low Carbon Energy Conduct an updated feasibility assessment on the low carbon heat and renewable energy opportunities within the county.	T1, T2, T4		M	Medium	Central government, District & borough councils, Industry & Private Sector	Start by 2023
2. Energy Planning Use outputs of the Renewable Energy Strategy to work with partner local authorities to adopt a whole-system Local Area Energy Planning approach to increase onsite low-carbon energy generation and reduce the demand for energy.	T1, T4		M	Complex	District & borough councils	Start by 2025
3. Coordinated Action Through the Vision Derbyshire process agree the approach to supporting the decarbonising of homes recognising the specific opportunities and challenges faced by renters and homeowners and reflecting the need to particularly support those in fuel poverty.	T1, T2, T3		M	Complex	Central government, District & borough councils, Local residents, Landlords	2023

<i>Prioritised action</i>	<i>Which target will this contribute to?</i>	<i>Anticipated impact on achieving targets</i>	<i>Cost</i>	<i>Complexity of delivery</i>	<i>Partners</i>	<i>Timeline/ Stage</i>
4. Net Zero Planning work with the districts and boroughs to develop a Strategic Joint Planning Framework for Derbyshire to ensure achievement of minimum energy standards and net zero housing development.	T1, T2, T4, T5		M	Medium	District & borough Councils, Industry & Private Sector	2022
5. Skills and Training Work with local authority and wider government partners to develop a Regional Skills Strategy that identify areas of upskilling within the house building and retrofit sectors, and creates investor-ready training programmes to receive support from the proposed National Skills Fund.	T3		H	Complex	Central government, District & borough councils, Industry & Private Sector, Schools & Colleges, Universities	2023
6. Education and Empowerment Develop an information sharing campaign to educate homeowners and renters on how to improve the energy efficiency of their property	T3		H	Complex	District & borough councils, Residents, Schools	2022

Cost

- (L) Low Cost - £50K
- (M) Medium - £50-150K
- (H) High - >£150K

Complexity of delivery

- Simple: Internal, mainly one department
- Medium: Internal and external stakeholders at organisational level
- Complex: Internal and external stakeholders involving residents and supported by national ambition and policy

HML impact

-  low impact
-  medium impact
-  high impact

7.4 Transport, Travel and Infrastructure

AMBITION STATEMENT

Derbyshire County Council will work with partner local authorities and other external stakeholder groups to deliver a zero-carbon integrated transport offering across the county that works more effectively to meet the needs of residents in accessing the places they work, live, and socialise, as well as improving air quality for the improved health and wellbeing of our residents. Derbyshire’s flexible, accessible, affordable and integrated system will enable everyone to make their journeys through active travel (walking and cycling), public transport, or decarbonised vehicles, whether that be individuals or businesses.

CONTEXT

In 2018, Derbyshire’s transport emissions were 1,922 ktCO₂e, representing 19% of the county’s total emissions.⁵⁶ Derbyshire’s transport system is heavily focused on the use of private vehicles, with 96% of all surface transport emissions arising from road travel.⁵⁷

Achieving a net zero target will require a significant increase in active travel and public transport use wherever possible, alongside the rapid electrification of taxis, cars and vans, and the decarbonisation of buses, rail and freight (e.g. though hydrogen fuelled vehicles and electrification of rail). Additionally, there are measures that can be taken to avoid the need to travel such as supporting home working, use of digital connectivity and rural hubs.

Whilst Derbyshire County Council can support and encourage changes to the transport sector, it cannot be done without the backing from the citizens and businesses within Derbyshire and the transport partners that operate the roads, rail and buses who are truly able to drive the necessary pace for change. In some cases, change will also rely on action by UK government or its agencies, e.g. Department for Transport.

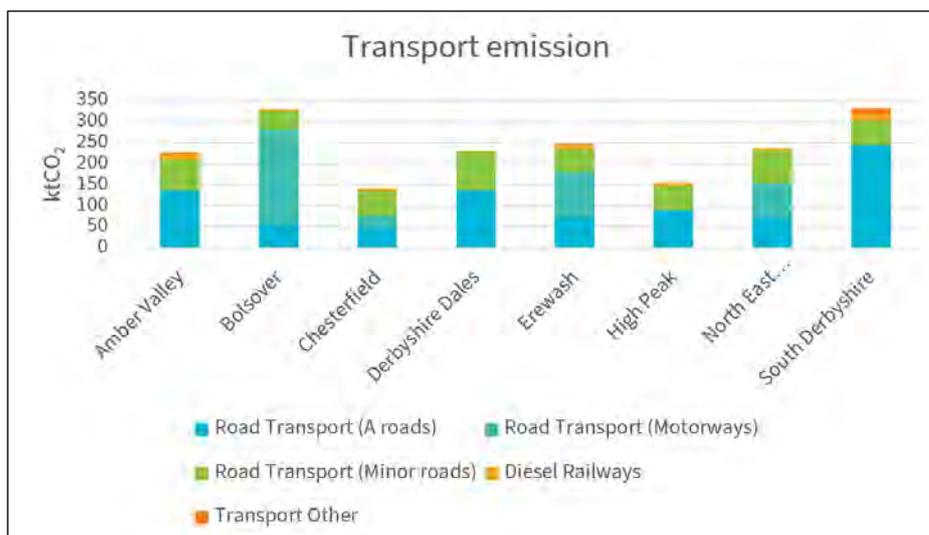


Figure 14 Distribution of transport emissions in Derbyshire adapted from 'BEIS, 2020. Emissions of carbon dioxide for local authority areas'.

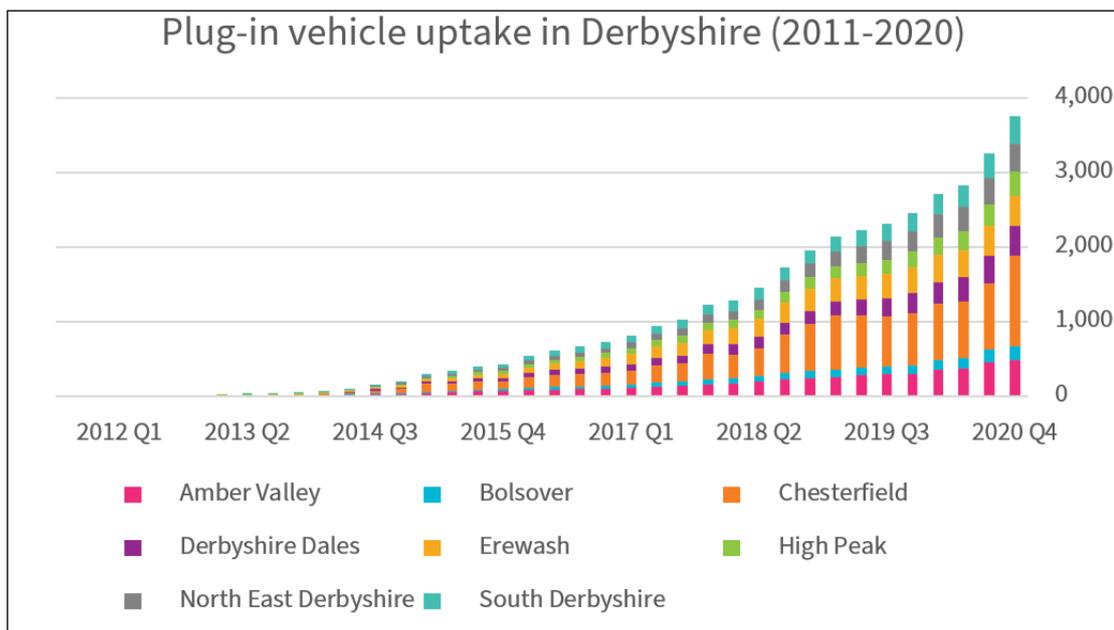


Figure 15 Plug in vehicle in Derbyshire adapted from Department for Transport VEH0131: Licensed plug-in cars, LGVs and quadricycles by local authority: United Kingdom.

Transport emission sources can be seen in Figure 14. It shows the diverse sources of transport emissions, which will require different approaches in different areas of Derbyshire. For example, many of the market towns are more self-contained than rural towns and villages and will be more suited to increasing the proportion of trips taken by public transport and active travel.

ULTRA LOW EMISSION VEHICLES & CHARGING INFRASTRUCTURE

5.5 billion vehicle miles were travelled on Derbyshire's roads in 2019, a 16% increase in the last ten years.⁵⁸ The high traffic volumes on Derbyshire's roads are also partly a result of the through journeys passing through the county.

The average ownership of cars and vans in Derbyshire (in 2019) was 0.67 per person, almost 14% higher than the national average. This analysis highlights the dispersed nature of the county's communities, the higher proportion of rural living, and public transport network challenges and the resultant reliance on private vehicle transport.

There has also been a growth in other (non-car) vehicle ownership in the last decade, with the biggest increase observed in light goods vehicles (vans) which saw a 29% increase in total registrations in Derbyshire.⁵⁹ This increase in LGV reflects business growth and wider economic changes, e.g. increases in the service and gig economy and decentralised delivery due to increasing e-commerce.

Derbyshire has seen significant growth in ultra low emission vehicle ownership within the county in recent years with an estimated 3,752 plug-in vehicles registered in Derbyshire in 2020, see Figure 15. Derbyshire County Council is committed to undertaking and supporting a focused programme of electric vehicle (EV) charging infrastructure installation to support the continued increase of EV ownership.⁶⁰ Currently the number of public electric vehicle charging points available in Derbyshire is 18 per 100,000 population compared to a national average of 31, highlighting a need for focussed investment in charging infrastructure.

ACTIVE TRAVEL

Derbyshire's levels of cycling and walking for transport, whilst above average for the UK, are still very low. In 2016, Sport England data showed that only 1.2% and 3.0% of residents are cycling and walking to work, respectively. There are differences in active travel uptake and the purpose of active travel journeys within the county. For example, there are higher levels of cycling for commuting in flatter areas that are closer to towns and cities compared with more rural areas which experience higher volumes of visitor cycling.

A focus on increasing active transport uptake across the county will be important to encourage modal shift from private vehicles to active travel options. This will be particularly important in market towns where walking and cycling could replace short car journeys and to ensure that people can access cycle routes (e.g. in the Peak District) by other means than personal car.

7. OUR STRATEGIC PRIORITIES AND ACTIONS

Transport, Travel and Infrastructure. Continued...

Department for Transport analysis shows that⁶¹:

- Women are 50% less likely to cycle than men.
- Those with a limiting impairment are 63% less likely to cycle than those without.
- Cycling rates are the lowest amongst our Black and Asian communities.

Actions to encourage active travel should therefore seek to support those groups who demonstrate particularly low rates of participation in active travel, potentially due to lack of accessibility, lack of inclusivity, social and cultural norms.

The Derbyshire Cycle Plan, which is currently under review, seeks to tackle these issues of inclusivity through focused capital funding, training programmes and information sharing.⁶² There are also cycle routes that are being developed and we are working with schools on cycling proficiency.

PUBLIC TRANSPORT

The use of rail transport has continued to grow over the last ten years in the county, stabilising at 26 million journeys in recent years (2017 – 2019).⁶³ More than 70% of journeys on rail systems are being made travelling out of the county, which is considerably higher than other parts of the UK, only matched by the South East of England.⁶⁴ The majority of these journeys are to and from London, highlighting the long distance job location of some of our residents. However, there are also significant flows within the region, along the Derwent Valley line, and to Birmingham, Manchester and Sheffield. Work and education are key drivers for rail travel in these areas. Further growth of rail transport will be supported through the delivery of the proposed Midlands Engine Rail programme and HS2, which will provide effective and efficient rail connectivity between Derbyshire, the Midlands and the North's major economic centres. Midlands Connect will also help to drive transport improvements in the region, including through the 'tap and cap' smart ticketing initiative, rail improvements and improving mobility in rural areas.

Bus usage in Derbyshire fell by 20% between 2009 and 2019⁶⁵ with COVID-19 further impacting public transport demand in 2020 and 2021. This is despite work carried out by Transport Focus, the independent watchdog for transport

users nationally, showing a 93% high passenger satisfaction with bus services in Derbyshire. Similar reductions in bus usage have been observed in most other areas of England. This suggests that there is broader work required to increase use of buses as a mode of transport, including availability of routes, resident attitudes and convenience of private transport.

The UK's government's new Bus Back Better: National Bus Strategy for England, launched in March 2021, seeks to reverse the decline in bus usage with new statutory Enhanced Partnerships or Franchising replacing the competitive market modal for bus services, which has been in place since 1986.⁶⁶ It is anticipated that an Enhanced Partnership will be introduced in Derbyshire by April 2022 to meet the Government timetable for action. As part of this process, there will be significant investment in bus services, ticketing arrangements and roadside infrastructure to encourage greater use of bus services in Derbyshire. At the same time, the UK government is encouraging County Councils, bus operators and other partners to develop proposals to introduce more zero emissions buses through its Zero Emission Bus Regional Areas (ZEBRA) programme.⁶⁷

REDUCING EMISSIONS FROM FREIGHT

The International Transport Forum estimates that 17% of all transport emissions come from freight-related transport.⁶⁸

Reducing emissions from freight and goods transport is potentially more challenging than passenger transport due to freight vehicles typically being heavy goods vehicles (HGVs), for which there are currently limited low or zero emissions alternatives. Solutions for HGVs are likely to utilise hydrogen technology to support decarbonisation. We are looking to support the expansion of hydrogen infrastructure, including already having one hydrogen re-fuelling station at Staveley. Midlands Connect are also currently developing plans to help the freight and logistics sector to move to alternative fuels, which we will link into.

We will also encourage exploration of other measures for HGV logistics to reduce mileage, including the expansion of consolidation centres, extended delivery windows, reducing empty-running, last-mile deliveries and rural hubs.

COUNTY-WIDE TARGETS

Targets

T1	All new cars and vans in the county to be zero emission vehicles by 2030.
T2	Deliver 1000 EV charging points for public use by the end of 2025 in collaboration with partners. Support the installation of electric vehicle chargers at 144,000 properties across Derbyshire by 2035.
T3	Double the number of people cycling regularly as a mode of transport from 106,000 in 2016 to 212,000 by 2030. ⁶⁹
T4	Reverse the decline in bus travel and increase total journeys to 30 million per year by 2023 (from 21 million in 2019).
T5	Deliver 2 hydrogen re-fuelling stations in Derbyshire and up to 30 hydrogen powered buses by 2025 by working with partners in the public and private sectors.
T6	Reduce HGV emissions in the county by 50% by 2035 against baseline.

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)



Improved air quality and health and wellbeing



Increased business revenues
Creation of green jobs



Increased resilience of transport network



Increase community integration

7. OUR STRATEGIC PRIORITIES AND ACTIONS

Transport, Travel and Infrastructure. Continued...

<i>Prioritised action</i>	<i>Which target will this contribute to?</i>	<i>Anticipated impact on achieving targets</i>	<i>Cost</i>	<i>Complexity of delivery</i>	<i>Partners</i>	<i>Timeline/ Stage</i>
<p>1. Transport Planning Promote integrated, and place-based development in transport planning as part of Derbyshire's COVID recovery and economic revival of market towns, to reduce emissions from first and last mile journeys and provide an economic boost to local retail and businesses.</p>	T1, T2, T3, T4, T5, T6		H	Complex	District & borough councils, Industry & Private Sector, Residents/Bus users, Bus operators	Start by 2025
<p>2. Public Transport Support the new Enhanced Bus Partnership arrangements being introduced in Derbyshire as part of the new National Bus Strategy. This will involve Derbyshire County Council and the bus operators investing in new service provision, improved roadside bus infrastructure, mobility as a service, integrated ticketing systems, and upgraded information availability to provide an improved public transport offering to Derbyshire residents.</p>	T4, T5		H	Complex	District & borough councils, Residents, Industry & Private Sector (particularly bus operators)	Start by 2021
<p>3. Active Transport Support the implementation of the Derbyshire Cycling Plan and the Local Cycling and Walking Investment Plan.</p>	T3		H	Complex	District & borough councils, Residents	Start by 2021
<p>Support actions for increasing the uptake of active transport to reduce emissions particularly within marginalised groups, and improve health and wellbeing for all.</p>			H	Complex		

<i>Prioritised action</i>	<i>Which target will this contribute to?</i>	<i>Anticipated impact on achieving targets</i>	<i>Cost</i>	<i>Complexity of delivery</i>	<i>Partners</i>	<i>Timeline/ Stage</i>
4. Zero Emission Vehicles and Infrastructure Continue to support the above average growth of zero emissions vehicle ownership in the country by establishing public private investment partnerships to develop a network of mixed speed public charging and hydrogen infrastructure, which is affordable, consistent, accessible and user friendly for residents and visitors.	T1, T2		H	Complex	District & borough councils, Residents, Industry & Private Sector	Support by 2021
5. Smart Technologies and Digitalisation Evaluate the use of smart technologies and alternative and future fuels to reduce the emissions associated with commercial and freight transports e.g. consolidation hubs, hydrogen sub-stations, digitisation transport mobility hubs, mobility as a service etc.	T4, T5, T6, T7		M	Complex	District & borough councils Industry & Private Sector	Start by 2023

Cost

(L) Low Cost - £50K

(M) Medium - £50-150K

(H) High - >£150K

Complexity of delivery

Simple: Internal, mainly one department

Medium: Internal and external stakeholders at organisational level

Complex: Internal and external stakeholders involving residents and supported by national ambition and policy

HML impact



low impact



medium impact



high impact

7.5 Waste

AMBITION STATEMENT

Derbyshire County Council will work with partner local authorities and other external stakeholder groups to move the county towards a more sustainable and circular economy based system of resource management, where we place high value on our natural resources, whilst seeking to reduce our consumption and generation of resource and waste. We will encourage and work with others to establish innovative approaches to waste diversion, reutilisation, and recycling.

CONTEXT

Although the BEIS data for local authorities doesn't estimate waste emissions as a separate figure, across the UK waste management emissions in 2018 amounted to 0.3MtCO₂e (0.06% of total GHG emissions).⁷⁰

Derbyshire County Council and Derby City Council released a joint Municipal Waste Management Strategy in 2013 outlining ambitions to 2026 for reducing emissions from waste. Many of these ambitions remain the same, although we anticipate updating this in the coming years to better reflect our current waste management system and ambitions for resource reduction.

The waste management system in Derbyshire is split across both tiers of local authority, with disposal undertaken by Derbyshire County Council and collection by our Boroughs and Districts. The rural nature of the county with a dispersed population presents challenges for the provision and operation of an efficient waste management services and infrastructure.

It is vital that the waste hierarchy is a major



feature of managing household waste, where reduction and minimisation of waste are priority actions for our residents and businesses. In achieving a net zero waste system, we need to move towards 100% diversion from landfill, an increase in anaerobic digestion/composting and increases in recycling and reuse of our waste. Recycling and composting levels have plateaued in recent years and remain between 45% and 50%, which is consistent with rates across the country.

Social barriers to reducing waste generation and improving diversion from landfill can be broken down into the following key barriers:⁷¹

- situational (e.g. absence of space);
- behavioural (e.g. other priorities);
- cognitive (e.g. understanding and knowledge); and,
- attitudinal (e.g. limited personal benefit)

Each will require a tailored approach whilst still providing consistent messaging, ease of services and ensuring consistency across authority approaches.

The Government's 2019 Resource and Waste Strategy (RAWS) is providing the platform for greater recycling and composting of waste.⁶⁷ The Derbyshire Waste Partnership, which includes all the county, city, district and borough councils in Derbyshire, are working to deliver changes to the ways waste is managed over the 2022 – 2027 period to deliver against the RAWS.

RAWS will also enable national and regional governments to work closely with manufacturers and suppliers, e.g. supermarkets, to manage sources of waste more effectively. This is based upon the deployment of circular economy principles which focus on designing out waste and pollution from the manufacturing process. These principles also promote the importance of keeping products and reusing, regenerating or remanufacturing them into

new products. We welcome circular economy principles and the outlined RAWS policy for producer responsibility which will promote greater ownership by manufacturers and organisations to take account of the materials used in their products so that consumers can be empowered to make more sustainable choices. As part of the production of Derbyshire’s new waste strategy we will be looking to integrate these circular economy principles.

COUNTY-WIDE TARGETS

Targets

T1	Reduce household waste production by 20% by 2025 against 2015 baseline.
T2	Less than 10% municipal solid waste to be sent to landfill by 2035, with 100% waste diverted by 2050.
T3	No more food and garden waste sent to landfill by 2030.

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)



Improved air quality



Development of new businesses
Increased savings for reinvestment



Reduction in resource consumption

7. OUR STRATEGIC PRIORITIES AND ACTIONS

Waste. Continued...

Prioritised action	Which target will this contribute to?	Anticipated impact on achieving targets	Cost	Complexity of delivery	Partners	Timeline/ Stage
1. Reduce Waste Identify solutions to increase the diversion of organic waste including food, soiled materials, carpets, organic textiles, etc. from landfill	T2, T3		H	Complex	District & borough councils, Residents Industry & Private Sector	Start by 2022
2. Behaviour Change Undertake a cross authority behaviour change campaign to promote reduction in waste and resource consumption in the home and businesses.	T1		H	Complex	District & borough councils, Residents	2022
3. Collaboration in Moving Towards Circular Economy Work with local producers and businesses to restrict the use of single use products and support the market for remanufactured goods.	T1, T2		H	Complex	District & borough councils, Residents, Industry & Private Sector	Start by 2024
4. Reduction in Waste Explore the potential for partnering with local charities and organisation to segregate and redistribute good quality products from HWRCs (Household Waste Recycling Centres.	T1, T2		M	Complex	Third sector organisations Industry and Private Sector	Start by 2025

Complexity of delivery

Simple: Internal, mainly one department
 Medium: Internal and external stakeholders at organisational level
 Complex: Internal and external stakeholders involving residents and supported by national ambition and policy

Cost

(L) Low Cost - £50K
 (M) Medium - £50-150K
 (H) High - >£150K

HML impact

low impact
 medium impact
 high impact

7. OUR STRATEGIC PRIORITIES AND ACTIONS

³⁴ Note the resources required, existing capacity, and skills required are indicated by a 'low, medium and high score'. For the full scoring approach refer to Appendix B.

³⁵ Derbyshire County Council, 2019. Corporate Environment Policy and Carbon Reduction Plan. [online] Available at: <https://democracy.derbyshire.gov.uk/documents/s2338/Corporate%20Environment%20Policy%20and%20Carbon%20Reduction%20Plan.pdf>

³⁶ BEIS, 2017. Clean Growth Strategy.

³⁷ UKCCC, 2020. The Sixth Carbon Budget: The UK's path to Net Zero. [Online] Available at: <https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf>

³⁸ UKCCC, 2020. The Sixth Carbon Budget. The UK's path to Net Zero.

³⁹ BEIS, 2019. Total final energy consumption at regional and local authority level 2005 to 2017.

⁴⁰ Epc.opendatacommunities.org. 2021. Energy Performance of Buildings Data England and Wales. [online] Available at: <https://epc.opendatacommunities.org/> [Accessed 17 March 2021]. More information on EPC's: <https://energysavingtrust.org.uk/advice/guide-to-energy-performance-certificates-epcs/>

⁴¹ Energy Efficiency (Private Rented Property (England and Wales) Regulations 2015.

⁴² <https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Buildings.pdf>

⁴³ Prime Minister's Office, 2020. PM outlines his Ten Point Plan for a Green Industrial Revolution for 250,000 jobs. [Online]. Available at: <https://www.gov.uk/government/news/pm-outlines-his-ten-point-plan-for-a-green-industrial-revolution-for-250000-jobs>

⁴⁵ IFF Research, 2020. Costs of delivering apprenticeship standards: The Institute for Apprenticeships and Technical Education and the Education and Skills Funding Agency. [Online] Available at: <https://www.instituteforapprenticeships.org/media/4011/cost-of-delivering-apprenticeship-standards-final.pdf>

⁴⁶ Consolidated data from the Housing Stock Conditions Reports 2019.

⁴⁷ BEIS, 2020. Emissions of carbon dioxide for local authority areas. [Adapted]

⁴⁸ EPC's rate how energy efficient your building is using grades from A to G (with 'A' the most efficient grade).

⁴⁹ Epc.opendatacommunities.org. 2021. Energy Performance of Buildings Data England and Wales. [online] Available at: <https://epc.opendatacommunities.org/> [Accessed 16 March 2021].

⁵⁰ <https://www.gov.uk/guidance/domestic-private-rented-property-minimum-energy-efficiency-standard-landlord-guidance>

⁵¹ Ministry of Housing, Communities and Local Government. The Future Homes Standard: changes to Part L and Part F of the Building Regulations for new dwellings.

⁵² BEIS, 2014. Estimates of heat use in the United Kingdom in 2013.

⁵³ This relies on the implementation and sufficient financing by the UK government of the Future Homes Standard.

⁵⁴ Estimated carbon and cost savings summarised in Transport section.

⁵⁵ Calculated based on recommended levels of vehicle charging penetration to ensure 100% electrification of vehicles.

⁵⁶ BEIS, 2020. Emissions of carbon dioxide for local authority areas. [Adapted], includes road transport (A roads, motorways and minor roads), diesel railways and other transport.

⁵⁷ BEIS, 2020. Emissions of carbon dioxide for local authority areas. [Adapted] 45% transport emissions from travel on 'A' roads, 27% from travel on minor roads, and 23% from travel on motorways

⁵⁸ Department for Transport: National Statistics, 2020. Road traffic estimates in Great Britain: 2019.

⁵⁹ Department for Transport and Driver and Vehicle Licensing Agency, 2020. Vehicles statistics.

⁶⁰ Derbyshire County Council, 2019. Low Emissions Vehicle Strategy (LEVI) 2019 – 2029.

⁶¹ Department for Transport, 2020. Walking and cycling statistics, England: 2019. [Online] Available at: [https://www.gov.uk/government/statistics/walking-and-cycling-statistics-england-2019#:~:text=nearly%20all%20\(98%25\)%20local,at%20least%20once%20a%20week](https://www.gov.uk/government/statistics/walking-and-cycling-statistics-england-2019#:~:text=nearly%20all%20(98%25)%20local,at%20least%20once%20a%20week)

⁶² Derbyshire Cycling Plan Strategic Group, 2016. The Derbyshire Cycling Plan 2016 – 2030.

⁶³ Department for Transport and Office of Rail and Road, 2020. Rail usage, infrastructure, and performance.

⁶⁴ Office of Rail and Road, 2020. Regional rail usage. Available at: <https://dataportal.orr.gov.uk/statistics/usage/regional-rail-usage/>

⁶⁵ Department for Transport, 2021. Local bus passenger journeys.

⁶⁶ Department for Transport, 2021. Bus back better. [Online] Available at: <https://www.gov.uk/government/publications/bus-back-better>

⁶⁷ Department for Transport, 2021. Apply for the Zero Emission Bus Regional Areas (ZEBRA) scheme. [Online] available at: <https://www.gov.uk/government/publications/apply-for-zero-emission-bus-funding>

⁶⁸ Department for Transport, 2017. Freight Carbon Review: Moving Britain ahead. [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/590922/freight-carbon-review-2017.pdf

⁶⁹ Assuming there will be no additional passenger vehicle journeys and that these cycling journeys replacement a journey that would otherwise been taken in a private passenger vehicle.

⁷⁰ BEIS, 2019. 2018 UK Greenhouse Gas Emissions, Provisional Figures. [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/790626/2018-provisional-emissions-statistics-report.pdf

⁷¹ DEFRA, 2018. Our Waste, Our Resources: A Strategy for England. [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf

⁷² DEFRA, 2018. Our Waste, Our Resources: A Strategy for England. [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf

⁷³ Ellen MacArthur Foundation, 2021. What is the circular economy? [Online] Available at: <https://www.ellenmacarthurfoundation.org/circular-economy/what-is-the-circular-economy>



8. ADAPTATION AND NATURAL CAPITAL



8.0 Adaptation and Natural Capital

This Strategy's objective is to outline our ambition to reduce emissions as part of our aspirations to achieve a more sustainable future. Adaptation and Natural Capital are being considered outside of this Strategy.

We recognise the impacts of climate change are already being experienced globally and, in the UK, as we have seen over recent years with an increasing frequency and severity of extreme flooding, high temperatures and drought. It is important that, as part of our journey to address climate change, we also consider the actions we can take to build our resilience and that of our natural systems to adapt to the inevitable climate changes we will experience.

Natural Capital, our stock of natural assets, e.g. soil, air water, and its effective protection and management is another key complementary area of work that will enable us to achieve increased emissions reductions and reduce our risk to climate hazards.

Derbyshire contains high levels of access to green space, natural habitats and woodland, with three quarters of the Peak District National Park and 3.8% of England's green belt falling within Derbyshire's boundary.⁶⁸ Extensive work undertaken by Natural England in 2020, sought to better quantify the quality and spread of Natural Capital in the UK.⁷⁵ The outputs demonstrated the high-quality coverage of grasslands and woodlands within our region, even in areas of higher agricultural output, see Figure 16. It will be crucial to maintain and enhance these spaces to reduce emissions (e.g. from degraded peat), and to increase carbon sequestration, community resilience, amenity benefit and health and wellbeing.

It is crucial that we seek to expand these spaces alongside continuing to protect our existing green and wooded spaces. For example, the Peak District Authority has estimated that the Peak District National Park stores (i.e. has a carbon stock of) 20 million tonnes of carbon (tC).



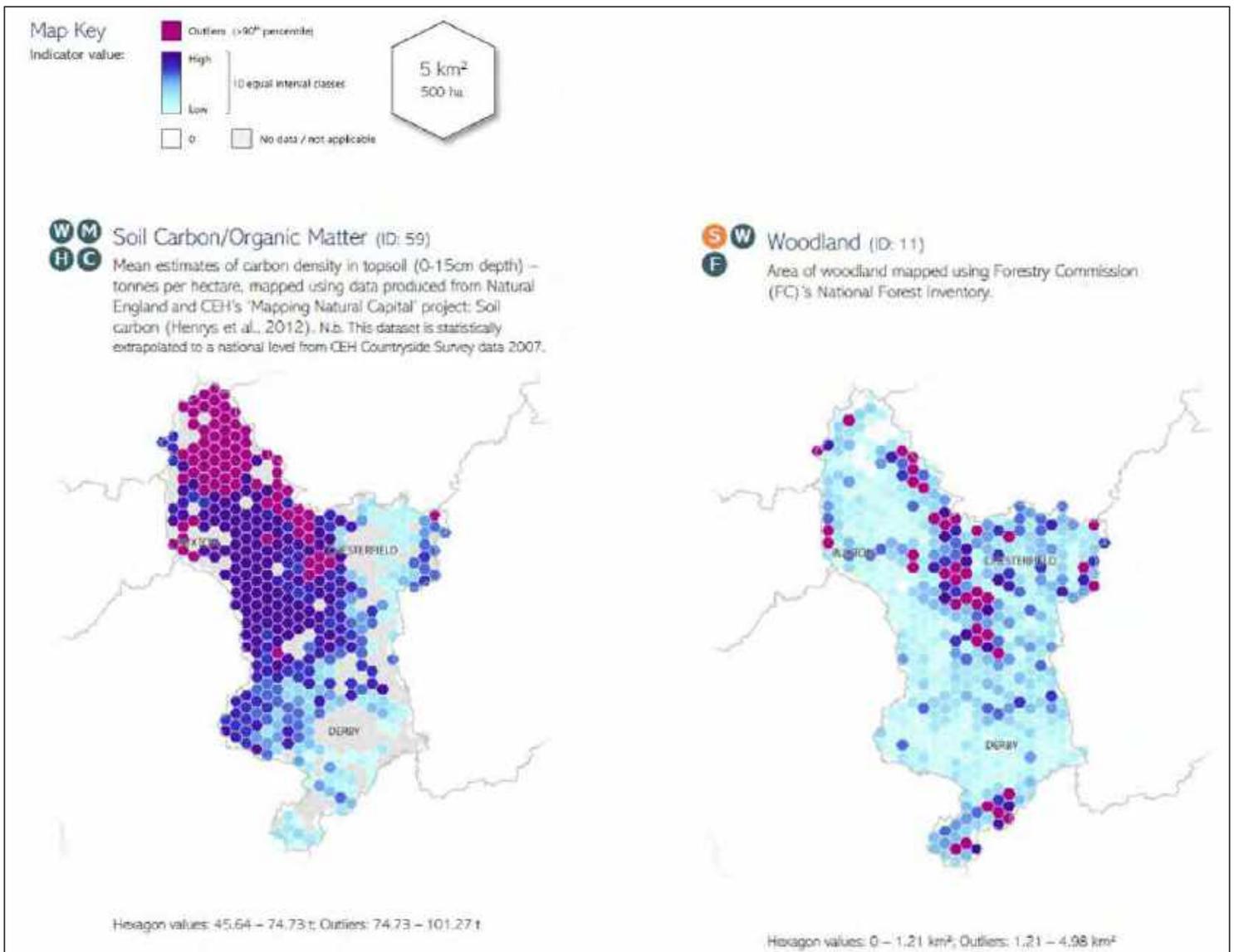


Figure 16: Summary of soil carbon/organic matter content and woodland coverage within Derbyshire. © Natural England, 2020 NERC - Centre for Ecology & Hydrology.

Derbyshire County Council is commissioning a Natural Capital Strategy for the county of Derbyshire, including the area of the Peak District National Park that falls within the county. Although this study will be commissioned by Derbyshire County Council, it is our expectation that this study will be published and made available across the county, to inform investment and Natural Capital decision making by external and partner organisations e.g. district and borough councils, as well as informing our own decision making and place-shaping.

We are also undertaking work in parallel to identify the impact of current and future

climate risks and hazards that are relevant to our own services and the wider county and what actions we can undertake in our homes, businesses and infrastructure delivery to reduce the long term risks from climate change. We recognise it is crucial to seek synergies between climate change mitigation/carbon reduction and climate change adaptation – and we are taking steps to ensure no mitigation actions implemented to meet our net zero target will further increase our risk of being negatively impacted by the changing climate.

⁷⁴ Ministry of Housing, Communities & Local Government, 2019. *Local Authority Green Belt: England 2018/19*

⁷⁵ Natural England, 2020. *Natural Capital Atlases: Mapping Indicators for County and City Regions*. [Online] Available at: <http://publications.naturalengland.org.uk/publication/6672365834731520>



9. MONITORING AND REPORTING



9.0 Monitoring and reporting

To deliver this Strategy effectively, we will need to monitor, evaluate and report the progress of the Council and county in reducing emissions, as well as our progress on delivering action and the wider co-benefits we expect to achieve.

The emissions inventory for the organisation will be tracked annually, with public disclosure to demonstrate progress. This will include improving our data collection, quality of information and accounting for any items currently not being measured, e.g. waste. The emissions impact of different actions will continue to be quantified through activity data collection from live reporting systems where possible, otherwise they will be estimated from proxy measures.

Aligned to our commitment to utilise our influence to drive forward wider change, the Council will also seek to:

- Baseline all Council Scope 3 emissions by 2022, including embedding emissions data collection into our procurement contracts;
- Consider and develop approaches to reduce emissions from Scope 3 activities; and,
- Set a target date to achieve net zero Scope 3 emissions for the Council.

Across county-wide emissions, we will continue to utilise the BEIS data to report on emissions annually and take additional action to track and report the estimated emissions impact of climate action in the county. Due to the nature of some of the actions, some may not be quantified.

We will also continue to explore approaches for measuring wider co-benefits, e.g. air quality improvements, improved health and wellbeing, biodiversity net gain, and social value, through engaging with best practice authorities and other relevant organisations. This will help us to communicate the benefits of climate action beyond emissions reductions.

We recognise it is also important that staff are supported to develop the necessary skills and technical capacity to deliver an effective monitoring and reporting programme, including

training in carbon assessments, identifying relevant key performance indicators and understanding how to effectively communicate technical information to the public to aid participation. We will invest in staff training and supporting technical services to deliver on this.

When reporting on some actions, Derbyshire County Council will hold an enabling or facilitating role and therefore we will also need to work closely with partners and other stakeholders to co-develop data collection and reporting approaches.

Our ambitions for county-wide emissions monitoring and reporting, which we will work towards during this Strategy period include:

- Publishing annually the progress on reducing emissions across each action area set out in the Strategy, how this contributes to the national emissions inventory sectors and national target and how this has been achieved.
- Seeking to develop five-yearly delivery plans with sector specific emissions reduction targets and report against their progress.
- Continuing to develop the climate actions necessary to achieve our net zero targets in collaboration with our partners, stakeholders, and community members; to respond to future technological and policy developments.

Our next steps now are to develop programme led implementation plans for each of the priority actions, this will include undertaking detailed cost analysis, developing sufficient resources where required and drawing up timelines for delivery.



ACTION EVALUATION APPROACH



Action evaluation approach

Table 3 Scoring approach for evaluating the complexity of delivery considering existing and required resources, skills and capacity.

Assessment Criteria	Simple	Medium	Complex
Complexity of delivery	Simple: Internal, mainly one department	Medium: Internal and external stakeholders at organisational level	Complex: internal and external stakeholders involving residents and supported by national ambition and policy

Table 4 Scoring approach for the cost benefit of each of the actions.

Assessment Criteria	L	M	H
Cost	Low cost - £50K	Medium - £50-150K	High - >£150K

Table 5 Scoring approach for the effectiveness of actions in reducing emissions for that sector.

Assessment Criteria	Low	Medium	High
Emissions reduction effectiveness	The lowest impact on reducing emissions within this sector, although could support other actions	Significant contribution to reducing emissions in this sector	The biggest impact on reducing emissions within this sector

SUSTAINABLE DEVELOPMENT GOALS (SDGs)



Sustainable Development Goals (SDGs)

In 2015, the 17 Sustainable Development Goals (SDGs) were adopted by all UN members, including the UK, to mobilise efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind. The SDGs build on the success of the Millennium Development Goals (MDGs) and aim to go further to end all forms of poverty. The SDGs are unique in that they call for action by all countries, poor, rich and middle income to promote prosperity while protecting the planet. They recognise that ending poverty

must go hand-in-hand with strategies that build economic growth and addresses a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection

The Derbyshire County Council Achieving Net Zero Strategy and Action Plan seeks to embody the ambition of the SDGs. All actions have been developed considering both their impact on reducing GHG emissions and wider benefits for Derbyshire.



GOAL 1: NO POVERTY
End poverty in all its forms everywhere.



GOAL 2: ZERO HUNGER
End hunger, achieve food security and improved nutrition and promote sustainable agriculture.



GOAL 3: GOOD HEALTH AND WELL-BEING
Ensure healthy lives and promote well-being for all at all ages.



GOAL 4: QUALITY EDUCATION
Ensure inclusive and quality education for all and promote lifelong learning.



GOAL 10: REDUCED INEQUALITIES
Reduce inequality within and among countries.



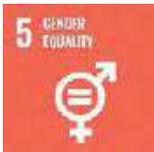
GOAL 11: SUSTAINABLE CITIES AND COMMUNITIES
Make cities and human settlements inclusive, safe, resilient and sustainable.



GOAL 12: RESPONSIBLE CONSUMPTION AND PRODUCTION
Ensure sustainable consumption and production patterns.



GOAL 13: CLIMATE ACTION
Take urgent action to combat climate change and its impacts.



GOAL 5: GENDER EQUALITY
Achieve gender equality and empower all women and girls.



GOAL 6: CLEAN WATER AND SANITATION
Ensure access to water and sanitation for all.



GOAL 7: AFFORDABLE AND CLEAN ENERGY
Ensure access to affordable, reliable, sustainable and modern energy for all.



GOAL 8: DECENT WORK AND ECONOMIC GROWTH
Promote inclusive and sustainable economic growth, employment and decent work for all.



GOAL 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE
Build resilient infrastructure, promote sustainable industrialization and foster innovation.



GOAL 14: LIFE BELOW WATER
Conserve and sustainably use the oceans, seas and marine resources.



GOAL 15: LIFE ON LAND
Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss.



GOAL 16: PEACE, JUSTICE AND STRONG INSTITUTIONS
Promote just, peaceful and inclusive societies.



GOAL 17: PARTNERSHIPS FOR THE GOALS
Promote just, peaceful and inclusive societies.

Photo credits: Courtesy of Unsplash.com: Front cover & p16-17 Lewis Latham, p6 Max Fuchs, p9 & p53 Dan Burton, p10&79 Gaelle Marcel, p15 Wolfgang Hasselmann, p18 Sigmund, p20 Rural Explorer, p23 Gary Flack, p28 Shane Rounce, p34 Johannes Plenio, p35 Michael Cummins, p39 David Tip, p41 Dylan Gillis, p48 Leon, p49 Greg Wilson, p59 Eriks Absinovs, p61 Ryan Searle, p63 Startae Team, p67 Christian Chen, p71 Zach Rowlandson, p73 Michael Fousert, p76 Angela Baker, p88 Nick Fewings, p93 & 94 Ali Gooya, p97 Priscilla Du Preez, p99 Scott Graham & p101 Mathias PR Reding.

Appendix A Action Long List



Council Estate and Operations

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Include climate change training as part of the induction process for all Elected Members and staff to strengthen knowledge of carbon emissions, climate resilience and net zero development. [Priority]

Carry out a feasibility study to identify low carbon energy procurement options. [Priority]

(As part of the Asset Management and broader Property review:) [Priority]

- Identify land for renewable energy generation and carry out pre-feasibility assessments to identify whole life project costs.
 - Develop a design standard for further estate development which sets the requirement to develop net zero enabled buildings which can be net zero but also resilient to future climatic changes.
 - Deliver PSDS (Public Sector Decarbonisation Scheme) projects and evaluate to inform further work
 - Identify buildings to be retained and undergo energy efficiency retrofit
 - Undertake research into green energy tariffs, assessing their cost and environmental impact.
-

Develop a Sustainable Procurement Framework using the UK Government’s green procurement guidance to embed environmental policies and Social Value into all contracts. [Priority]

Undertake research and data collection in conjunction with commissioning and procurement teams to baseline Derbyshire County Council’s scope 3 emissions [Priority]

Review the commissioning principles across all teams to ensure that climate change is embedded across our services and partner working. [Priority]

Roll out a Council-wide electric vehicle sharing programme and electric vehicle charging points at all key Council sites, coupled with a behaviour change campaign and evaluation of working practices to facilitate a zero emission grey fleet. [Priority]

Undertake a baselining exercise with all schools in Derbyshire to identify their existing emissions and ongoing work to reduce energy consumption. For all schools within the Derbyshire County Council Portfolio (i.e. not including academies) agree a target date to reduce emissions to net zero, between 2030 and 2040.



Council Estate and Operations

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Use the staff Annual Review process to establish more climate-conscious targets.

Review all relevant existing Derbyshire County Council policies and update, where required, to ensure they consider carbon reduction and do not contradict our Climate Change Strategy and direction.

Review all policies and procedures of Estate and Facilities management teams to support a reduction in emissions and a sustainable approach in the Council's operations.

Include climate-conscious behaviour into Job Descriptions and Employment Terms and Conditions.

Carry out Climate Impact Assessments on all Derbyshire County Council infrastructure projects from 2022 identifying the whole carbon lifecycle and resilience to climate change.

Train Derbyshire County Council procurement staff on developing sustainability criteria for procurement evaluation utilising existing green procurement frameworks from UK and EU.

Ensure low carbon and resilient options are embedded in scope of works for new developments for client partners.

Secure additional funding to develop sustainable infrastructure projects and upgrades from government grants and Derbyshire County Council capital schemes.

Introduce further water efficiency measures across the Council estate to reduce total consumption.

Provide information on ongoing Derbyshire County Council activities to reduce emissions, engagement events, and resources on climate action on Derbyshire County Council website.

Map the Council's level of influence against different levels of emitters to prioritise and focus action.

Establish a governance model than enables swift action on climate change issues and reports on them.

Establish a cross-departmental or wider key stakeholder group to develop the approach to working with communities on climate change action.



Council Estate and Operations

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Relocate Council offices with other public sector bodies sites, the public estate will be reduced, resulting in energy savings and greenhouse gas emissions that the Council is responsible for.

Undertake revised awareness raising and behaviour change campaign to ensure all staff know how to make simple energy efficient choices in the workplace and their responsibilities for reporting any issues.

Install lighting and heating controls across the estate to improve energy efficiency performance of Derbyshire County Council's buildings.

Ensure any accommodation strategy provided to Derbyshire County Council staff considers a practical balance between home- and office-working.

Begin a programme to replace Derbyshire County Council's HGVs in 2024 with low-carbon emission vehicles combined with use of satellite navigation, awareness of driver style and use of a Vehicle Management System.

Work with the D2N2 LEP to reduce costs and generate income through utilising the Council's assets to install energy saving and energy generating technologies.

Maximise opportunities for renewable energy generation on Council property in-line with the targets set in the Carbon Reduction Plan.

Estimate emissions from 'Working at home'.



Council Estate and Operations

LONG TERM ACTIONS – BY 2035

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Develop a long-term engagement and awareness campaign to engage with residents and community groups on actions to tackle and adapt to climate change, and developing partnership projects across transport, waste, and energy.

Joint procurement approach across local authorities in Derbyshire to purchase low carbon services including electric vehicle charging infrastructure, and building upgrades.

Deep retrofit of buildings to achieve a 30% reduction in energy consumption. A whole building approach will be taken, using a range of energy conservation measures, materials, and construction methods to bring about an overall improvement in the building's energy performance.

Quantify and report on emissions from train and air travel and grey fleet mileage.

Engage with Energy Savings Trust (EST) to guide in future use of core and grey fleet.



Low Carbon Economy

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Deliver the Derbyshire Green Entrepreneurs Fund and provide additional support for reducing environmental impacts, driving innovation, and curating sustainable growth for smaller businesses. [Priority]

Take forward the COVID Recovery Strategy to identify high carbon commercial industries, and support the business community in shifting to and benefiting from the low carbon economy through collaboration with climate change and carbon experts. [Priority]

Develop a Renewable Energy Strategy for the County including an energy resource assessment that identifies opportunities for renewable energy generation as well as decarbonisation of heating and energy use in homes. [Priority]

Seek to baseline and analyse Derbyshire's non-residential building stock to identify focus areas for energy efficiency improvements.

Awareness campaign on sources of refrigerant and fugitive emissions and how to avoid them.

Strengthen Derbyshire County Council's capabilities in green finance to develop new innovative mechanisms to fund local capital investment schemes e.g. Community Municipal Investment for local energy generation.

In line with Vision Derbyshire, continue working with borough and district partners to develop a Strategic Joint Planning Framework for Derbyshire to ensure that planning measures for net zero commercial buildings are integrated into Local Plans [Priority]

DERBYSHIRE COUNTY COUNCIL ENABLER

Work with local academic institutions, trade unions, and regional Chamber of Commerce to identify geographical areas for low carbon industry growth, as well as assessing and develop the capabilities and skills of the region in supplying those industries. [Priority]

Use outputs of Energy Strategy to work with the Midlands Energy Hub to build technical and economic capabilities to deliver renewable energy and low carbon heating projects. [Priority]

Liaise with Distribution Network Operators (DNOs) and Western Power Distribution (WPD) to understand grid capacity / constraints for generation opportunities. [Priority]

Develop a comprehensive apprentice training programme developed in conjunction with University Partners, kick-started by placing requirements on directly commissioned works.

Collaborate with industrial partners to identify opportunities for waste heat recovery to serve low-carbon heating schemes.

Develop a database in conjunction with Midlands Energy Hub of renovation and retrofit measures for non-residential buildings to support business emissions reductions.

Low Carbon Economy

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Carry out a feasibility assessment to identify the potential for an energy revolving fund for business owners to improve the energy performance of the businesses and facilities.

Undertake energy demand mapping to identify priority zones for implementation of clean energy technologies and efficiency upgrades in conjunction with D2N2 LEP.

Secure funding from the Local Enterprise Partnership's (LEP) committed £100m of investment in local energy projects to ensure adequate funding for energy infrastructure development and resilience.

DERBYSHIRE COUNTY COUNCIL ENABLER

Obtain grant funding from national government to support SMEs to improve the carbon and energy consumption in operational performance.

Engage with large scale enterprises and partners exploring electrification and heat pump technologies to share lessons with other SMEs.

Continue investing in the Derbyshire Green Entrepreneurs Fund –national demonstrator initiative to support local and national objectives for reducing environmental impacts, driving innovation, and curating sustainable growth – capital and revenue programme.



Low Carbon Economy

LONG TERM ACTIONS – BY 2035

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Provide incubation spaces and guidance for green entrepreneurs to help them obtain grants/funding and identify actions needed to reduce emissions.

DERBYSHIRE COUNTY COUNCIL ENABLER

Work with large scale developers to better understand the integration of whole life carbon assessment into non-residential development

Work with the minerals industry to identify partnership projects for the transition to low carbon development.

Work with community groups to develop energy generation schemes.

Work with partners such as DNOs to identify smart grid priority areas to support the energy transition and reduce additional stresses placed on power networks due to increased electrification (transport, heat etc.) and increased penetration of renewables.

Decarbonising the Domestic Sector

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

DERBYSHIRE COUNTY COUNCIL ENABLER

Conduct an updated feasibility assessment on the low carbon heat and renewable energy opportunities within the County. [Priority]

Develop a Strategic Joint Planning Framework for Derbyshire to ensure climate change action is embedded in Local Plans particularly the expansion of renewable energy generation, achievement of minimum energy standards and net zero development. [Priority]

Use outputs of the Energy Strategy to work with partner local authorities to adopt a whole-system Local Area Energy Planning approach and develop consistent Planning provisions to increase onsite low-carbon energy generation and reduce the demand for energy. [Priority]

Work with local authority and wider government partners to develop a Regional Skills Strategy that pinpoints priority areas for upskilling of the construction and retrofit sectors and creates investor-ready programmes to receive support from the proposed National Skills Fund. [Priority]

Develop an information sharing campaign to educate homeowners and renters on how to improve the energy efficiency of their property. [Priority]

Through the Vision Derbyshire process agree the approach to supporting the de-carbonising of homes recognising the specific opportunities and challenges faced by renters and homeowners and reflecting the need to particularly support those in fuel poverty. [Priority]

Identify a programme of “shovel ready” projects and partnership frameworks to enable a more rapid and timely response to funding opportunities.

Use outputs of Energy Strategy to work with the Midlands Energy Hub to build technical and economic capabilities to deliver renewable energy and low carbon heating projects. [Priority]

Carry out more detailed analysis of conditions within the private rented sector (Decent Homes Standard) to understand the capacity of the construction and retrofit sectors and look to address causes of market failure.

Explore the development of cross-authority Supplementary Planning Guidance on Sustainable Design and Construction to embed zero carbon practice into local development.



Decarbonising the Domestic Sector

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Put in place sufficient internal resource to be able to support residents in responding quickly to government financial supports for home improvement.

DERBYSHIRE COUNTY COUNCIL ENABLER

Work with D2N2 Local Enterprise Partnerships and Midlands Energy Hub to:

- a. Identify private and national government funding sources for retrofitting existing residential housing stock
- b. Develop long term and sustainable funds for energy efficiency investments for properties
- c. Identify opportunities for retrofitting domestic properties

Carry out more detailed economic and skills analysis with development partners to understand the capacity of the construction and retrofit sectors to retrofit all homes across Derbyshire to EPC rating C or above by 2035.

Work with organisations such as the Centre for Sustainable Energy, University Partners and Midlands Energy Hub to identify packages of retrofit measures for different housing types based upon the Derbyshire Housing Stock Report (2019).

Decarbonising the Domestic Sector

LONG TERM ACTIONS – BY 2035

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Utilising the outputs of the proposed Renewable Energy Strategy to draw up business case and detailed design proposals for at least two pilot schemes by 2035.

Establish and manage a local green homes fund to provide access to homeowners for financial support with energy efficiency improvements.

DERBYSHIRE COUNTY COUNCIL ENABLER

Utilise Derbyshire County Council's and the D2N2 LEPs procurement expertise to pull together example bulk retrofit contracts e.g. insulation for private domestic properties to enable Derbyshire residents to obtain better value services.

Work with local partners to explore zero carbon housing projects and understand the full cost saving implications of zero carbon homes so that this learning can be shared with developers and used as evidence in Local Plans.

Work with Borough and District Councils to explore increasing requirements for new developments to be resilient to high emission scenarios.

Work with Government partners to develop a Regional Energy Skills Strategy that pinpoints priority areas for upskilling to support the green transition, identifies how we can work to retain and develop existing capabilities within the construction and industrial sectors, and creates investor-ready programmes to receive support from the proposed National Skills Fund.

Look to strengthen and develop local skills and expertise in low carbon private housing and energy by creating smaller procurement lots for energy efficiency works to enable local suppliers to bid for contracts.

Transport

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Support the implementation of the Derbyshire Cycling Plan and the Local Cycling and Walking Investment Plan. Support actions for increasing the uptake of active transport to reduce emissions particularly within marginalised groups, and improve health and wellbeing for all. [Priority]

Promote integrated, place-based development in transport planning as part of Derbyshire’s COVID recovery and economic revival of market towns, to reduce emissions from first and last mile journeys and provide an economic boost to local retail and businesses. [Priority]

Continue to embrace the use of new technology to create a more agile, flexible, and mobile workforce.

Review core fleet requirements in each department with reference to the payload requirements.

Understand the current and potential future use of the core and grey fleet considering company EVs; car clubs; hire vehicles; inter-departmental sharing of core vehicles, use of VMS.

DERBYSHIRE COUNTY COUNCIL ENABLER

Support the new Enhanced Bus Partnership arrangements being introduced in Derbyshire as part of the new National Bus Strategy. This will involve Derbyshire County Council and the bus operators investing in new service provision, improved roadside bus infrastructure, mobility as a service, integrated ticketing systems, and upgraded information availability to provide an improved public transport offering to Derbyshire residents. [Priority]

Evaluate the use of smart technologies to respond more agilely to commercial and residential community needs and prevent being locked into high carbon freight transport e.g. consolidation hubs. [Priority]

Continue to support the above average growth of zero emissions vehicles and phase out of ICE (Internal Combustion Engine) vehicles by establishing public-private investment partnerships to develop a network of mixed speed public charging and hydrogen infrastructure, which is affordable, consistent, accessible and user friendly for residents and visitors. [Priority]

Explore the promotion and use of low and zero emission vehicles (cars, motorbikes, e-bikes, cycling) for staff travel.

Install electronic real time information signs and LED lighting at all key bus stops and interchanges by 2025.

Transport

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Facilitate sustainable travel choices for service users and staff through ensuring accessible locations of all buildings and availability of on-site charging facilities.

Develop cycling and walking network maps to increase local knowledge and confidence in using active transport routes.

DERBYSHIRE COUNTY COUNCIL ENABLER

Introduce measures to present the bus services in Derbyshire as a singular coordinated network for example trialling phone app with real time bus arrivals across different services.

Share data and intelligence across regional and commercial transport providers to understand and meet customer needs better.

Reinvigorate travel planning and behavioural change activities linked to new housing and commercial developments to encourage greater bus use and market the services.

Implement targeted punctuality improvement infrastructure measures to make bus journeys quicker and more reliable.

Work with Midlands Connect on the development of the area wide affordable integrated all bus operator ticketing scheme.

Facilitate the uptake of ULEVs amongst staff and within own fleet through the provision of fast charging infrastructure and an EV leasing scheme with incentives.

Work collectively to help de-carbonise transport and contribute to a D2 Low Carbon Growth agenda.

Understand the impact COVID-19 has had on travel and ways of working and how the positives from this can be incorporated into future ways of working.

Transport

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

DERBYSHIRE COUNTY COUNCIL ENABLER

Derbyshire County Council will maximise opportunities for taxi operators to embrace alternative technologies and infrastructure by support applications for grant funding and expanding the public charging network.

Develop partnerships and seek funding for training and support to double the number of young people who can ride a bike confidently, cycle regularly and cycle to school. Encourage every school to provide an annual programme of cycle training.

Work with partner authorities to continue the expansion of the Plugged-in Midlands programme to ensure a regional network of charge points to support the increased uptake of electric vehicles.

Transport

LONG TERM ACTIONS – BY 2035

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Derbyshire County Council's transport and procurement teams to work collectively to track developments in transport technology to ensure rapid deployment of low carbon solutions.

Green public transport gateways to be developed to access the national park.

Ensure cycle proofing is embedded in design of future infrastructure developments.

DERBYSHIRE COUNTY COUNCIL ENABLER

Use council's collective purchasing power when purchasing vehicles

Residents with no off-street parking will be able to charge their electric vehicle through provision of on-street charge points within 800m of their home by 2035.

Continued investment programme in new buses to improve vehicle emissions standards and introduce low carbon buses such as electric or hydrogen.

Increase the use of active transport for first and last mile transport use by utilising a more connected approach across different service offerings.

Waste

SHORT TERM ACTIONS – BY 2025

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Identify solutions to increase the diversion of organic waste including food, soiled materials, carpets, organic textiles, etc. from landfill. [Priority]

Establish task groups within each Department to focus on the Council's largest/highest value procurement activities to ensure that they deploy good waste reduction, recycling strategies and food recovery practices

Produce six monthly reports on waste produced across the estate and make this available to all staff to enable better understand of the impact of waste reduction measures.

In the development of the new Waste Strategy integrate circular economy principles and set targets for increased reuse and regeneration of materials and environmental services.

DERBYSHIRE COUNTY COUNCIL ENABLER

Undertake a cross authority behaviour change campaign, learning from best practice authorities, to reduce waste and resource consumption in the home and businesses. [Priority]

Work with local producers and businesses to restrict the use of plastic products and support the market for remanufactured goods. [Priority]

Explore the potential for partnering with local charities and organisations to segregate and redistribute good quality products from HWRCs. [Priority]

Work with local producers and businesses to restrict the use of single use products and support the market for remanufactured goods. [Priority]



Waste

LONG TERM ACTIONS – BY 2035

DERBYSHIRE COUNTY COUNCIL DIRECT DELIVERY

Increase the recovery value from waste that is left over for disposal.

DERBYSHIRE COUNTY COUNCIL ENABLER

Continue to work with national and regional governments on improving levels of waste diversion e.g. The East Midlands Chamber's Sustainability Forum through effective public engagement particular dry recyclables and organic waste.

Work with local businesses to explore embedding circular economy practices within Derbyshire's local economy and opportunities for collaboration with research groups e.g. Ellen McArthur Foundation, WRAP, and university collaborations e.g. UKRI Circular Economy Centres.

