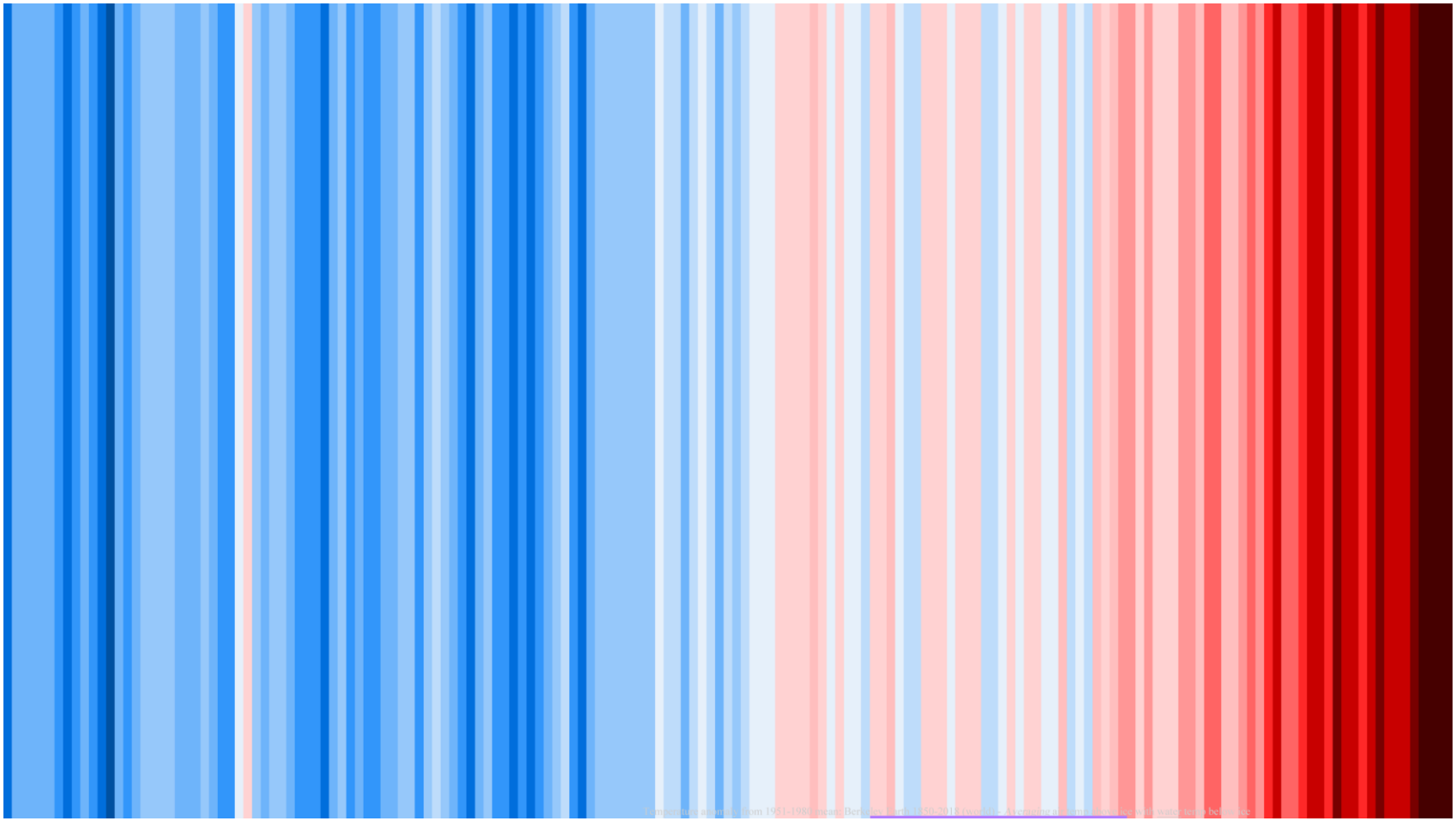
Delivering the Climate and Carbon Reduction Manifesto

Improvement and Scrutiny Committee - Resources

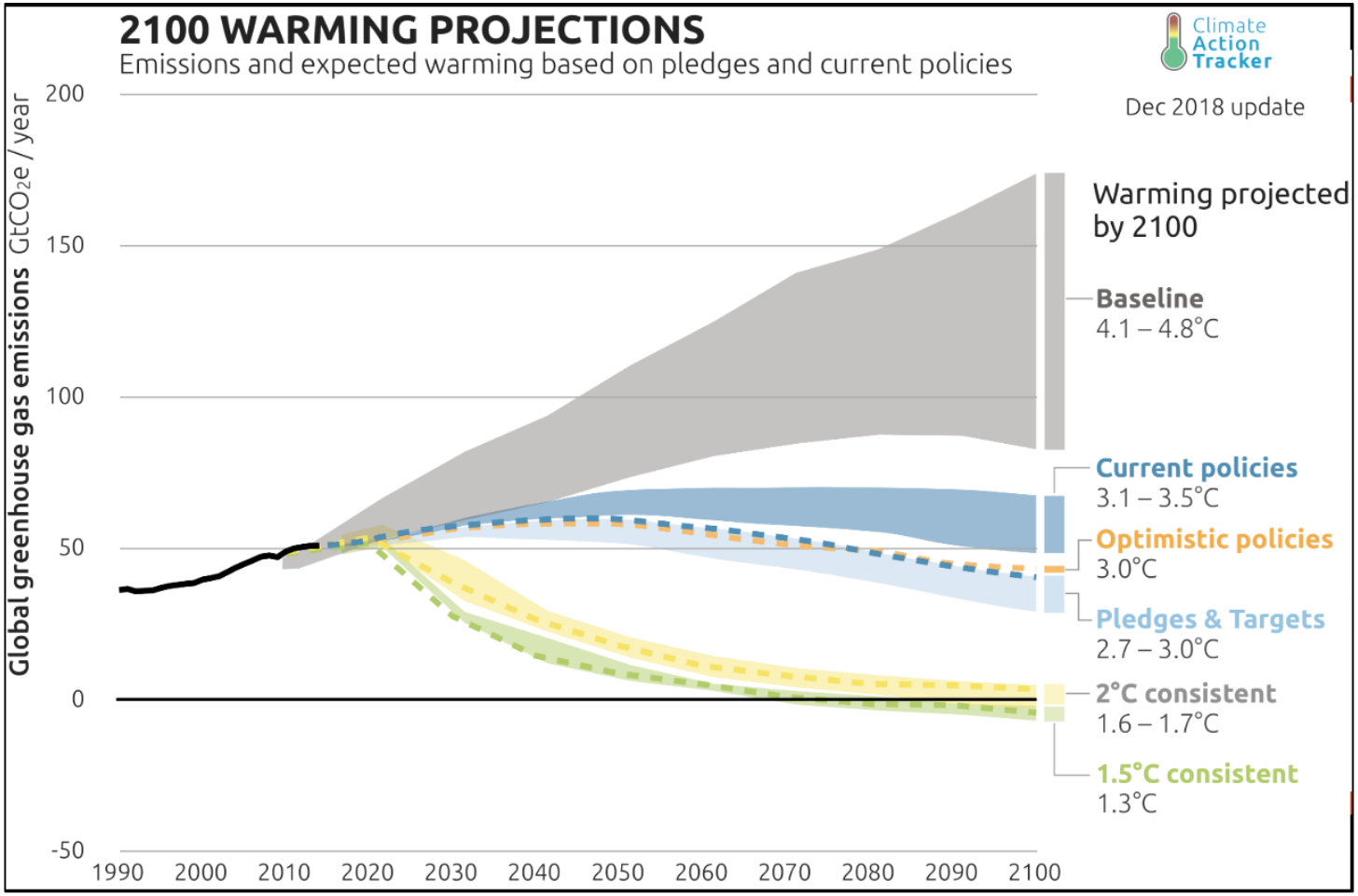
5 December 2019

Global temperature 1850-2018



1850 2018

The Problem


2100 WARMING PROJECTIONS
Emissions and expected warming based on pledges and current policies
Climate Action Tracker
Dec 2018 update
Global greenhouse gas emissions GtCO2e / year
200
150
100
50
0
-50
1990
2000
2010
2020
2030
2040
2050
2060
2070
2080
2090
2100
Warming projected by 2100
Baseline
4.1 – 4.8°C
Current policies
3.1 – 3.5°C
Optimistic policies
3.0°C
Pledges & Targets
2.7 – 3.0°C
2°C consistent
1.6 – 1.7°C
1.5°C consistent
1.3°C

International and national agreements

- The Paris Agreement (2015) aims to reduce global temperature rise to 2°C with the ambition of limiting this further to 1.5°C
- Each country must commit to reducing emissions in order to remain within their allocated carbon budget
- UK has legally committed to net zero carbon emissions by 2050

Response of Derbyshire County Council

DERBYSHIRE County Council

Derbyshire Climate and Carbon Reduction Manifesto May 2019

The challenge of global climate change and our need to reduce carbon emissions, cut waste and be greener in all we do has never been so great.

We have made great strides in Derbyshire over the last two years but there is always so much more we can and should do.

We are tackling unnecessary waste, reducing emissions from our street lighting by 63% and overall emissions from our operations by 34% since 2010, actively supporting new electric vehicle charging points across the county and introducing measures to reduce single-use plastics across the Council.

This Derbyshire Climate and Carbon Reduction Manifesto takes our commitments a step further and makes a strong public statement – one to which the people of Derbyshire can hold us accountable.

In leading by example and bringing together local people, voluntary groups, other councils and businesses to tackle climate change we believe we will win hearts and minds and work to put climate change on everyone's agenda in Derbyshire.

My Cabinet and I are firmly committed to tackling climate change and we hope you will join us on this challenging but vitally important journey.

Derbyshire County Council Leader, Cllr Barry Lewis

Councillor Simon Spencer, Cabinet Member for Highways, Transport and Infrastructure and Deputy Leader

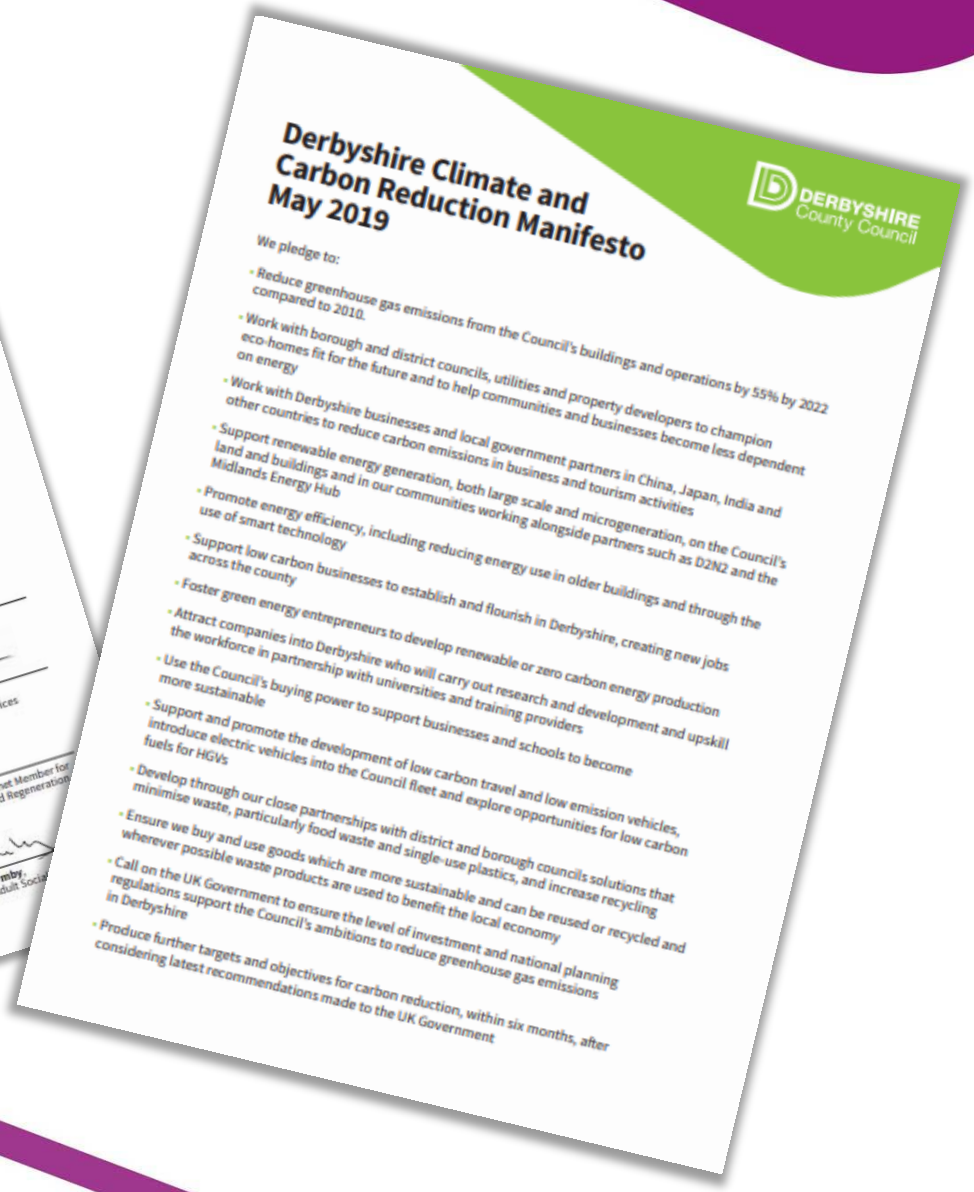
Councillor Alex Dale, Cabinet Member for Children and Young People

Councillor Carol Hart, Cabinet Member for Health and Communities

Councillor Angelique Foster, Cabinet Member for Council Services

Councillor Tony King, Cabinet Member for Economic Development and Regeneration

Councillor Jean Wharmby, Cabinet Member for Adults Social



DERBYSHIRE County Council

Derbyshire Climate and Carbon Reduction Manifesto May 2019

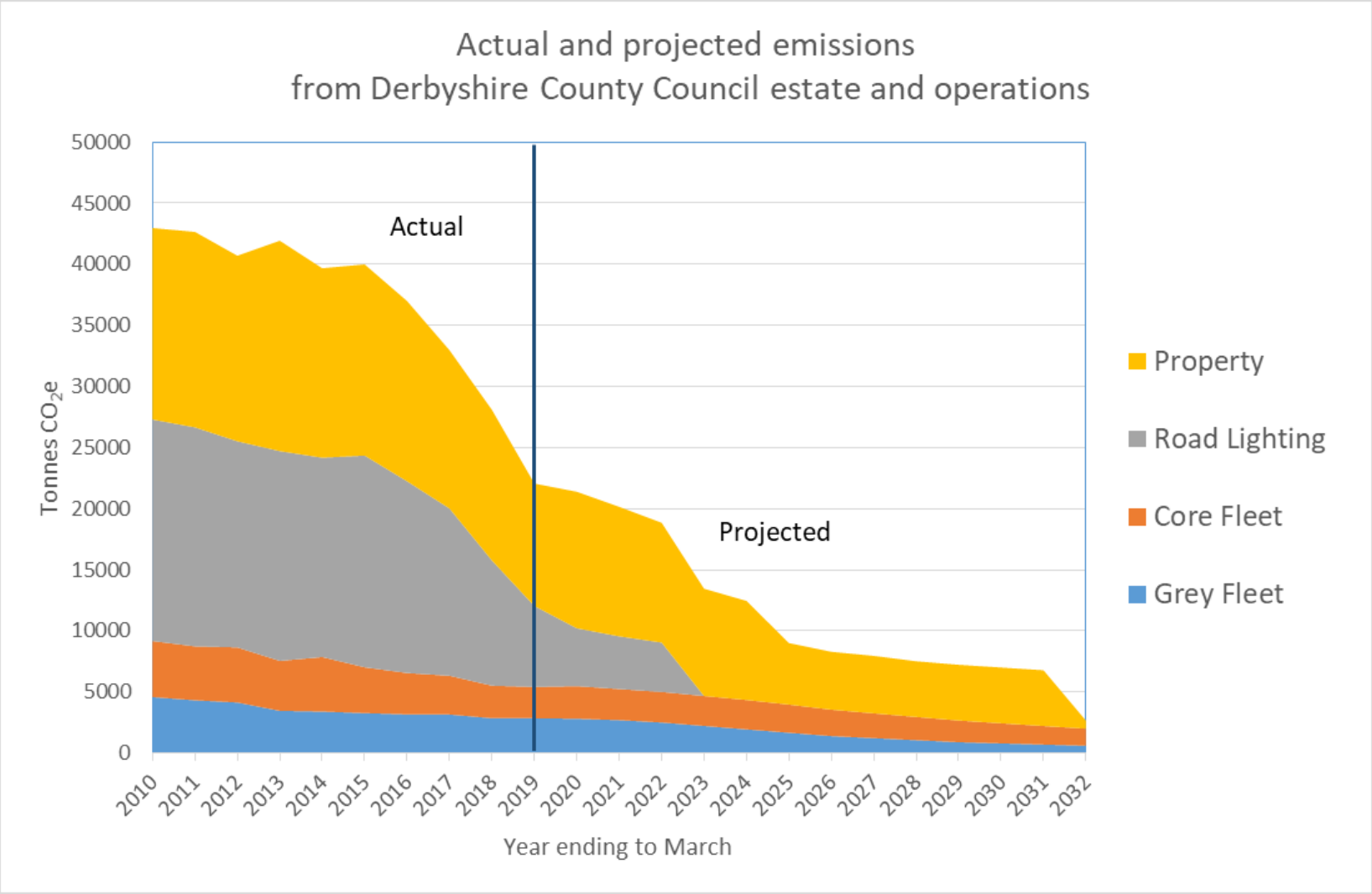
We pledge to:

- Reduce greenhouse gas emissions from the Council's buildings and operations by 55% by 2022 compared to 2010.
- Work with borough and district councils, utilities and property developers to champion eco-homes fit for the future and to help communities and businesses become less dependent on energy
- Work with Derbyshire businesses and local government partners in China, Japan, India and other countries to reduce carbon emissions in business and tourism activities
- Support renewable energy generation, both large scale and microgeneration, on the Council's land and buildings and in our communities working alongside partners such as D2N2 and the Midlands Energy Hub
- Promote energy efficiency, including reducing energy use in older buildings and through the use of smart technology
- Support low carbon businesses to establish and flourish in Derbyshire, creating new jobs across the county
- Foster green energy entrepreneurs to develop renewable or zero carbon energy production
- Attract companies into Derbyshire who will carry out research and development and upskill the workforce in partnership with universities and training providers
- Use the Council's buying power to support businesses and schools to become more sustainable
- Support and promote the development of low carbon travel and low emission vehicles, introduce electric vehicles into the Council fleet and explore opportunities for low carbon fuels for HGVs
- Develop through our close partnerships with district and borough councils solutions that minimise waste, particularly food waste and single-use plastics, and increase recycling
- Ensure we buy and use goods which are more sustainable and can be reused or recycled and wherever possible waste products are used to benefit the local economy
- Call on the UK Government to ensure the level of investment and national planning regulations support the Council's ambitions to reduce greenhouse gas emissions in Derbyshire
- Produce further targets and objectives for carbon reduction, within six months, after considering latest recommendations made to the UK Government

Delivering the Manifesto

Overarching Framework	Environment and Climate Change Framework						
Programme	Environment and Climate Change Programme (based on carbon budgets and trajectories)						
Theme	↑ Energy ↓	↑ Travel ↓	↑ Resources ↓	↑ Air Quality ↓	↑ Economy ↓	↑ Natural environment ↓	↑ Partnership working ↓
Relevant policies, strategies & plans	Energy Strategy (draft)	LEVI Strategy (2019-2029) (draft) Local Transport Plan 3 (2011-2026)	Derbyshire's Waste Strategy (Dealing with Derbyshire's Waste 2013-2026) (approved)	Health and Well-being Board Air Quality Strategy (2020-2030) (draft)	Good Growth Strategy (2020-2030) (draft)	Natural Capital Strategy (2020-2030) (proposed)	District & borough area-wide policies and plans e.g. Local Plans, supplementary planning guidance
Key delivery partners	Local authorities, residents, VCS, businesses, Distribution Network Operators, Midlands Energy Hub	Local authorities, Go Ultra Low Nottingham, businesses, VCS, hospitals, residents	Local authorities, residents, businesses	Derbyshire Health and Well-being board, local authorities, businesses, residents	Local authorities, businesses, D2EE, Local Economic Partnership (D2N2), VCS, Midlands Energy Hub	Local authorities, Trent Valley Landscape Partnership, Peak District National Park, Local Nature Partnerships, VCS	Local Authorities, social housing providers, residents, businesses, VCS

Actual and projected emissions



Next steps

DCC Carbon Reduction Plan

- Develop proposals further and begin to implement planned actions
- Plan a learning and development programme
- Reduce ‘hard-to-quantify’ emissions
- Monitor and report on progress

Derbyshire Environment and Climate Change Framework

- Further liaison with partners
- Develop strategies and action plans
- Implement the LEVI action plan
- Agree a programme for engagement with different communities across Derbyshire
- Plan for a climate summit in March 2020
- Seek support from the UK Government
- Monitor and report on progress

Agenda item No.6e

DERBYSHIRE COUNTY COUNCIL

CABINET

21 November 2019

Report of the Executive Director Economy, Environment and Transport

CORPORATE ENVIRONMENT POLICY AND CARBON REDUCTION PLAN (Economic Development and Regeneration)

1. Purpose of the report

To seek approval for the Council's draft Carbon Reduction Plan and the updated Corporate Environment Policy which support the delivery of the Council's Climate and Carbon Reduction Manifesto.

2. Information and analysis

The Council has set out its commitment to tackling climate change in its Climate and Carbon Reduction Manifesto which was published on 13 May 2019. To deliver the Manifesto, the Council committed to lead by example and bring together local people, voluntary groups, other councils and businesses to take action together. As part of the Manifesto, the Council also pledged to produce further targets and objectives for carbon reduction within six months.

Over the last six months the Council has been working across the authority and with stakeholders to further develop and deliver commitments set out in the Manifesto. An update on overall progress and a new Derbyshire Environment and Climate Change Framework, which sets out the approach the Council and district and borough councils will take to tackle the broader climate change agenda are the subject of a separate report to Cabinet.

2.1 Draft Carbon Reduction Plan

To ensure the Council plays its part in reducing harmful emissions from its own estate and operations, work has been taking place to develop a new Carbon Reduction Plan. The aim of the Plan, which is attached at Appendix A for approval, is to reduce greenhouse gas emissions, including carbon emissions, from the Council's own estate and operations with the aim of having net zero greenhouse gas (GHG) emissions by 2032. It sets out GHG targets and details of how these targets could be achieved. The Plan is a vital component in supporting the Council Manifesto commitment to lead by example.

The Council has already made good progress in reducing greenhouse gas emissions from its own estate and operations. Latest provisional figures show that

the Council has reduced emissions from a baseline of 42,966 tonnes of carbon dioxide and equivalent greenhouse gases (CO_2e) in 2009/10 to 22,059 in 2018/19. This represents a reduction of 48% from the baseline.

Whilst good progress has been made, further actions will be required to ensure the Council achieves the target of net zero GHG emissions by 2032. The draft Plan sets out proposed actions and the Council's proposed approach moving forward. Key actions include:

- Continuing property rationalisation so that the Council owns fewer buildings and uses those that remain more efficiently
- Further promoting and supporting employee behaviour change to reduce business travel and the use of energy in Council buildings
- Continuing to implement energy efficiency measures in Council buildings, such as insulating pipework and installing lighting controls
- Continuing to reduce emissions from street lighting by replacing sodium bulbs with LED lighting, and implementing part-night lighting and night-time dimming
- Further exploring opportunities for small and large scale renewable energy generation on the Council's estate
- Electrifying the fleet of vehicles owned by the Council and de-carbonising Heavy Goods Vehicles
- Increasing the number of electric pool cars so that employees use these for business travel rather than their own cars.

Work has taken place to estimate the likely reduction in emissions arising from these and other actions set out in the draft Plan. This has enabled projected emissions figures to be produced to assist the Council in developing a roadmap and timetable for achieving net zero greenhouse gas emissions by 2032. Projections suggest that emissions could be reduced by 93% to 2,760 tonnes CO_2e by 2032. By offsetting the remaining emissions through carbon capture and storage by trees, the Council could become 'greenhouse gas neutral' by 2032.

The Carbon Reduction Plan will be regularly reviewed and updated to monitor and evaluate progress and to take account of new technologies and developments as they become available. Data will be collated, analysed and monitored through the corporate performance management system. It is recommended that an annual report on progress will be made to Cabinet.

2.2 Corporate Environment Policy

The Carbon Reduction Plan supports the wider Corporate Environment Policy, which sets out the Council's commitment to managing the environmental impacts of its operations and improving its environmental performance. The Policy covers water use, reducing waste, minimising pollution, protecting the natural and built environment and using the Council's purchasing power to reduce negative environmental impacts and improve the environmental standards of the products and services the Council purchases. The Policy has been updated to reflect the new

targets set out in the Carbon Reduction Plan and is now attached at Appendix B for approval.

The Environment Policy will be supported through two further policies which are currently in development. Guidance on water and energy use and management, for staff, will be provided through a Corporate Utilities Policy. In addition, a Corporate Heating, Ventilation and Cooling Policy is being developed to provide guidance on this area of work.

2.3 Moving forward

Work to reduce greenhouse gas emissions from the Council estate and operations is being co-ordinated by the Council's Environmental Sustainability Group. Promotion of the Environment Policy and the Carbon Reduction Plan within the Council and to contractors will be taking place to ensure all employees and contractors understand the commitments the Council has made and the contribution they can make. Training is currently available through an on-line Sustainability training course and through training provided by the Local Authority Energy Partnership (LAEP) of which the Council is a partner. The LAEP provide a full-day 'Carbon Literacy' training programme and a half-day 'Pathfinder' training programme. Through the provision of a training and development plan, it is recommended that work take place to ensure opportunities are available for Member development on the climate change agenda and that staff are encouraged to undertake climate change training as appropriate.

3. Considerations

In preparing this report the relevance of the following factors has been considered: legal, prevention of crime and disorder, equality and diversity and human resources considerations.

4. Financial Considerations

Feasibility and businesses cases will be produced where appropriate for the actions in the plan. These will include identifying sources of funding where needed. It is expected that some actions, for instance, rationalisation of property and use of LED lighting will have financial benefits.

5. Environmental Considerations

The plan supports the Council's commitment to tackle climate change as set out in its Climate and Carbon Reduction Manifesto and also supports the wider Corporate Environment Policy which sets out the Council's commitment to managing the environmental impacts of its operations and improving its environmental performance. The main focus of the plan is how the Council can play its part in reducing harmful emissions, including carbon emissions, from its own estate and operations. The plan does not include key risks to Council services from climate

change or how it might respond in future to a changing climate, as this will be the subject of a future report.

6. Health

Actions outlined in the plan are likely to have positive benefits for health and wellbeing through improved air quality and increased physical activity from people walking and cycling more.

7. Property considerations

The work described here includes significant changes to the Council's property portfolio. This is described in detail in the Council's Asset Management Framework approved by Council in March 2019 which sets out how the effective use of land and property assets will support the delivery of the Council's strategic goals, including its ambition to become an Enterprising Council.

8. Transport Considerations

The plan outlines measures to further reduce carbon emissions from its fleet of vehicles, including measures to electrify vehicles owned by the Council, de-carbonise Heavy Goods Vehicles and increase the number of electric pool cars so that employees use these for business travel rather than their own cars.

9. Background papers

Derbyshire Climate and Carbon Reduction Manifesto - May 2019
Report to Cabinet March 2019 - Property Asset Management Framework

10. Key Decision – No

11. Call – in

Is it required that call-in be waived in respect of the decisions proposed in the report? No

12. Officer's Recommendations

It is recommended that Cabinet:

1. Note progress to date in reducing greenhouse gas emissions from the Council estate and operations.
2. Approve the Council's draft Carbon Reduction Plan.
3. Adopt the aim to have net zero greenhouse gas emissions by 2032 as set out in the Plan.
4. Approve the updated Corporate Environmental Policy.

5. Approve proposals to put in place a training and development plan for officers and Members.
6. Receive an annual report on further progress in reducing greenhouse gas emissions from the Council estate and operations in November 2019.

Mike Ashworth
Executive Director - Economy, Transport, Environment

APPENDIX A

Derbyshire County Council Carbon Reduction Plan

October 2019

Contents

1 Introduction

Derbyshire County Council remains committed to putting the principles of sustainable development into action in everything it does. This is so that development meets the needs of today without compromising the ability of future generations to meet their own.

The Council is increasingly determined to have a positive effect on the environment and to avoid any unintended consequences through its actions. The Council has revised its corporate Environment Policy to strengthen its environmental commitments, no more so than in reducing the Council's impact on climate change.

The Council is now setting new environment and climate change targets for the future. Wider environmental commitments were set out in a series of pledges in the Council's Climate and Carbon Reduction Manifesto in May 2019, which place the Council at the forefront of climate change action. The Council will lead the way on tackling greenhouse gas emissions by:

- Using its influence and role as a community leader to work with partners, businesses and communities to tackle climate change through a common framework for action across the county.
- Getting its own house in order by reducing the emissions from its own estate and operations to net zero greenhouse gas emissions.

This Plan sets out the actions the Council will undertake to reduce emissions from its own operations to net zero.

2 Context

The Intergovernmental Panel on Climate Change (IPCC) Special Report 'Global Warming of 1.5°C' (2018) is clear on the causes and the effects of climate change on the world. The report states that the primary driver of long term global warming is carbon dioxide emissions (CO_2) and that global temperatures relate to increased cumulative CO_2 emissions from human activity, primarily from energy use. This will result in significant loss of ecosystems and biodiversity along with increased impacts on human health and the economy. The world is already around 1°C warmer than preindustrial times and is currently on track to reach between 3-4°C global temperature increase by 2100 if no action is taken.

The United Nations Framework Convention on Climate Change (UNFCC) Paris Agreement (2015), to which the UK is a signatory, aims to:

> *"strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C."*

The UK will deliver on the Paris Agreement by vigorously pursuing a target to reduce greenhouse gas (GHG) emissions to 'net zero' by 2050, ending the UK's contribution to global warming within 31 years. This was enshrined in law in June 2019 through amendments to the 2050 GHG emissions reduction target in the Climate Change Act 2008 from at least 80% to at least 100%, otherwise known as 'net zero'.

In 2009, the Council responded to the Act by setting targets to reduce the emissions produced from its own estate and operations. GHG emissions have reduced by 48% between 2009/10 and 2018/19.

3 Aim

The aim of the Council's Carbon Reduction Plan is to:

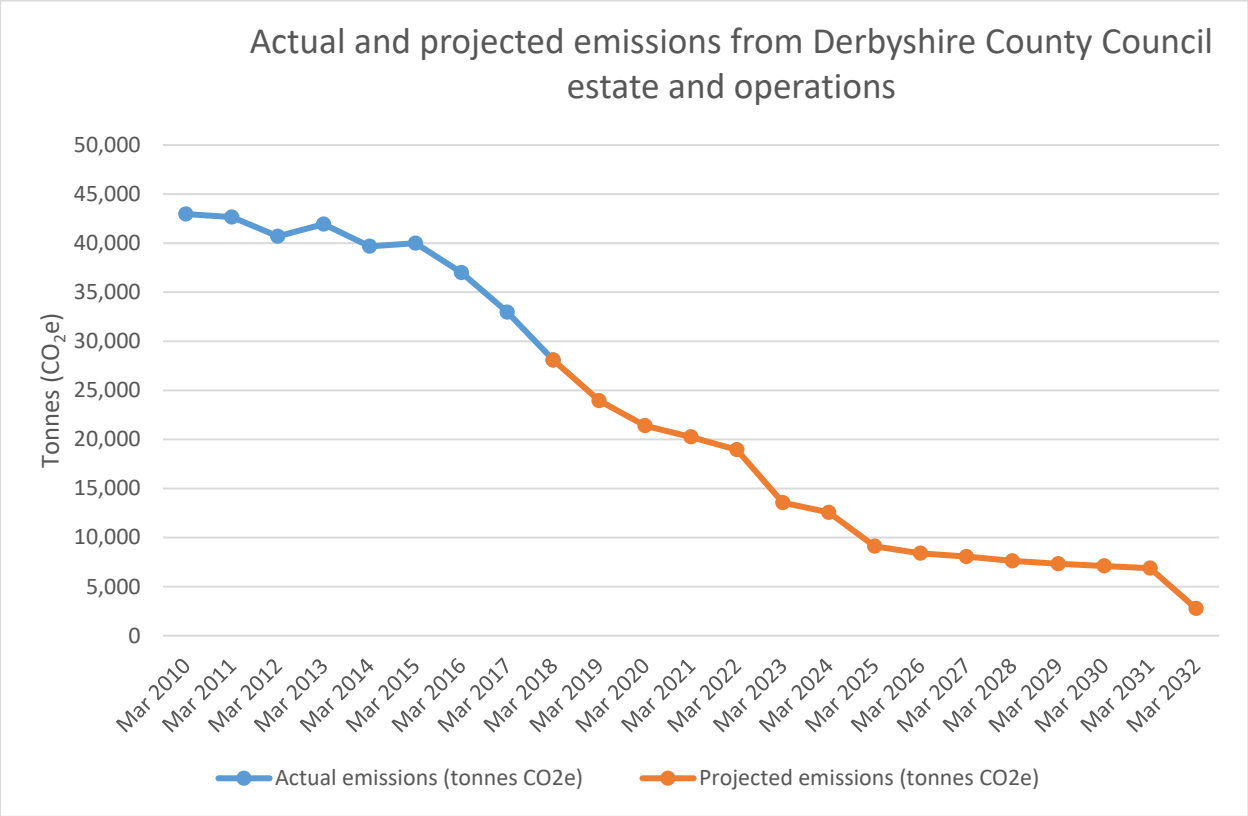
Reduce greenhouse gas emissions from its own estate and operations with the aim of having net zero greenhouse gas emissions by 2032

In May 2019, the Council pledged to set out a plan and timetable to make Derbyshire County Council 'carbon neutral'. This Plan lays out proposals to enable the Council to have net zero GHG emissions by 2032. It sets out GHG targets and details of how those targets could be achieved.

Projections suggest that that emissions could be reduced by 93% by 2031/32. By offsetting the remaining emissions through carbon capture and storage by trees, the Council could become 'greenhouse gas neutral' by 2032. Interim GHG reduction targets are given in the table below.

Year	Council emissions (tonnes CO_2e)[1]	Emissions reduction target (against a 2009-10 baseline)
2009/10	42,965	-
2021/22	18,944	55%
2026/27	8,056	81%
2031/32	2,760	93%

The graph below shows actual and projected emissions for the Council on an annual basis. Details of what is included in the GHG emissions data and how the emissions resulting from the Council operations and estate are calculated can be found at Appendix A.



4 Key actions to become carbon neutral

The Council records GHG emissions from its own estate and operations from property, streetlighting, core and grey fleets.

Emissions from property will be reduced through a combination of property rationalisation, behaviour change, energy efficiency measures, generation of

[1] CO_2e = carbon dioxide and equivalent greenhouse gases

renewable electricity on Council property and purchasing renewable energy generated elsewhere.

Emissions from streetlighting will be reduced through a programme of LED bulb replacement, part-night lighting and night-dimming and through the purchase of renewable electricity generated elsewhere.

Emissions from core fleet (vehicles owned by the Council) and grey fleet (vehicles owned by employees but used for business travel) will be reduced through the electrification of cars and vans, behaviour change and de-carbonisation of HGVs.

The estimated reduction in emissions from these actions are summarised at key milestone dates in the following table. The dates shown coincide with the end of the UK carbon budget periods set by the government. Some reduction in emissions from the Council estate will occur due to external factors. The amount of renewable electricity generated in the UK and fed into the national grid is increasing each year thus reducing the emissions from electricity used by the Council. This is known as ‘the greening of the grid’. Technological developments increase the efficiency of vehicles each year thus reducing emissions for each mile driven. This is referred to as ‘with improved vehicle efficiency’ in the table below.

Summary of key actions to become carbon neutral

		Emissions (tonnes CO_2e)				
Source of emissions	**Key Action**	**Baseline emissions (2009/10)**	**Actual emissions (2018/19)**	**Projected milestone emissions (2021/22)**	**Projected milestone emissions (2026/27)**	**Projected emissions (2031/32)**
Property	Property rationalisation			-157	-488	
	Behaviour change			-638		
	Low cost energy efficiency				-950	
	Deep retrofit				-1,640	
	Microgeneration				-42	
	Large scale renewables				-1,545	
	Purchase renewable electricity					-137
	Purchase renewable gas					-3,894
Sub-total (with greening of the grid)		**15,666**	**10,023**	**9,800**	**4,703**	**664**
Streetlighting	LED, part-night & dimming programmes			-2,526		
	Purchase renewable electricity				-4,035	
Sub-total (with greening of the grid)		**18,121**	**6,617**	**4,035**	**0**	**0**
Core fleet	Increase electric pool cars			+32	+108	
	Electrification of vans			-60	-300	-300
	Decarbonisation of HGV >17t				-120	-200
	Decarbonisation of HGV 7.5-17t				-40	
	Decarbonisation of HGV 3.5-7.5t				-72	-120
Sub-total (with improved vehicle efficiency)		**4,589**	**2,564**	**2,595**	**2,122**	**1,487**
Grey fleet	Reduction in mileage			-250	-369	-132
	Increased use of electric pool cars			-120	-400	
	Electrification of grey fleet				-500	-500
Sub-total (with improved vehicle efficiency)		**4,589**	**2,854**	**2,514**	**1,232**	**609**
Grand Total		42,966	22,059	18,944	8,056	2,760
% reduction		-	48%	55%	81%	93%

5 Reducing emissions from Council property

Although GHG emissions resulting from heating and powering the Council's buildings (excluding schools) have reduced by 21% between 2010 (15,666 tCO_2e) and 2018 (12,322 tCO_2e), they account for around 44% of the overall emissions from the Council's operations. As such, for the Council to achieve net zero GHG emissions, a concerted effort is required to both reduce energy consumption through improved efficiencies and to increase the amount of renewable energy generation.

In March 2019, Cabinet approved the Council's new Asset Management Framework (AMF), which sets out how the effective use of land and property assets will support the delivery of the Council's strategic goals, including its ambition to become an Enterprising Council. The AMF sets out 5 property asset management objectives and how they will contribute to the Council's net zero GHG ambition.

The AMF also identifies the need for a number of procedures, policies and protocols to deliver strategic property asset management, ensuring consistency and the optimum use of land and property assets, many of which are currently in development. These policies will also ensure that energy related matters are taken in to consideration within the life cycle of the property, from its acquisition to its disposal.

5.1 Key actions to reduce emissions from Council property

Key actions to reduce emissions from Council property between 2019 and 2032 are given below.

Property rationalisation

Key actions	Continuing to dispose of buildings which have been identified as surplus or are currently vacant and awaiting disposal
Emissions reduction	645 tCO_2e
Notes	• Further properties may be identified as service reviews are undertaken and property needs are identified in line with the AMF and resulting protocols • Some uncertainty remains regarding ownership of buildings in the future resulting in challenges for decision making about energy efficiency measures • The acquisition of new buildings is not factored into calculations

Behaviour Change

Key actions	• Deliver an extensive programme of awareness raising and behaviour change to all employees and building users
Emissions reduction	638 tCO_2e
Notes	• Previous initiatives include an 'Eco-champion training' programme; production and distribution of environmental mini-guides and carbon reduction training • Full and half day training is being provided by the Local Authority Energy Partnership of which the Council is a partner with the potential to cut emissions between 5-15% per person • A report by Npower and The Centre for Economics and Business Research on "Carbon Psychology" suggests that analysing employee behaviour and using a scientific model to combine psychology and behavioural economics to provide a bespoke strategy can bring about behavioural change in the organisation to reduce emissions by between 6-10%

Deep retrofit

Key actions	Deep retrofit of buildings taking a whole building approach using a range of energy conservation measures, materials and construction methods to bring about an overall improvement in the building's energy performance
Emissions reduction	1,640 tCO_2e
Notes	• Based on the Council's worst energy performing buildings GHG emissions could be reduced by 30% • This figure is a blanket estimate across the highest energy consuming buildings and any projects would be subject to further building energy analysis, feasibility and business cases

Low cost energy efficiency

Key actions	Insulating pipework, setting and checking boiler controls, installing lighting controls and installing loft insulation
Emissions reduction	950 tCO_2e
Notes	• This figure is a blanket estimate across the whole operational estate and any projects would be subject to further feasibility and business cases

Renewable energy from microgeneration sources

Key actions	Quadruple the amount of installed microgeneration installed on the Council's operational buildings
Emissions reduction	42 tCO_2e
Notes	• The Council currently has 54kWp of installed capacity from small-scale energy generation using solar and wind power generating around 50,145kWh each year

Renewable energy from large scale energy generation sources

Key actions	Install 8.1MW of solar photovoltaic panels on Council owned sites generating around 6.98GWh of electricity
Emissions reduction	1,545 tCO_2e
Notes	• The Council has previously undertaken a scoping study to identify Council owned sites that may have been suitable for sub 5MW ground mounted solar PV systems. At that time, 2 sites, which had the capacity for a 3.7MW and 4.4MW, were deemed suitable. • Identified schemes did not proceed as the Government announced the early closure of the subsidies • The figures quoted above provide an example of what levels of energy can be generated and the associated reduction in GHG emissions • Revenue funding is being sought to procure a consultant to undertake feasibility and initial business case development of micro and large scale renewable energy projects

Procurement of renewable electricity

Key actions	Procure a renewable electricity tariff through the Council's utility supply contract
Emissions reduction	Varies according to how much renewable electricity is purchased
Notes	• Renewable Energy Guarantees Origin certificates (REGOs) allow electricity suppliers to prove to their final customers that a given share of energy was produced from renewable sources. One REGO certificate is issued for each MWh of renewable output to generators of renewable electricity • The cost of purchasing the REGO is £0.30 per MWh. Based on 2017/18 consumption, this would add a further £4k onto the total electricity spend, which in 2017/18 was £1.5M • As REGOs do not reduce energy consumption, it is not recommended that they are purchased as a way in which to become a nearly zero carbon organisation. However, REGOs could be purchased once all other energy efficient and renewable energy generation projects have been undertaken • Once other measures have been undertaken, the Council would need to procure 729MWh of electricity at an additional cost of £218 for the REGOs

Procurement of Green Gas

Key actions	Procure green gas through the Council's gas supply contract
Emissions reduction	Varies according to how much green gas is purchased
Notes	• There is limited availability of green gas • Based on 2017/18 consumption, the procurement of green gas would have incurred an additional £298k on the £888k gas bill • Should green gas be purchased once energy efficiency measures have been installed as outline above, then the additional annual cost could be in the region of £181k

Greening of the grid

Key actions	No action required by the Council
Emissions reduction	112t/CO_2e by 2026 (if proposed measures are undertaken)
Notes	• It is suggested by industry that the carbon intensity of the electricity grid will be half of current levels by 2030

The outline projects highlighted above give an indication of the initiatives that should be taken forward to work towards carbon neutrality across the Council's estate. These measures could reduce property related emissions from 15,666 tCO2e in 2009/10 to 664 tCO2e in 2031/32 with a 37% reduction by 2022; 70% by 2027 and 95% by 2032. The majority of those savings come from renewable electricity projects and greening of grid electricity.

These proposals assume that current sources of energy for heating (gas, oil and solid fuel) remain the same. To further reduce emissions, alternatives to gas, oil and solid fuel need to be sought for the Council's operational buildings. A feasibility study looking at the re-heat of County Hall is to be undertaken and will include renewable energy systems. The findings of this will help inform the future viability of renewable heat systems in the Council's estate.

6 Reducing emissions from streetlighting

Emissions from streetlighting have reduced by 63.5% between 2009/10 and 2018/19 and account for approximately a third of the Council's total emissions. The reductions have been achieved through a programme which replaces sodium bulbs with LED lighting, part-night lighting and night-time dimming. This programme is due to be completed by 2022, after which time there are no further planned reductions other than the greening of the grid. Indeed, electricity use for streetlighting may begin to increase after this time as new developments will require new streetlighting.

6.1 Key actions to reduce emissions from streetlighting

Key actions to reduce emissions from streetlighting between 2019 and 2032 are given below.

Completion of LED, part-night and night-dimming programme

Key actions	Completion of LED, part-night and night-dimming programme
Emissions reduction	2,526 tCO_2e
Notes	• This programme is due for completion by March 2022

Procurement of renewable electricity

Key actions	Procurement of renewable electricity supply
Emissions reduction	4,091 tCO_2e
Notes	• There are no further technological improvements currently available to reduce GHG emissions once the LED programme is complete • This measure would be subject to a feasibility and business case

7 Reducing emissions from Council-owned fleet

Emissions from the Council's fleet of vehicles fell from 4,589 tonnes of CO_2e in 2010 to 2,662 tonnes CO_2e in 2018, a reduction of 42%. In 2018, the core fleet consisted of:

- 263 medium/large diesel vans
- 68 HGV rigid vehicles (>3.5-7.5tonnes)
- 5 HGV rigid vehicles (>7.5-17tonnes)
- 58 HGV rigid vehicles (>17tonnes)

7.1 Key actions to reduce emissions from Council-owned fleet

Key actions to reduce emissions from Council-owned fleet between 2019 and 2032 are given below.

Heavy Goods Vehicles replacement programme

Key actions	Begin a programme to replace 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
Emissions reduction	64 tCO_2e per year
Notes	• Low emission HGV vehicles are still not widely available although several councils are trialling different alternatives powered by biofuel, hydrogen or electricity • It is anticipated that the availability, reliability and effectiveness of these vehicles will improve sufficiently that the Council will begin a replacement programme in 2024 following trials of different vehicles subject to development of a feasibility and business case • The Council currently keeps HGVs for ten years and these are replaced on a rolling programme

Light Goods Vehicles replacement programme

Key actions	Begin a programme to replace 20 diesel vans each year with electric vans, following trials of different vehicles, in 2021
Emissions reduction	60 tCO_2e per year
Notes	• The motor industry predicts that electric light goods vehicles will play an increasingly important role in the UK van market over the next few years with a large increase in the choice of vehicle available as issues regarding range-anxiety, charging and weight are overcome • A large increase in the number of electric light goods vehicles would require significant investment in the charging infrastructure at Council depots as well as ‘home-charging’ of council-owned vehicles

Introduction of electric pool cars

Key actions	Increase the number of electric pool cars to replace some of the grey fleet mileage
Emissions reduction	73 tCO_2e per year
Notes	• Seven electric vehicles are planned for 2019/20 with more planned for the following financial year • The extent to which electric pool cars are to replace the grey fleet is subject to further consideration

8 Reducing emissions from the grey fleet

The grey fleet is the vehicles owned by employees but used for business travel. Grey fleet mileage fell by 22.3% between 2009-10 and 2018-19. However, during this period emissions fell by 36% due to the increased efficiency of vehicles. The technological improvements in vehicles are set to continue alongside the growth in electric car ownership. By 2040, no new fossil fuel cars or vans will be sold in the UK with most of the sales being replaced by sales in electric vehicles.

Electrification of grey fleet

Key actions	A gradual increase in the numbers of electric vehicles owned by staff and used for business travel
Emissions reduction	100 tCO_2e per year
Notes	• By 2022-23 it is anticipated that at least 5% of mileage year on year will switch from fossil fuel to electric vehicles

Reduction in grey fleet mileage

Key actions	A reduction in mileage of 3% each year for ten years through an awareness and behaviour change programme e.g. through increasing use of video-conferencing to reduce the need to travel
Emissions reduction	751 tCO_2e over ten years
Notes	• A behaviour change programme would need to be undertaken to achieve this

9 Other Council emissions

Emissions from schools within the Council portfolio are not included in the data presented above, although the data is collected. When schools leave the Council portfolio to become Academies, their emissions are no longer the responsibility of the Council. This can lead to a false impression that emissions from schools are reducing more rapidly than the reality. Initial modelling of the data to 2032 indicates a gradual reduction in emissions from schools. Further modelling will be undertaken and a separate carbon reduction plan for schools will be developed.

The Council currently measures the key sources of emissions from its estate and operations but recognises that there are also less significant sources of emissions which are not currently measured (at Appendix A). It will become increasingly important to address emissions from sources other than property, streetlighting and fleet. Where possible remaining emissions will be quantified and action plans developed to reduce them. Actions are already being taken such as the electrification of equipment, e.g. lawnmowers, and procurement which takes sustainability into account.

10 Carbon sequestration

Projections indicate that by 2032 it is feasible for the Council to reduce its emissions by 93% with remaining emissions of 2,760 tonnes CO_2e/year. Future technological solutions and funding sources may allow for these remaining emissions to be avoided. However, in the instance that they cannot be avoided it will be necessary to sequester or ‘store’ the equivalent amount of carbon. It is recommended that any carbon sequestration used in the calculations of emissions should be on the Council’s estate.

11 Moving forward

Technological advances, behaviour changes, societal norms and our understanding of climate change and GHG emissions will change throughout the period of this plan. An annual review of the Council’s emissions and future projections will therefore be undertaken to ensure the plan remains up to date and fit for purpose.

All actions are subject to further feasibility studies and business cases and individual detailed actions plans will be drawn up for each action.

Whilst individual actions will be undertaken by all departments, the monitoring of emissions will be overseen by the Environmental Sustainability Group. An annual report, summarising actions undertaken and the impact on emissions will be produced in the autumn of each year.

Appendix A

1. **Terminology:** 'Carbon neutral' is considered a synonym for 'net zero carbon'. Any carbon offsetting or carbon sequestration included in the calculation of emissions will take place within the county.

2. **Carbon Neutral Definition:** In order to mitigate the effects of climate change, CO_2 emissions need to be reduced to net zero. Carbon neutrality is achieved when emissions produced are offset by the amount of emissions taken from the atmosphere or by eliminating carbon emissions altogether.

3. **Net Zero Greenhouse Gas (GHG) emissions definition**: this can be confused with net zero carbon emissions, but when used accurately, includes all GHG emissions not just carbon dioxide. This is the same concept as net zero carbon emissions but conveys a net zero emissions target for CO_2 and all non-CO_2 gases.

4. In this instance carbon dioxide and equivalent greenhouse gases include the following greenhouse gases as covered by the Kyoto Protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

5. Council activities are identified as Scope 1, 2 or 3 according to the UK Government's definition[2]:
   - 5.1 Scope 1 are direct emissions from those activities owned or controlled by the Council, e.g. emissions from solid fuel burners.
   - 5.2 Scope 2 emissions or 'energy indirect emissions' are those released into the atmosphere that are associated with the Council's consumption of electricity, heat, steam and cooling. These indirect emissions are a consequence of the Council's energy use but occur at sources it does not own or control.
   - 5.3 Scope 3 or other indirect emissions are a consequence of the Council's actions that occur at sources it does not control and which are not classed as Scope 2 emissions, e.g. grey fleet travel, waste disposal, materials or fuels the Council purchases.

6. The GHG emissions from the Council's estate and operations will include emissions from:
   - 6.1 Energy used in street and road lighting (excluding traffic lights)

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/726911/2018_methodology_paper_FINAL_v01-00.pdf

6.2 Energy used to power and heat our property and buildings (via electricity and gas metering and billing and from oil and solid fuel bills)
6.3 Core fleet (vehicles owned by the Council) using miles travelled
6.4 Grey fleet (vehicles owned by staff and used for business) using mileage claims
6.5 Miles travelled by rail

7. GHG emissions will not be collected from:
7.1 Embedded emissions from items we purchase (these remain with the manufacturer in the place and country where the item was made)
7.2 School transport
7.3 Traffic lights
7.4 Hire cars
7.5 Plant and machinery
7.6 Waste
7.7 Water
7.8 Refrigerant and other fugitive emissions
7.9 Air travel
7.10 Staff travel to and from work
7.11 Emissions from schools are not included in the figures as schools leaving the local education authority portfolio artificially reduce the emissions total from this sector. Schools' data is collected through energy bills and mileage data and is analysed separately.

8. Carbon sequestration is not currently used by the Council to offset its emissions. However, as emissions become increasingly difficult to eliminate, it will become necessary to offset its emissions and to use carbon capture and storage methods.

9. GHG emissions are calculated using the Government's annual conversion factors which convert kWh, tonnes of fuel of mileage into Kg of carbon dioxide or equivalent greenhouse gases.

APPENDIX B

CORPORATE ENVIRONMENT POLICY

Derbyshire County Council is committed to putting the principles of sustainable development into action in everything the authority does, so that development meets the needs of today without compromising the ability of future generations to meet their own needs. Managing our environment sustainably will be a part of making Derbyshire a place:

- With resilient and thriving communities
- With happy, healthy people and families
- With a strong, diverse and adaptable economy
- Which is great to live in, visit and work.

We recognise the impact we have on the environment and society through the delivery of our operations and are committed to protecting the environment by minimising any adverse environmental impact, while creating opportunities for enhancing positive environmental effects to improve the quality of life for people. Our flagship commitment is to reduce the greenhouse gas emissions from our own estate and operations to net zero carbon by 2032.

We will encourage and enable all our employees to do what they can to translate these commitments into practice. We will also work with our contractors and suppliers to improve our environmental performance. This policy will, therefore, be communicated to all employees and contractors working for or on behalf of the County Council.

We will monitor our environmental performance by setting organisational objectives and targets and report on our progress.

In developing the Environment Policy, the Council is publicly setting out its commitment to continual environmental improvement. The Environment Strategy and Action Plan set out the work the Council will undertake to implement this policy.

Version 3.0 October 2019

CORPORATE ENVIRONMENT POLICY

In everything we do, Derbyshire County Council is committed to…

Reducing greenhouse gas emissions to net zero carbon by 2032
Identifying, adopting and promoting technologies and practices to reduce the emissions of greenhouse gases, including carbon dioxide, from our estate and operations including Council property, street lighting and fleet and employee travel.

Using water efficiently in the Council's buildings and operations
Using water efficiently in our buildings and operations and ensuring improvements are made to the measurement and monitoring of water consumption across our estate to inform water saving practices.

Reducing waste
Eliminating, reducing, reusing, composting and recycling wastes where possible. Managing our remaining wastes in accordance with our Duty of Care obligations.

Minimising pollution
Minimising, with the goal of eliminating, the release of any pollutant which may cause damage to health or the environment whether from air, land or water.

Protecting the natural and built environment
Protecting, conserving and enhancing the environment, habitats, biodiversity and heritage.

Ensure all staff are able to implement the Corporate Environment Policy
Raising awareness, educating and training employees and those working on our behalf to ensure that all staff have the knowledge, skills and understanding to implement the Environment Policy.

Ensuring that the Council's purchasing power is used positively
Ensuring that the Council's purchasing power is used to reduce negative environmental impacts and to improve the environmental standards and social value of products and services the Council purchases.

We will do this by…

Partnership Working
Working closely with employees, other organisations, interested groups and individuals, where appropriate, to further the aims of this Policy.

Objective Setting
Continually improving our environmental performance by setting realistic but challenging objectives and targets and regularly reviewing our progress as set out in the Environment Strategy and Action Plan.

Legal Compliance
Complying with relevant environmental legislation, Council policies and other commitments and striving to deliver best practice.

Environmental Management Systems
Promoting, operating and extending environmental management systems to control, monitor and enhance our environmental performance and communicating this Policy to all employees and contractors.

Policy Review
Reviewing this Environment Policy every three years in view of changes to the Council's activities and priorities in light of new local, national and international developments.

Agenda item No.6f

DERBYSHIRE COUNTY COUNCIL

CABINET

21 November 2019

Report of the Executive Director Economy, Environment and Transport

DELIVERING THE CLIMATE AND CARBON REDUCTION MANIFESTO (Economic Development and Regeneration)

1. Purpose of the report

To outline progress on the delivery of the Council's Climate and Carbon Reduction Manifesto and to seek approval to adopt the Derbyshire Environment and Climate Change Framework and the Derbyshire Low Emission Vehicle Strategy.

2. Information and analysis

2.1 Background

On 13 May 2019, the Council published its Climate and Carbon Reduction Manifesto, recognising the global challenge of climate change (attached at Appendix A). The Manifesto sets out the Council's commitment to take a strategic leadership role in bringing together partners and stakeholders across Derbyshire to work together to tackle climate change and is supported by a Motion approved at Full Council on 15 May 2019 containing a number of additional pledges to tackle climate change. Both the Manifesto and the Motion make a commitment to produce further targets and objectives for reducing carbon emissions across Derbyshire within six months.

There have been significant developments to tackle climate change globally and nationally. Agreement was reached at the United Nations Framework Convention on Climate Change Paris Agreement in 2015 to limit the global temperature rise to a maximum of 2°C. Significant work has been carried out as a result of this agreement to calculate the cumulative amount of carbon dioxide (CO_2) emissions permitted to keep the earth within a certain temperature threshold, in this instance a global temperature rise of 2°C above pre-industrial levels. This is known as the global carbon budget. The global carbon budget has then been divided amongst individual countries, including the UK. Further work has been undertaken by The Tyndall Centre, on behalf of the Government, to allocate the UK carbon budget amongst local authority areas. In September 2019 local carbon budgets were made available at district and borough level. To support work at a county level, local carbon budgets have subsequently been aggregated to produce a carbon budget for the county.

There is currently no legal requirement for local authorities to take action to meet local carbon budgets, however in view of the UK's commitment to achieve at least net carbon zero emissions in the UK by 2050, emissions targets are likely to be set for local authorities at some point in the future.

2.2 Progress on delivering the Derbyshire Climate and Carbon Reduction Manifesto

Since the launch of the Manifesto in May 2019, the Council has been working to develop and deliver agreed pledges. The Council has made significant progress on a number of areas as follows:

- Further reduced carbon emissions from the Council's estate and operations by 48% from 2010 levels (2018/19 data)
- Produced a draft Council Carbon Reduction Plan, subject to a separate report to Cabinet, to establish a roadmap for the Council to further reduce carbon emissions from its own estate and operations with the aim of having net zero carbon emissions by 2032
- Shared best practice with counterparts in China on coalfield remediation and renovation in order to reduce the impact of climate change
- Carried out over 300 energy audits across the county through the Derby and Derbyshire Energy Efficiency project, with over 110 businesses accessing funding for low carbon projects resulting in savings of 860 tonnes of carbon being made.
- Prepared to launch the DE-Carbonise Project as part of the county's clean growth agenda, working with local businesses to carry out carbon audits, produce carbon reduction reports, provide guidance and grant funding and to develop supply chains. This work now includes low emissions transport.
- Put in place plans for the installation of 39 fast and 11 rapid electric vehicle charge points in public areas across the county
- Installed five dual electric vehicle charge points at Council premises with plans to introduce electric vehicles and electric bikes to the Council fleet.
- Developed the commitment to minimise and eliminate single use plastics wherever possible
- Contributed to the 'Good Practice Guidance for Local Government' through membership of The Association of Directors of Environment, Economy, planning and Transport
- Sought agreement from Derbyshire Chief Executives Group to work collaboratively and contribute resources to deliver a Framework for Derbyshire to tackle climate change
- Brought together local authority partners across the county to develop a co-ordinated approach to tackling climate change
- Planned a seminar for officers, leaders and elected members to understand Derbyshire's carbon budgets and potential carbon reduction pathways in more detail.

The Council has also been working with partners to develop the Derbyshire Environment and Climate Change Framework and the Derbyshire Low Emission Vehicle Infrastructure Strategy as follows:

- **Derbyshire Environment and Climate Change Framework**
  Although it is important that the Council leads by example and gets its own house in order, emissions from the Council's own estate and operations account for approximately 0.8% of the total emissions across the county. Tackling county-wide emissions is a much harder task requiring joint action by communities, businesses, all local authorities and other public sector organisations. Precedent for partnership working on climate issues was set through the development and delivery of the Derbyshire Climate Change Charter (2014-2019) during which time county-wide emissions fell by 14%.

  Building on this work, the Council has led the development of the Derbyshire Environment and Climate Change Framework in partnership with Derbyshire Chief Executives. The Framework is attached at Appendix B for consideration and approval. The Framework will support a co-ordinated approach to reducing carbon emissions, in line with carbon budgets, across all local authorities in Derbyshire and will provide a focal point for wider partnership working. The Framework will also ensure that all pledges set out in the Climate and Carbon Reduction Manifesto are delivered in a co-ordinated way across a range of strategies and plans at a county and district and borough level. Further detail on the links between the Manifesto pledges and the Framework is attached at Appendix C.

  Derby City, as a unitary council has its own carbon budget which is not included within these figures. However, a close working relationship with the Council to tackle climate change would prove both beneficial and effective in reducing emissions across the county as a whole.

  Under the Framework, key county-wide and district-wide strategies, covering energy, transport, waste, air quality, economic development and natural capital, housing and planning will each contribute to achieving the carbon budget for the county and the aim of net zero carbon emissions by 2050. Derbyshire's Waste Strategy 'Dealing with Derbyshire's Waste' was approved in 2013 and the Local Transport Plan in 2011. Details of the Low Emission Vehicle Infrastructure Strategy (2019-2029) are given below. The Energy Strategy and Good Growth Strategy are in draft form and the Natural Capital Strategy is currently at the planning stage. The Air Quality Strategy is awaiting approval by the Health and Well-being Board. Further work will also need to be undertaken to explore and estimate the reduction in emissions to be achieved by actions within the strategies in order to understand how they contribute to the overall carbon budget.

  It is recommended that Cabinet now formally adopt the Derbyshire Environment and Climate Change Framework. All local authorities in Derbyshire have been engaged in the development of the Framework. Chief Executives have endorsed

the Framework and are strongly recommending its adoption through their own cabinet or committee process. This partnership approach will ensure a countywide response to climate change, increasing the influence and impact of the subsequent strategies and action plans.

- **Low Emissions Vehicle Infrastructure Strategy**
  Reducing emissions from transport in Derbyshire is a key part of the overall approach to tackling climate change and this is a key component of the Derbyshire Environment and Climate Change Framework. Encouraging the take up and use of low emissions vehicles in Derbyshire is a fundamental part of the overall approach to reducing emissions from transport. The Council has recently undertaken widespread engagement with partners to shape future priorities and to develop a new Low Emissions Vehicle Infrastructure Strategy for Derbyshire. This is now attached at Appendix D for consideration and approval.

  This Strategy demonstrates a local commitment to promote the uptake and deployment of low emission vehicles including electric, hydrogen and e-bikes. The expectation is that most low emission vehicle users will choose to charge at home but the development of a public charging network will provide confidence for residents, businesses, public transport operators, community groups, tourists and leisure industries to use low emission vehicles in Derbyshire. The Strategy and accompanying Action Plan set out how locally, the need for a network which represents good value for money, responds to changing demands and embraces new technologies, will be met.

Moving forward

It is clear that local authorities alone cannot achieve the necessary reduction in emissions in Derbyshire. Climate change is widely recognised by organisations, businesses and the general public as one of the most critical challenges in the world currently and there is widespread desire to tackle it. However, understanding of how people can help is less widely understood. It will therefore be necessary to gain a mutual understanding and consensus of the issues and solutions to ensure effective planning, co-ordination and implementation of the work moving forwards.

A Climate Change Communications Plan has recently been developed to ensure that the Council has an effective programme of work in place. The Plan focuses on a social media campaign demonstrating how the Council is committed to protecting the environment. A Climate Summit will also be held in March 2020 to present the Framework and proposals to reduce emissions in order to publicise the work and to seek wider support. An ongoing programme of community conversations will also be developed to ensure the continuing involvement of all stakeholders in the county's drive to tackle climate change.

Work to deliver and monitor the framework will be co-ordinated by the Derbyshire Environment and Climate Change Officer Working Group, which comprises officers from the county, district and borough councils in Derbyshire. Oversight of the Framework will be provided by the Derbyshire Chief Executives' Group and formal governance arrangements will be developed. As set out above, the development

and implementation of a range of key strategies will be fundamental to the success of the Framework and to reducing emissions across Derbyshire. Progress on these strategies will be reported to Cabinet, as appropriate, on a regular basis, as part of the monitoring arrangements for each Strategy. Reports on the overall delivery of the Framework and the Manifesto pledges will be brought to Cabinet every six months. These reports will provide an overview of the key actions undertaken and planned to reduce the county's emissions, and will provide updated figures, when available, on actual emissions by district and borough and for the county as a whole.

A key manifesto pledge is to call on the UK government to ensure the level of investment and national planning regulations support the Council's climate change ambitions. Additional work is needed within the next six months to understand the national landscape around climate change and to urge government to support local authorities in delivering meaningful action.

To ensure progress is maintained to help deliver the Low Emission Vehicle Infrastructure Strategy a cross Council working group will be established. It will also be necessary to engage with a range of external stakeholders, including colleagues from all Derbyshire's local planning authorities. Governance and monitoring of the Strategy will be undertaken through the Environmental Sustainability Group, and reports will be made to Cabinet on a regular basis.

3. Financial Considerations

The development and implementation of strategies and action plans to achieve net zero carbon emissions across the county is likely to have significant financial implications not only for the county council but also for other public sector organisations, industry and commerce, transport and domestic sectors. Some actions will require additional funding though some may provide cost savings over time, e.g. thermal insulation of buildings. Government funding is available for some projects, most notably those relating to energy and transport though there is the need to lobby government to recognise the financial implications of decarbonisation in order to gain further financial support.

4. Environmental Considerations

Reducing emissions across the county and achieving net zero carbon emissions would support global efforts to tackle climate change and would have benefits into the long-term future. These would include reducing the loss of ecosystems and biodiversity and the negative impact on human health.

5. Health Considerations

Reducing emissions across the county would support global efforts to tackle climate change reducing the negative impact on human health and the economy. Actions emerging from the strategies are likely to have positive benefits for health and

wellbeing through improved air quality and increased physical activity from people walking and cycling more.

6. Transport Considerations

Implementation of the LEVI Strategy will see a significant improvement in the infrastructure available to charge electric vehicles. This will result in an increase in the number of electric vehicles across the county and a reduction in the number of fossil-fuel cars. This will have positive impacts on air quality and noise pollution.

7. Property Considerations

The Council aims to lead by example and tackle climate change by reducing emissions on its own estate. Actions to achieve this are set out in the Council's Carbon Reduction Plan.

8. Other Considerations

In preparing this report the relevance of the following factors has been considered: legal, prevention of crime and disorder, equality and diversity and human resources considerations.

9. Background papers

Derbyshire Climate and Carbon Reduction Manifesto - May 2019
Climate Change Motion 15 May 2019

10. Key Decision – No

11. Call – in

Is it required that call-in be waived in respect of the decisions proposed in the report? No

12. Officer's Recommendations

It is recommended that Cabinet:

1. Note progress in delivering the Climate and Carbon Reduction Manifesto
2. Formally adopt the Environment and Climate Change Framework
3. Request that the UK government provide financial support for de-carbonisation and ensure that national planning regulations support our efforts to reduce greenhouse gas emissions in Derbyshire
4. Approve the Low Emission Vehicle Strategy

5. Receive reports every six months on further progress in delivering the Framework and the Climate and Carbon Reduction Manifesto
6. Receive further reports on progress in delivering the Low Emission Vehicle Strategy.

Mike Ashworth
Executive Director Economy, Transport, Environment

Appendix A

DERBYSHIRE County Council

Derbyshire Climate and Carbon Reduction Manifesto May 2019

The challenge of global climate change and our need to reduce carbon emissions, cut waste and be greener in all we do has never been so great.

We have made great strides in Derbyshire over the last two years but there is always so much more we can and should do.

We are tackling unnecessary waste, reducing emissions from our street lighting by 63% and overall emissions from our operations by 34% since 2010, actively supporting new electric vehicle charging points across the county and introducing measures to reduce single-use plastics across the Council.

This Derbyshire Climate and Carbon Reduction Manifesto takes our commitments a step further and makes a strong public statement – one to which the people of Derbyshire can hold us accountable.

In leading by example and bringing together local people, voluntary groups, other councils and businesses to tackle climate change we believe we will win hearts and minds and work to put climate change on everyone's agenda in Derbyshire.

My Cabinet and I are firmly committed to tackling climate change and we hope you will join us on this challenging but vitally important journey.

Derbyshire County Council Leader, Cllr Barry Lewis

Councillor Simon Spencer, Cabinet Member for Highways, Transport and Infrastructure and Deputy Leader

Councillor Angelique Foster, Cabinet Member for Council Services

Councillor Alex Dale, Cabinet Member for Children and Young People

Councillor Tony King, Cabinet Member for Economic Development and Regeneration

Councillor Carol Hart, Cabinet Member for Health and Communities

Councillor Jean Wharmby, Cabinet Member for Adult Social Care

DERBYSHIRE County Council

Derbyshire Climate and Carbon Reduction Manifesto May 2019

We pledge to:

- Reduce greenhouse gas emissions from the Council's buildings and operations by 55% by 2022 compared to 2010.
- Work with borough and district councils, utilities and property developers to champion eco-homes fit for the future and to help communities and businesses become less dependent on energy
- Work with Derbyshire businesses and local government partners in China, Japan, India and other countries to reduce carbon emissions in business and tourism activities
- Support renewable energy generation, both large scale and microgeneration, on the Council's land and buildings and in our communities working alongside partners such as D2N2 and the Midlands Energy Hub
- Promote energy efficiency, including reducing energy use in older buildings and through the use of smart technology
- Support low carbon businesses to establish and flourish in Derbyshire, creating new jobs across the county
- Foster green energy entrepreneurs to develop renewable or zero carbon energy production
- Attract companies into Derbyshire who will carry out research and development and upskill the workforce in partnership with universities and training providers
- Use the Council's buying power to support businesses and schools to become more sustainable
- Support and promote the development of low carbon travel and low emission vehicles, introduce electric vehicles into the Council fleet and explore opportunities for low carbon fuels for HGVs
- Develop through our close partnerships with district and borough councils solutions that minimise waste, particularly food waste and single-use plastics, and increase recycling
- Ensure we buy and use goods which are more sustainable and can be reused or recycled and wherever possible waste products are used to benefit the local economy
- Call on the UK Government to ensure the level of investment and national planning regulations support the Council's ambitions to reduce greenhouse gas emissions in Derbyshire
- Produce further targets and objectives for carbon reduction, within six months, after considering latest recommendations made to the UK Government

APPENDIX B

Derbyshire Environment and Climate Change Framework

October 2019

Contents

1 Foreword

To be developed

2 Climate Change

The Intergovernmental Panel on Climate Change (IPCC) Special Report 'Global Warming of 1.5°C' (2018) is clear on the causes and the effects of climate change on the world. The report states that the primary driver of long term global warming is carbon dioxide (CO_2) emissions and that global temperatures relate to increased cumulative CO_2 emissions from human activity, primarily from energy use. This will result in significant loss of ecosystems and biodiversity along with increased impacts on human health and the economy. The world is already around 1°C warmer than preindustrial times and is currently on track to reach between 3- 4°C global temperature increase by 2100 if no action is taken.

Action on climate change can deliver many local benefits, including lower energy bills, economic regeneration and the creation of local jobs, reductions in fuel poverty and improved air quality. The co-benefits of action on climate change are widely recognised and have been summarised below.

Health and wellbeing Health and wellbeing are improved as a result of improved air quality through reduced use of combustion engine vehicles, increased activity from people walking or cycling more, as well as through reduced fuel poverty from more energy efficient homes.	**Economy** Investing in initiatives to reduce carbon emissions can create a wealth of economic opportunities and jobs in the low carbon economy.
Equity and social cohesion Action on climate change can improve equity and social cohesion through focusing on the most vulnerable in society, such as action to alleviate fuel poverty.	**Community resilience** Action to reduce carbon emissions can also increase the resilience of cities and their communities to future changes in energy prices and energy systems, as well as potentially increasing resilience of communities and infrastructure to the impacts of climate change.

Summarised from Ashden 'Climate Action Co-Benefits Toolkit'.

3 Carbon budgets and trajectories

The United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement (2015), to which the UK is a signatory, aims to:

> *"strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C."*

The Paris Agreement commits the global community to take action to tackle climate change. Global temperature is directly linked to the amount of CO_2 in the atmosphere. As CO_2 levels rise, so do global average temperatures. It will be possible to limit global warming by limiting the total quantity of CO_2 released to the earth's atmosphere. In order to limit global warming to 2°C it has been calculated the world can only emit a certain quantity of CO_2 to the atmosphere. This is the global carbon budget which is then divided amongst individual countries according to the Paris Agreement.

The UK will deliver on the Paris Agreement by vigorously achieving its carbon budget and pursuing a target to reduce greenhouse gas emissions to 'net-zero' by 2050, ending the UK's contribution to global warming within 31 years. This was enshrined in law in June 2019 through amendments to the 2050 greenhouse gas emissions reduction target in the Climate Change Act 2008 from at least 80% to at least 100%, otherwise known as 'net zero'.

3.1 Derbyshire's carbon budgets and trajectories

The UK carbon budget is further apportioned to local authority areas, although the budgets are not solely the local authority's responsibility. The recommended budgets reflect the actual emissions from industry and commerce, transport and domestic sectors with a suggested periodic reduction. Each local authority area is allocated a carbon budget based on 'grandfathering'. A grandfathering approach allocates carbon budgets based on recent emissions data (from 2011-2016). Budgets reflect a local area's particular profile and are consistent with each area's ability to make a fair contribution to the Paris Agreement. For instance High Peak area has high industrial emissions and consequently its allocated carbon budget is higher than other district and borough areas to reflect this. The carbon budget for each local authority area is then divided further into carbon budgets for five-year periods in-line with the UK carbon budget periods. This allocation produces a carbon emissions pathway or trajectory for each area for the period 2018-2100.

The recommended carbon budget for Derbyshire is set out below. The county has a maximum cumulative carbon budget of 51.2 million tonnes of CO_2 for the period 2018-2100. Budgets periods are aligned with the budget periods in the Climate Change Act. It is worth noting that the first carbon budget (2018-22) is already 18 months into commencement and 38.1 million tonnes of CO_2 is the budget now remaining until 2100.

3.2 Periodic carbon budgets for 2018-2100

The suggested periodic carbon budgets for 2018-2100 are given below. The rapid decarbonisation shown gives an indication of the scale of the task ahead for everyone in Derbyshire. Individuals, communities, industry, transport and public sector organisations must all play their part.

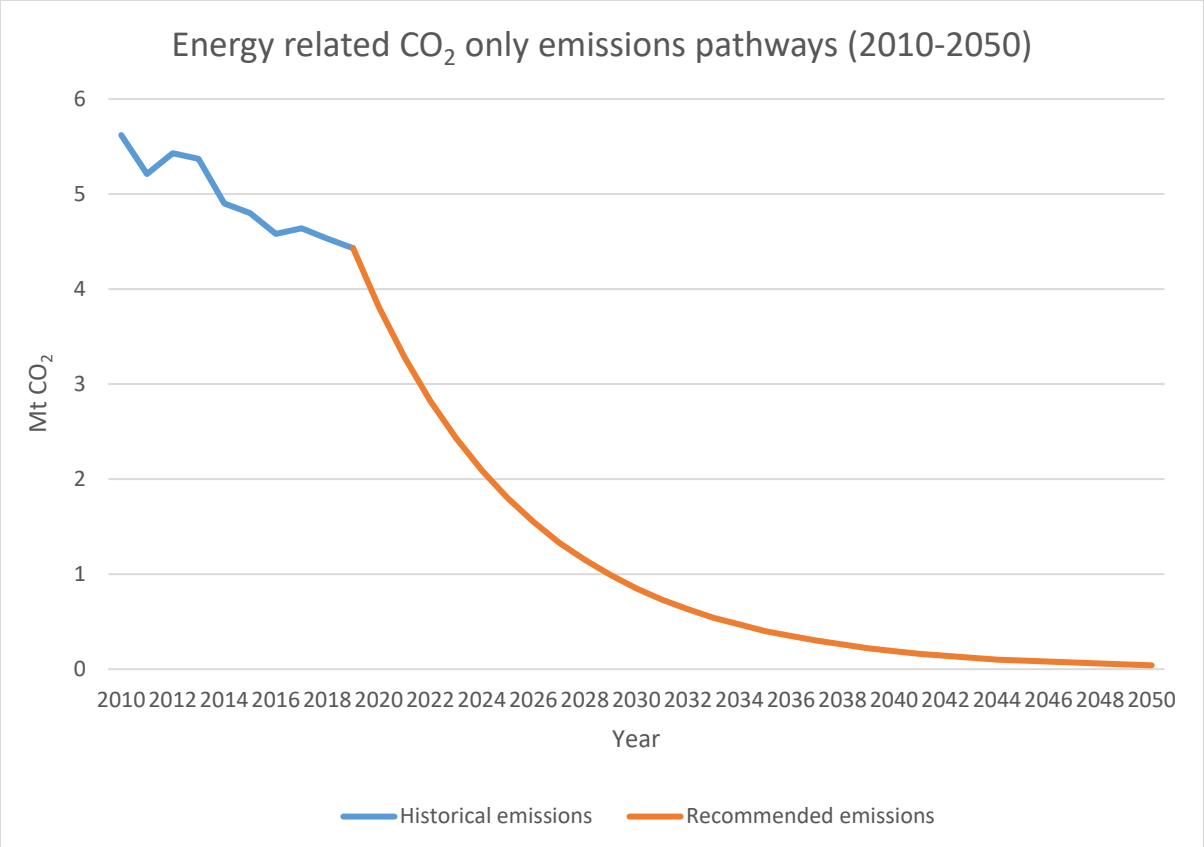
Local authority area	**Energy only recommended carbon budget (million tonnes CO_2)**							
	2018-2022	**2023-2027**	**2028-2032**	**2033-2037**	**2038-2042**	**2043-2047**	**2048-2100**	**Total 2018-2100**
Amber Valley	2.8	1.4	0.7	0.3	0.2	0.1	0.1	**5.5**
Bolsover	4.2	1.9	0.8	0.4	0.2	0.1	0.1	**7.5**
Chesterfield	1.9	1.0	0.5	0.2	0.1	0.1	0.1	**3.8**
Derbyshire Dales	2.4	1.2	0.6	0.3	0.1	0.1	0.1	**4.7**
Erewash	2.3	1.1	0.6	0.3	0.1	0.1	0.1	**4.5**
High Peak	8.4	3.7	1.6	0.7	0.3	0.1	0.1	**14.8**
North East Derbyshire	2.2	1.1	0.6	0.3	0.1	0.1	0.1	**4.4**
South Derbyshire	3.0	1.5	0.7	0.3	0.1	0.1	0.1	**5.7**
Derbyshire (total)	**27.3**	**12.9**	**5.9**	**2.7**	**1.2**	**0.6**	**0.5**	**51.2**

3.3 Pathway projection for the county of Derbyshire

The carbon budgets for Derbyshire show that an immediate and rapid programme of decarbonisation is needed if the county is to make its fair contribution to delivering the Paris Agreement's commitment to staying 'well below 2°C and pursuing 1.5°C' global temperature rise.

In 2016/17 6.77 million tonnes of CO_2 were emitted. Without action to reduce these levels of emission, the county would emit its entire carbon budget within 6 years from 2020. The level of decarbonisation is illustrated on the graph below.

Year	Reduction in Annual Emissions
2020	20.5%
2025	63.6%
2030	83.4%
2035	92.4%
2040	96.5%
2045	98.4%
2050	99.3%



4 Response of local authorities in Derbyshire

Reducing greenhouse gas emissions is clearly everyone's responsibility and, whilst local authorities have no statutory responsibility for reducing emissions in line with the Climate Change Act, they do need to produce plans that influence emissions (e.g. transport, local plans, housing, minerals plans, procurement). They are therefore uniquely positioned to take a leading role in tackling climate change.

The Committee on Climate Change, in its report 'Net Zero – The UK's contribution to stopping global warming', recognised the role of local authorities in tackling climate change:

> *"Cities and local authorities are well placed to understand the needs and opportunities in their local area, although there are questions over whether they have sufficient resources to contribute strongly to reducing emissions. They have important roles on transport planning, including providing high-quality infrastructure for walking and cycling, provision of charging infrastructure for electric vehicles, and ensuring that new housing developments are designed for access to public transport. They can improve health outcomes for people who live and work in the area by implementing clean-air zones that discourage use of polluting vehicles and other technologies."*

In addition to their regulatory and strategic functions, councils across Derbyshire recognise the role they play as community leaders, major employers, large-scale procurers and, for the districts and boroughs, their influence on social housing.

In recognition of these roles and the need to work to carbon budgets which cover county, borough and district areas, the following local authorities have pledged to work together to tackle climate change and provide leadership across Derbyshire:

- Amber Valley Borough Council
- Bolsover District Council
- Chesterfield Borough Council
- Derbyshire Dales District Council
- Erewash Borough Council
- High Peak Borough Council
- North East Derbyshire District Council
- South Derbyshire District Council
- Derbyshire County Council

The Peak District National Park Authority and Derby City Council are key partners. The National Park sits within six different counties which makes it difficult to calculate its carbon budget. However, managing emissions from agriculture, transport and quarrying clearly are a key part of the work in Derbyshire. Derby City Council is a unitary authority with its own allocated carbon budget. Opportunities for joint working will be sought to create a co-ordinated and effective approach between all local authorities.

5 The Derbyshire Environment and Climate Change Framework

Councils across Derbyshire have been working closely together to develop this Framework. The Environment and Climate Change Framework seeks to reduce greenhouse gas emissions to levels which are consistent with the allocated carbon budgets for Derbyshire and to reduce carbon emissions to net zero by 2050.

The Framework contains carbon budgets and suggested trajectories, outlining an approach to tackle climate change and improve the environment, which can be adopted by all partners across the county. A summary of the Framework and its outline structure is set out in section 5.1.

The Framework will allow relevant strategies and action plans to be adaptive over time and respond to research findings, technological developments and cultural and economic changes as they occur.

The Framework does not encompass actions to adapt to a changing climate which will be addressed in a separate document.

5.1 Environment and Climate Change Framework

Overarching Framework	**Environment and Climate Change Framework**						
Programme	Environment and Climate Change Programme (based on carbon budgets and trajectories)						
Theme	↑ Energy ↓	↑ Travel ↓	↑ Resources ↓	↑ Air Quality ↓	↑ Economy ↓	↑ Natural environment ↓	↑ Partnership working ↓
Relevant policies, strategies & plans	**Energy Strategy** (draft)	**LEVI Strategy (2019-2029)** (draft) **Local Transport Plan 3 (2011-2026)**	Derbyshire's Waste Strategy (**Dealing with Derbyshire's Waste 2013-2026**) (approved)	Health and Well-being Board **Air Quality Strategy (2020-2030)** (draft)	**Good Growth Strategy (2020-2030)** (draft)	**Natural Capital Strategy (2020-2030)** (proposed)	District & borough area-wide policies and plans e.g. Local Plans, supplementary planning guidance
Key delivery partners	Local authorities, residents, VCS, businesses, Distribution Network Operators, Midlands Energy Hub	Local authorities, Go Ultra Low Nottingham, businesses, VCS, hospitals, residents	Local authorities, residents, businesses	Derbyshire Health and Well-being board, local authorities, businesses, residents	Local authorities, businesses, D2EE, Local Economic Partnership (D2N2), VCS, Midlands Energy Hub	Local authorities, Trent Valley Landscape Partnership, Peak District National Park, Local Nature Partnerships, VCS	Local Authorities, social housing providers, residents, businesses, VCS

Other relevant plans / policies	Derbyshire Cycle Plan Derbyshire Infrastructure Plan Local Planning Authority planning policies National Park Management Plan Lowland Derbyshire Biodiversity Action Plan Local Flood Risk Management Strategy D2N2 Energy Strategy D2N2 Local Industrial Strategy (in development) Derbyshire Climate Change Risk Assessment and Adaptation Framework (planned 2020- onwards)

6 Key strategies

The Framework sets out the key strategies which partners will develop and implement to achieve collective ambitions. Together these strategies will tackle climate change and contribute to an overall reduction in greenhouse gas emissions across Derbyshire as a whole. In addition, individual strategies will set out localised action at borough and district level. The co-ordinated strategies have areas of mutual interest and are often inter-linked.

6.1 County-wide strategies

Seven county-wide strategies contribute to the Environment and Climate Change Framework:

Derbyshire Energy Strategy (2020-2030)	The proposed Energy Strategy sets out a framework to ensure a common understanding of the challenges and opportunities arising from changes in the energy sector. The Strategy enables co-ordinated effort in delivery of responses to these changes across the county with a suggested ambition to use 100% clean energy for power, heat and transport, supporting strong and resilient communities. Key achievements to date: • Reduced emissions from streetlighting by 63% between 2009-10 and 2018-19 • Invested over £60 million since 2012 in direct and indirect energy saving measures such as external wall insulation, installation of new heating systems improved roof insulation, new windows and doors and new roofs by Chesterfield Borough Council's Housing Service. Further expenditure of £1.88m is planned in 2019/20 on direct energy saving measures.
Low Emission Vehicle Infrastructure Strategy (2019-2029)	The Low Emission Vehicle Infrastructure Strategy for Derbyshire demonstrates a local commitment to promote the uptake and deployment of low emission vehicles, including electric, hydrogen and e-bikes. The expectation is that most low emission vehicle users will choose to charge at home but the development of a public charging network will provide the confidence for residents, businesses, public transport operators, community groups, tourists and leisure industries to use low emission vehicles in Derbyshire. The Strategy and accompanying Action Plan sets out how, locally, the need for a network which represents good value for money, responds

	to changing demands and embraces new technologies will be met. Key achievements to date: • Plans to install 39 fast and 11 rapid electric vehicle (EV) chargepoints in public areas across the county in 2020 approved • Installed five dual EV chargepoints at county council premises with plans to introduce electric vehicles and electric bikes to the Council fleet.
Derbyshire Local Transport Plan (2011-2026)	The vision of the Derbyshire Local Transport Plan is to achieve a transport system that is both fair and efficient, promotes healthier lifestyles, safer communities, safeguards and enhances the natural environment and provides better access to jobs and services. The five transport goals are: • Supporting a resilient local economy • Tackling climate change • Contributing to better safety, security and health • Promoting equality of opportunity • Improving quality of life and promoting a healthy natural environment. Key achievements to date: • Developed the Key Cycle Network across Derbyshire • Worked with schools to increase sustainable travel through the Modeshift Stars programme • Developed the innovative Buxton Town Travel Plan • Explored mobility options and maximised walking and cycling for work in the East Midlands Manufacturing Zone • Improved walking and cycling access to the rail station through Ilkeston Gateway • Increased the reuse and recycling of road planings in road maintenance • Managed gullies and drains through an intelligence-led approach.
Dealing with Derbyshire's Waste (2013-2026)	Derbyshire and Derby City's revised Joint Municipal Waste Management Strategy, 'Dealing with Derbyshire's Waste' sets out a vision and framework to help manage waste sustainably for the communities of Derbyshire and Derby City up to 2026. The Strategy includes priorities for action over the next five years and provides a framework for how the 10 councils will work to:

	• Reduce the amount of waste produced • Reuse, recycle and compost as much material as possible • Find the most sustainable solutions to deal with any waste produced. Key achievements to date: • Achieved a recycling rate of 60.3% in 2017-18 in the Derbyshire Dales – one of the highest recycling rates in the country • Increased recycling rates across the county over the last twenty years from below 10% to more than 48% • Encouraged schools to become Eco Schools by providing teacher training, classroom support and interactive theatre productions.
Health and Well-being Board **Air Quality Strategy (2020-2030)**	The partners of the Health and Wellbeing Board are producing an Air Quality Strategy for Derbyshire and Derby City to reduce the health impact of air quality for the people of Derbyshire. The cumulative effect of a range of interventions has the greatest potential to reduce local air pollution and improve population health. The Strategy will address three key priorities to seek to reduce the sources of pollution, prioritising those which offer additional health benefits, alongside intervention which mitigate the impacts in health. These three priorities are: facilitate travel behaviour change; reduce sources of air pollution and mitigate against the health impacts of air pollution Key achievements to date: • Developed a supplementary planning guidance document in conjunction with East Midlands Air Quality Network to provide developers and planners with guidance on how to improve air quality through good design practice • Developed a combined Derbyshire County and Derby City annual status report, mapping air quality trends • Developed an air quality map for the county • Raised awareness of air quality as part of Clean Air Day.
Good Growth Strategy (2020-2030)	The Good Growth Strategy will provide a framework to examine how economic growth, protection of the natural environment, continued reduction in carbon emissions and generation of renewable energy are delivered in Derbyshire. The Strategy is closely aligned to the D2N2 Local Industrial

	Strategy and the UK's Industrial Strategy. Increasing productivity, creating good jobs and boosting earning power as well as helping protect the climate and environment upon which we and future generations depend are key themes. Key achievements to date: • Carried out free energy surveys and given grants and advice to improve energy efficiency and reduce emissions for businesses in Derbyshire and Derby through the award-winning D2 Energy Efficiency (D2EE) project • Shared best practice, developed by the County Council, on coalfield remediation and renovation with counterparts in China in order to reduce the impact of climate change.
Natural Capital Strategy (2020-2030)	Natural Capital has been defined by the UK's Natural Capital Committee as: "the elements of the natural environment which provide valuable goods and services to people such as clean air, clean water, food and recreation". Natural Capital refers to elements such as woodlands, grasslands, minerals, soils and watercourses. Certain types of Natural Capital can be finite, such as minerals, others can be replenished and enhanced. Well managed Natural Capital, enhanced in the correct locations, will assist in making the county more resilient to flooding; ensure there is depth in the type and number of insects to pollinate our crops and contribute to clean watercourses that support biodiversity: among a wide range of other benefits. Access to the natural environment provides health and wellbeing benefits helping Derbyshire's workforce to be productive and healthy and reduce burden on Health Service resources. The Strategy will set out plans to ensure Derbyshire's Natural Capital assets remain in good order to positively impact on Derbyshire's economy and the lives of its residents. The Strategy will examine the type of ecosystem services, such as carbon capture and storage, that are required, alongside the Natural Capital elements that are appropriate to Derbyshire's diverse, yet distinct, landscape character types. This will help reinforce the county's attractive natural environment. The Strategy will also be influenced by national and regional targets for Natural Capital, such as the Forestry

	Commission's desire to see a tree coverage of the UK to increase from 13% to 17%. Key achievements to date: • Protected the uplands of Derbyshire and surrounding counties with many benefits including acting as a carbon store through The Moors for The Future Partnership • Planted nearly 9 million trees in the National Forest • Produced a baseline assessment of the natural capital of the area covered by the Lowland Derbyshire and Nottinghamshire Local Nature Partnership

6.2 District and borough-wide strategies

The eight borough and district councils collaborating on this Framework will each have their own relevant policies, strategies and plans.

The key document for each area will be the Local Plan. Local Plans are plans for the future development of the local area drawn up by the local planning authorities in consultation with the community. They set out a framework for the future development of an area on a 15-year horizon including how the planning system will support the transition to a low carbon future and take a proactive approach to the mitigation of, and adaptation to, climate change.

6.3 Internal emissions policies

Local authorities have direct control over emissions from their internal operations and are also working to reduce these. Links to relevant webpages and documentation are set out in the table below.

Derbyshire County Council	Corporate Environment Policy Derbyshire County Council Carbon Reduction Strategy
Amber Valley Borough Council	Amber Valley Borough Council have passed a Council motion relating to climate change, information found here
Bolsover District Council	Carbon Reduction Plan (2019-2030)
Chesterfield Borough Council	Environmental policies
Derbyshire Dales District Council	Climate Change
Erewash Borough Council	Erewash Borough Council have passed a Council motion relating to climate change, information found here
High Peak Borough Council	Environmental studies
North East Derbyshire District Council	Reduce, Reuse, Recycle, Rethink: Climate Change Action Plan (2019-2030)
South Derbyshire District Council	SDDC Corporate Plan (due November 2019) SDDC Action Plan for Nature (due 2020)

7 Non-carbon greenhouse gas emissions

Many different gases contribute to global warming. Greenhouse gases covered by the UNFCCC's Kyoto Protocol are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. CO_2 is the most abundant of the greenhouse gases.

The carbon budgets described in Section 3 cover CO_2 and do not include other greenhouse gases. However, in order to limit global warming to a maximum of 2°C, action also needs to be taken to reduce emissions of the other gases, notably methane and nitrous oxide. Key sources of methane in the UK are agriculture, landfill waste, natural gas leakage and coal mining. Key sources of nitrous oxide in the UK are agricultural soils, fuel combustion (particularly transport) and nitric acid production.

Given the rural nature of much of Derbyshire, reducing the generation of greenhouse gases from agriculture is essential if targets are to be met.

Strategies and associated action plans identified in the Framework will set out how commitments to reduce emissions of non-CO_2 greenhouse gases will be met, although these will not be quantified until such times as robust data is available.

8 Carbon Offsetting

Carbon sequestration reduces atmospheric levels of CO_2 by capturing the gas and storing it so helping to limit climate change. Carbon dioxide can either be captured where it is created (e.g. power plants or industrial processes) and then stored, for instance, underground, or can be removed from the atmosphere using natural processes. Avoiding CO_2 emissions in the first place is clearly more preferable. However, recognising that some emissions are hard to avoid, carbon sequestration is an alternative option that should be considered and planned.

Carbon capture and storage methods currently available and suitable for Derbyshire include:

- Tree planting, as trees store carbon in their trunks as they grow
- Restoration of peat moorlands, as carbon is stored in the mosses which form peat
- Changes in agricultural practices to lock carbon into the soil and vegetation
- Greenwalls (suitable for urban areas), as they store carbon as the plants grow

Biological measures for carbon sequestration, notably tree-planting, will be identified within the Natural Capital Strategy to help compensate for non-CO_2 emissions and any remaining CO_2 emissions.

Large scale chemical and physical processes for capture and storage of carbon are relatively new technologies which may become viable options for Derbyshire in the future. Developments will be monitored and incorporated into relevant strategies as required.

9 Modelling carbon budgets and developing strategies

On-going work will link the carbon budgets to individual strategies in the Framework. Modelling of carbon emissions and carbon capture and storage over time will be undertaken in order to understand potential pathways to meet carbon budget commitments. This modelling will enable emissions from potential initiatives across all strategies in the Framework to be calculated, ensuring the carbon budget for each period is not exceeded.

Undertaking modelling in this way will initiate the development of action plans for each of the strategies set out in the Framework.

10 Delivery of the Framework

10.1 Partners

Action to reduce greenhouse gas emissions can only be achieved through co-ordinated and concerted effort from everyone – residents, voluntary organisations, businesses, public organisations and transport and agriculture sectors. Everyone needs to take action and every action, no matter how small or large, is important.

It is therefore, essential that understanding and consensus are gained to ensure effective planning, co-ordination and implementation of the work moving forwards.

10.2 Communication and engagement

An on-going process of community engagement will be developed. Conversations within the boroughs and districts and across the county are needed to ensure that all communities, be they commerce, industry, agricultural, village, town or educational, are engaged with the process. This needs to be a two-way process to ensure:

- A mutual understanding of climate change and how it affects Derbyshire and elsewhere
- A shared knowledge of what could be done in Derbyshire to tackle climate change and the barriers faced
- The opportunity, to shape strategies and priorities, is available to everyone

- Agreement on the role individuals, communities and organisations have in tackling climate change
- Appropriate support is in place to enable work to be undertaken across the county to tackle climate change

Considerable work is already being undertaken through a range of channels as set out below:

Channel	Description
'Everybody's Talking about Climate Change' web-site	A web-site funded by the Local Authority Energy Partnership where residents and community groups can find out more about climate change action in Nottinghamshire and Derbyshire (Click on the link here)
Community Climate Action Network	A monthly newsletter funded by the Local Authority Energy Partnership
Carbon Literacy and Carbon Pathways training	Full and half-day training provided through the Local Authority Energy Partnership
Social media campaigns	A campaign run by Derbyshire County Council: #fightingclimatechange and #gogreenDerbyshire
Eco-schools programme	An education programme for schools provided by Derbyshire County Council which provides access to learning about sustainable living (click here)
Liaison with a range of climate change interest groups	Informal talks and discussions between local authorities and climate change interest groups

Further cross-county and local engagement will take place to enable the two-way process of communication and action, outlined above, to take place. This will demonstrate how local action is linked to delivery of the key strategies.

10.3 Climate Summit

A Climate Summit, led by Derbyshire County Council, will take place in March 2020. The Summit will seek to engage a wide range of partners and will present further actions which will be taken forward under the Environment and Climate Change Framework. The Summit will be a vehicle to launch the new Energy Strategy and will demonstrate how de-carbonising and decentralising energy can provide benefits to Derbyshire's residents, businesses, public organisations and visitors.

10.4 Governance arrangements

The Framework will be co-ordinated and monitored by the Derbyshire Environment and Climate Change Officer Working Group, which is comprised of officers from the county, district and borough councils in Derbyshire.

Oversight of the Framework is being provided by Derbyshire Chief Executives' Group and, moving forward, formal governance arrangements will be developed to ensure overall accountability and strategic direction.

10.5 Monitoring of the Framework

Action Plans to support each Strategy will be produced and these will set out clear targets for reducing carbon emissions. Where appropriate, identified projects will be subject to relevant feasibility studies and business cases.

Overall delivery of the Framework will be monitored and reported on a regular basis. This will ensure that progress is being made, plans are on track to deliver the overall county carbon budget and any necessary early interventions to address under performance are made. Technological developments are occurring all the time with more expected, particularly in the field of carbon sequestration and energy storage. Strategies will need to be adaptive, regularly reviewed and updated as technological, economic and cultural developments occur.

11 Further information

For further information about the Environment and Climate Change Framework, please contact

Policy and Research
Derbyshire County Council
County Hall
Matlock
Derbyshire DE4 3AG

Email: policy@derbyshire.gov.uk

Telephone: **Call Derbyshire 01629 533190**

Appendix C

Linking the Manifesto Pledges to the Environment and Climate Change Framework

Climate and Carbon Reduction Manifesto Pledge	Corporate Environment Strategy	Derbyshire Energy Strategy	LEVI Strategy	Dealing with Derbyshire's Waste 2013-	H&WBB Air Quality Strategy (2020-	Clean Growth Strategy	Natural Capital Strategy	Other
Reduce greenhouse gas emissions from the Council's buildings and operations by 55% by 2022 compared to 2010	✓		✓		✓			
Work with borough and district councils, utilities and property developers to champion eco-homes fit for the future and to help communities and businesses become less dependent on energy		✓			✓	✓	✓	
Work with Derbyshire businesses and local government partners in China, Japan, India and other countries to reduce carbon emissions in business and tourism activities			✓			✓	✓	
Support renewable energy generation, both large scale and microgeneration, on the Council's land and buildings and in our communities working alongside partners such as D2N2 and the Midlands Energy Hub	✓	✓				✓		
Promote energy efficiency, including reducing energy use in older buildings and through the use of smart technology		✓				✓		
Support low carbon businesses to establish and flourish in Derbyshire, creating new jobs across the county		✓				✓		
Foster green energy entrepreneurs to develop renewable or zero carbon energy production		✓				✓		
Attract companies into Derbyshire who will carry out research and development and upskill the workforce in partnership with universities and training providers						✓		
Use the Council's buying power to support businesses and schools to become more sustainable	✓				✓	✓		

Support and promote the development of low carbon travel and low emission vehicles, introduce electric vehicles into the Council fleet and explore opportunities for low carbon fuels for HGVs	✓		✓		✓	✓		
Develop through our close partnerships with district and borough councils solutions that minimise waste, particularly food waste and single-use plastics, and increase recycling				✓				
Ensure we buy and use goods which are more sustainable and can be reused or recycled and wherever possible waste products are used to benefit the local economy				✓				
Call on the UK Government to ensure the level of investment and national planning regulations support the Council's ambitions to reduce greenhouse gas emissions in Derbyshire			✓		✓	✓		✓
Produce further targets and objectives for carbon reduction, within six months, after considering latest recommendations made to the UK Government								✓

DERBYSHIRE County Council

Appendix D

Low Emission Vehicle Infrastructure (LEVI) Strategy

2019-2029

Derbyshire County Council
February 2019

Contents

Forward

Derbyshire County Council recognises that demand for low emission vehicles is beginning to increase significantly, as the benefits in relation to air quality and public health, become increasingly evident.

This strategy aims to set out the Council's plans, in partnership with other stakeholders, as to how it intends to support the development for a growing public charge network that will provide confidence to residents and visitors to use LEV's in Derbyshire.

Councillor Tony King
Cabinet Member for Economy Development and Regeneration

1. Introduction

1.1 Background

A low emission vehicle or LEV is defined as a motorised vehicle which emits lower levels of harmful emissions, this can include Battery Electric Vehicles (BEVs), Plug in Hybrid Electric Vehicles (PHEV) and Hydrogen Fuel Cell Electric Vehicles (HFCEV).

Whilst the majority of vehicles currently on our roads are powered by petrol or diesel fuel, this trend is expected to change rapidly in the coming years. Overwhelming evidence has demonstrated that emissions from road transport, and in particular diesel powered vehicles, are causing pollution which contributes to poor air quality and is harmful to public health. It is estimated that around 70% of the harm to health linked to poor air quality, originates from transport emissions. Battery electric vehicles provide substantially lower greenhouse gas emissions than fossil fuel cars, even when taking into account the electricity used to fuel and produce the battery, and provides the lowest greenhouse gas fuel source (66% lower than petrol cars). With transport emissions being a significant contributor to climate change, the government has committed to end the sale of new conventional petrol and diesel cars and vans by 2040 and to accelerate the shift to low carbon transport. Policy makers, vehicle manufacturers, transport innovators and national and local governments are therefore working to advance technologies and adoption in the use of alternative fuels. Currently the sector employs 15,000 people in the UK and one in eight zero emission cars brought in Europe are made in the UK. It is estimated the global market for low emission vehicles could be worth £1-2 trillion per year by 2030.

1.2 A Strategy for Derbyshire

As transport users make the transition to low emission vehicles over the next few years, there is a growing need for Derbyshire County Council to adopt a Low Emission Vehicle Infrastructure (LEVI) Strategy. A strategy for Derbyshire will demonstrate a local commitment to promote the uptake and deployment of LEV's, including electric, hybrid, hydrogen and e-bikes. This LEVI Strategy and accompanying action plan sets out how, locally, we will meet the need for a network which represents good value for money, responds to changing demands and embraces new technologies.

Whilst the expectation is that most LEV users will choose to charge at home, development of a public charging network will provide the confidence for residents, businesses, public transport operators, community groups, tourists and leisure industries to use LEV's in Derbyshire.

This strategy will therefore form a fundamental part, in the wider context, of the Council's longer term policy and project work.

2. The Policy Context

2.1 National Policy

There has been a range of national policy and strategy announcements to facilitate the shift to low emission transport in recent years including;

- The Carbon Plan (2011), the Clean Growth Strategy (2017), the Industrial Strategy (2017): these include Government plans for the reduction of greenhouse gases and identify that transport has a critical role in meeting the Climate Change Act 2008 obligations.
- Queens Speech (2017) and Automated Electric Vehicles Bill (2018): announcing a fund of £800m for investment into new driverless and zero-emission vehicle technology to boost the Industrial Strategy. The Government will set a target for almost every car and van to be zero emission by 2050, require motorway service areas and large petrol stations to install electric vehicle charge points, and ensure common infrastructure standards. It will also invest £200m in researching and testing driverless car infrastructure (Connected Autonomous Vehicles or CAV) and £600m during this parliament to support ultra-low emission vehicles.
- United Nations Paris Agreement on Climate Change (2015): The UK Government is determined to turn this challenge into an opportunity by setting the lead and standard for future transport technologies and to limit global warming to well below 2°C.
- Air Quality Plan for nitrogen dioxide (NO2) (2017): outlining the UK's plans for reducing roadside NO2 concentrations. In addition, the Government announced its plans to ban new diesel and petrol vehicles from sale in the UK from 2040. Ministers also unveiled a £255m fund to help councils tackle emissions, including proposals for clean air zones to tackle pollution issues caused by traffic in some of the country's most congested cities.
- Road to Zero Strategy (2018): confirming the Government's ambition to see at least half of new cars to be ultra-low emission by 2030 as part of plans to make the UK the best place in the world to build and own an electric vehicle.

2.2 Regional Context: The East Midlands

The East Midlands' automotive expertise is globally renowned. The region is at the forefront of developing the next generation of road vehicles and is a world-leading centre for advanced manufacturing, technology and low carbon technology.

The East Midlands is fast becoming an electric region with more charge points being installed than ever before, thanks to projects such as;

- Plugged-in Midlands,
- Nottingham City's Go Ultra Low initiative
- Office of Low Emission Vehicle grants.

Government agencies and local authorities have a role in supporting the next generation of vehicles by developing policies to ensure provision of LEVI in the region as well as also providing for the potential for hydrogen fuel cell infrastructure (HFCI).

Regional organisations, such as Midlands Connect, are now revising their own strategies to include provision to encourage further development of LEVI in the region.

2.3 Local Context: Derbyshire

At a local government level, collaboration with Boroughs and Districts will be key to maximising the development of LEVI and ensuring a consistent approach across the County which meets local needs.

As the local planning authority and as managers of off street carparks, the Districts and Boroughs will be instrumental, in partnership with the Highways Authority, in securing LEVI through new developments and providing LEVI in the car parks they own and manage.

2.4 Current and emerging policies to support LEVI

Building on the Derbyshire Climate Change Charter 2014-2019, the Council is currently developing an Environment and Climate Change Framework covering energy, transport, waste, air quality, good growth and natural capital. When combined these strategies will provide the building blocks that will facilitate the delivery of the pledges contained within the Derbyshire Climate and Carbon Reduction Manifesto, published in May 2019.

The LEVI Strategy and Action Plan is a key component of this Framework and the diagram below details the structure behind this Framework, demonstrating how each strategy is linked to individual themes that, in turn, feed into the Manifesto pledges and Framework

Overarching Strategy	**Environment and Climate Change Framework**						
Action Plan	High Level Action Plan (2019-XXXX) based on Climate and Carbon Reduction Manifesto Pledges and carbon budgets						
Theme	↑ Energy ↓	↑ Transport ↓	↑ Resources ↓	↑ Air Quality ↓	↑ Economy ↓	↑ Natural environment ↓	↑ Partnership working ↓
Relevant policies, strategies & plans	**Energy Strategy (2019-2022)**	**LEVI Strategy (2019-2029)** **Local Transport Plan 4 (2021 – 2033)**	Derbyshire's Waste Strategy **(Dealing with Derbyshire' s Waste 2013-2026)**	**Air Quality Strategy (2020-2030)**	**Good Growth Strategy (2020 – 2030)**	**Natural Capital Strategy (2020 – 2030)**	District & borough area-wide policies and plans e.g. housing, planning

Within the Districts and Boroughs, policies are currently being developed to include provision for supporting the advance of electric/hydrogen vehicles in the market. This is summarised in Appendix A. At a local level, communities are being encouraged to support the provision of LEVI through the inclusion of policies in their Neighbourhood Plans.

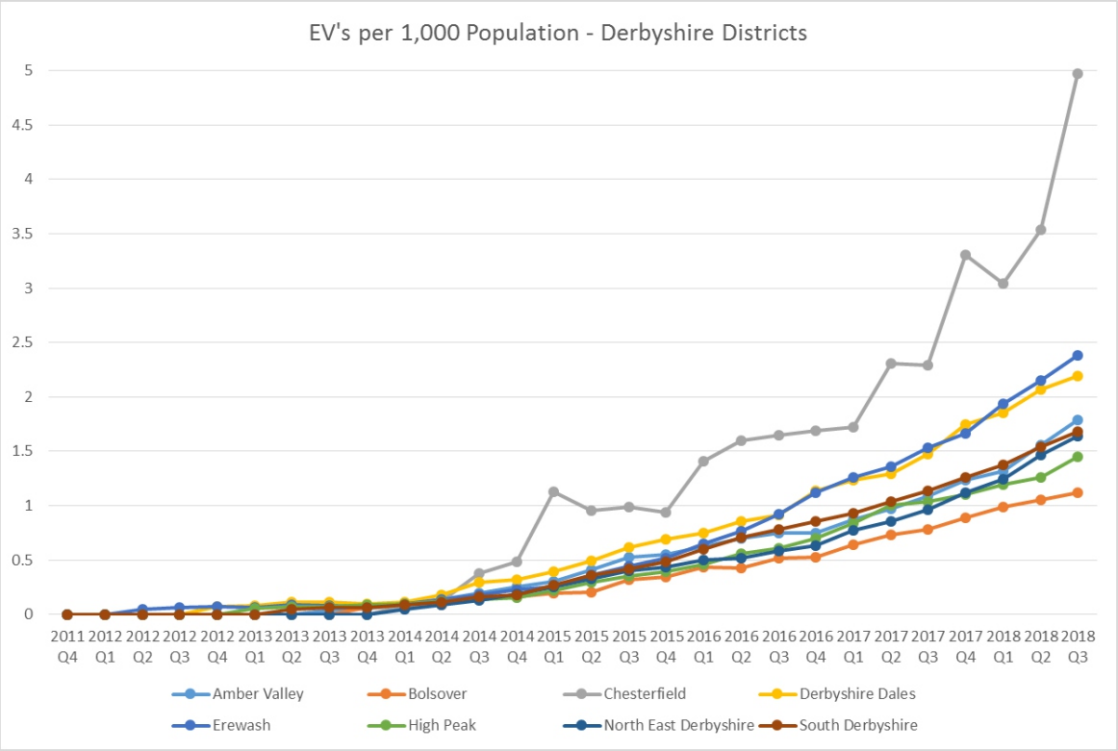
3. Overview of Current Situation

3.1 Ultra-Low Emission Vehicles

The UK has seen a surge in demand for ultra-low emission vehicles. In 2017 Ultra-Low Emission Vehicles (ULEVs) accounted for a small proportion of UK vehicles, just over 100,000, by the beginning of 2019 this has increased to over 200,000 vehicles, registered in the UK. The pace of demand and advancing technology means that by 2025 this is expected to have increased significantly to around 1 million (OLEV).

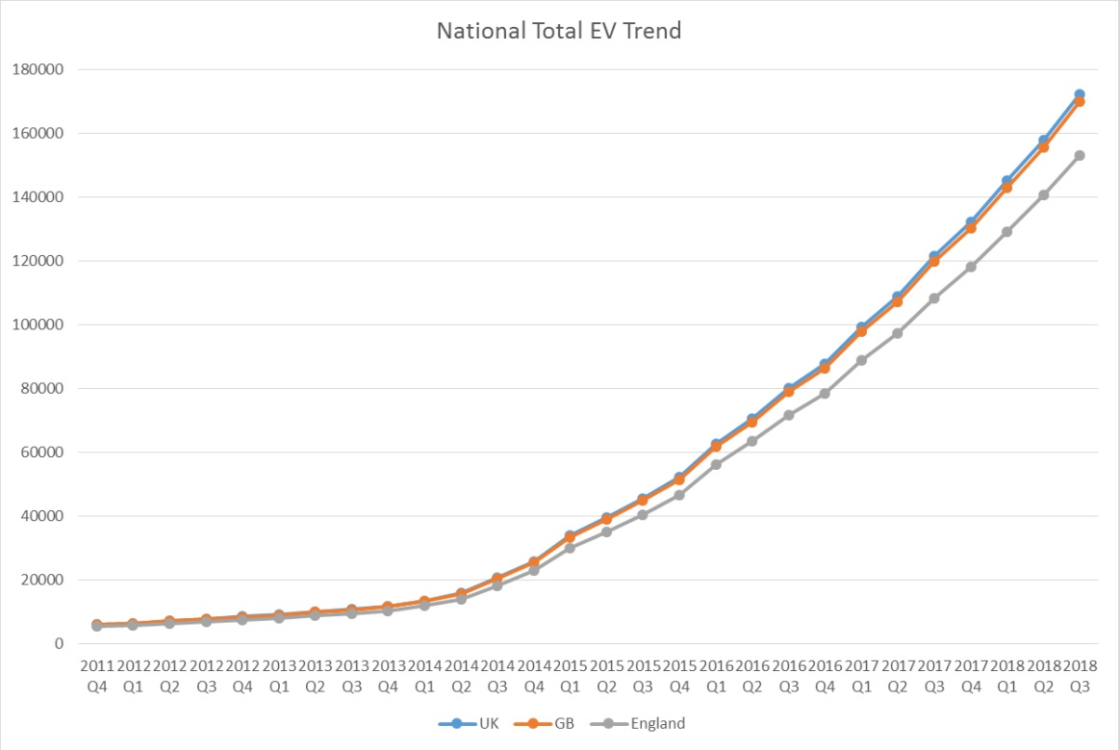
Figures suggest the growth of EV car ownership in Derbyshire is increasing at a rate higher than many other areas (see Figure's 1 and 2 below). From October 2017 to September 2018 the number of registered plug-in vehicles in Derbyshire increased by 69%. It is now estimated that the number of registered electric or plug-in hybrid vehicles has grown to 1,720 as at September 2018. As the number of registered electric, or plug-in, vehicles continues to rise sharply in coming years, it is important that the Council, in collaboration with partner organisations, develops a Strategy to ensure infrastructure is in place to meet changing demands of Derbyshire residents, business and visitors.

Figure 1: EV's per 1,000 Population – Derbyshire Districts



Department for Transport VEH0131; Plug in cars and vans and quadracycle's licensed at end of quarter.

Figure 2: National Total EV Trend



Department for Transport VEH0131; Plug in cars and vans and quadracycle's licensed at end of quarter.

Within the private domestic vehicle market, plug in hybrid electric vehicles are growing at the fastest rate (Information about the various forms of electric vehicles can be found in Appendix B).

LGV, HGV and other more specialised forms of transport (public transport, taxi's etc) are referred to later in this strategy.

3.2 Current charging/fuelling infrastructure in Derbyshire

There are a number of private and public charge points across Derbyshire, these can be found through **Zapmap**. Zapmap can also be used to search for charge point locations within individual districts and boroughs.

- **Amber valley**
- **Bolsover**
- **Chesterfield**
- **Derbyshire Dales**
- **Erewash**
- **High Peak**
- **North East Derbyshire**
- **South Derbyshire**

The majority of current charge points are found within private locations including leisure facilities such as hotels and private employers. In terms of electric vehicles there are currently four power levels associated with EV charging. These are slow, fast, rapid and super chargers (details can be found in Appendix C).

A number of suitable locations are currently being assessed within District, Borough, County Council and National Park owned car parks, in partnership through the **Go Ultra Low Charge Point Project**.

Residents and businesses with a postcode in Nottingham, Nottinghamshire, Derby or Derbyshire, can currently register for a **D2N2 card** to take advantage of reduced charging tariffs.

3.3 Increasing the LEVI in Derbyshire

To increase infrastructure availability in the most cost effective way, it will be important to map current provision and expected demand; take account of the commercial market; consider grid capacity; ensure provision meets the needs of the various ULEV types and ensure systems are standardised and user friendly.

To achieve a well-balanced and well used provision, a number of factors need careful consideration;

- Traffic Regulation Orders and parking restrictions
- District Network Operator (DNO) engagement
- Grid connection and the possible need for buffer battery storage where the existing grid is not capable of supporting a charge point e.g. in more isolated rural areas
- Liaison with providers of private or limited public access charge points e.g. shopping centres – and the potential to include such units within a Derbyshire charge point network
- Preliminary requests for pre-qualification offers from charge point and back office operators / suppliers to identify the most suitable partnership model(s) that could support a councils-led network.

Residential On Street

Across Derbyshire there is a need to develop Residential on-street charging facilities, to meet the needs of both residents, without private parking, and visitors. There are a number of considerations required to develop effective residential on street parking systems, including;

- Ensuring provision is targeted effectively
- Mechanisms to ensure fair usage such as Controlled Parking Zones to ensure flexible use of parking
- Innovative charging technologies to maximise space, including street light column and kerbside charge points.
- Undertake soft market testing exercises to assess and explore on-street provision.
- Work with local district and borough councils to identify public facing car parks, close to residential areas where off-street parking is not an option and where demand is evident, so that residents without off-street parking can access electric vehicle charge points close to their homes.

3.4 Specialist Transport Sectors

Taxis

From 1 January 2018, all taxis licensed for the first time must be zero emission capable (ZEC). For Private Hire Vehicles (PHVs) the requirements are staggered, with the ZEC requirement for all new PHVs presented for licensing being applied from 2020. Regardless of age, all vehicles granted a private hire licence for the first time after 1 January 2023 will be zero emission capable. These vehicles are in use for long periods and so require high-speed charging facilities in strategic or central locations that are convenient for railway stations, town centres and the main highway network.

Light Commercial Vehicles (LCV)

Light Commercial Vehicles (LCV) have grown in use across Derbyshire over the last decade. This may be because of the growing service economy in the area, including an increase in demand for deliveries to homes as a result of internet shopping; often referred to as ‘last mile delivery’. This represents a need to provide rapid ‘top up’ charging which supports the commercial LGV market.

Other fleet or essential user car drivers in small-medium enterprises (SMEs) adopting EVs/PHEVs and HFCEVs will also require the ability to rapidly charge their cars, for example if their occupation

involves driving between many different destinations each day. In such cases rapid charge points on motorways and major trunk roads may not service their requirements – and alternative 'in town' rapid charging hubs may be a consideration.

The Strategy will therefore need to consider the provision of off-street rapid charging facilities in areas of high anticipated demand, in addition to a standard fast charging network.

Freight

The technology to support freight is less advanced than the domestic market in terms of low emission vehicles. Hydrogen is currently expensive within the consumer market, however may well be suited to the HGV and fleet markets. Hydrogen vehicles emit around 10% less greenhouse gases than a diesel HGV and 43% lower than a petrol car. Within Derbyshire a Hydrogen generating station is proposed for Colliery Close, Staveley S43 3QE. This was granted planning consent by North East Derbyshire District Council (NEDDC) on 9th November 2017, subject to conditions. The proposal provides a single, publicly accessible fuelling point which it is proposed be open before the end of November 2020. It is likely that gas may provide an interim solution for the freight industry.

At this time there are no other proposals for publicly accessible hydrogen fuelling stations in the county.

Public Transport - Bus

Exhaust emissions from buses have been improvingly steadily for a number of years due to the increasingly stringent limits set on the new Euro emissions standard engines. The introduction of new vehicles fitted with these engines, has meant there are currently now a number of bus services within Derbyshire operating these lower emission vehicles. There are, however, currently no alternative-fuelled vehicles operated by the major operators on their commercial services or by the County Council in Derbyshire.

Case Study

There has been considerable investment in electric and bio gas bus technology in the region. In Nottingham the City Council has 58 electric buses in operation on its network of supported bus services, representing the largest electric bus fleet in the UK outside of London. Nottingham City Transport, the main city bus operator in Nottingham, has chosen to invest in Bio Gas as an alternative clean bus technology. Currently 53 Bio Gas double decker buses are being introduced onto their services and they are developing a gas fuelling facility. Stagecoach Yorkshire who provided services in the north east of the county have introduced a limited number of electric hybrid buses in the Sheffield area. These take their power from a combination of diesel and electricity, recycling the energy created from braking and storing it in batteries to power the vehicles.

With this considerable experience of using alternative fuelled buses in the region there is real potential for bus companies in Derbyshire to learn from local experience and best practice. This will be particularly important for operators who's services begin their route in Derbyshire and then travel onto Derby and Nottingham, which are both considering the introduction of clean air zones.

Electric Car Clubs

There is currently one car club operator within the County, which has been successfully operating since 2015 by Derbyshire Community Health Services (DCHS). The Council will need to consider support to be offered to develop the car club sector and provide appropriate infrastructure.

E-Bikes

E-bikes provide the lowest emission mode of powered transport. E-Bikes are becoming increasingly

popular within Derbyshire for both leisure and utility journeys, and are particularly well suited to support cycling in more rural areas, providing pedal assistance to the rider for hills and longer distances. E-bikes can be used on cycle pathways, cycle ways and used in the same way as regular pedal cycles.
E-bikes can provide a viable solution to replace short journeys. For the majority of short journeys and days out, E-Bikes will not generally require re-charging during the day. Provision within businesses, cafes, hotels and bed & breakfast accommodation. could provide suitable infrastructure for short journey users to re-charge E-Bike batteries (this will sometimes be by allowing access to a standard 3-pin 13 Amp socket).

For longer journeys range anxiety is an issue, particularly in hilly areas. Infrastructure will therefore be required to meet the needs of these users. Charging can take approximately 2 hours, however 80% power charge can be achieved within shorter periods of time, with costs to the electricity provider of around 7p for a full charge.

The purchase cost is higher than that of a regular bike and therefore it will be important to share best practice around workplace salary sacrifice schemes. Adequate storage is also an important consideration due to the cost of E-bikes. The strategy will therefore need to consider the importance of ensuring suitable storage at appropriate locations.

Hire schemes can provide an important mechanism to increase accessibility and reduce barriers of initial cost. Such schemes can facilitate users to convert to E-bikes for short journeys in urban areas.

3.5 Sources of funding

Depending on the type of electric vehicle charge point, the initial cost of purchase, installation and maintenance of the units and installation works are likely to be substantial, especially if electrical works are required to meet the energy demands required. In addition, there are the statutory order costs for equipment siting, bay designation and enforcement. Sources of funding will also need to consider wider infrastructure identified in this strategy for hydrogen-powered vehicles and e-bikes. The Council will consider a wide range of potential funding sources. These will include assessing:

- Private partners and other commercial deals
- Office for Low Emission Vehicles (OLEV) grant funds
- Development levies such as Section 106 funding or Community Infrastructure Levy
- Corporate Capital funding
- Other

4. The Strategy

4.1 Our Vision:

Derbyshire County Council will work collaboratively with local partners to accelerate the adoption of low emission vehicles across the county, and in doing so make a major contribution to improving local air quality and to reducing greenhouse gas emissions.

5. Policies

Ten strategic policy statements will guide the implementation of Derbyshire County Councils Low Emission Vehicle Infrastructure strategy. These policy statements have been developed following consultation with a range of partner organisations and stakeholders. A working group will ensure the implementation of the strategy through the development of broad actions covering the 10 year period of the strategy and an annual action plan with defined and measurable actions and leads. Governance and monitoring of the strategy will be undertaken through the Environmental Sustainability Group, through quarterly reporting of progress on the annual action plan.

LEVI 1 Derbyshire County Council (DCC) will work with partners on the provision and delivery of low emission vehicle infrastructure across the county

Outcomes	Performance Measure
• Derbyshire will have a network of mixed speed public charging infrastructure which is affordable, consistent, accessible and user friendly for residents and visitors. • Derbyshire will support the uptake of low emission vehicles in the commercial sector. • Residents with no off-street parking will be able to charge their electric vehicle through provision of on-street charge points. • The use of LEVs and LEVI across the county will be monitored and evaluated. • Annual monitoring and evaluation processes in place. • Maximised opportunities available through the procurement process to achieve the best possible outcome for Derbyshire. • Derbyshire will be a 'safe haven' for e-bike users.	• Number of low emission charging facilities. • Number of e-bike charging facilities.

LEVI 2 DCC will adopt a partnership approach to trial new LEV technologies and explore opportunities to innovate

Outcomes	Performance Measure
• Innovate and use best available techniques in order to maximise the opportunities for Derbyshire considering both the vehicle and the infrastructure required. • Opportunities to trial new approaches and technology will be explored.	• Number of opportunities for innovation engaged with.

LEVI 3 DCC will work through the planning system and with private developers and landowners to provide LEVI

Outcomes	Performance Measure
• Number of developments with low emission vehicle infrastructure installed.	• LEVI provision will be included at the planning stage of all developments.

LEVI 4 DCC will adopt a partnership approach to review current parking management policies

Outcomes	Performance Measure
• There will be a consistent and effective approach to the policies and practice of parking management for EV chargepoint locations to provide a positive customer experience and remove uncertainty for end users whilst allowing flexibility to adapt to future market demands and changes.	• Number of local planning authorities with consistent parking management policies.

LEVI 5 DCC will work with partners to raise awareness of low emission travel

Outcomes	Performance Measure
• Residents, businesses and visitors will be aware of the low emission vehicle market and of the infrastructure provided to support their use.	• Progress against LEVI Communications Action Plan.

LEVI 6 DCC will provide LEVI for its employees

Outcomes	Performance Measure
• Derbyshire County Council will provide infrastructure required to support the use of LEV amongst employees. • Derbyshire County Council will facilitate the take up of LEVI amongst employees.	• Number of LEV chargepoints installed • Number of LEV initiatives deployed

LEVI 7 DCC will deploy LEV's within its pool fleet

Outcomes	Performance Measure
• Derbyshire County Council will accelerate deployment of LEVs within its pool fleet.	• No. of LEV's within County Council pool fleet.

LEVI 8 DCC will work with partners to support private industry and public sector organisations to deploy LEV's within fleets

Outcomes	Performance Measure
• Derbyshire County Council in collaboration with partners will support private industry and public sector organisation to accelerate the deployment of LEVs within fleets.	• Number of partner organisations engaged with

LEVI 9 DCC will work in partnership to support public transport and taxi operators embrace alternative fuel technologies and infrastructure

Outcomes	Performance Measure
• Derbyshire County Council will maximise opportunities to support public transport and taxi operators to embrace alternative technologies and infrastructure.	• No. of public transport and taxi operators engaged with.

LEVI 10 DCC will embed the LEVI Strategy and Action Plan within the context of an umbrella Derbyshire Clean Growth Strategy

Outcomes	Performance Measure
• Derbyshire County Council will provide strategic leadership in the implementation of the LEVI strategy.	• LEVI Strategy embedded within the Derbyshire Clean Growth Strategy

Appendix A

Local Plans

The National Planning Policy Framework (NPPF) states that the Planning System should be genuinely plan-led with plans providing a positive vision for the future, addressing housing needs and other economic, social and environmental policies. They should be prepared with the objective of achieving sustainable development and be aspirational but deliverable (Chapter 3 – NPPF). Transport issues should be considered from the earliest stages of plan-making and development proposals so that opportunities from existing or proposed transport infrastructure, and changing technologies are realised (Chapter 9 - NPPF).

The local plans of the Derbyshire Boroughs and Districts are currently at a variety of stages in the plan-making process, several include policies saved from previous iterations of the local plan. The policies contained in the adopted or emerging plans are summarised below where these policies (or daft policies) are relevant and provide links to the provision of LEVI which may be used in the determination of development proposals to secure the provision of LEVI.

The relevant policies, key issues and strategic objectives identified during the plan-making process are summarised below:

High Peak Borough Local Plan 2016 – 2031 (adopted April 2016)

Key Issue 3: addressing the challenges of Climate Change.
Strategic Objective 5: To address, mitigate and adapt to the effects of climate change on people, wildlife and places; promoting the safeguarding and prudent use on natural resources.
Policy CF 6: Requiring that new development can be integrated within existing and proposed transport infrastructure to further ensure choice of transportation method…

Derbyshire Dales Local Plan 2017 – 2033 (adopted December 2017)

Key issue 3: Addressing the challenges of climate change.
Strategic Objective 5: To address, mitigate and adapt to the effects of climate change on people, wildlife and places.
Strategic objective 9: To protect and facilitate the necessary infrastructure, connectivity, services and facilities to support the development of the District and connectivity.
SO10: To support development that minimises risks to safety and health as a result of… pollution and climate change
So14: To increase the opportunities for travel using sustainable forms of transport by securing improvements to public transport, walking and cycling infrastructure.

Amber Valley Local Plan (adopted 2006)

The draft Amber Valley Local Plan 2011 – 2028 draft has been withdrawn, therefore the relevant policies remain those saved policies of the 2006 Local Plan. However, these should now be given appropriate weight in light of the changes to the 2018 revised NPPF and further emerging government policy. The saved policies do not include reference to the provision of LEV charging infrastructure or the promotion of LEVs.

Chesterfield Borough Council Local Plan: Core Strategy 2011 - 2031 (adopted 24 July 2013)

Policy CS20 Influencing the Demand for Travel seeks to;

"Reduce congestion, improve air quality and encourage more active and healthy lifestyles, the Council will seek to maximise walking, cycling and the use of public transport through the location and design of development and parking provision. Priority will be given to measures to encourage more sustainable travel choices.

To secure this aim, the council will expect development proposals to demonstrate the following:

e) Provision of opportunities for charging electric vehicles where appropriate"

It is anticipated that the Core Strategy will be replaced by the Local Plan 2018 - 2033 which extends the ambition to enable the provision of LEV charging infrastructure by the inclusion of the revised policy LP23 below.

LP23: Influencing the Demand for Travel. To reduce congestion, improve environmental quality and encourage more active and healthy lifestyles, the council will seek to maximise walking, cycling and the use of public transport through the location and design of development and parking provision. Priority will be given to measures to encourage more sustainable travel choices.

To secure this aim, the council will expect development proposals to demonstrate the following (in priority order):
f) Provision of opportunities for charging electric vehicles where appropriate.

All residential proposals with off street parking provision dedicated to individual properties should include provision for charging electric vehicles on each property. Residential and commercial proposals with shared provision should include spaces with charging provision where practical.

North East Derbyshire District Local Plan 2014 – 2034 (Publication draft)

Key issue d) Improve health outcomes in a district with an above average percentage of retired people and people suffering poor health.

Policy ID3: Sustainable Travel. The Council will seek to maximise walking, cycling, and the use of public transport through the location and design of new development, with the aim of reducing congestion, and improving air quality and health.

Proposals for major developments will be required to promote sustainable travel through necessary interventions as set out in the priority order below:

c) Optimisation of the existing highway network to prioritise walking, cycling, public transport and other forms of sustainable travel such as measures to prioritise the need of pedestrians above the car, and improved cycle and bus lanes, and charging infrastructure for electric vehicles for example.

Bolsover District Local Plan 2016 – 2033 (Consultation draft)

SS1: Sustainable Development. In order to contribute to sustainable development in Bolsover District, development proposals should:
c) Locate development with the aim of reducing the need to travel and to contribute to the improvement of sustainable transport.

South Derbyshire District Local Plan 2011 – 2028 (adopted)

Key issue: The causes and effects of climate change will need to be addressed through energy and water management.
Key issue: New development will need to be accompanied by a wide range of infrastructure, services and facilities to address future and existing deficiencies.
Strategic objective: To reduce the need to travel and to encourage necessary travel to be by sustainable modes of transport…
Policy INF2 Sustainable Transport, E Parking: Development should include appropriate car parking provision having regard to:

f) the need to encourage the use of low emission vehicles.

Erewash Borough Local Plan Saved Policies 2005 (amended 2014)

Policy T9 – Travel Plans: Requires developers to submit travel plans to where necessary to make proposals acceptable.

Peak District National Park Core Strategy 2011 – 2026 (adopted 2011)

GSP3: Development Management Principles: includes a statement that particular attention will be paid to:
h. use of sustainable modes of transport and;
k. adapting to and mitigating the impact of climate change, particularly in respect of carbon emissions, energy and water demand.

Erewash Borough Council Core Strategy 2011 – 2026 (adopted 2014)

The adopted core strategy policy 14: Managing Travel Demand does not directly promote the facilitation of LEV charging infrastructure, it does however make reference to 'encouraging sustainable modes of transport'.

Policy 14: Managing Travel Demand
1. The need to travel, especially by private car, will be reduced by securing new developments of appropriate scale in the most accessible locations following the Spatial Strategy in Policy 2, in combination with the delivery of sustainable transport networks to serve these developments.

2. Development sites should be readily accessible by walking, cycling and public transport, but where accessibility deficiencies do exist these will need to be fully addressed. The effective operation of the local highway network and its ability to provide sustainable transport solutions should not be compromised.

3. A hierarchical approach to ensure the delivery of sustainable transport networks to serve, in particular, the sustainable new neighbourhood at the Stanton Regeneration Site (Policy 20), will be adopted which will seek to provide (in order of priority): site specific and area wide travel demand management (measures to reduce travel by private car and incentives to use walking, cycling and public transport for appropriate journeys, including intensive travel planning); improvements to walking and cycling facilities and public transport services that are provided early in the build out period of new developments and that are sufficient to encourage sustainable modes of transport; optimisation of the existing highway network to prioritise walking, cycling and public transport that are provided early in the build out period of new developments, such as measures to prioritise the need of pedestrians above the car and improved or new cycle and bus lanes; and highway capacity enhancements to deal with residual car demand where the initiatives required under points (a) to (c) above are insufficient to avoid significant additional car journeys.

4. There will be a level of iteration between the stages of the hierarchy above to ensure their effective delivery and the implementation of the approach will have regard to the needs of people with mobility difficulties.

Appendix B

Types of Ultra Low Emission Vehicles

- Battery Electric Vehicles (BEVs) – these rely solely on battery power and can travel between 50 and 300 miles on a single charge. Current examples seen on our roads include the Nissan Leaf, BMW i3 and the Tesla S saloon. 2015 saw a 48 per cent increase in pure electric registrations compared to 2014
- Plug-in Hybrid Electric Vehicle (PHEV) – these employ a conventional petrol or diesel engine alongside an electric motor. They have a relatively short range on electric power (20-40 miles) but the use of both drive systems can return figures in excess of 130 miles per gallon equivalent. Examples include the Mitsubishi Outlander SUV, the newer Toyota Prius PHEV and the BMW i8 sports car. 2015 saw a 137 per cent increase in plug in-hybrid registrations compared to 2014.
- Hydrogen Fuel Cell Electric Vehicles (FCEV) – still currently at a development stage with limited production due to the difficulties of hydrogen production, storage and refuelling. As no charging is needed, and with the lack of any significant hydrogen refuelling infrastructure these are not being considered as part of the current low emission transport strategy but could be a future consideration for the County as the technology matures.
- E-Bikes
- Other E-Powered two Wheelers

Appendix C

Power levels of EV Charging

- Slow / trickle - 3kW: this is the oldest standard and can typically be supplied by a standard household 3-pin plug, a wall or post mounted purpose built unit or via a street light charge point. A typical full charge of an electric vehicle (from empty) takes between 7 and 8 hours, meaning that it is most suited for overnight charging at or near home or work, and the number of users in a 24 hour period is low (typically 1 – 2).
- Fast - 7kW a newer standard that requires a dedicated power source and connecting cable type. A typical full charge on an electric vehicle takes 3-4 hours, meaning that 3 or 4 users a day could fully charge. This supply is becoming common in many current on-street or public car park charge points, as well as in supermarkets and businesses. 22kW units can be deployed for faster charging where 3-phase charging is available e.g. multi-storey car parks.
- Rapid - 43kW AC / – 50kW DC : a high power rapid charging option to suit the needs of users who need to charge their electric vehicle quickly to keep them in use, such as taxis, commercial vehicles or company cars. An 80% charge from empty typically takes 30-40 minutes for a standard EV e.g. Nissan Leaf, allowing for a high number of charges per day. Rapid points are now available at most motorway service stations. Although smaller designs are becoming available, these units are relatively large and expensive compared to lower power units and require significant local grid connection capacity which can impact upon locations for rapid charge point installations.

3kW charge point

7kW charge point post

Rapid 50kW charger

Examples of charge point technology in the UK

Supercharge Rapid – 120-140kW: these are currently installed exclusively by Tesla – enabling their larger battery powered EV range (60-120kWh capacity) to charge quickly e.g. Tesla Model 'S' can charge up to 80% in about 40 minutes or add 170 miles of range in about 30 minutes.

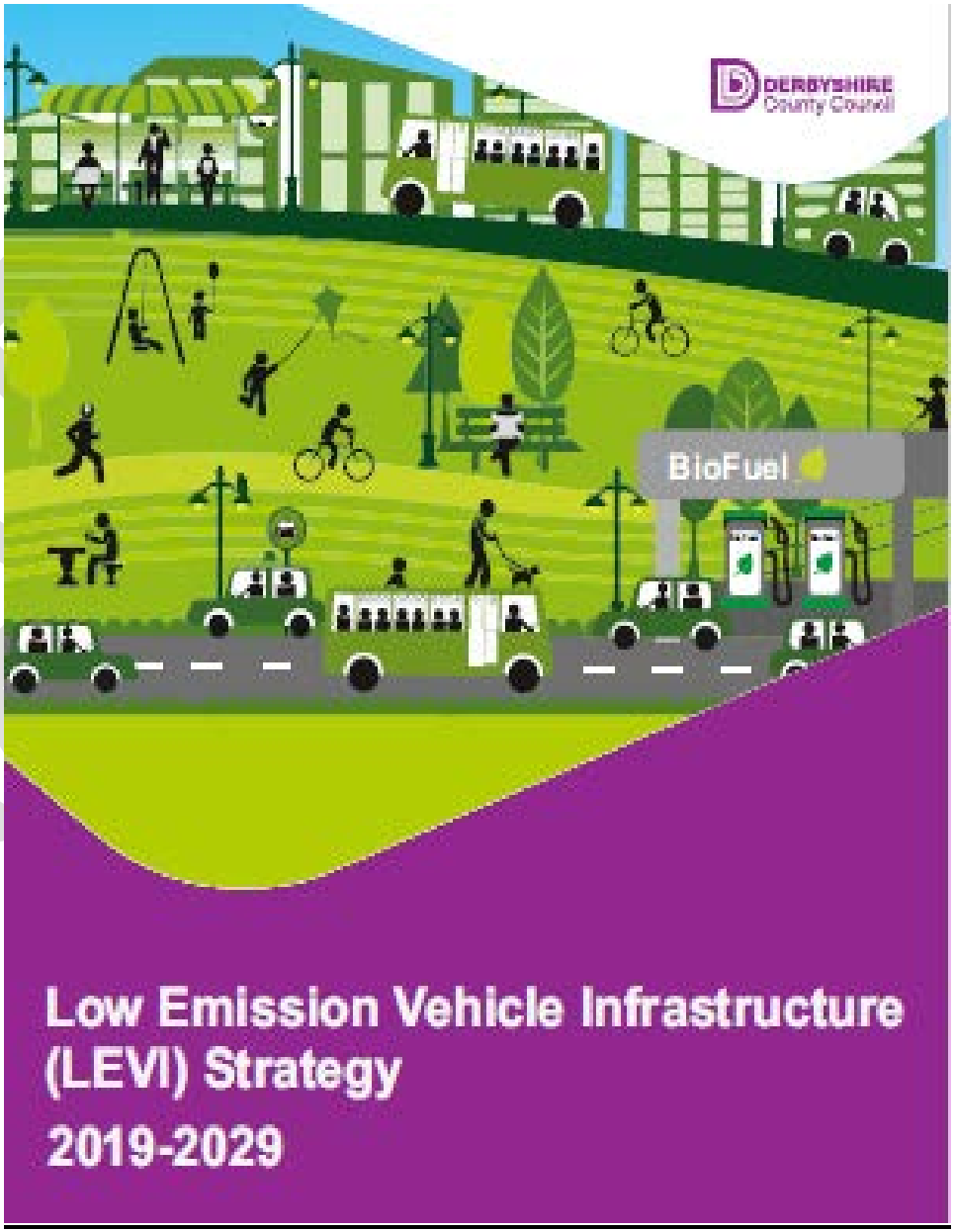
Superchargers will become increasingly important as other high powered EVs enter the UK market e.g. VW and JLR models. Tesla has indicated that arrangements with other EV manufacturers are likely to enable such EVs to access the Tesla supercharge highway. They also expect that their Tesla models will be able to fully charge within 10 minutes in future.

DERBYSHIRE
County Council

Derbyshire County Council

LEVI Strategy

Action Plan 2019 - 2029



LEVI-1 Derbyshire County Council (DCC) will work with partners on the provision and delivery of low emission vehicle infrastructure across the county				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
Derbyshire will have a network of mixed speed public charging infrastructure which is affordable, consistent, accessible and user friendly for residents and visitors	Establish current provision	May 2019	High	Sustainable Travel Team
	Carry out consultation to establish current and potential future demand and requirements for LEVI	December 2019	High	Sustainable Travel Team
	Work with the district and borough councils, the Peak District National Park Authority, suppliers and other partners to identify suitable locations for EV charge points and other LEV infrastructure	February 2019	High	Sustainable Travel Team/Network Planning & LPA's
	Work with the district and borough councils, the Peak District National Park Authority, suppliers and other partners to help deliver a network of mixed speed EV charge points, including the adoption of a soft market test approach to maximise commercial opportunities.	March 2020	High	As above
Derbyshire will support the uptake of low emission vehicles in the commercial sector	Liaise with all LPA's to establish demand and locations for e-taxi infrastructure provision	March 2020	Low	Sustainable Travel Team & LPA's
	Explore options to consult with the commercial sector to identify market demand for LEVI	December 2019	High	Sustainable Travel Team

Residents with no off-street parking will be able to charge their electric vehicle through the provision of suitable, alternative charging infrastructure	Work with partners to deliver alternative arrangements suitable for residents who do not have access to off-street charging facilities. Trial on-street charging technologies.	March 2021	High	Sustainable Travel Team/Streetlighting & LPA's
The use of LEVs and LEVI across the county will be monitored and evaluated	Use the smart capability of charge points to monitor and understand the dynamic use of LEVI	Ongoing (annual)	Medium	Sustainable Travel Team/Highways Strategy/Policy & Research/Chargemaster/other providers
	Develop annual monitoring processes in order to understand and support current and future use of LEVI (See Appendix D for further information on monitoring)	Ongoing (annual)	Medium	Policy & Research
Maximised opportunities available through the procurement process to achieve the best possible outcome for Derbyshire	Utilise the framework procurement policy in place for the next 10 years through BP Chargemaster to the advantage of Derbyshire	Ongoing	High	Corporate Finance
	Explore opportunities to procure suppliers through existing and future frameworks	Ongoing	High	Corporate Procurement
	Secure necessary capital funds	March 2020	High	Sustainable Travel Team

	Consider opportunities to generate revenue where appropriate	Ongoing	High	Sustainable Travel Team
	Embed LEVI within social value considerations as part of any procurement processes	Ongoing	Medium	Corporate Procurement
Derbyshire will be a ‘safe haven’ for e-bike users	Map market demand for E-Bike provision	December 2019	High	Sustainable Travel Team and local planning authorities/Sustrans

LEVI-2 DCC will adopt a partnership approach to trial new LEV technologies and explore opportunities to innovate				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
Innovate and use best available techniques in order to maximise the opportunities for Derbyshire considering both the vehicle and the infrastructure required	Work with infrastructure and vehicle providers and manufacturers to trial new technologies where appropriate	Ongoing	Medium	Sustainable Travel Team
	Work with districts and boroughs to identify suitable locations to trial new technologies	Ongoing	Medium	Sustainable Travel Team /Streetlighting and LPA's
	Explore and trial innovative opportunities such as e-car clubs; e-bike schemes; kerbside, street light column and hydrogen technologies	Ongoing	High	Sustainable Travel Team /Streetlighting and LPA's
	Facilitate innovation and the development of LEVs and associated technologies by working with local OEMs to provide opportunities to test and develop technologies in local towns, rural areas and the highway network	Ongoing	Medium	Sustainable Travel Team and LPA's/OEM's
Opportunities to trial new approaches and technology will be explored	Undertake soft market testing approaches to establish best value and best practise for both on street provision and the wider LEVI market e.g. on-street lamp post charging, rapid charging hubs, 'drive and ride' demonstrations	December 2019	High	Sustainable Travel Team/Streetlighting/Policy & Research – Performance & Public Health – Air Qulity

	Take advantage of sector expertise to help shape provision and delivery e.g. CENEX and EST. Utilise this support and engagement to host regular awareness raising campaigns and open day events	Ongoing	High	Sustainable Travel Team

LEVI-3 DCC will work through the planning system and with private developers and landowners to provide LEVI				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
LEVI provision will be included at the planning stage of all developments	Work with planning authorities to ensure policies seek to support and accelerate the development of low emission vehicle infrastructure	March 2020 and ongoing	High	Planning Services and LPA's
	Ensure DCC Planning and Development Control use planning conditions (S106/S278 and CIL)) to enhance the network and embed in planning application validation processes – applicants must demonstrate how they have incorporated LEVI into their development schemes	March 2020 and ongoing	High	As above/Highways Development Control and LPA's
	Adopt supplementary planning guidance to make provision for LEVs and LEVI including e-bikes, storage and car clubs	March 2020and ongoing	High	Planning Services and LPA's
	Provide advice and guidance and explore the potential for incentives such as business rates incentives to support the local visitor sector	March 2020 and ongoing	Medium	Economic Development and LPA's
	Work with organisations and provide relevant advice to encourage uptake of grants to deliver LEVI	Ongoing	Medium	As above/Sustainable Travel Team and LPA's

LEVI-4 DCC will adopt a partnership approach to review current parking management policies				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
There will be a consistent and effective approach to the policies and practice of parking management for EV chargepoint locations to provide a positive customer experience and remove uncertainty for end users whilst allowing flexibility to adapt to future market demands and changes	Agree with partners how EV chargepoint bays could be effectively managed and adapt parking management policies on issues such as tariffs and signage as necessary	March 2020	High	Sustainable Travel Team/Network Planning and LPA's
	Share regional best practice i.e. greater geographical spread than Derbyshire Parking Board	March 2020	High	MSIG
	Agree enforcement options and measures to ensure misuse is minimised	March 2020	High	Sustainable Travel Team/Network Planning and LPA's

LEVI-5 Derbyshire County Council will work with partners to raise awareness of low emission travel				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
Residents, businesses and visitors will be aware of the low emission vehicle market and of the infrastructure provided to support their use	Develop a complementary LEVI Communications action plan to include: • Provision of web based information on the County Council's website • Provision of web based information on relevant partner websites • Utilisation of appropriate media channels to promote LEVI • Provision of advice and guidance re LEVs to residents and businesses • Awareness raising of the potential of electric bikes in line with the objectives contained within the Derbyshire Cycle Plan (e.g. e-bike hire, e-bike charging infrastructure, cycle network) • Myth busting approach to help reduce anxieties on issues such as costs, range, pence per mile and charging options • Public awareness raising events about e-bikes, cargo bikes, car share schemes, car clubs, and LEVs • Liaison with local dealerships to increase understanding and confidence and to promote benefits of LEVs • Raise awareness of harmful vehicle emissions and other pollutants and how to minimise these • Develop Mobility As A Service (MaaS) techniques	July 2019	High	Sustainable Travel Team & Communications

	• Ensure LEVI is suitably advertised and signposted			

LEVI 6- DCC will facilitate take up of LEV for its employees				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
Derbyshire County Council will provide infrastructure required to support the use of LEV amongst employees	Map infrastructure requirements at DCC locations	March 2020	High	Sustainable Travel Team
	Secure funding from appropriate sources	Ongoing	High	Sustainable Travel Team
Derbyshire County Council will facilitate the take up of LEV amongst employees	Consider schemes to enable staff to switch to LEVs such as salary sacrifice schemes	Ongoing	Medium	Sustainable Travel Team & Corporate HR
	Raise awareness, promote the benefits and dispel myths around LEVs including e-bikes	Ongoing	High	Sustainable Travel Team & Communications

LEVI 7 - DCC will deploy LEV's within its pool fleet				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
Derbyshire County Council will accelerate deployment of LEVs within its pool fleet	Prepare business case to consider the options for LEV procurement within DCC pool fleet	April 2019	High	Fleet Services
	Implement infrastructure required to support LEVs within the Council pool fleet	Ongoing	High	Sustainable Travel Team/Fleet Services /Corporate Property
	Plan future demand and vehicle type	Ongoing	High	Fleet Services
	Ensure promotion of LEV within Council fleet through the utilisation of signage on vehicles	Ongoing	High	Fleet Services

LEVI 8 - DCC will work with partners to support private industry and public sector organisations to deploy LEV's within fleets				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
Derbyshire County Council in collaboration with partners will support private industry and public sector organisations to accelerate the deployment of LEV's within fleets	Work with partners to promote and help support the private and public sector to convert to LEVIs through the use of; • Fleet reviews • Awareness raising campaigns • Appropriate funding opportunities • Sharing best practice	March 2020 And ongoing	High	Sustainable Travel Team & Fleet Services

LEVI 9 - DCC will work in partnership to support public transport and taxi operators embrace alternative fuel technologies and infrastructure				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
Derbyshire County Council will maximise opportunities to support public transport and taxi operators to embrace alternative technologies and infrastructure	Support Public Transport and Taxi operators to convert to LEV's through:- • Specify potential use as part of County Council supported service contracts • Utilise devolved BSOG payments for supported services to reward operators who use LEV's on services • Utilise funding arrangements which are long term and sustainable • Work with District and Borough Council partners to assess and implement mechanisms to support taxi operators • Explore new technologies to support the public transport and taxi operator sectors	Ongoing	Medium	Sustainable Travel Team/Local Bus Team & LPA's

LEVI 10 DCC will embed the LEVI Strategy and Action Plan within the context of a Derbyshire Clean Growth Strategy				
Outcome	**Actions**	**Timescale**	**Priority**	**Lead**
Derbyshire County Council will provide strategic leadership in the implementation of the LEVI strategy	Provide advocacy and community leadership with respect of the various policy statements within the strategy.	On going	High	Sustainable Travel Team/Policy & Research – Performance and Public Health – Air Quality
	Facilitate cultural and organisation change to reduce emissions through measures including remote working, best practice in LEVs.	On going	High	Strategic Director/Service Director - ETE
	Provide leadership in strategic planning process to support development of infrastructure including electricity, hydrogen and other fuels	On going	High	Strategic Director/Service Director - ETE