

South Derbyshire District Council

Climate and Environment Strategy



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Foreword

We in South Derbyshire have always understood the close bond between our environment and our prosperity. “Our earth, our wealth” has been the maxim on the Council’s crest since it was founded in 1974.

This has never been as true as it is now. The origins of the maxim were in the District’s long associations with the earth beneath it – the coal and clay which formed the basis of our local industry.

What is now clear is that the future challenges and opportunities are in the air above us. The Climate Emergency has brought sharply into focus that business as usual isn’t an option. We all need to make the change to a low carbon future to secure the benefits we’ve enjoyed in the past.

This is daunting, but with the right mind-set it is also incredibly exciting and will create enormous opportunities. If we go into the future with optimism and a willingness to adapt, invest and change then our earth will absolutely continue to be our wealth.

This Strategy and the Plans we have developed is just the start of this change.

Frank McArdle

Chief Executive

Cllr Martyn Ford

Council Leader

Our Aspiration

South Derbyshire District Council understands the need for urgency in tackling climate change.

On 27th June 2019 the Council declared a Climate Emergency. This committed to:

- **Strive to make South Derbyshire District Council carbon neutral by 2030 and achieve carbon neutrality before the Government target of 2050;**
- **Call on the UK Government to provide the powers and resources to make the 2030 target realistic;**
- **Work with partners across the District and region to deliver this goal through all relevant strategies;**
- **Report back to Council within six months and have a standard Environmental and Development Services Committee agenda item on environmental improvements the Council is taking to address this emergency.**

These commitments underpin everything within this Strategy and the associated Action Plans which have been developed to help deliver them.

Why the urgency?

Climate change is likely to have significant impacts on the district of South Derbyshire - on our environment, on our economy and on the whole social fabric. It will have a big impact on how the Council can deliver services in the years to come.

Since 1880 the earth has warmed by 0.85°C, which has been explicitly linked to recent human activities and in particular the burning of fossil fuels. These activities have released carbon dioxide and other greenhouse gases, which traps excessive levels of heat in the earth's atmosphere and affects the global climate.

The evidence is compelling. The concentration of atmospheric carbon dioxide (CO₂) in 2018 was 409 parts per million (ppm). Up until the 1960s the highest concentration of CO₂ over the course of the previous 800,000 years was just 300 ppm.

In 2018, The Intergovernmental Panel on Climate Change (IPCC) published a [Special Report](#) detailing the impacts of global warming of 1.5°C above pre-industrial levels. It is predicted that this will lead to significant losses to ecosystems and biodiversity, along with huge impacts on human health and the economy.

The IPCC report called for a need for far more urgent climate action than was previously predicted, which ignited the social movement behind the 'emergency' and a greater impetus to act now to limit a global temperature rise to below 1.5°C.

Current trajectories show we are on path to 3.5°C rise. The consequences of this are dire.

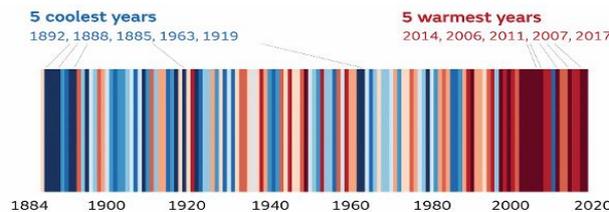


Figure 1 - UK Temperature Map

Source: Met Office
(<https://metoffice.gov.uk>)

What action has been taken to tackle climate change?

In 1992, the United Nations Framework Convention on Climate Change (UNFCCC) set up global targets for reducing greenhouse gas emissions in the [Kyoto Protocol in 1997](#) and most recently the [Paris agreement in 2015](#), of which the UK is a signatory.

The Paris Agreement set out to:

“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.”

In response, the IPCC published a [Special Report](#). In May 2019 the UK Government declared an environment and climate emergency. The government also altered the [Climate Change Act 2008](#) to amend the statutory target to reduce UK greenhouse gas emissions from 80% to net-zero by 2050.

South Derbyshire District Council declared a Climate Emergency in June 2019 in support of these aims.

The 2015 Paris Agreement developed the concept of ‘carbon budgets’ for all countries. In September 2019 this data was published as carbon budgets for all council administrative areas across the UK. This data has highlighted the urgency for action. The data for the area of South Derbyshire states:

“If CO₂ emissions remain at the same levels as 2017, the entire District’s carbon budget will have been used by 2026”.

UK nature and climate crisis

The UK has seen alarming rates of ecological decline since 1970, with [“UK State of Nature 2019”](#) Report detailing that Britain has seen a 40% decline in UK species and the loss of 133 species.

Climate change will accelerate this loss. The [“UK State of the 2018 climate report”](#) identified that in the UK, the last 20 years have been the warmest on record (see figure 1) and six of the 10 wettest years on record have occurred since 1998.

Climate change brings with it the potential of invasive or non-native species that can affect the ecosystems that ensure our food security, health and wellbeing. This Climate and Environmental Strategy and the associated Action Plans have been produced to ensure that ecological affects are covered within the Council’s future actions.

Our Core Vision, Values and Priorities

Sustainability is at the core of the Council's leadership commitment and policies. The Council has been accredited to the prestigious ISO14001 environmental management standard since 2008 and was most recently re-certified in December 2019.

The Council's recently adopted Corporate Plan 2020-2024 has principles of sustainability running right through it. The Plan sets out the Council's corporate vision to:

To make South Derbyshire a great place to live, visit and invest

The Corporate Plan sets out the three key values by which the Council will achieve its vision:

Together we will:

Take pride in our place. We will promote responsible behaviour and are committed to creating a more sustainable district.

Have respect for everyone. We will listen, be honest and act with integrity at all times.

Achieve excellence in all we do. We will take pride in our District, always striving for continuous improvement.

The Corporate Plan has three priorities which underpin how the Council will achieve its vision:

- 1. Our Environment**
- 2. Our People**
- 3. Our Future**

The "Our Environment" priority of the Corporate Plan sets out explicit aims to help the Council achieve this priority, which are:

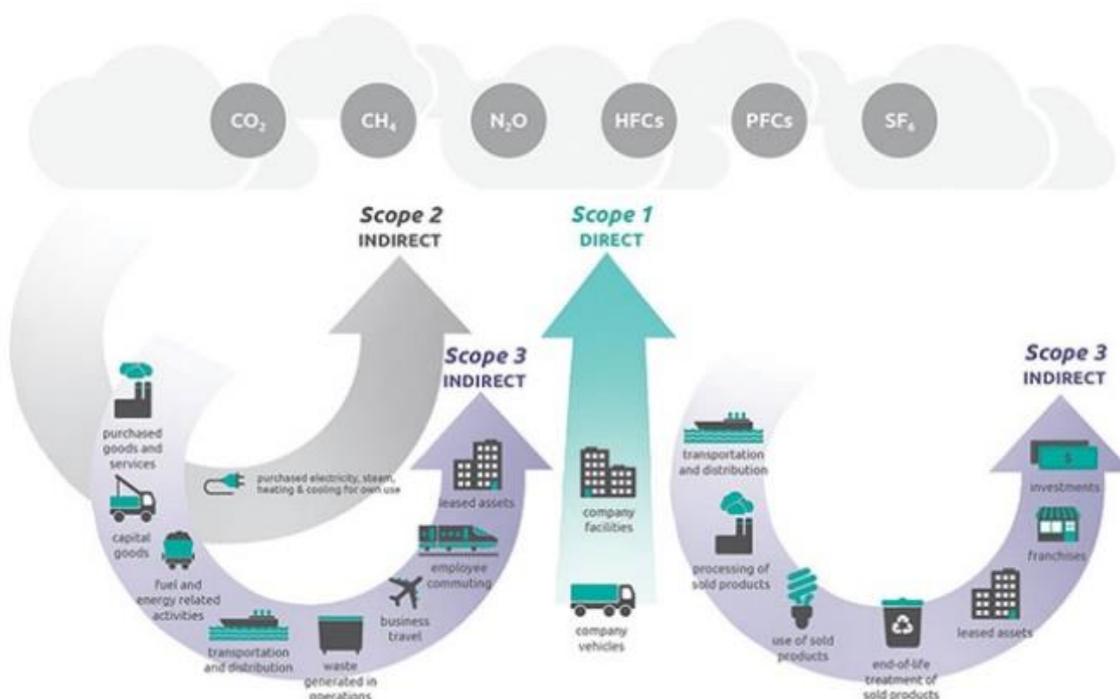
- **Improve the Environment of the District**
 - Reduce waste and increase composting and recycling.
 - Reduce fly tipping and litter through education, engagement and zero tolerance enforcement action where appropriate.
 - Enhance biodiversity across the District
- **Tackle Climate Change**
 - Strive to make South Derbyshire District Council carbon neutral by 2030.
 - Work with residents, businesses and partners to reduce their carbon footprint.

To respond to the climate emergency appropriately, it is critical that all Council decisions consider and respond to the potential impact that they will have on the climate and wider environment. This will be embedded in decision making through policy and guidance, alongside a communication plan and training. Through procurement and partnership this responsibility will be extended to suppliers and partners engaged in activities with the Council.

Our Objectives and Targets

At the time of the production of this Strategy, the development of targets to measure the attainment of the various aims under the “Our Environment” priority were still under development. The contents of this Strategy are expected to play an important part in the development of these targets.

What are Carbon Emissions?



The first step in setting meaningful targets is to understand the baseline carbon impact of the Council’s activities. This requires the development of a clear, consistent and repeatable method of calculating the Council’s carbon equivalent emissions (CO₂e).

The Greenhouse Gas Protocol describe carbon emissions as falling within three classifications.

Scope 1 - All Direct Emissions from the activities of an organisation or under their control. Including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks.

Scope 2 - Indirect Emissions from electricity purchased and used by the organisation. Emissions are created during the production of the energy and eventually used by the organisation.

Scope 3 - All Other Indirect Emissions from activities of the organisation, occurring from sources that it does not own or control. These are often the greatest share of the carbon footprint, covering emissions associated with business travel, procurement, waste and water.

These classifications can cause some confusion and therefore, for the sake of clarity and simplicity, the Council reporting processes will classify reporting of emissions from the Council activities into two classifications:

- Direct Emissions = Fuel used for energy - combustion
- Indirect Emissions = Purchased Electricity and associated emissions through value chain (procurement, business travel, commuting, waste disposal, investments etc)

South Derbyshire District Council Buildings and Operational Emissions

Following the Climate Emergency declaration, the Council has developed an in-house method for calculating the CO₂e emissions from its direct and indirect sources.

The Council's Emissions for 2018/19 have been calculated as **2,500 tonnes** of carbon dioxide equivalent (CO₂e).

Whilst the data used for this CO₂e calculation is comprehensive, it does not account for all the Council's activities. For example, the baseline does not currently account for carbon associated with procurement (including contractors) or emissions from South Derbyshire District Council's social housing stock. Data from these sources requires further collection, cleansing and analysis before it can be added to the baseline calculation.

Initial analysis of the last Council housing stock review suggests that the total CO₂e emission is estimated to be in the range 9,500 -13,200 tCO₂e. Actions to improve the data capture from this source along with all of the other climate emergency actions are described in detail in the Action Plans which have been produced in support of this Strategy.

Clearly these emissions will significantly increase the "indirect emissions" total over the lifetime of this Strategy.

A summary of the key emissions sources associated with South Derbyshire District Council's activities in 2018/19 is provided in Figure 2.

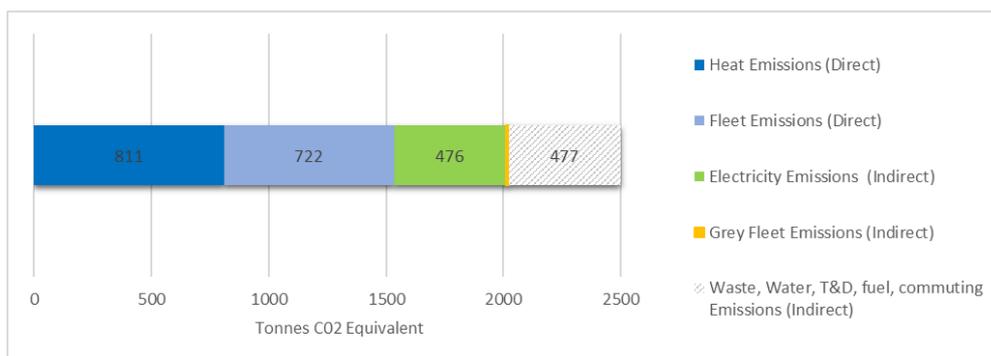


Figure 2 - SDDC 2018/19 Carbon Emissions (CO₂e)

Overall Emissions Across Businesses and Communities in South Derbyshire

District Emissions Inventory

[SCATTER](#) is a collaboration between government, consultants and academia led by the Tyndall Centre for Climate Research at the University of Manchester. SCATTER is an inventory and intervention tool detailing the estimated greenhouse gas emissions from all sources within the administrative boundary of each local authority area in the UK.



The 2019 breakdown of emissions within South Derbyshire is illustrated in Figure 3.

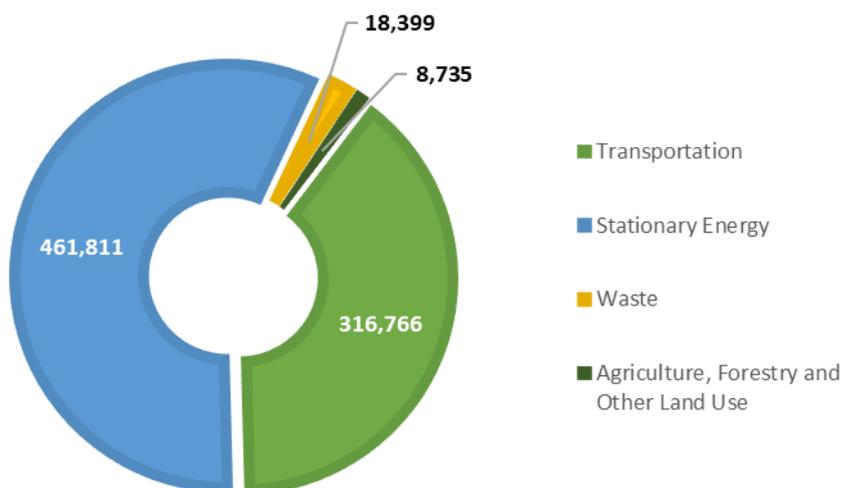


Figure 3 SCATTER data for the South Derbyshire District Emissions Inventory - Tonnes CO₂e

SCATTER is being delivered in phases. The first phase was the creation of a predicted carbon inventory for all sources within each local authority area.

The proposed second phase, which is not live at the time of the production of this Strategy, is designed to enable the communities within each local authority area to create reduction plans based on the selection of mitigation options relating to 35 classes of emissions sources contained within the model.

The Carbon Budget for South Derbyshire

Carbon ‘budgets’ have been also been produced of the total area emissions for each local authority administrative area through the [Tyndall](#) Carbon Budget tool. The tool is based on a ‘grandfathering approach” (which includes historical emissions and current emissions data) with the aim of enabling the communities within each administrative area to understand the carbon budget available for all activities within the area.

Based on the current carbon budget calculation, if no action is taken within South Derbyshire, then the emissions from homes and businesses across the District will have used the available carbon budget within **six years**.

The Tyndall Carbon Budget provides recommended carbon budgets for set budget periods up until 2100 and are summarised in the following table. These figures illustrate the very rapid decarbonisation required across South Derbyshire in order to stay within the carbon budget. Figure 4 provides a graphical illustration of the scale of the carbon reduction required in South Derbyshire until the end of this century.

Carbon Period	Budget	Recommended Carbon Budget (Mt CO ₂)	Reduction in Annual Emissions (based on recommended pathway)
2018 - 2022		3.0	21.6%
2023 - 2027		1.5	63.3%
2028 - 2032		0.7	82.8%
2033 - 2037		0.3	91.9%
2038 - 2042		0.1	96.2%
2043 - 2047		0.1	98.2%
2048 - 2100		0.1	99.2%

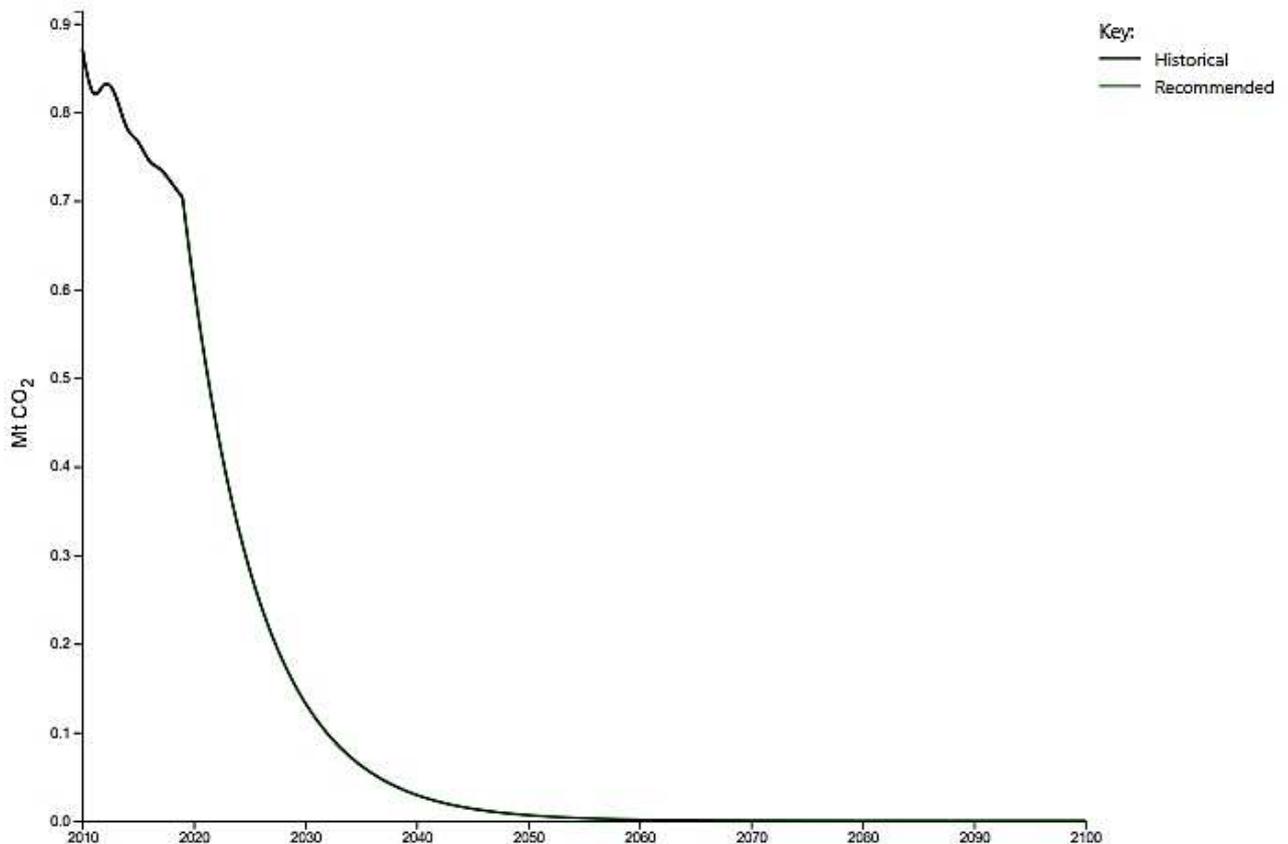


Figure 4 - Tyndall Centre

The Tyndall carbon budgets account for carbon emissions only, whereas the Council has been able to develop a calculation to determine its carbon equivalent emission. Never the less, the Tyndall carbon budget does include a broad range of data across all emissions sources, with the notable exceptions of aviation, shipping, military transport and lifestyle emissions.

Due to the proximity of East Midlands airport and the impact of lifestyle choices affecting emissions across district boundaries, aviation and lifestyle emissions are a shared responsibility within the District and neighbouring districts. There is an acknowledgement that in order to reach carbon neutrality there is a need for a District-wide, regional and national framework to address emissions.



Approaching carbon reduction

The quicker that reductions are made in carbon emissions, the less the District will eat into its carbon budget and the less the adverse effects will be on global impacts. However, history is littered with examples of often well-meaning decisions made with unintentional environmentally damaging consequences. Therefore, it is critical that decisions are made with a high degree of awareness over the associated risks and likely consequences.

It is not currently technically or economically possible for activities across South Derbyshire District Council to be carried out without causing some CO₂e emissions. In developing mitigation plans, the Council proposes to follow the SCATTER mitigation hierarchy, with activities that avoid emissions prioritised over mitigation, restoration and then offsetting.

As a last resort, offsetting will be included in the approach in order to also capture the ecological and wildlife benefits of the mitigation measures.

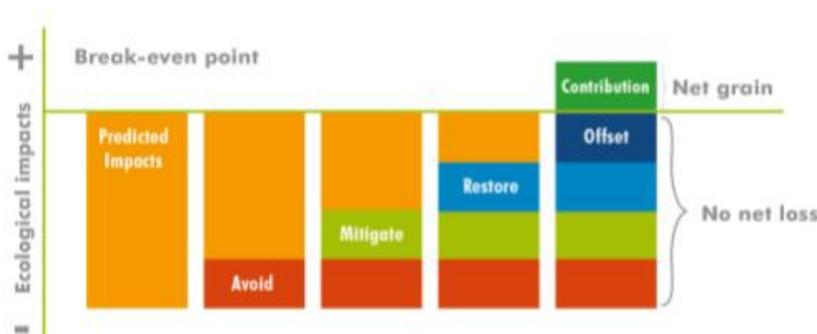


Figure 5 Mitigation Hierarchy

Response to the Environment Emergency Declaration

As well as a climate emergency, the UK government declared an environmental emergency in May 2019. In order to respond fully to the environmental emergency, and in particular species decline, the Council believes that building mitigation measures for nature must also be a key part of the response to the climate emergency declaration.

The Environment Agency has advised that more needs to be done to prepare for the ecological impacts of climate change. The Agency has provided further advice to enable mitigation strategies to be developed in the event of global warming in the range 1.5 to 4°C.

The Action Plans associated with this Strategy will also contain actions to address ecological change to a warming environment.

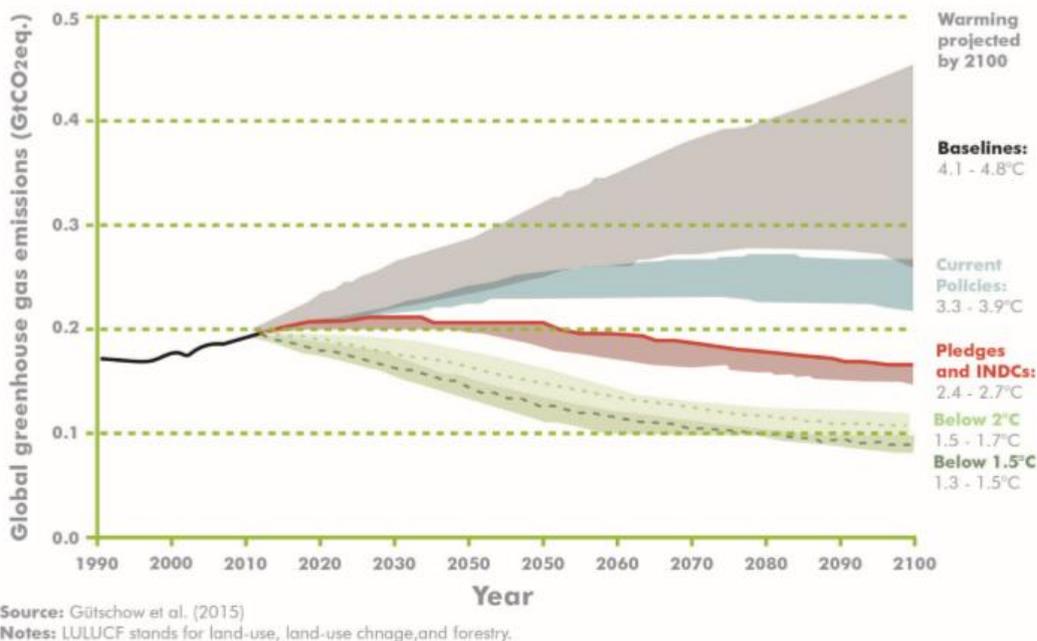


Figure 6 Met Office - Global Average Greenhouse Gas Emissions and Predicted Surface Temperature Change

Proposed Delivery of the Climate and Environmental Strategy

Action Plans

This Strategy provides the current evidence base which shows the extent to which South Derbyshire District Council will need to reduce its carbon equivalence emissions to meet the climate emergency aspiration. It also outlines the extent to which all emissions of carbon within South Derbyshire will need to be reduced in order to meet the Tyndall carbon budget.

The purpose of this Strategy is to take the Council through to the end date of the stated climate emergency aspirations – namely 2030. However, given the magnitude and timescale of the challenges presented by the climate emergency, it is recognised that work on both short-term and longer-term climate change actions beyond 2030 need to be developed. It is anticipated that there will be significant political, economic, social, technical and legal advances in the world of climate science over the next few years and the contents of this Strategy and the underlying Action Plans will need to be sufficiently agile to be able to change accordingly.

The Climate and Environment Emergency Interim Action Plan (2020-24) provides a set of short-term actions for the Council to get started on the carbon reduction journey and to provide some momentum and early direction to the work.

The Council also proposes to publish a longer-term Climate and Environmental Plan (2020-2040) to provide a longer-term framework for actions to take the Council up to and beyond the timescales of the climate emergency declaration. This will map out the direction for the longer journey.

Other Relevant Corporate Strategies

Climate emergency action cuts across all Council activities. The Council, therefore, already has a number of key policies and strategies which effect, and will be affected by, the climate emergency. The content and evolution of all of these will need to be included in the climate emergency delivery. Some of the most relevant policies and strategies are as follows:

- South Derbyshire District Council Local Plan
- Supplementary Planning Documents
- South Derbyshire Economic Development Strategy 2016 - 2021
- Derbyshire Cycle Plan
- Housing Strategy 2016 – 2021
- [Vehicle Management Strategy 2016](#)
- [Housing Asset Management Strategy 2016 - 2046](#)
- [Safer South Derbyshire Partnership, Community Safety Partnership Plan 2017- 2020](#)
- [Procurement Strategy and Framework 2016 - 2020](#)
- [Communications Strategy 2016 - 2021](#)
- [Information Technology and Digital Strategy 2017- 2020](#)
- [Staff Travel Plan](#)
- Action Plan for Nature Strategy – Draft to be provided at March/April 2020 Committee

Working with Partners

South Derbyshire District Council has signed up to the “Derbyshire Environment and Climate Change Framework” developed by [Derbyshire County Council](#). This is partnership involving all Derbyshire councils to help share best practice, drive change/awareness and support the development of all relevant strategies and action plans.

Action to reduce greenhouse gas emissions can only be achieved through coordinated 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. The Derbyshire Environment and Climate Change Framework creates a nucleus from which coordinated and concerted activities can be developed.

Resources & Funding

The upfront cost of delivery of the carbon budget is higher than the existing ‘business as usual’ committed investment in the environment. It is estimated that the cost to the UK economy of meeting the national carbon budget will equate to 1-2% of annual GDP. These costs are significant, however the later that the adaptations are made, the greater the costs will be and the more the carbon budget will have depleted. Put very simply, it is cheaper to mitigate in the shorter-term. The [2008 Stern Review](#) clearly set out the business case for urgent action on the climate crisis.

The costs of implementing the Action Plans have been estimated and are included within the Plan which will be regularly updated to reflect changes in delivery, risks and opportunities.

Given the extensive potential implications of the Strategy, one of the first proposed actions is to take the Strategy to the Council’s Transformation Board in order to enable the contents of the Plan to be fully appraised.

Communication and Engagement

Communication will form a crucial part of the success of the implementation of this Strategy. The Council will need to ensure that it helps maximise multi-channel communication within South Derbyshire in order to engage and motivate local communities, business and partners to ensure:

- A mutual understanding of climate change and how it affects Derbyshire and elsewhere;
- A shared knowledge of what could be done 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 organisation to tackle climate change;
- Appropriate support in place to enable work to be undertaken to tackle climate change.

South Derbyshire District Council has developed a separate Environmental Communication Plan (STEMS-05-F1) which will be reviewed annually along with the Climate and Environment Action Plan.

Considerable work is already being undertaken through a range of communications below:

Communication	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
Climate Action Training	Half-day training provided through the Local Authority Energy Partnership
Social media campaigns	World Environment day annual campaign with Sustainability Delph Day
Liaison with a range of climate change interest groups via the Environmental Education Project team	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

Governance

It is currently proposed that the delivery of this Strategy will be overseen by a Corporate Environmental and Sustainability Group, although this may be subject to change as it develops. This will act as the main Programme Board for activities across the organisation. The working group will meet quarterly to review the process of actions.

Definitions

Definition	Description
Carbon Budget	A carbon budget can be defined as a tolerable quantity of greenhouse gas emissions that can be emitted <u>in total</u> over a specified time. Carbon, once it is released into the atmosphere, takes a very long time to be converted into a form which does not contribute to climate change. The IPCC has calculated the total mass of carbon which if emitted to atmosphere will result in a global temperature increase of 1.5°C. This is the total carbon budget available to humanity.
Climate Change	The long-term changes in the weather patterns in a region.
Climate Emergency	Research suggests that humanity must reach net-zero emissions by 2030 at the latest in order to have a reasonable chance of limiting global warming to 1.5C (IPPC 2018 report)
Carbon Equivalent	Equivalent CO ₂ (CO₂e) is the concentration of CO ₂ that would cause the same level of radiative forcing as a given type and concentration of greenhouse gas. Examples of such greenhouse gases are methane, perfluorocarbons, and nitrous oxide .
Carbon Neutrality	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.
Global Warming	The rise in Earth's temperature which persists for a decade or longer.
Greenhouse Gases	the most important greenhouse gases in Earth's atmosphere are: carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF ₆) and nitrogen trifluoride (NF ₃).
Kt CO₂e	Kilotonne carbon equivalent (1 kilotonne = 1,000 tonnes = 1,000,000 kg)
Mt CO₂e	Megatonne carbon equivalent (1 megatonne = 1,000 kilotonnes = 1,000,000 tonnes = 1,000,000,000kg)
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.

Version Control

Version	Changes	Date
1	Version 1	07/01/2020