



PART 2 –
CLIMATE CHANGE AND ENVIRONMENT STRATEGY:
TECHNICAL REPORT



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SECTION A: APPROACHING THE CRISIS

INTRODUCTION

OUR CLIMATE AND ENVIRONMENT CRISIS

Residents, young people and businesses across Cambridgeshire are concerned they will leave or inherit an environment that is irreparably damaged with diminished quality of life to that enjoyed today.

All governments (international, national, and local) have a duty to limit the negative impacts of environmental change by cutting carbon emissions, protecting biodiversity and reducing pollution. The necessity of reaching net zero was enshrined in UK law in June 2019, with a target requiring the UK to bring all greenhouse gas emission to net zero by 2050.

We declared a climate and biodiversity crises in May 2019. Since, government has set a new legal target of a 78% carbon reduction by 2035 compared to 1990 levels.

The decisions and ambitions set now will impact how people, communities and businesses will thrive in the future. It is vital that environmental improvements are at the centre of all decisions if we are to create the natural environment that humans need for our wellbeing.

WHY ARE WE REFRESHING NOW?

Climate change and loss of biodiversity is already occurring. Cambridgeshire is feeling its impacts.

We are refreshing our strategy now as unless we put the climate and biodiversity crises at the centre of everything we do, accelerate carbon emission reduction, and enhance nature, Cambridgeshire will experience increasing negative impacts on our communities and businesses. The next years, up to 2030 are critical. We need to transform how we do things, move away from a fossil fuel economy, and create a more positive future for everyone based on a better environment and a fairer society. Our communities and businesses want us to lead by example and support them to decarbonise too.

By putting the environment at the centre of what we do, we can harness the skills and innovation of the whole organisation - services, policy making, and decisions can be aligned and amplify our impact.

WHY WE MUST ACT NOW

The [Climate Crisis](#) is known to be caused by human activities contributing to the increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.

The IPCC estimates that human activities have already caused 1.1°C warming above pre-industrial levels. Their Sixth Assessment Report published in 2021 highlights that climate change is “unequivocally” caused by human activities, “unprecedented”, and that many of the changes – particularly to ice sheets and global sea levels - are “irreversible”. Further warming will lead to regional scale changes to climate, including dramatic increases in the frequency and intensity of flood or drought events across the world including the UK. These risks are set to increase should warming reach 2°C, and the longer that temperatures remain high, the harder it becomes to reverse the damage.

[Biodiversity degradation](#) is being recorded globally, with increasing numbers of species identified as under threat or endangered. One in four species is facing extinction, about a quarter of all ice-free land is now subject to degradation,

and ocean temperatures and acidity are rising. Climate change is a contributor to this loss, with changes in prevailing weather conditions (temperature, precipitation, seasonality) directly affecting natural processes as well as species survival, it encourages the spread of pathogens, and disrupts the timing of life cycle events. However, overexploitation and habitat degradation caused by human activities (e.g. clearing of rainforests, mining activities etc) are the key drivers to these changes. It is estimated that 83% of wild mammal species loss has been caused by humans.

Nature underpins the ability for the Earth to support human life – damage to this “natural capital” impacts on the benefits it provides us, and the development of feedback loops which exacerbate both the cause and effects of this damage if we continue to damage it. As time goes on, we will experience increased changes to our environment that will be difficult to cope with.

Fundamentally there is [“no pathway to tackling climate change that does not involve the recovery and protection of nature”](#).

SUSTAINABLE THINKING

Sustainable thinking is integral to the future. We need to value the environment and nature alongside finances and costs as the planet has limited resources. If we all use resources faster than the Earth can naturally replenish, we see the damage to the environment that we are experiencing today. We must reduce consumption of global resources. Our planet cannot sustain nine billion people consuming at the levels of today. This means we need to consume less and get smart with what we do consume. We need to ensure things are made efficiently, minimise waste and consider the principles of developing a strong local circular economy in all that we do. If we are to sustain quality of life we need to think differently about consumption and prevent further degradation of our environment.

New economic models for the 21st Century are emerging to help us think differently about the planet, its ability to host nine billion people and the importance of the environment and biodiversity to human well-being. Fundamental to sustainable development is resource efficiency.

There are three imperatives:

- [The Human Imperative](#) - Climate change exacerbates existing challenges to our services and the communities we serve. It also puts an unfair burden on future generations who will have to cope with the challenges we are leaving them.
- [The Environmental Imperative](#) - The natural environment is our first line of defence against extreme environmental events such as floods, droughts and heatwaves. We must protect and work with nature to build resilience and reduce climate risks at all scales before the damage has gone too far.
- [The Economic Imperative](#) - Mitigation and adaptation are now in our strong economic self-interest: the cost of doing nothing far outweighs the cost of acting now.

CAMBRIDGESHIRE'S CLIMATE CRISIS

Cambridgeshire, like the rest of the UK, is already experiencing “disruptive climate change with increased rainfall, sunshine and temperatures”. This means extremes of weather that we are not prepared for: more and worse floods and droughts, wildfires, disruption to agriculture, increased vulnerability, and increased inequality due to different abilities of different parts of our community to cope.

In July 2019, Cambridgeshire was the hottest place in the UK reaching a new record high temperature of 38.1°C.

The latest UK Climate Projections suggest that the UK climate will continue to warm over the rest of this century. This will result in hotter and drier summers, and warmer and wetter winters. These anticipated seasonal changes mean we will see an increased risk of summer heat waves and drought, and an increased risk of winter storms and flooding.

Sea levels around the UK have increased and we are currently seeing rises of 3mm each year. Even if net zero is achieved globally, our climate will continue to warm in the short term, and sea levels will continue to rise for centuries. For a low-lying region, sea level rise of this magnitude will bring significant changes to the places we live and work and higher economic costs if we don't adapt.

However, if we act now, we can limit the impacts and improve our resilience.

STRENGTHENING THE WORK WE ALREADY DO ON THE ENVIRONMENT

This is a corporate strategy to guide the Council's response to the crises we face. There a range of sector led strategies which will reflect the ambitions set out in this document. Some of these are listed below with links provided where available:

[Corporate Energy Strategy](#)

[Plastic Strategy](#)

Commercial Strategy

[Joint Municipal Waste Management Strategy](#)

[Local Flood Risk Management Strategy](#)

Corporate Asset Management Strategy

[Minerals & Waste Management Plan](#)

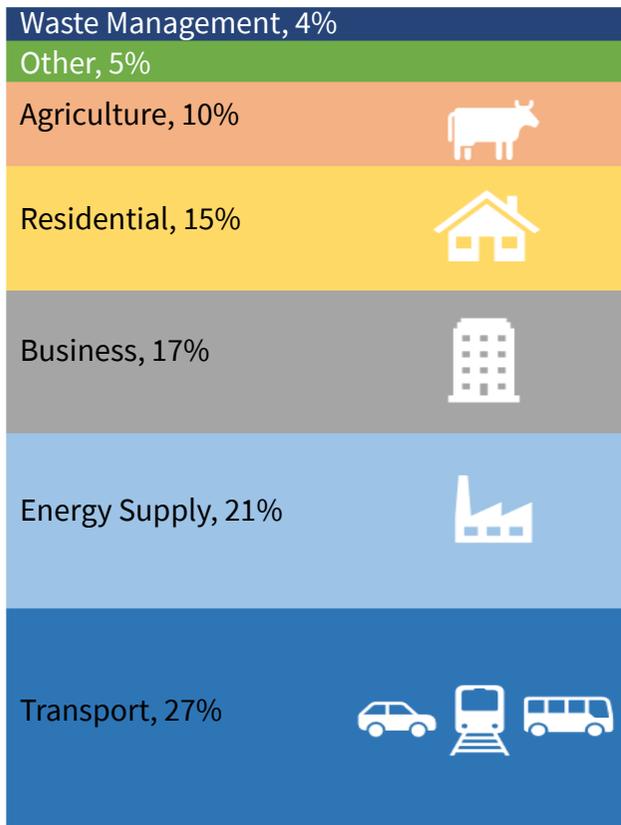
Highways Asset Management Strategy

HOW MUCH CARBON ARE WE EMITTING?

THE UK'S CARBON FOOTPRINT

In 2019, the UK's Greenhouse Gas emissions were 454.8 MtCO₂e. Transport remains the largest emitting sector, responsible for over a quarter of all emissions in the UK.

UK Carbon Footprint, 2019



BEIS, the Department for Business, Energy and Industry Strategy who are responsible for collating the UK's carbon footprint, predict that without further policy interventions, UK emissions will reduce very little over the next 20 years.

LOCAL CARBON EMISSIONS

We have explored the national figures to pull out the carbon footprint for Cambridgeshire.

We have also established an annual carbon footprinting process for the Council as an organisation.

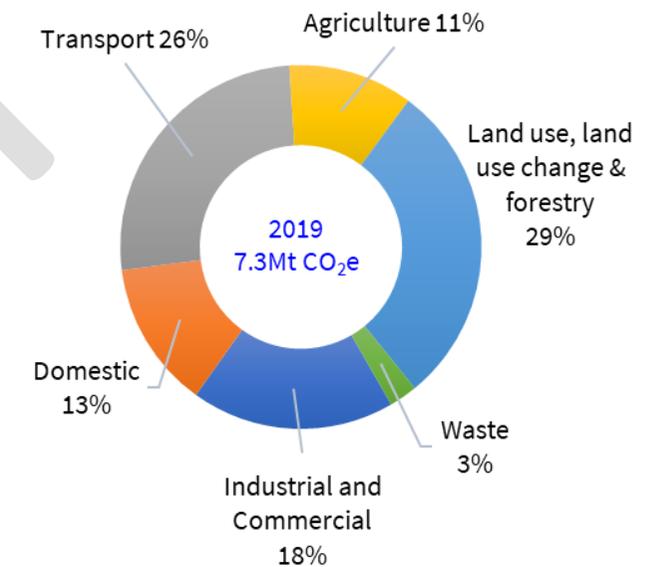
These data sets have enabled us to understand the magnitude of the challenge for our County and prioritise actions to reduce our impact. They are described below.

Together, these carbon footprints form baselines from which we can measure progress in delivering our targets.

Further detail and full analysis of these carbon footprints can be found in our latest [carbon footprint annual report on our website](#).

CAMBRIDGESHIRE'S CARBON FOOTPRINT

Recent government data sets show the carbon footprint for Cambridgeshire as a region was around 7.3million tonnes CO₂e in 2019. Our largest sources of emissions came from land use, land use change & forestry (LULUCF) (29%).



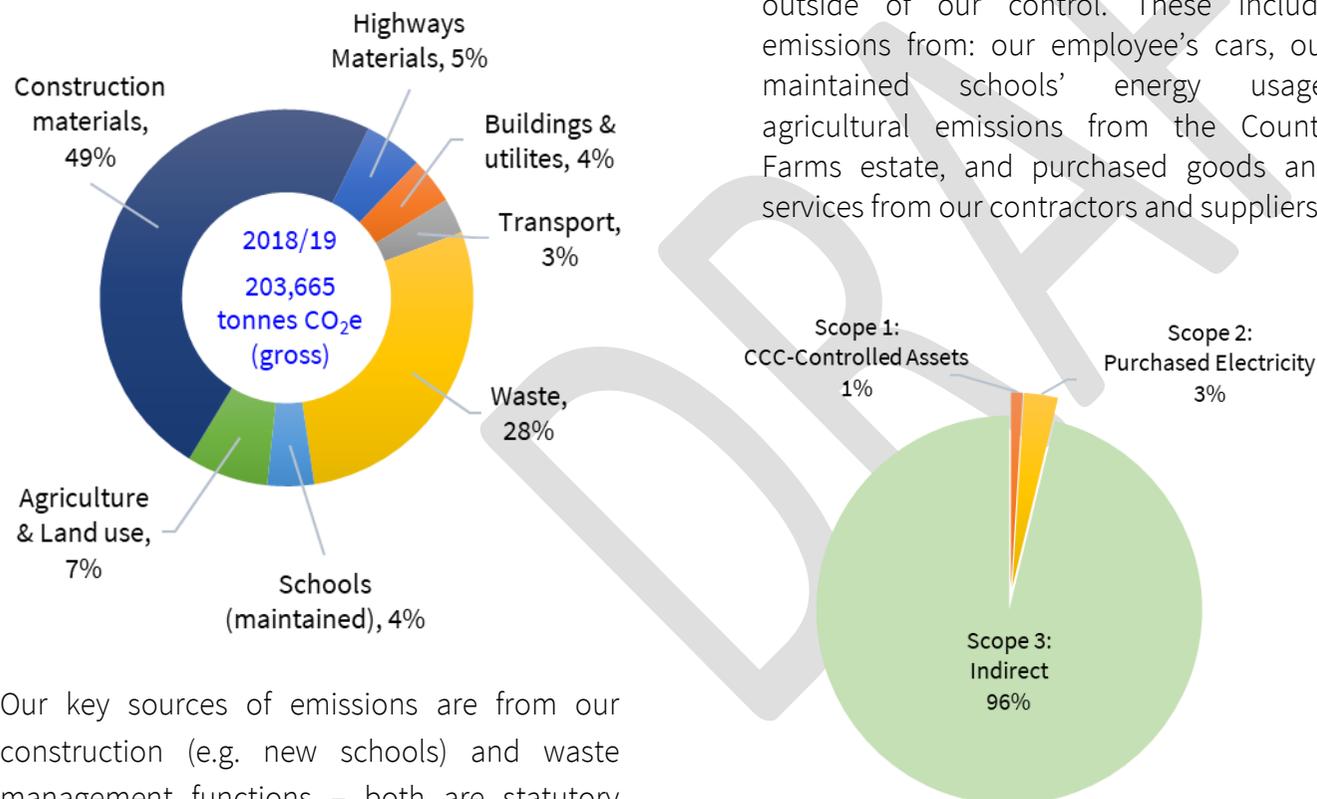
Most of our emissions from LULUCF come from agriculture and peatlands. While the national data is uncertain, our generally poor condition peat means we could be contributing up to 26% of peatland emissions nationally.

Our emissions in Cambridgeshire are considerably higher than the national average on a per capita and per km² basis.

THE COUNTY COUNCIL'S CARBON FOOTPRINT

Our organisational carbon footprint totalled 203,665 tonnes (gross) CO₂e for the financial year 2018/19. We have set this year as our baseline from which to measure future emissions.

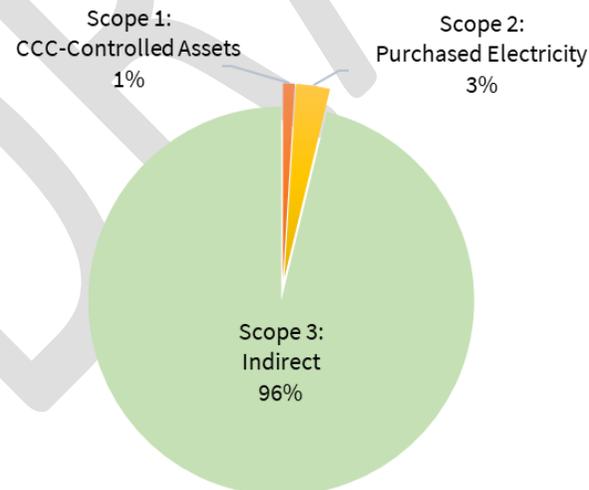
These emissions arise from the wide range of activities we undertake to deliver our services.



Our key sources of emissions are from our construction (e.g. new schools) and waste management functions – both are statutory responsibilities that we must deliver.

We have also broken down our carbon footprint into the 3 scopes defined by the internationally recognised Green House Gas Protocol. These are:

- **Scope 1** – Direct emissions from assets we control, e.g., building gas/oil use, fuel use from vehicles we own
- **Scope 2** – Purchased electricity
- **Scope 3** – Indirect emissions from assets outside of our control. These include emissions from: our employee's cars, our maintained schools' energy usage, agricultural emissions from the County Farms estate, and purchased goods and services from our contractors and suppliers.



Categorised by these scopes, we see that most of our emissions fall under scope 3, meaning we have the least control over them and must maximise our influencing powers to deliver reductions.

THE POLICY CONTEXT

Policy to deliver the Net Zero agenda is rapidly developing as Government's priorities to reflect the challenge of climate and environmental impacts. We now have the UK's Sixth Carbon Budget which led the new UK target to reduce emissions by 78% by 2035. Recommendations from the carbon budget have been reflected into our priority areas and action plan within this Strategy.

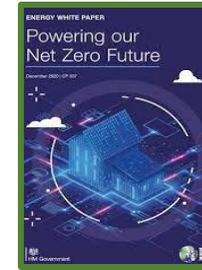
Other significant new national policy and regulatory frameworks are set out to the right. These policies govern and guide how we deliver net zero in Cambridgeshire and will have significant implications for the trajectory of funding that comes forward from Government. As such the principles put forward within these documents, and any future ones, are built into the priorities and actions put forward in this Strategy.

We can input and comment on these frameworks as they emerge, such as via the Lowland Peat Agricultural Taskforce set out in the England Peat Action Plan. We will use these opportunities to put forward the Cambridgeshire perspective.



Agricultural Act 2020 – passed 11th November 2020

Creates an Environmental Land Management Scheme that rewards landowners with “public money for public goods” for projects that boost biodiversity, improve local environment and sustainable farming.



Energy White Paper – published December 2020

Describes the changes required to the UK's energy system to reach net zero including a shift to renewables and sets target levels of renewable generation.



England Peat Action Plan – published May 2021

Recognises the importance of peatland in addressing the climate and biodiversity crises.

Commits to restoring 35,000ha by 2025 and for England's soils to be managed sustainably by 2030.



Transport Decarbonisation Plan – Published July 2021

Sets out what we all need to do to deliver significant emissions reductions.

Outlines a shift to public & active transport, decarbonising roads, decarbonising how we get goods



England Tree Action Plan – published May 2021

A vision for 12% woodland cover by 2050, with protection for ancient woodlands, and greater resilience to climate change.

Aims to treble tree planting by 2024 and commits over £500 million to the cause by 2025.



COP 26 – October 2021

Meeting of world leaders collaborating to keep the average temperature increase to 1.5°C.

Outcomes: pledge to reverse deforestation by 2030; pledge to limit methane emissions by 30%; to phase down coal power by 2030.

ENVIRONMENT ACT 2021

The Environment Act is new legislation that replaces and expands previous environmental law. Passed in November 2021, it places protection of the environment at the heart of all future government policy, requiring five principles to be enshrined within our approach to building back greener. These are:

- **The integration principle:** policymakers to look for opportunities to embed environmental protection in all policy that have impacts on the environment.
- **The prevention principle:** policy should aim to prevent, reduce or mitigate harm.
- **The rectification at source principle:** if damage to the environment cannot be prevented it should be tackled at its origin.
- **The polluter pays principle:** those who cause pollution or damage should be responsible for mitigation or compensation.
- **The precautionary principle:** where there are threats of environmental damage, a lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent degradation.

The Act is all-encompassing, setting forth new requirements within planning, waste management, air quality management. It establishes for the first-time legal targets for

improving nature, and new plans and policies for improving the natural environment.



Importance of the Environment Act 2021

The Act brings forward legislation into areas where there previously was none, enabling better enforcement for improved environmental outcomes.

It includes a new legally binding target on species abundance for 2030, which will help to reverse declines of iconic British species like the hedgehog and water vole.

Already we are integrating the five principles into our approach, but the actions we take will be driven by the requirements that come forward as the legislation is implemented.

CAMBRIDGESHIRE & PETERBOROUGH INDEPENDENT COMMISSION ON CLIMATE

The Cambridgeshire & Peterborough Independent Commission on Climate (CPICC) was established by the Cambridgeshire & Peterborough Combined Authority (CPCA) in 2020 to “provide authoritative recommendations to help the region mitigate and adapt to the impacts of climate change”.

It serves as a key advisor, addressing and evaluating from the evidence the local actions and policy needed to enable the geographies of Cambridgeshire and Peterborough to reach net zero.

The recommendations and targets have been divided into themes and were reported in two phases. Phase I focused on recommendations under the themes of: Transport; Buildings, Energy and Peat, while the focus in Phase II is on: The Role of Nature; Adaptation; Water; Waste; Business & Industry; Innovation; and Ensuring a Just Transition.

A significant recommendation of the CPICC is to establish a Climate Working Group with political representatives from across all the Local Authorities within Cambridgeshire and

Peterborough, supported by an Officer Climate Working Group. This is established and providing strategic governance to tackle the climate challenges through collaboration and policy alignment and to amplify the impacts of actions at all levels of local government in our area.

The CPICC recommendations provide a framework for coordinating and delivering actions together making most of the collective powers and policy levers we have.

The full reports, including the recommendations, can be found on the [CPICC website](#).

COVID-19 AND GREEN RECOVERY

The Covid-19 pandemic changed our lives, causing devastating effects on human health and the economy ‘Building back better and greener’ as we emerge from the pandemic is core to our recovery.

During lockdowns, the importance of residents being able to access green spaces has resulted in a sea change as to how these spaces are appreciated. We must harness this to bring

forward more and better managed spaces in our towns and villages.

As we recover, we must seize the opportunity to make this a defining moment in tackling climate change. A ‘green’ recovery shifting away from polluting, carbon based, fossil fuels can create a cleaner, healthier environment whilst investments in low-carbon, climate-resilient industries can create jobs and stimulate economic recovery.

This offers:

- **Increased health and wellbeing** - By addressing the climate crisis, we can also improve the health of our residents. For example, walking and cycling reduces carbon emissions from cars and improves our health. What’s good for the planet can also be good for us.
- **Improved air quality** - reducing carbon emissions from transport will require thinking differently about how we interact and travel. Shifting towards a system with fewer vehicles and more active travel will not only contribute to carbon reductions but will also reduce the amount of harmful nitrogen oxide emissions, the main source of which is vehicle emissions. Our natural resources will

also constrain everyone owning a car as we may want to use resources for other things!

- **A protected natural environment and supported biodiversity** - A changing climate threatens the natural environment and all the benefits we currently enjoy. The approaches we take to mitigation and adaptation can also help to enhance our local environment and deliver a much larger benefit than carbon saving alone.
- **A greater and greener local economy** - businesses across our County will be able to have the competitive advantage by leading the way to a new, greener, economic model, providing new secure skilled local jobs for residents.
- **Energy security and fuel poverty alleviation** - moving to more local renewable energy sources instead of fossil fuels would mean that we would be less reliant on imported oil and gas, and therefore less vulnerable to increasing oil prices.

TACKLING CLIMATE CHANGE AND ENVIRONMENTAL CHALLENGES TOGETHER

COLLABORATION IS ESSENTIAL

Tackling the climate and biodiversity crises is a huge task that no one organisation, individual or community can do in isolation. Addressing challenges of this scale should not be underestimated, but the response to the Covid-19 pandemic in 2020 has shown that as a society we can swiftly adapt to unexpected situations. This resilience and adaptability are great strengths. Like others, we don't know all the answers - it is a new path for all of us which we need to create together, and this strategy will evolve as we learn. But much of the knowledge and solutions are already available – it is the will, courage and leadership that is now required.

We have a leadership role and convening powers that can bring together our partners, businesses, and community to act. We will use our sphere of influence to direct where and how to focus efforts to deliver change.

BRINGING EVERYONE ALONG WITH US

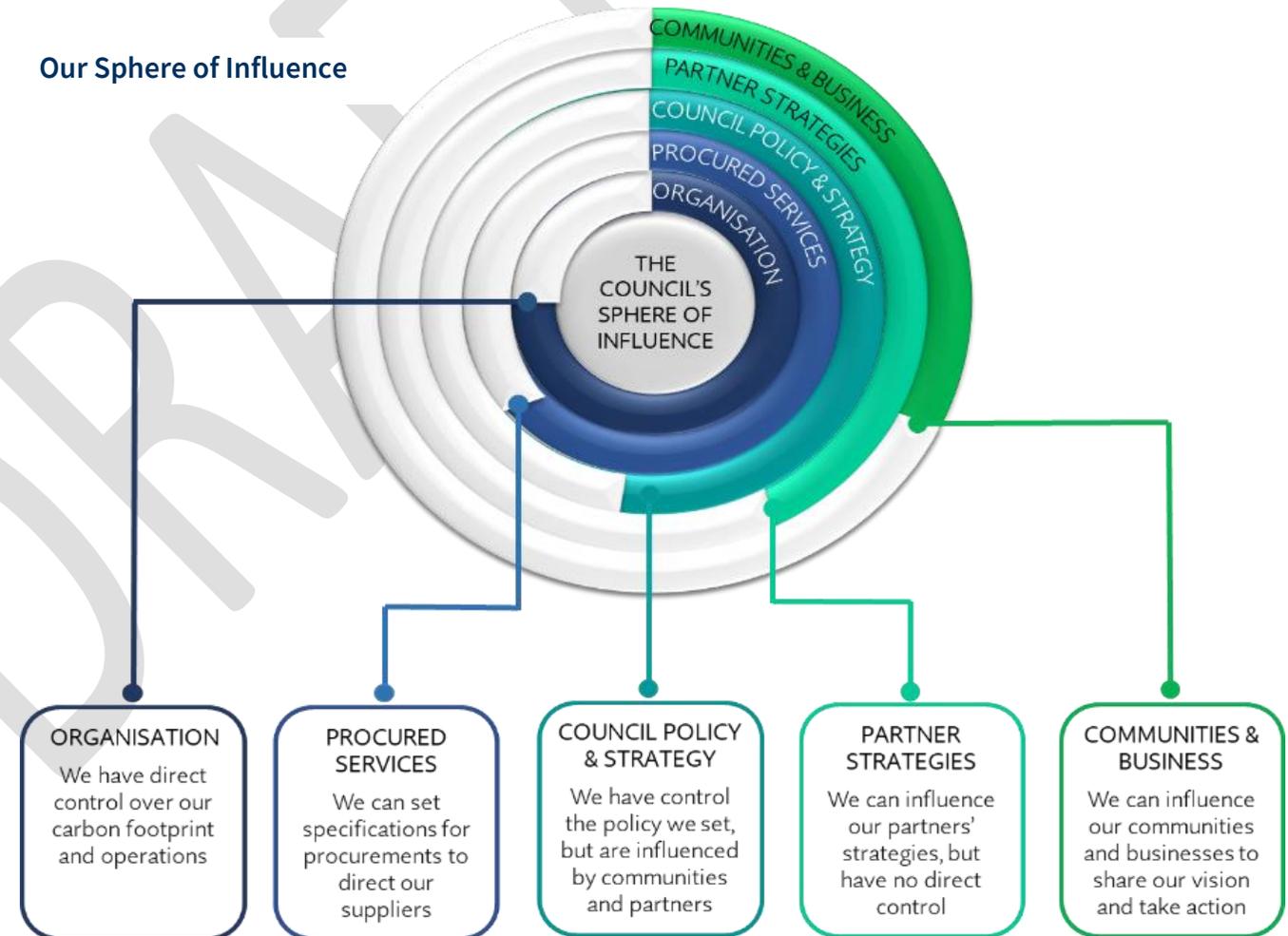
Communities and businesses have told us they need our support to decarbonise.

We recognise that our communities and businesses have many strengths, ideas and know their local areas better than we can.

We can understand their barriers, share best practice, sign-post funding opportunities and where we have direct control of the barriers you face, collaborate on how to remove or lower these barriers to allow you to act for yourselves.

Engaging with young people is vital. Creating a sustainable future and quality of life for young

Our Sphere of Influence



people must involve the voices of, and engagement with young people. Current and future generations are inheriting a changing climate because of fossil fuel combustion worldwide and will experience even greater impacts of more extreme weather in their everyday lives, to that which we are experiencing today. The infrastructure built now: housing, transport, energy and digital, will shape the way young people live their lives.

The business community can be a powerful force for change through product innovation, corporate social responsibility and core values of a business that support sustainable development.

Broadly, the interaction between politics and consumer choices is changing our culture from one which did not consider its carbon or polluting impacts to one of greater knowledge and more discerning choices. We need to keep building on these changes together, learning from each other and sharing responsibility.



SECTION B: OUR STRATEGY

ABOUT OUR STRATEGY

OUR VISION FOR 2045

Our vision is for Cambridgeshire to be net zero carbon emissions by 2045 with communities and nature flourishing whilst adapting to the impact of the climate crisis.

THE STRATEGY

While we have targets to track progress, our strategy is focussed on the swift mobilisation of actions to reduce carbon emissions early as the sooner we deliver the better our environment and economy becomes.

Our strategy is It is about tackling the Council's own emissions by 2030 and importantly

collaborating with our partners, businesses and our communities to achieve net zero by 2045 for Cambridgeshire.

Our Objectives are to:

- Reduce greenhouse gas emissions to mitigate the impacts of climate change
- Support our communities and biodiversity to adapt to a changing climate
- Improve Cambridgeshire's Natural Capital for future generations
- Enable everyone working at the Council to take ownership and action to deliver
- Support communities and businesses to decarbonise
- Align our work with our public sector partners to amplify the impacts of our actions

Our Vision

We will live in climate adapted and zero carbon homes

Our lives will be powered with 100% renewables

Our communities will be resilient to the impacts of climate change and will have space for nature to thrive

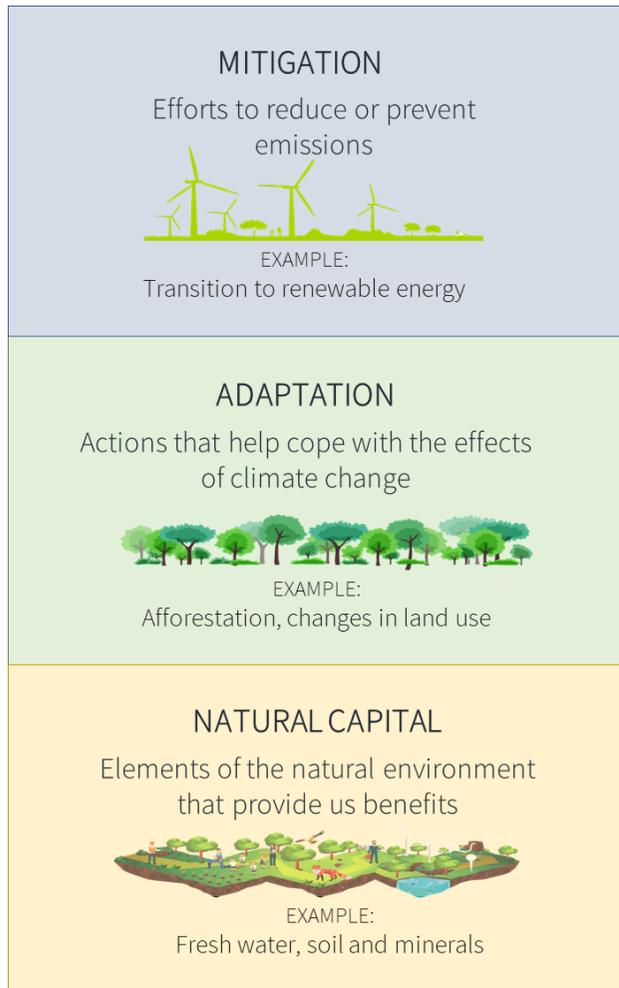
Our health will be better, and we will have easy access to sustainable, local transport

We will be able to access affordable low and zero carbon products



KEY THEMES FOR OUR STRATEGY AND ACTION PLAN

This Strategy is built on three key themes:



Mitigation of carbon emissions addresses the causes of climate change. It describes actions which reduce, prevent or capture carbon.

Adaptation consists of those actions that enable us to deal with the effects of climate change, such as flood risk management in response to heavier more frequent rainfall.

Natural capital is the direct and indirect value derived from ‘stocks’ of waters, land, air, species, minerals and oceans. Benefits these provide clean air and water, food, energy, wildlife, recreation and protection from hazards and careful stewardship can increase these benefits, improving biodiversity and tackling air, land and water pollution. Ecosystem Services are where these stocks provide alternative methods of delivering benefits by using and enhancing our natural assets

FINANCING OUR CLIMATE RESPONSE

In July 2021, The Office for Budget Responsibility (OBR) estimated that to reach net zero by 2050 the UK needed to invest £1.4trillion. Taken in isolation this investment figure is challenging. However, this is only one side of the balance sheet as it doesn’t account for the impacts of unmitigated climate change (e.g. the costs of

repairs to our infrastructure and housing resulting from flooding or drought) or the future cost savings from more efficient buildings. It also excludes the economic benefit from green jobs and low carbon goods. Once fuel efficiencies are included this reduces the OBR estimates by 75%.

The OBR is clear that [delaying decisive climate action by a decade could double the cost](#).

[Although £1.4trillion is a lot when put in the context of our economy and growth](#), cost results in a four-month delay in economic growth over 30 years. This doesn’t even include the wider benefits to society that early climate action can bring such as reduced severe weather events.

Cutting fossil fuels brings co-benefits such as air quality and health improvements. Getting to net zero could avoid the costs and suffering for many. [The costs of stabilising the climate are significant but manageable; delay would be dangerous and much more costly](#).

What are we already doing locally?

We are already investing in programmes to cut fossil fuels used for heating its existing buildings, as well as designing out fossil fuels from new buildings. We are taking a long-term view on

investment to achieve operational efficiency savings.

We are already investing in energy infrastructure projects across Cambridgeshire to cut emissions. Funding of a £100 million pipeline of renewable energy projects has already been mobilised. This includes taking a whole village off oil and onto renewables; generating solar electricity; supplying onsite customers and constructing smart energy grids to supply renewable electricity for transport. We are also working closely with schools to retrofit their buildings.

Our challenge is how to ensure statutory services are delivered and we achieve a balanced budget whilst also supporting and facilitating the transition to a low carbon future.

Funding the transition is not down to the Council alone. With our partners, communities, business and government we need a framework for inward investment to achieve a low carbon future, which scopes the varieties of funding and how to capture these, including grants, policies, private investment, green bonds and new business models.

We can learn from others and look to the Finance Industry for their leadership. For example, The UK Green Finance Strategy covers:

- **Greening Finance:** Ensuring current and future risks and opportunities from climate change are integrated into financial decision making
- **Financing Green:** Accelerating financing for projects that support delivery of net zero, clean growth and resilience
- **Capturing the opportunity:** Ensuring Cambridgeshire can capture the commercial opportunities from the green agenda.



Valuing the Environment

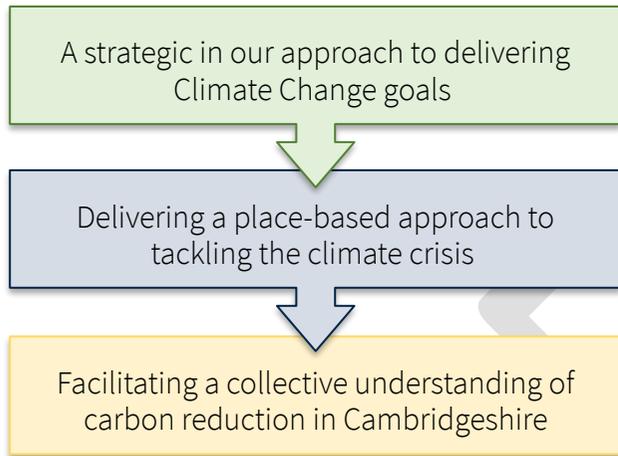
In 2020 the Council set up a £16million Environment Fund. A great start. It is now looking to greater ambition by valuing the environment alongside social and financial impacts. This will bring system change; improved decisions making and increase the scale and pace of investment into the environment.



OUR PRIORITIES

Bringing together local, national and international environmental policy objectives with our organisational and County-wide carbon footprints, we have developed 9 priority areas. These priorities will enable us to focus our themes of delivering mitigation, adaptation and natural capital enhancement.

We have developed our actions that sit beneath these priorities following a set of guiding principles:



We have two overarching priority areas that are fundamental to the delivery of the others, these are in blue (top 2).

Our Priority Areas

-  Communication and engagement with businesses and our communities
-  New economic models and sustainable finance
-  Energy efficient, low carbon buildings
-  Low carbon transport
-  Waste and Pollution
-  Peatlands
-  Water management and flood risk
-  Green spaces and land management, including tree planting
-  Resilience of our services, infrastructure and supporting vulnerable people

OUR OVERARCHING PRIORITIES

Our overarching priority areas will help deliver our target to:

[Support Cambridgeshire communities and businesses to decarbonise by 2045.](#)



COMMUNICATION AND ENGAGEMENT WITH BUSINESSES AND OUR COMMUNITIES

Our businesses and communities are vital if we are to deliver significant carbon reductions and improve our natural environment – no individual, organisation or group of organisations can do this alone. We must enable our communities take actions, through providing advice and support.

We can also learn from our communities. There is extensive local knowledge out there that we must harness to deliver the best outcomes for our communities and environment.

We are in a unique position to bring together a wide range of different people and organisations to act in a unified way on Climate change.

We will:

- **Lead:** Build awareness of the impacts of Climate change and how households and businesses can adapt.
- **Lead & Collaborate:** Work with our suppliers to improve environmental outcomes from the goods and services we procure, identifying where additional support may be needed the business opportunities ahead.
- **Collaborate:** Build on the work our strong networks of established Community Groups and new ways of working from the pandemic. We will help build community climate capacity and harness the energy and ideas of local people to make change happen at scale.



We can all play a role

We all have different capacities to act, but even small changes we make as individuals can have an impact.

Changing our light bulbs to LED's can save 0.2tCO₂e annually. While this seems small, if we all made these changes across Cambridgeshire, we could save over 100,000tCO₂e each year.



NEW ECONOMIC MODELS AND SUSTAINABLE FINANCE

To deliver our targets we will need to think about the best ways to fund our actions. We will green our financial decision making, fund green projects, and seize the opportunity to maximise the commercial opportunities that arise from the green revolution. Already we have several funding models under development, but new approaches that integrate and account for environmental impacts or benefits are needed.

We will:

- **Lead:** Explore mechanisms available to us to embed monetised environmental and societal costs/benefits into our financial decision making.
- **Lead:** Develop new financing models and initiatives to enable business and community decarbonisation, for example a Cambridgeshire Decarbonisation Fund, focussing on providing support to those who are least able to act.
- **Lead:** Take a sustainable approach to commercial decisions to maximise community and Council benefits

- **Collaborate:** Work with our local authority partners and business partners to explore innovative ways of financing action on the climate and biodiversity crises.

MITIGATION

Efforts to reduce or prevent emissions



EXAMPLE:

Transition to renewable energy

MITIGATING CLIMATE CHANGE

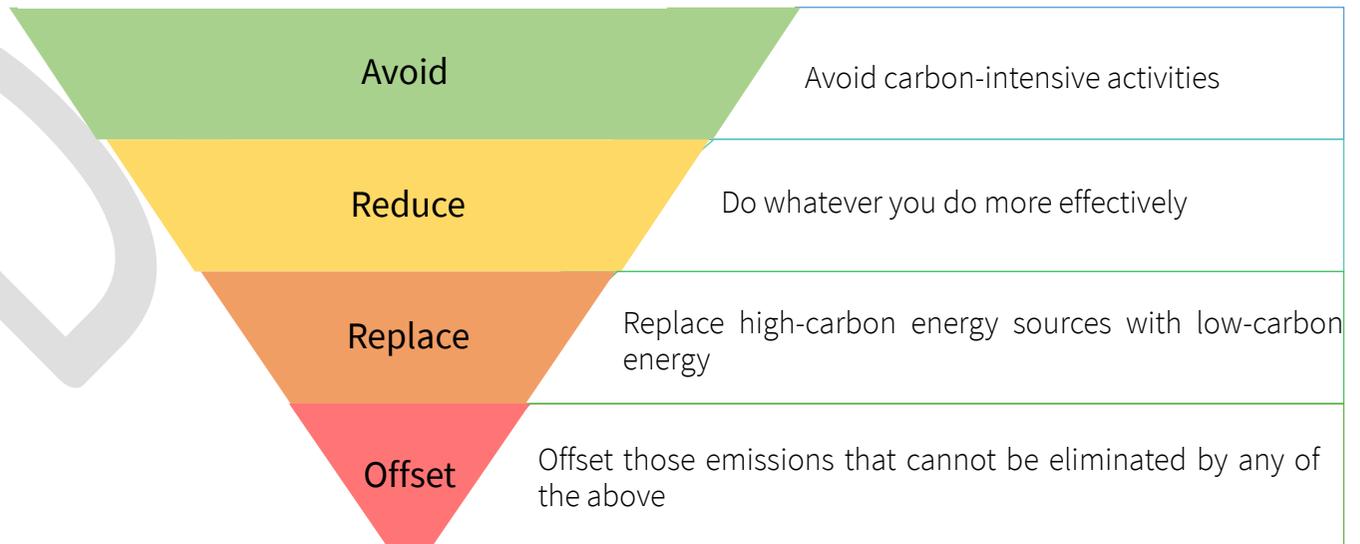
Mitigation means using new technologies and renewable energies; making older equipment more energy efficient; reducing consumption and waste; or changing management practices or consumer behaviour, to reduce or prevent emission of greenhouse gases. It is undertaken to limit the magnitude or rate of long-term Climate change due to human emissions of greenhouse gases.

‘Net zero carbon’ means the reduction of greenhouse gas emissions to the lowest possible level, and any remaining emissions are offset through carbon removal methods such as tree

planting or carbon capture and storage, so we have net zero emissions to the atmosphere. This does not mean that high levels of offsetting can get us to net zero, as the scale of emissions is so large. For the UK, the net zero target legally must be reached by the end of 2050.

Our route to mitigation and net zero follows the principles of the Carbon Management Hierarchy, which provides a simple framework for how the Council will approach meeting its emission targets.

Carbon Management Hierarchy



OUR MITIGATION TARGETS

Three targets for reducing carbon emissions have been set:

Cambridgeshire carbon emissions will be net zero by 2045

The County Council will reduce its supply chain emissions (all scope 3 emissions) by 50% by 2030 from a baseline of 2018 – along with our supply chain, this includes emissions from our staff cars, maintained schools' energy and agricultural emissions from the rural estate.

The County Council will reduce emissions from our buildings and fleet transport to net zero by 2030 (scope 1,2 only)

Delivery of these targets will fall across our priority areas for mitigation, outlined below.

OUR PRIORITY AREAS FOR MITIGATION

Priority areas have been identified based on where the council can have the greatest impact. Many of these areas will have significant co-benefits to our communities such as to health through reducing air pollution, or to communities through better transport connections.



ENERGY EFFICIENT, LOW CARBON BUILDINGS

Buildings' energy use contributes over to over a third of Cambridgeshire's carbon footprint and covers most of the Council's own scope 1 organisational footprint.

Cambridgeshire has more than 10,000 existing homes dependent on oil for their heating. Residents experience volatile markets purchasing oil and have few alternative options. Constructing new and retrofitting existing buildings to minimise energy consumption and shift onto renewable sources is vital to deliver cost and carbon reductions. We will:

- **Lead:** Improve our Council built assets through bringing forward new opportunities for installing low carbon heating to replace gas or oil heating with low carbon solutions such as air source heat pumps and constructing new buildings to higher energy efficiency standards that deliver net zero carbon by 2045.
- **Lead:** Scope how to reduce the embodied carbon within the materials we choose to deliver our statutorily required construction

projects, such as school expansions and highways maintenance.

- **Collaborate:** Work with local business to support decarbonisation of commercial and industrial buildings and operations
- **Collaborate:** Work with Local Planning Authority Partners and the CPCA to help design plans for new developments that deliver clean green homes
- **Collaborate:** Work with our communities to provide support to develop and deliver community heat projects



Low Carbon Heating Programme

Our transition to low carbon heating commenced in 2019 with a first phase of our corporate buildings undergoing retrofits with air source heat pumps. These projects are now completing, with new phases of works being commenced.



LOW CARBON TRANSPORT –

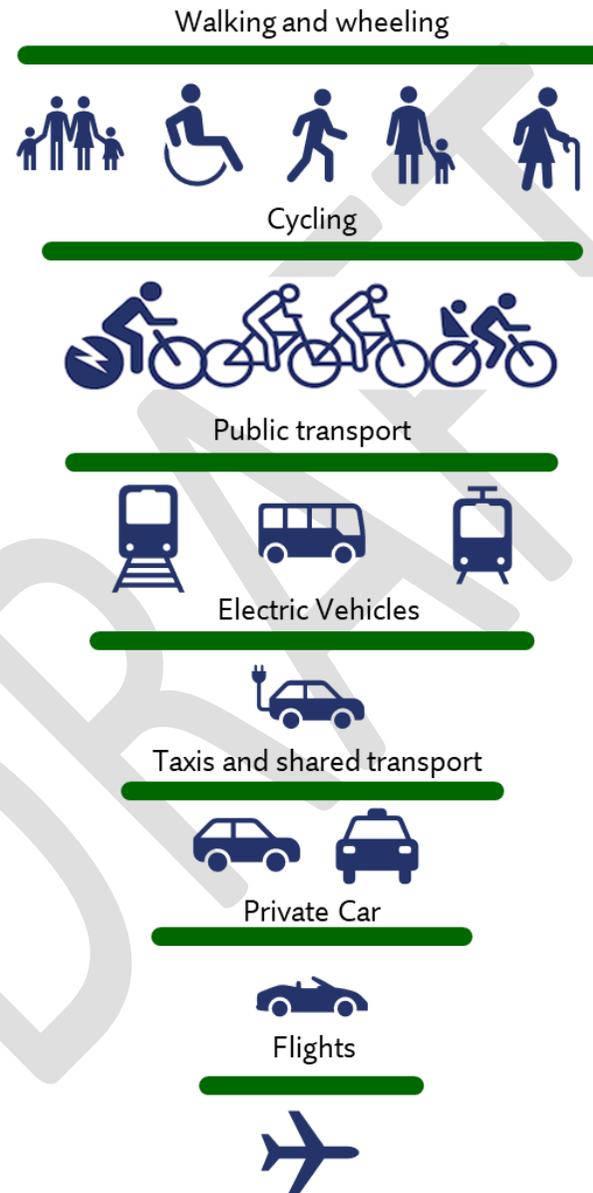
PRIORITISING WALKING, CYCLING AND PUBLIC TRANSPORT, AND SUPPORTING THE UPTAKE OF ELECTRIC VEHICLES

Transport is the second largest source of carbon emissions in the county. As managers of the local highways network, how we prioritise walking, cycling and public transport ahead of the private car to minimise carbon emissions and improve air quality, will be key to how we enable our communities to decarbonise.

We will use the travel hierarchy, which is a central pillar of the Department for Transport’s Transport Decarbonisation Plan, as a framework for promoting a shift to more sustainable travel modes.

Responsibility for our transport and highways in Cambridgeshire sits across a range of organisations (see diagram). This complexity means we must closely collaborate to put the infrastructure in place to enable our communities to begin their journey along the travel hierarchy.

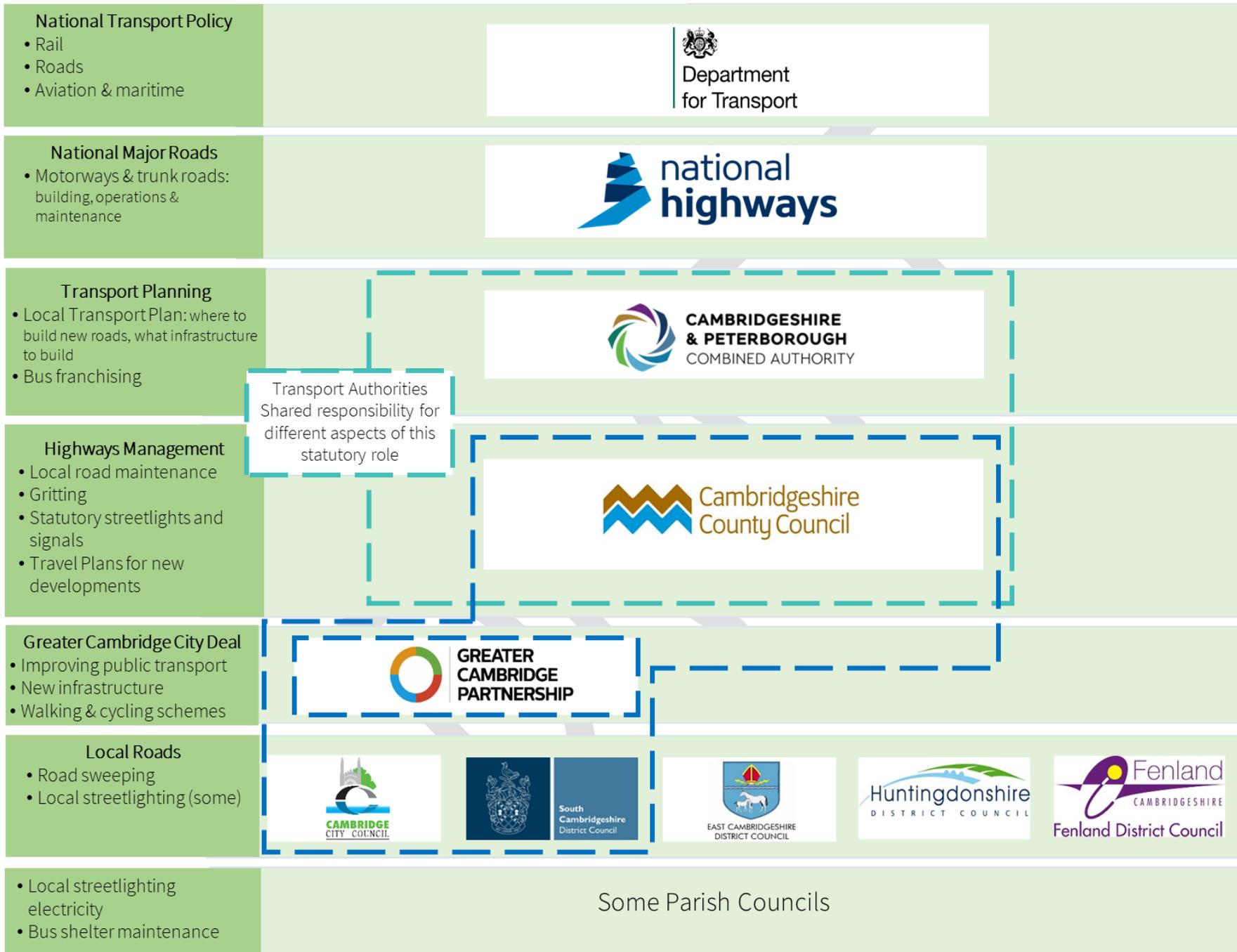
The Transport Hierarchy



We will:

- **Lead:** Improve the sustainability of our own fleets, planning for minimising travel, and switching essential travel to alternatives following the travel hierarchy
- **Lead and collaborate:** Improve and develop our highways network to allow all communities, both urban and rural, to access alternatives such as autonomous vehicles and EV charging infrastructure for a range of transport options including electric vehicles and electric bikes, to reduce carbon emissions.
- **Collaborate:** Work with our planning partners, and use our inhouse transport strategy and cycling expertise, to incorporate transport into housing development design requirements that enables new and emerging ways of low carbon travel, like cargo bikes, ahead of the private car.
- **Collaborate:** Work with our partners responsibility for transport and highways to deliver policy alignment between our organisations to deliver a sustainable transport system, what this looks like for public transport and active travel options.

Transport and Highways Responsibilities Across Cambridgeshire



Transport Authorities
Shared responsibility for different aspects of this statutory role



WASTE AND POLLUTION -

REDUCING WASTE, MINIMISING POLLUTION, AND RETHINKING HOW WE DEAL WITH THE WASTE WE PRODUCE

As the Waste Disposal Authority, we have a statutory responsibility to treat and dispose of all the waste collected from Cambridgeshire's households and some businesses. The Council's waste management function is one of the largest sources of carbon emissions within our organisation.

Reducing these emissions and minimising escape of waste into the environment is a key challenge. Working with the Cambridgeshire and Peterborough Waste Partnership to continuously improve waste services and find environmentally responsible ways to meet the needs of local communities, but more needs to be done.

We will:

- **Lead:** Develop circular economy principles to improve resource efficiency, aiming to deal with Cambridgeshire's waste in Cambridgeshire, through keeping products, equipment, and infrastructure in use for

longer, reducing the transport of waste where feasible, improving the productivity of these resources and attracting increased opportunities for waste remanufacturing locally to repurpose waste into new products.

- **Collaborate:** Develop circular economy principles such as reuse, repair, refurbishment, remanufacturing and recycling to create a closed-loop system, minimising the use of resource inputs and the creation of waste, pollution, and carbon emissions.



Reducing the amount of Waste Produced

The only way we can truly reduce our carbon emissions from waste is to reduce the amount we produce.

We must work together with our communities to encourage and enable greater reuse and repurposing to minimise the materials that end up in our waste streams. Establishment and promotion of routes enable residents to repair, like repair cafes, are vital.



GREEN SPACES, RESTORING NATURAL HABITATS AND BENEFICIAL LAND MANAGEMENT

Enjoyment and access to green spaces is important to our community, especially since experiencing lockdowns resulting from the pandemic. It has given us all a greater appreciation of nature and what it needs to thrive.

The way we use and manage land is a major source of emissions locally and globally. If we change our practices to become more sympathetic to nature, we can deliver significant carbon savings through sequestration using trees, wildflower meadows and peat in some cases. Currently Cambridgeshire is one of the areas with the poorest levels of tree canopy cover in the UK.

“Nature-based solutions” provide significant benefits for adaptation to climate change and improving nature overall. Some of this is covered in the sections that follow.

We will:

- **Lead:** As a major landowner across the County, including highways, rural estate and the land surrounding our buildings, to assess where and how tree planting can be increased. We will use our assets to deliver more trees and make improvements to green space to maximise carbon sequestration.
- **Lead and collaborate:** Work with our communities to bring together council expertise with strong local knowledge to tailor nature improvements that work in the locality. Together, we can plan and deliver hedges, trees, and wildflower meadows across the county to achieve carbon sequestration while also improving biodiversity.
- **Collaborate:** Work with our tenant farmers on our rural estate to share best practice and encourage uptake of environmental projects that can provide carbon benefits while providing a secure income to the tenant





PEATLAND - DEVELOPING UNDERSTANDING OF THE SCALE OF THE CHALLENGE AND OPPORTUNITIES FOR MANAGEMENT BEST PRACTICE

Carbon emissions from Cambridgeshire's peatland are estimated at over 2 million tonnes CO₂e per year. This has pushed land use across the county to being our largest source of emissions.

Our peatland is generally in a poor condition, which is driving these emissions, but we can become a net sink of carbon if we improve the condition of our peat. However, in terms of food productions they are some of the UK's best. The NFU estimates the agricultural sector in the Fens provides 80,000 jobs, 7% of England's food production and £3bn annually to the Fens economy.

The impact of getting the approach to peatland management wrong could have far greater ramifications than just on our climate. The scale of the challenge is huge and complex., and one that will take leadership and collaboration to solve.

We will:

- **Lead:** As the biggest landowner in Cambridgeshire, we will set examples within our own peatland estates and tenanted farms to explore alternative means of land management and agricultural practices to improve our peatlands whilst maintain other benefits, such as for agriculture
- **Collaborate:** Take an active role on strategic projects and partnerships, such as Future Fens Integrated Adaptation, the CPICC Fenland SOIL Committee (Sustainability, Opportunity, Innovation, Learning) and the Land Use Framework for Cambridgeshire & Peterborough, seeking to deliver multi-benefits for the County, championing the need for integration of peatland improvements into these projects.



ADAPTATION

Actions that help cope with the effects of climate change



EXAMPLE:

Afforestation, changes in land use

ADAPTING TO CLIMATE CHANGE

Adaptation is the process of adjusting to the effects of climate change, and to seek to moderate harm or exploit any opportunities.

There are lags in the time it takes for our climate to respond to carbon emissions and some aspects of our climate are only now responding to emissions from previous decades. Even with mitigation, the impacts of Climate change will continue to exist into the foreseeable future.

OUR ADAPTATION TARGET

Our target for improving resilience to climate change impacts is for:

[All Council buildings and infrastructure to be resilient to climate change impacts by 2045](#)

We cannot ignore the Climate change risks we are facing including flooding, droughts, and fires.

Adaptation actions taken today to manage these risks will have benefits long into the future.

OUR PRIORITY AREAS FOR ADAPTATION

Priority areas have been identified to incorporate the statutory and collaborative functions of the Council.

We are the Lead Local Flood Authority and the Highways Authority – both functions that are already having to deal with climate change impacts. Importantly, we also care for the vulnerable and support the education of young people. Services we need to be able to maintain regardless of the difficulties extreme weather can present.

Reflecting this, some of our priorities are inward focused, ensuring we are fully prepared to continue delivery of our services, while others are more focussed on building resilience within our communities and businesses.



WATER MANAGEMENT,

AVAILABILITY AND FLOOD RISK, TO IMPROVE WATER QUALITY WHILE IMPROVING RESILIENCE TO FLOODING AND DROUGHTS

Water is an increasing challenge in Cambridgeshire. Generally, we are a water scarce region, but range from having too little in summer droughts and too much when we see winter flooding. There are some areas of the county where water supplies for growth are predicated on reducing water waste in existing communities. Changing rainfall patterns are predicted to include fewer rainfall events but of greater severity, placing stresses on our storage infrastructure and increasing the need for water management. Greater innovation and adaptive approaches are needed to help us cope with the increasingly extreme and unpredictable weather events.

We will:

- **Lead:** Integrate adaptation to climate impacts into our refreshed Local Flood Risk Management Strategy, supporting the long-term objectives set out in the new National

Flood and Erosion Risk Management Strategy and the National Planning Policy Framework.

- **Lead and Collaborate:** Through our Community Flood Action programme, coordinate with other local authorities, agencies, and the National Flood Forum to help our communities plan and prepare for flooding events by supporting flood groups, encouraging Property Level Resilience, and providing access to resources to help with riparian watercourses.
- **Collaborate:** Support our partners, (e.g., the Fens Water Partnership, Local Authorities) to deliver approaches that will conserve water to help manage our water scarcity.
- **Lead and Collaborate:** Champion the need for a strategic approach dealing with the county's increased flood risk. Bringing together partners and our communities, we will develop and deliver a coordinated and collaborative approach to flood risk and water management including use of the planning process.
- **Collaborate:** Strengthen our collaboration with existing partnerships, like the Future Fens Flood project being co-ordinated by the Environment Agency, which will develop a plan to manage and adapt our ageing flood risk infrastructure in the Fens to future flood risk in the Great Ouse area.



RESILIENCE OF OUR SERVICES,

INFRASTRUCTURE AND SUPPORTING VULNERABLE PEOPLE.

We deliver a wide range of vital services that enable our communities to prosper, ranging from maintaining highways to adult and children's social care to waste management. All these services rely on strong connectivity – physical and virtual - across the County. Nationally 41% of transport and utility infrastructure and 10% of roads are in areas at risk of flooding, and we are already experiencing the temporary disruptions caused during floods.

With these events likely to become more frequent, we must adapt our services and infrastructure to ensure we can continue delivering despite these increased risks.

We will:

- **Lead:** Assess how climate change will create new, or alter current, risks, and develop plans across all our services to ensure we can continue delivering in the face of climate change.
- **Lead:** Develop our approach to highways management to fully consider, and where

possible implement, designs with greater adaptability to climate impacts.

- **Lead and Collaborate:** Work across our strategic partnerships to highlight and understand the risks Cambridgeshire's infrastructure of all kinds will face, ensuring it is key priority for all existing providers, and develop plans and projects to reduce the impacts this could bring.



Adaptation & Business

Our changing climate will bring more variable and extreme weather, putting additional strain on infrastructure.

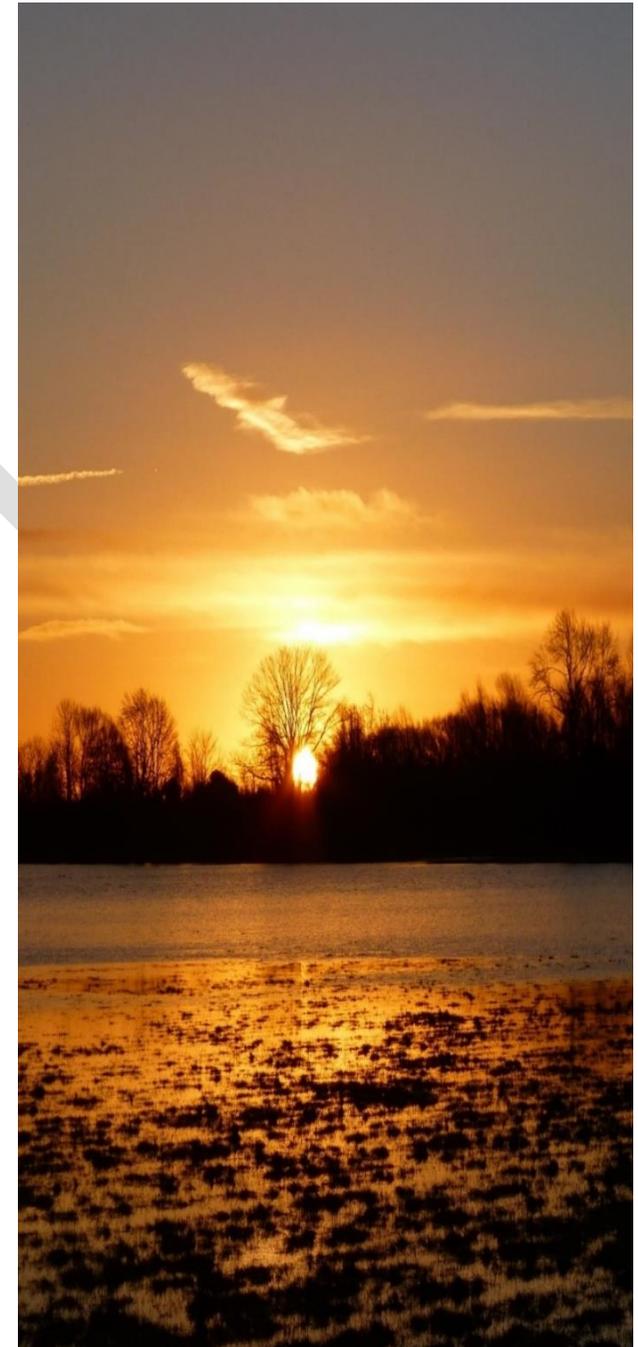
For business, adaptation is about managing this risk to ensure business continuity when extreme weather occurs.



GREEN SPACES, RESTORING NATURAL HABITATS, BENEFICIAL LAND MANAGEMENT & TREE PLANTING

Well-designed natural infrastructure can deliver many benefits and make substantial contributions to adaptation and improving natural capital. Maximising the creation, co-benefits and longevity of green to reduce our vulnerability and exposure to climate change is essential. We will:

- **Lead:** Work with our tenant farmers on getting the best for our farms and our environment through the Environmental Land Management Scheme (ELMS).
- **Lead and collaborate:** Work with our local authority partners and our communities to develop a strategy for sustainable management of existing and future open spaces through the Future Parks Accelerator project to improve outcomes for wellbeing and nature.
- **Collaborate:** Work with partners to ensure multi-functional green and blue spaces are integrated into plans to provide benefits including recreation, temperature control, habitats and flood storage.



NATURAL CAPITAL

Elements of the natural environment that provide us benefits



EXAMPLE:

Fresh water, soil and minerals

CONSERVING AND ENHANCING NATURAL CAPITAL

Natural capital is our ‘stock’ of water, land, air, species, minerals, and oceans. Our environment provides numerous benefits to humanity and can often provide alternative ways of delivering our services, such as using agricultural practices to hold back heavy rainfall thus preventing flooding elsewhere. These are known as

ecosystems services and can be fundamental to our lives as well as delivering direct financial benefits.

Our reliance on the environment for these services is important for quality of life and damaging nature beyond repair will mean a diminished quality of life for future generations and an increased financial burden for our children.



OUR NATURAL CAPITAL TARGET

Our targets to deliver enhancement to our natural environment are:

To improve all biodiversity across the council's estate by 2030.

Understand and grow our Natural Capital account to benefit people and nature by 2025 and integrate this into the delivery of council functions by 2030.

The Council is a large land and asset owner. By working to improve nature on our assets, we can improve the environment and link up with communities and other landowners to improve biodiversity.

OUR PRIORITY AREAS FOR NATURAL CAPITAL

Many communities and stakeholders are already playing an active role in improving Cambridgeshire's natural environment. We will work with others to develop and support natural capital improvements and access to quality green spaces.



GREEN SPACES, RESTORING NATURAL HABITATS, AND BENEFICIAL LAND MANAGEMENT

Cambridgeshire has one of the smallest percentages of land managed for nature in the country, with only 8.5% of the county covered by natural or green spaces. At the same time, water scarcity undermines the flow of our chalk streams, and our changing climate is aiding the spread of disease and invasive species, putting additional pressure on our already struggling native species.

This lack of high-quality green space puts pressure on our wildlife, making their survival increasingly difficult, and undermines the health benefits our communities receive from interaction with the natural environment.

Community enjoyment green space was made clear during lockdowns. We need to collaborate with communities on how to bring forward more and better managed spaces in our towns and villages for them to access.

To improve the quality and extent of green space across the county, we will:

- **Lead:** Integrate stronger environmental outcomes into our statutory planning functions, emphasising the role of habitat restoration for species displaced through quarry activity, and requirements for robust restoration approaches to re-establish lost ecosystem dynamics.
- **Lead:** Improve our land and asset management approaches placing greater emphasis on positive environmental outcomes such as improving soil condition and biodiversity metrics.
- **Lead:** Ensure that where our open spaces are also heritage sites, heritage values are enhanced alongside amenity and biodiversity values to increase



“Doubling Nature” Vision

By doubling the area of rich wildlife habitats and natural green-space, Cambridgeshire can become a world-class environment where nature and people thrive, and businesses prosper.

To achieve this, the aim is to double the area of rich wildlife habitats and green space from to 17%.

understanding of these places and help other owners to do the same

- **Lead and collaborate:** To enable our communities to enjoy their green spaces for leisure and health more easily, we need to work with our local authority partners and other stakeholders to improve the quality and extent of green space available.
- **Lead and collaborate:** With our partners, further develop our approach to pest and disease control, proactively managing to improve the early detection of disease while enabling reductions in the use of pesticides and herbicides.
- **Collaborate:** Work with communities and partners to support the Local Nature Partnership's, Natural Cambridgeshire, vision to deliver a doubling of nature by 2050, securing "access to high quality natural green spaces within 300m of everyone's home.
- **Collaborate:** Strengthen collaborations with our tenant farmers, providing a forum to navigate government policy and share best practice - particularly where new subsidies may provide opportunity encouraging more sustainable agricultural practices.
- **Collaborate:** Work with the Environment Agency and the water sector to deliver a holistic water management approach that balances the complex interactions of water

abstraction, irrigation and navigation with biodiversity enhancement. Conservation of our chalk streams recognised as a priority habitat under the UK Biodiversity Action Plan, is of particular concern.



PEATLAND - DEVELOPING UNDERSTANDING OF THE SCALE OF THE CHALLENGE AND OPPORTUNITIES FOR MANAGEMENT BEST PRACTICE

Cambridgeshire's fen peatlands are among the UK's most diverse habitats for wildlife, but much have been lost to drainage and agriculture practices. These habitats rely on a delicate balance of water volume and quality to maintain their diverse range for flora and fauna many of which are internationally recognised.

The challenge of peatland conservation is complex, bringing together a range of issues, implications and stakeholders. As suite of solutions are required, delivering a holistic mosaic of approaches that maximise the opportunities for all.

We will:

- **Lead:** Become a champion for improving peatland condition within our strategic partnerships, highlighting the value of peatlands for biodiversity, as well as for food production, carbon sequestration and water management.
- **Collaborate:** Build on the and partners (e.g., The Great Fen Project) to strategically support and extend outputs to maximise their impact across the county.
- **Collaborate:** Fully engage with other initiatives such as the Fens Water Partnership, Fenland SOIL and the Future Fens: Integrated Adaptation to support cross sector working to maintain and improve the fen environments.
- **Collaborate:** Work with our tenants who run farms on peat soils to share best practice and encourage uptake of agricultural approaches that are sympathetic to their peatland soils while maintaining productivity.



WASTE AND POLLUTION -

REDUCING AIR POLLUTION, AND RETHINKING HOW WE DEAL WITH THE WASTE WE PRODUCE

As the Waste Disposal Authority we have a duty of care to ensure the waste we manage is sent to authorised re-processors and does not contribute to pollution. However, we can only deal with the waste that arrives at our treatment sites. Illegal dumping of waste is an increasing challenge, with incidences growing in scale and impact nationally. This pollution damages the environment and undermines the public's view of our recycling schemes.

Air pollution is also of concern. In Cambridgeshire there are seven Air Quality Management Areas, primarily due to use of petrol and diesel vehicle exhausts and friction of brake-pads and road surfaces; however, we also see localised issues from agricultural dust and homes on solid fuels.

We will:

- **Lead:** Use our purchasing power to drive improvement in our supply chain by specify

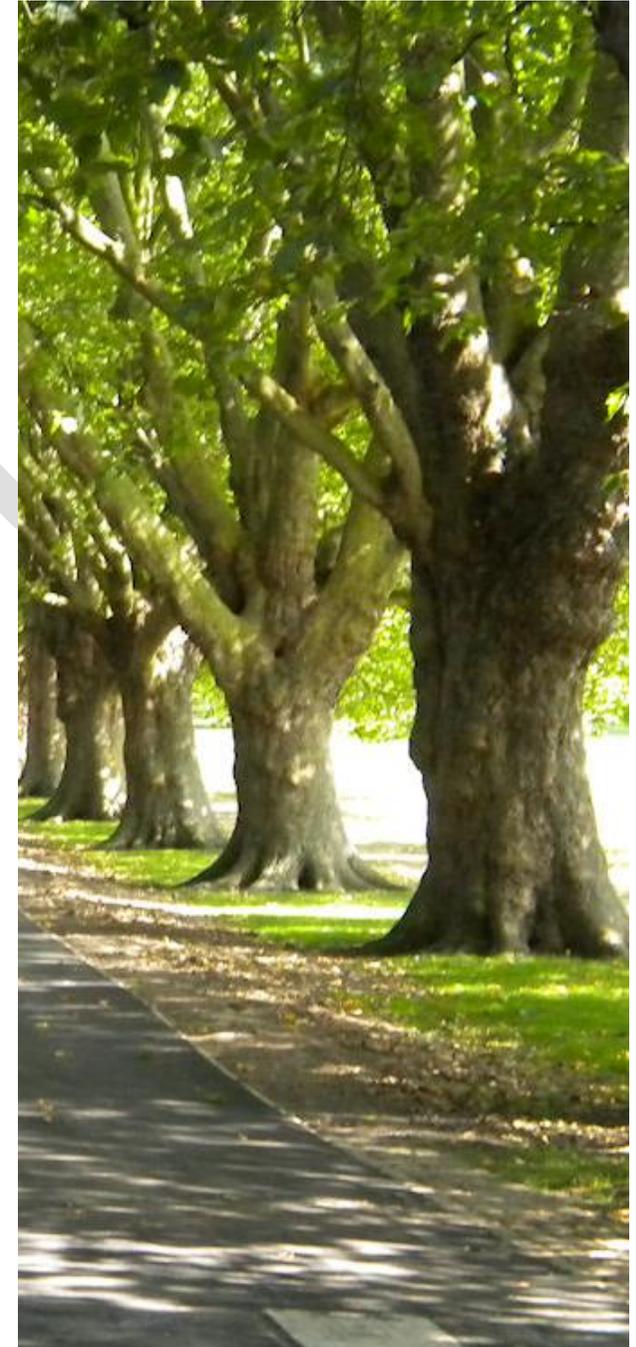
more sustainable options, replacing single use plastics (where appropriate) and promoting a circular economy.

- **Lead:** Deliver a range of schemes to improve air quality through i) improving infrastructure for walking and cycling, ii) support the planting of trees, and iii) lobby for initiatives to help pilot innovations, such as at Swaffham Prior which will take the village off oil and onto renewables.
- **Lead and collaborate:** Work with our local authority partners, who collect household waste, to build confidence in the recycling services we provide and encourage our communities to minimise waste by promoting alternatives such as repair cafes.
- **Collaborate:** Work with existing working groups tasked with tackling air pollution across the County to strengthen our joint ambitions and facilitate action



Trees & Air Quality

Trees improve air quality. Their canopies act as a filter, trapping dust and absorbing pollutants. Each individual tree removes up to 1.7 kilos every year all, while also sequestering carbon.



GOVERNANCE OF THE CLIMATE AND BIODIVERSITY CRISES

The Climate and Biodiversity Crises are a top priority for [the Council](#). Its Climate change and Environment Strategy is adopted as corporate policy to demonstrate the ambition and commitment of the Council to making a difference.

The Environment and Green Investment Committee is the service committee that; oversees implementation of the Strategy, monitors and reports progress against targets. However, implementation is a shared organisational endeavour and efforts of all committees and services are needed for our ambition to be delivered.

The [Climate change and Environment Strategy](#) comprises the following:

- 1) [The Strategy](#) – a high level summary of how and what we are looking to achieve
- 2) [Technical Report](#)- a detailed description of the evidence base and national policy that has informed the strategy and our priorities.
- 3) [Action Plan](#) – this is a dynamic plan that sets out the range of actions that will be needed to get us to net- zero and doubling nature.

The plan can adapt to our learning and more and actions can be added or taken away.

Sitting alongside the Strategy are a further three key documents. The [Net Zero Programme and Resourcing Plan](#) which will take the targets and action plan and turn it into something real for everyone in the organisation. This must be closely aligned with the Council's business planning. We are also developing a [Community and Engagement Plan](#). This will set up conversations with our communities and businesses on [how we can all play our part](#).

[The Annual Carbon Footprint Report](#) will continue. Two reports are already published which describe the changes in our organisational carbon emissions and for Cambridgeshire.

Driving delivery internally is a Strategic Board. Senior Officers from across the Council will transform services to deliver low carbon solutions and improve natural capital. Supporting the Board is the central Programme Management Office tracking progress, analysing new data, identifying where resources are needed to support delivery.

WORKING IN PARTNERSHIP

Cambridgeshire net zero emissions by 2045 is ambitious. It recognises that to get the most out of the transition to a low carbon future Cambridgeshire needs to be at the vanguard, creating opportunities for its communities and businesses to do their bit and become a carbon literate workforce. This will retain and attract businesses to Cambridgeshire, looking for a skilled workforce and thriving environment.

Working with the CPCA and district council partners is a priority. The CPCA has set up a Climate Working Group and the Council is represented on the Group to help drive change and align efforts with others. This Group comprises Local Authorities, other public sector partners as well as private sector, university and third sector. It is seeking to deliver on the recommendations of the Cambridgeshire and Peterborough Independent Committee on Climate Final Report published in October 2021 and amplify what can be achieved together through collaboration.

GLOSSARY

Expression	Meaning
Carbon	Used as abbreviation for carbon dioxide (CO ₂) or carbon dioxide equivalent.
Carbon Budget	An amount of carbon dioxide that a country, company, or organisation has agreed is the largest it will produce in a particular period.
Carbon capture and storage	The capture and storage of CO ₂ before it is released into the atmosphere.
Carbon dioxide equivalent (CO₂e)	A standard unit for measuring carbon footprints. It expresses the impact of each different greenhouse gas in terms of the amount of CO ₂ that would create the same amount of warming, using global warming potentials.
Carbon offset	A reduction in emissions of carbon dioxide or other greenhouse gases to compensate for emissions made elsewhere. This reduction could be through minimising emissions or capturing emissions. Offsets are measured in tonnes of carbon dioxide equivalent.
Circular Economy Principle	An economy in which resources are kept in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.
Global Warming Potential (GWP)	A measure of how efficient a chemical is at trapping heat in the atmosphere relative to carbon dioxide. For example, methane has a GWP of 34 and nitrous oxide has a GWP of 298 (6). By definition, CO ₂ has a GWP value of 1. Quantities of GHGs are multiplied by their GWP to give results in units of carbon dioxide equivalent (CO ₂ e).
Greenhouse Gas (GHG)	Any gas that absorbs heat and then emits it. These prevent heat from leaving the Earth's atmosphere, driving the warming of the planet.
Green/Blue Infrastructure	A network of multi-functional green space and other green features (or water) which can deliver quality of life and environmental benefits for communities.
Heritage Asset	A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).
Historic Environment	All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.
Low carbon technology	Methods of generating energy that produce little to no carbon.

Natural Capital Natural assets, such as fresh water, minerals and biodiversity which confer a benefit to humans. These benefits are expressed in terms of their monetary value.

Net zero Achieving an overall balance between emissions produced and emissions taken out of the atmosphere. This can take place on different scales and is often achieved through offsetting.

Peat The remains of wetland plants and animals that build-up in permanently saturated conditions. Peat soils in England have been accumulating carbon since the retreat of the last glaciers approximately 10,000 years ago.

Resilience The ability to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate. Improving climate resilience involves assessing how Climate change will create new, or alter current, climate-related risks, and taking steps to better cope with these risks.

Site of Special Scientific Interest (SSSI) Sites protected because they have important special flora, fauna, or geological or physiographical features. Land is classed as an SSSI following a legal process that judges it to have one or a combination of these features.

Carbon sequestration The long-term removal and storage of carbon dioxide from the atmosphere to reduce atmospheric concentrations.

Wasted peatland A technical term for deep peat that has been substantially degraded following years of drainage and cultivation so that the peat is now more dominated by underlying mineral material.
