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Please Note: for an explanation of some of the key words and phrases used in this document, please see the Glossary in section 10

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ECDC Environment Plan 2023

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Foreword

By Anna Bailey, Leader of East Cambridgeshire District Council

I see 2023 as a year where we see real change for the good, including right here in East Cambridgeshire.

There were, of course, many reasons why 2022 will not be a year to remember so fondly. Russia's invasion of Ukraine; inflation worries; recovery from the pandemic; and the death of Queen Elizabeth II.

And in the middle of all that, the UK baked at over 40C for the first time ever on 19 July 2022, as climate change became 'real' to all of us.

Sometimes it's hard not to feel anxious about all these issues, and worry that there is simply nothing you can do about it. It would also be easy for a small local district council like us to simply say these issues are all too difficult and there's very little we can do about it.

But I disagree.

I see the positive action in our communities, from residents welcoming fleeing Ukrainian families into their homes, volunteers helping out at warm hubs, and community groups taking real action to help mitigate climate change and boost local biodiversity. Big or small, every such action makes a huge difference.

The Council is tackling many of those issues. But taking climate change seriously and boosting local biodiversity is what this Environment Plan is all about.

I want this Council to do more than ever to support you and our communities, whether that's creating a new wildlife area or taking action to reduce your own carbon emissions. But I also want this Council to do more than ever in taking action itself, reducing our own emissions, producing more renewable energy and making positive, long lasting, real biodiversity gains in our district.

This is my fourth Environment Plan as Leader of the Council, and I'm delighted to support the positive actions that, as your local Council, we will take over the coming year.

- For starters, we are going to commence using vegetable oil to power some of our refuse vehicles, so that when one of those 'bin lorries' turns up at your home to take away your carefully sorted recycled material (thank you!), you'll be pleased to know that it won't be fuelled by diesel, but instead by a renewable fuel with up to 90% less carbon emissions. This is a huge help towards the Council getting to net zero.
- We are going to install more solar panels on our buildings, increasing the amount of renewable energy we produce and use.
- We are going to install water bottle filling stations, so you can fill your bottle for free and save on single use plastic bottles.
- We are going to help you achieve more, by making grants available for your local community to help create a new nature area, plant trees or tidy up an open space – this will be known as the Pride of Place grant scheme.
- We will be hosting a fun and family-oriented nature related activity day, alongside the Cathedral's 'Green Fair', on 5th August.
- We will launch a 'one plus one' campaign, a community challenge aiming to install one bird or bat box to match the number of homes in the district – that's nearly 40,000!

• We are to give away free oak trees to communities. Oak trees are the most majestic, much loved and culturally important of British trees, and host the greatest variety of life of all trees – they are home to a whopping 2,300 species, with 326 of them dependent on oaks to survive.

Our big announcement in this year's Plan is that we are setting ourselves a new more ambitious target of aiming to become a truly net zero Council by 2035/36; importantly this Plan evidences how we will get there.

Thank you to all the local groups and individuals that have contributed ideas to this year's Plan update and to the Green Team officers at the Council for all their hard work, both in contributing to the Plan and making all the actions happen – together we are making a difference.

I want 2023 to be a year to remember. A fresh start, with renewed energy to make real, long lasting positive change for our environment, right here in East Cambridgeshire.

With your help, we can make a real difference.



Anna Bailey

Leader - East Cambridgeshire District Council

Acknowledgements

In preparing this Environment Plan, the Council wishes to acknowledge the help and support of Cambridgeshire County Council. With its agreement, we have included some similar diagrams and statistical evidence.

1 Introduction

The overriding context – we must act now

The world is facing unprecedented challenges of population growth¹, climate change, pollution and ever increasing and competing demands on its land and natural resources. Despite this, the current generation has a duty to protect and improve the health of our planet for those that follow.

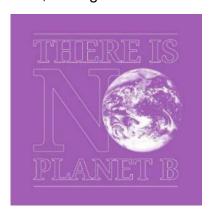
There is global consensus that climate change poses significant risk to the health of the planet and its ability to sustain life.

Meanwhile, our ecosystems and habitats continue to degrade and disappear worldwide, with biodiversity — the interconnectedness of all forms of life on our planet — now in real jeopardy. Here in the UK, we've lost half of our entire biodiversity since the 1970s, which is more than almost anywhere else in western Europe, the most of all the G7 nations and more than many other nations including China².

Local Authorities, such as **East Cambridgeshire District Council**, have a responsibility to take a lead in their own activities and decision making, as well as in guiding their local communities to make climate conscious decisions and take action to reduce the adverse effects on the planet.

We take this responsibility very seriously. It has already been acknowledged by the Council that we are in a climate and biodiversity crisis.

This document is our latest plan of action, setting out what we will do to help address the crisis.



What have we declared?

In October 2019, *East Cambridgeshire District Council* declared a climate emergency and committed to the development of an annual Environment and Climate Change Strategy and Action Plan (our 'Environment Plan'). In November 2022, we formally acknowledged the global biodiversity emergency, including the local impact this could have on the communities and businesses we serve.

What is our policy position?

In response, we published our first Environment Plan in June 2020, and have refreshed it each June since. We are pleased to publish this fourth edition for June 2023.

We also have adopted an Environment Policy (see Appendix 5), which recognises that **East Cambridgeshire District Council** can affect the environment through:

¹ By 2050 the world population is expected to rise from its current level of 8 billion to 9.8 billion - https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf

² See https://earth.org/uk-biodiversity-loss/

- the services we provide and how we deliver them;
- our policies;
- our enforcement of laws and regulations;
- · the choices we make when buying goods or commissioning services; and
- our role as a community leader.

Overall, this Council acknowledges that our natural and built environment is the most precious inheritance for which we act as caretakers for the next generation.

Balancing competing demands

As one of the fastest growing counties within the UK, Cambridgeshire experiences increased demand for things like housing, food, water resources and efficient public transport, all of which compete for land use and put pressure on our natural environment. Some land use changes bring negative effects to our environment, for example, damage to landscape from minerals extraction for building materials, loss of natural habitat, increased air pollution from power generation, unsustainable travel and the impact of agricultural pesticides on water quality and biodiversity.

It is acknowledged that there is a pressing need for new homes and infrastructure. However, we recognise that growth should not be measured purely in economic terms but its ability for current and future generations to have access to nutritious food and clean water, access to good housing, healthcare, childcare and education, and access to a thriving natural environment. And in achieving such **sustainable growth**, we need to minimise then eliminate our carbon emissions into the atmosphere.

Imperatives for Action

We are on track for global temperature rises that pose an existential threat to all life on earth. It is imperative that we act now.

The Human Imperative: Climate change exacerbates existing challenges to our services and the communities we serve. Increasing frequencies of heatwaves, flooding and its contamination of water supplies pose a particular threat for our most vulnerable residents. Climate refugees (people displaced from their homes as a result of the impacts of climate change) are likely to bring increased pressure on our social care delivery by 2050. It also puts an unfair burden on future generations who will have to cope with the challenges we are leaving them, including public health risks such as from heatstroke, asthma from air pollution and increased likelihood of disease from biodiversity loss.

The Environmental Imperative: The natural environment is our first line of defence against extreme environmental events such as floods, droughts and heatwaves. A thriving natural environment is fundamental to effective and lasting adaptation. Yet, 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 will bring adverse effects on our natural environment everywhere. We must protect and work with nature to build resilience and reduce climate risks at all scales before the damage has gone too far. Humans are, after all, part of nature, not apart from nature.

The Economic Imperative: Mitigation and adaptation are now in our strong economic self-interest: the cost of doing nothing far outweighs the cost of taking positive action. The Global Commission on Adaptation has demonstrated that the rate of return on investments in improved resilience is high, with benefit-cost ratios ranging from 2:1 to 10:1, and in some cases even higher. Introducing climate adaptation considerations into our financial decision making will have commercial benefit to our economy in the long run.

What has East Cambridgeshire District Council done so far?

We know we can and must do more. But we should not dismiss the good work and action **East Cambridgeshire District Council** has already completed. In our first Action Plan (June 2020) we set out what we had already achieved as a Council up to June 2020. In each annual Action Plan, we have then committed to a new set of 'top 20' actions for the forthcoming year.

We need to build on this positive work, to further embed positive environmental thinking, behaviours, and action throughout the Council, as an organisation, and to seek to influence partners and others to do the same. This updated Environment Plan aims to further facilitate and accelerate that process.

Our Vision

Our vision for 2035 is to deliver net zero carbon emissions for the Council's operations and, in partnership with all stakeholders, for East Cambridgeshire as a whole, with clear and demonstrable progress towards that target year on year. At the same time, we will support our communities and East Cambridgeshire's biodiversity and environmental assets to adapt and flourish as our climate changes.

Our vision also fully aligns with that of the County Council, as follows:



(Source of graphics: Cambridgeshire County Council Climate Change and Environment Strategy, 2022)

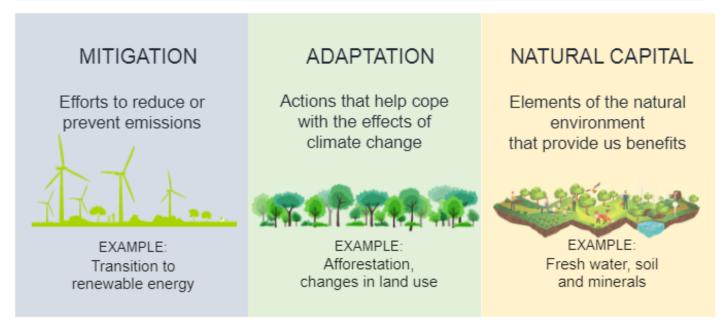
Purpose of the Environment Plan

The purpose of the Environment Plan is to provide a clear statement of the Council's climate change and environmental objectives, and to set out how the Council will continue to address environmental and climate change challenges.

It describes how we will look to address our own impacts and how, working together with our public sector partners and our communities, we will support the transformation needed across East Cambridgeshire to tackle these challenges.

It uses three key themes:

- Quantifying our carbon footprints to inform and deliver climate change mitigation through efforts to reduce or prevent carbon emissions;
- Adaptation to cope with the existing and future impacts of climate change; and
- Enhancing and conserving **natural capital** such as wildlife, plants, air, water and soils.



(Source: Cambridgeshire County Council Climate Change and Environment Strategy, 2022)

Aligning Our Environment Plan with other action plans and strategies

We recognise the need to coordinate activities with a wide range of partners. The climate and biodiversity challenges we face do not stop and start at the East Cambridgeshire borders.

It is therefore pleasing to note that a huge variety of actions and plans are taking place across the local area, and far too many to mention them all here. However, to highlight a flavour of those wider activities, all of which **East Cambridgeshire District Council** supports in principle and are willing to assist wherever possible, are the following:

Cambridgeshire-Peterborough Combined Authority Climate Action Plan: Following the final report of the Cambridgeshire-Peterborough Independent Commission on Climate's Final Recommendations³ report in October 2021, the Cambridgeshire Peterborough Combined Authority (CPCA) adopted a 'Climate Action Plan 2022-2025'⁴ in March 2022, which has "a focus on identifying and supporting strategic priorities and collaborative action, where more can be achieved working together or particular gaps addressed." The Climate Action Plan sets out a series of strategic actions, dates and resources to achieve them and the lead groups responsible for their delivery. Actions are wide ranging, including on themes such as sustainable finance, engagement, energy, buildings, transport and nature.

Cambridgeshire County Council Environment Strategy: In February 2022, Cambridgeshire County Council published a refresh of its Environment Strategy⁵, describing the new Strategy as "our commitment to working for and with people, communities, businesses and all political parties to deliver urgent action across Cambridgeshire. This ambition and our principles will provide a practical framework to guide creativity and collaboration." The Strategy is complemented by an 'Action Plan' and, similar to the CPCA Action Plan described above, includes wide ranging actions covering many environmental related themes, such as transport, nature and waste, as well as actions relating to its own corporate estate.

³ See https://cambridgeshirepeterborough-ca-gov-uk-6985942.hs-sites.com/cpicc

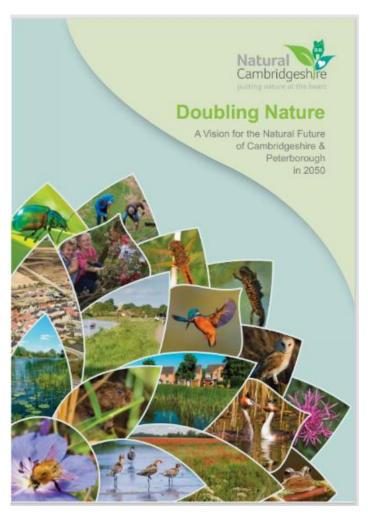
⁴ See https://cambridgeshirepeterborough-ca.gov.uk/what-we-deliver/environment/

⁵ See Climate Change and Environment Strategy - Cambridgeshire County Council

Natural Cambridgeshire's 'Doubling Nature' programme:

Natural Cambridgeshire's overarching ambition is to 'work together to create a quality natural environment where people and wildlife flourish'6.

From September 2020, a central target of Natural Cambridgeshire is to 'double land for nature', or more specifically, through partnership working, to double the area of rich wildlife habitats and natural green space across Cambridgeshire and Peterborough. This ambition to 'double land for nature' has subsequently been endorsed by a wide range of organisations, and momentum continues to grow towards delivering that long-term ambition. **East Cambridgeshire District Council** fully supports the ambition.



A District Wide Set of Environment Targets?

This Environment Plan 2023 is **for the Council** (rather than the district of East Cambridgeshire as a whole) and sets out what direct activities the Council will take to help mitigate the effects of climate change, help adapt to a changing climate and what it will do to help boost the local natural environment. It also identifies how we must work with our communities and our public and private sector partners across East Cambridgeshire and beyond.

But we recognise the need for a set of simple, understandable and engaging environment targets for the district as a whole, not just for the Council. These will need to be targets we can collectively all get behind and work towards achieving. This year, we have committed to work with everyone with an interest in helping to establish a set of such targets.

⁶ See Natural Cambridgeshire - Putting nature at the heart

The United Nations Sustainable Development Goals

The UN's Sustainable Development Goals⁷ are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice.







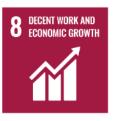
































As noted by the UN in its latest report⁸, increased heatwaves, droughts and apocalyptic wildfires and floods are already affecting billions of people around the globe and causing potentially irreversible damage to the Earth's ecosystems.

The 17 Sustainable Development Goals (SDGs), represented by the logos above, are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

East Cambridgeshire District Council fully supports the Sustainable Development Goals, and we will do whatever we can to assist the achievement of them.

Via this Environment Plan, the Council has committed to align its policies and decision making with the seventeen United Nations Sustainable Development Goals. This won't happen overnight, but the intention is that, each time a policy is created or updated by the Council, we will highlight how that policy can support one or more of the 17 Goals.

⁷ See https://www.un.org/sustainabledevelopment/

⁸ See https://unstats.un.org/sdgs/report/2022/The-Sustainable-Development-Goals-Report-2022.pdf

2 Climate Change and our Carbon Footprint

Introduction

World temperatures are rising because of human activity, and climate change now threatens every aspect of human life. Left unchecked, humans and nature will experience catastrophic warming, with worsening droughts, rising sea levels and mass extinction of species. Each of these climate change consequences will lead to a number of associated risks, for example crop failure and water scarcity from drought will lead to food insecurity and price inflation.

The rapid climate change we are now seeing is caused by humans using oil, gas and coal for their homes, factories and transport. When these fossil fuels burn, they release greenhouse gases - mostly carbon dioxide (CO2). These gases trap the Sun's heat and cause the planet's temperature to rise.

The world is now about 1.1C warmer than it was in the 19th Century – and the amount of CO2 in the atmosphere has risen by 50%.

Our Planet is "sending a distress signal" (UN Secretary General, Antonio Guterres, 6 November 2022)

Climate change is no longer theoretical, it is happening now, and happening right here, in the UK. The UK record temperature of 40.3C was set in Lincolnshire in 2022, less than 50 miles from East Cambridgeshire.

For a long time, the UK record temperature had stood at 36.7C, set in 1911. That record held for 79 years, when it was pipped in 1990 by a new record of 37.1C, an increase of 0.4C after a 79 year wait. Since then, we didn't have to wait another 79 years. In fact, the record now keeps tumbling with alarming frequency, and of a scale that is hard to comprehend.

In just 32 years since 1990, the record has been broken 7 more times, and by 3.6 degrees.

Temperature rises must slow down if we want to avoid the worst consequences of climate change, according to climate scientists. They say global warming needs to be kept to 1.5C by 2100. To do this, we must rapidly reduce the amount of emissions we produce, and get to Net Zero Carbon as quickly as possible.

'Net Zero Carbon' means, first, the reduction of greenhouse gas emissions to the lowest possible level. Then, for any remaining emissions, offsetting them through carbon removal methods such as tree planting or carbon capture and storage, so we have 'net zero' emissions overall.

However, offsetting should be seen as a last resort. Planting trees, even on a massive scale across East Cambridgeshire, will only go a tiny fraction of the way to balance out our current emissions.

For the UK as a whole, the net zero target legally must be reached by the end of 2050.

Pathway to Net Zero Carbon



(Graphic Source: Cambridgeshire County Council Climate Change and Environment Strategy, 2022)



Carbon Footprints

Before deciding what to do differently to reduce emissions, we need to properly understand what our current activities are emitting. This is sometimes known as working out a 'carbon footprint' which, in technical terms, is a measure of the greenhouse gases, such as carbon dioxide, emitted into the atmosphere from a specified area (such as Cambridgeshire) or by an organisation (such as East Cambridgeshire District Council) or by an individual (such as yourself). A carbon footprint calculation can provide pointers to where action could be best taken to reduce your impact on the environment.

In the next section, we report the carbon footprint of Cambridgeshire as a geographical area, then East Cambridgeshire district as an area, and finally that of East Cambridgeshire District Council as an organisation.

Have a go yourself! Whilst not an exact science, you can have a go at calculating your own (or your family's) carbon footprint using an online tool such as: https://footprint.wwf.org.uk/.

One way an individual can reduce their personal carbon footprint is by eating more seasonal and locally grown fruit and vegetables, rather than meat, dairy or imported food⁹.

Local markets, such as at Ely¹⁰, can be a great way to source local products, reduce your carbon footprint and help the local economy:



⁹ See Student Resources - United Nations Sustainable Development

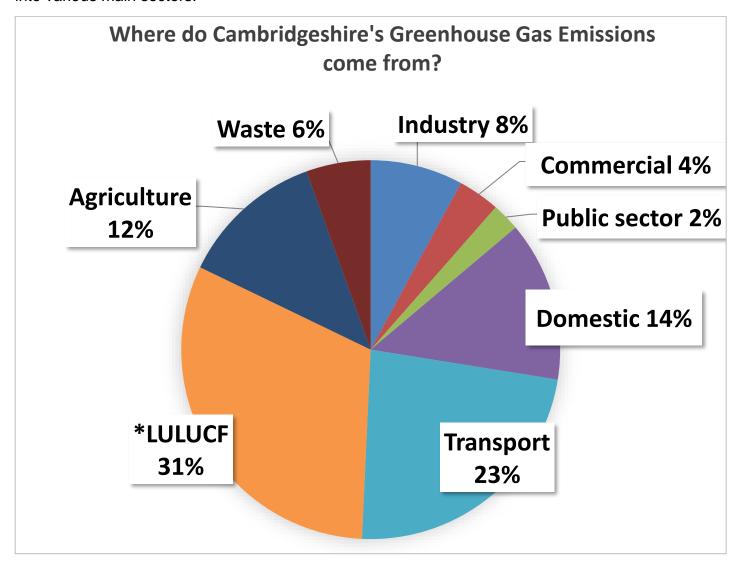
¹⁰ See https://elymarkets.co.uk/

Cambridgeshire's Carbon Footprint

This section reports on the 'carbon footprint' of **Cambridgeshire** as a whole geographical area.

The latest government data shows the carbon footprint for Cambridgeshire was around 6.89million tonnes CO2e in 2020 (out of 378MtCO2e for the UK as a whole). Whilst still an enormous amount, the Cambridgeshire total is on a falling trajectory, down from 7.60 MtCO2e (2018) and 7.30 MtCO2e (2019).

The following diagram splits Cambridgeshire's emissions of 6.89million tonnes CO2e (2020) down into various main sectors:



^{*} Land Use, Land Use Change & Forestry (LULUCF). This sector measures and accounts for emissions and removals of CO₂ from land and forests. See Glossary for more details.

Cambridgeshire's largest source of emissions therefore came from land use, land use change & forestry (LULUCF) (31%). In fact, Cambridgeshire is the worst performing county in the UK by far under LULUCF, emitting twice as much as the next worst county (Norfolk). Indeed, many counties have a minus LULUCF score, meaning their land absorbs more carbon (such as through trees growing) that it emits, which helps them offset some of their emissions from other sectors.

The reason for Cambridgeshire's very high LULUCF emissions is simple: high intensity farming, the drying of our peat lands, combined with very low levels of tree cover. Reducing our LULUCF emissions will require significant changes in the way we farm our land.

East Cambridgeshire's Carbon Footprint

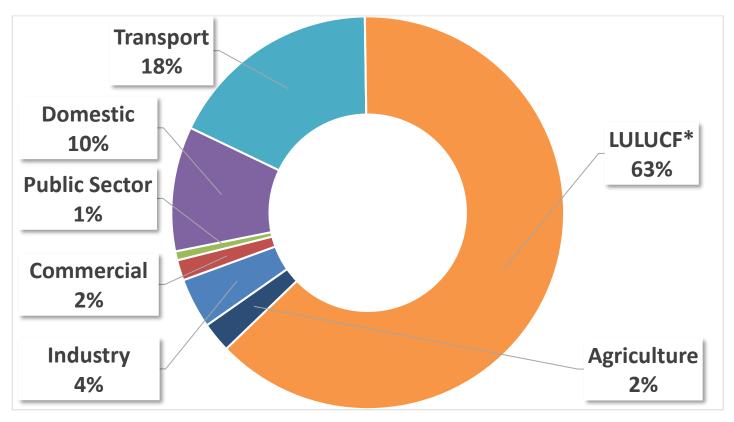
This section reports on the 'carbon footprint' of East Cambridgeshire as a whole geographical area.

Ideally, the carbon footprint for the geographical area of East Cambridgeshire should comprise all GHG emissions that occur in the area – this includes commercial and industrial sources, domestic homes, transport, agriculture, waste and land use.

However, there is no simple 100% accurate way of calculating a carbon footprint, as it relies on a number of assumptions. The former Government Department for Business, Energy and Industrial Strategy (BEIS) annually has published detailed local authority level CO₂ emissions data. The data is published with a 2 year lag (year x-2), and therefore 2020 (published in the second half of 2022) is the most recent data available 11, and is set out below.

East Cambridgeshire (as a District) Emissions (in thousand tonnes of carbon dioxide, ktCO₂)

Year	Industry	Commer- cial	Public Sector	Domestic	Transport	Land Use	Agricul- ure	Grand Total
2020	51.79	20.99	9.23	128.38	220.70	787.99	30.86	1249.94



*Land Use, Land Use Change & Forestry (LULUCF). This sector measures and accounts for emissions and removals of CO₂ from land and forests. See Glossary for more details.

Please also note that, for data released since 2021, BEIS made significant changes to the way it calculates emissions, especially in relation to LULUCF and industry and commercial. As such, the chart above is not comparable to the charts used in our previous 2020-22 Environment Plans, because BEIS has 'backdated' its calculations to 2005.

 $^{^{11}}$ The 2022 released data, for the first time, includes some estimates of methane (CH₄) and nitrous oxide (N₂O) emissions, where previously (i.e. up to 2021) only carbon dioxide (CO₂) emission estimates were reported. However, as this additional information only provides a partial CO₂e data, we have decided to continue presenting this data in CO₂ form only in the chart above. In future years, when government data is fully complete, we expect to present the data in full CO₂e format. If you are interested in knowing, approximately, what a full CO₂e table would look like, then simply add 20% to each of the figures in the table.

East Cambridgeshire's headline carbon footprint: The headline carbon footprint (CO₂ based only) for East Cambridgeshire in 2020 is therefore 1,250,000,000,000 grams of CO₂ (or 1,250kt CO₂ or 1.25Mt CO₂).

To put that into context, that's the same amount of emission that a medium sized petrol car would emit if it drove over 4 billion miles in a year, which is over 164,000 laps around Earth.

Trend lines: As well as looking at a single year (2020, in the charts on the previous page), it is worth looking at trend lines, to see if things are changing in the more medium term. The two charts below provide data going back to 2005. The first is a breakdown of East Cambridgeshire data, year on year:

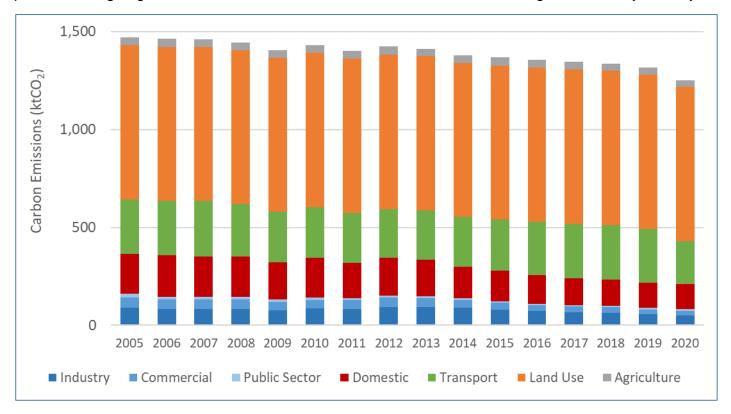


Figure: East Cambridgeshire's CO₂ emissions by end-user sector, 2005 – 2020 (BEIS, 2022)

The second chart, below, paints a picture for East Cambridgeshire when comparing ourselves with the national average. It does not paint a positive picture:

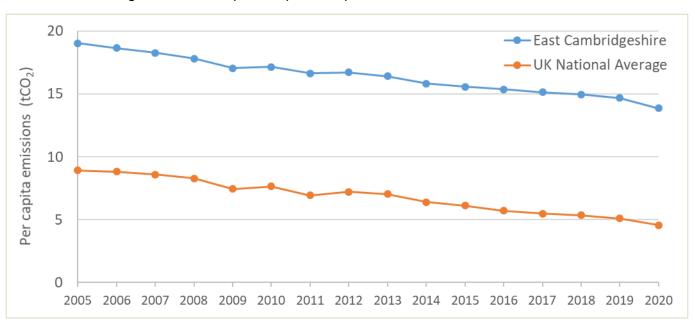


Figure: Per capita emissions for East Cambridgeshire and UK National Average, 2005 – 2020 (BEIS 2022)

From the two charts on the previous page, three key points arise.

- First, the sheer staggering amount of emissions arising in East Cambridgeshire, with this single *district* producing more emissions that several *countries*¹².
- Second, is the huge difference, per capita, of emissions in East Cambridgeshire compared with the UK average. In East Cambridgeshire, we emit **nearly three times** as much CO2 per person (13.86tCO2 in 2020) compared with the average across the UK (4.56tCO2 in 2020).
- Third, and perhaps more positive, is the evident trend in East Cambridgeshire (and nationally):
 CO₂ emissions are slowly and steadily declining over the last 15 years, due mainly to the decarbonisation¹³ of the electricity grid, albeit the gap between East Cambridgeshire and the UK average remains very similar.

But why does East Cambridgeshire, as a district, perform so poorly, compared with the rest of the UK? The primary reason is our exceptionally high emissions from *land use*. In fact, East Cambridgeshire is the second worst district in the country in terms of land use emissions, with only neighbouring Fenland emitting more from that sector. The reason, of course, is due to our very intensive farming of our peat lands, combined with our very low tree cover – this potent mix releases a lot of carbon from our soils, and there are few trees or wetlands to help capture some of those emissions back. But, it is not just land use that causes our high emissions. Our emissions per person from *transport* are also much higher than UK averages. This is highly likely a consequence of two matters: our rural nature, meaning higher car use and longer distances travelled to access services; and our high levels of out-commuting for work.

Below: East Cambridgeshire is a great place to grow crops, as this photo just south of Ely demonstrates, but the way we farm our soils releases high levels of emissions into the atmosphere. (ECDC staff photo)



¹² If East Cambridgeshire was a country, it would not make it within the Top 10 of lowest emitting countries. East Cambridgeshire has more carbon emissions than well-known countries such as Tonga, Samoa and Grenada. See EDGAR - The Emissions Database for Global Atmospheric Research (europa.eu)

¹³ Decarbonisation means reducing the carbon intensity of energy in the national grid, this is achieved by reducing the proportion of fossil fuels and increasing the proportion of renewable energy sources such as solar and wind.

To get to 'net zero' in East Cambridgeshire is going to be extremely challenging. It will require:

- Fundamental change to land management (c63% of our current emissions), by finding ways to use our land that minimises emissions (e.g. when it is farmed) and captures back those emissions where it can (e.g. through trees / wetlands). There are examples of achieving both at the same time, such as through farming of Spagnham Moss¹⁴ see below.
- Fundamental change in the way we travel (c18% of our current emissions), by reducing our use of petrol/diesel cars and turning to other modes of travel where we can (such as walking, cycling, public transport), and through switching to electric vehicles. Doing fewer travel trips will be important, such as through hybrid office-home working¹⁵ rather than a daily commute.
- Radical reductions in carbon-sourced energy use in homes and other buildings (c17% of our current emissions), by making our homes and buildings more energy efficient, and using renewable energy to power them.













growing crops that like a higher water level

Paludiculture (Wet farming) is an emerging way of producing crops and resources on peat soils in a truly sustainable way. The benefit of this system is that it allows the peat to stay wet enabling it to store carbon and reduce greenhouse gas emissions¹ something that a conventional farming system cannot achieve on wetland soils.

As we learn about this wet farming system and suitable crops, the data will increase and knowledge will evolve. The information provided here is current and accurate at the time of writing and presented in good faith.

Sphagnum Moss (multiple species)

Economic reasons to grow Sphagnum Moss. Established healthy markets exist in the reptile, floristry sectors with sale values varying from around £500 and £200-£250 per m3 respectively². Current estimates suggest up to 100,000 Cu metres of moss is needed to meet immediate demand. The horticulture sector has potential as a market for sphagnum biomass to be an alternative replacement* for peat in growing media. Current demand for peat within the UK growing media industry amounts to 2.5 million m3. Moss farms are being established in Germany³ and the Netherlands, following on from the research and development work carried out by Greifswald⁴



Sphagnum palustre ©Gewoon veenmos, Saxifraga-Hans Boll.jpg



Benefits for Climate Change Control, Peat and Biodiversity

Carbon emission reduction will start after rewetting the peat.

Above: Innovative projects are underway in Cambridgeshire to explore how profitable farming can take place, with reduced carbon emissions. 'Wet Farming' is gaining considerable interest, and could be one way to reduce our emissions here in East Cambridgeshire. The slide above, which looks at Sphagnum Moss, has been extracted from the Great Fen project website¹⁶

¹⁴ See https://www.greatfen.org.uk/

¹⁵ See https://www.hrmagazine.co.uk/content/news/hybrid-working-can-reduce-carbon-emissions-by-up-to-80

¹⁶ See https://www.greatfen.org.uk/water-works

Renewable Energy Generation in East Cambridgeshire

But it is not all bad news in East Cambridgeshire. Whilst our emissions are one of the highest in the UK, on the flip side (and not reflected in the emission statistics) we are also a relatively high producer of renewable energy. According to the latest BEIS data ¹⁷ published in November 2022, **East Cambridgeshire** generated 449,691 MWh of renewable electricity in 2021 as follows:

Type of Renewable Energy	MWh generated in 2021
Photovoltaics (PV) solar	124,511
Wind	232
Anaerobic Digestion	105,304
Landfill Gas	0*
Plant Biomass (eg straw burning plant)	219,569
All other possible sources (eg hydro)	0
Total	449,617*

^{*}the table above excludes any contribution from Landfill Gas. This is excluded from the BEIS data because according to BEIS "there was some generation [of Landfill Gas] but it has been suppressed to prevent the output of individual plants being revealed" i.e. if the data was released, it would be commercially sensitive. Nevertheless, using historical data we have, the figure is likely to be less than 5,000MWh or around 1% addition to the total district renewable energy production.

On a per household basis, it means an average of just under 13MWh of renewable electricity is produced per household in East Cambridgeshire. On the basis that a typical household uses around 4MWh per year (though this of course varies considerably from home to home), the amount of renewable energy generated in the district would power three times more than the homes we have. Of course, this statistic excludes other major electricity users in the district, such as businesses and public buildings, but nevertheless demonstrates that the district is a significant generator of renewable electrical energy (indeed, it is the highest in Cambridgeshire, and one of the highest in the UK on a per household basis).



Above: A commercial scale wind turbine. Other than a few very small domestic turbines, you will not find a large turbine like the one in this photo in East Cambridgeshire. However, there are plenty of other forms of renewable energy being produced in the district, such as via solar panels.

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¹⁷ See https://www.gov.uk/government/statistics/regional-renewable-statistics

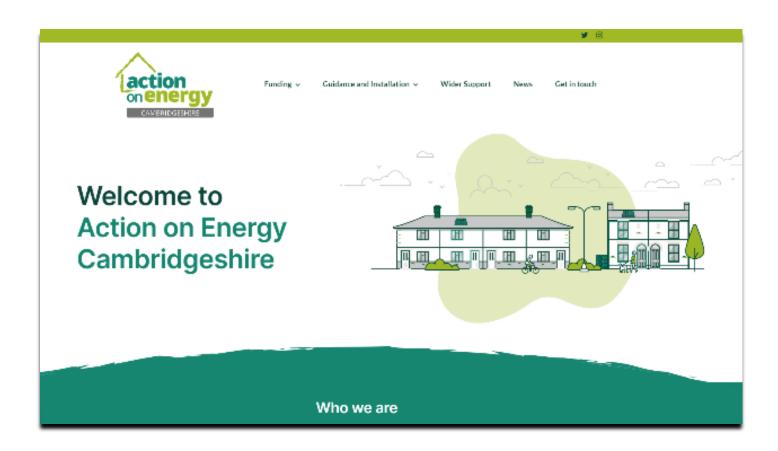
That said, the use of electricity in the district of East Cambridgeshire only contributes a small fraction (probably less than 5%) towards our total CO₂ emissions. Thus, whilst having a high level of renewable energy produced in the district is, in principle, a good thing, even if we generated enough electricity to power the electricity currently used in every home, business and other building in the district, it would only reduce our district wide carbon footprint by around 5%.

What we need to do is reduce our other c95% of emissions (from petrol, diesel, oil and the way we manage our land) and switch more and more of our power use towards renewable-generated electricity.

Are you looking to reduce your home energy consumption?

If you are, a good starting point would be to look at our new Action on Energy Cambridgeshire website at:

https://www.actiononenergycambs.org/



East Cambridgeshire District Council's Carbon Footprint

Introduction

The previous sections, looking at *Cambridgeshire* as a whole and *East Cambridgeshire* as a whole, used data collected and published by other parties. In this section, we look just at *East Cambridgeshire District Council*, as an organisation.



To work out the carbon footprint of an individual company or organisation, like East Cambridgeshire District Council, then a lot more data collection and analysis is required to determine a robust carbon footprint.

The starting point for carbon management is to accurately establish the emissions baseline. The scope of the baseline includes the required types and sources of emissions over a defined timescale. The baseline is a fixed point against which a reduction target can be set and future performance monitored. **Our baseline was set as emissions arising in 2018/19** (details below).

Methodology - Calculation Process

To calculate CO₂e emissions arising, it is necessary to convert the 'raw' data (such as kWh of electricity used) into CO₂e emissions. This process is relatively straightforward, using what are known as 'conversion factors'. The carbon conversion factors used for this Environment Plan are the UK Government published carbon conversion factors for 2021-22¹⁸.

The Council will use the relevant conversion factors for the financial year being reported each time it updates this Plan or reports on its carbon footprint. Generally speaking, a good example of where the conversion factor can change each year is UK electricity, which is on a downward trend, due to the increasing renewables feeding into the national grid.

Methodology - Emissions Reporting Boundary

The Council is reporting on emissions within its operational control boundary, following the Greenhouse Gas (GHG) Protocol reporting standards¹⁹.

Defining the organisational boundary involves establishing which activities and functions are counted (or 'in scope') for the purpose of determining the Council's overall emissions, and by default what activities and functions are not counted ('out of scope'). This stage of the process involves reviewing the Council's operations to determine activities that give rise to carbon emissions.

Emissions, and their associated activities, are reported across three different scopes as follows:

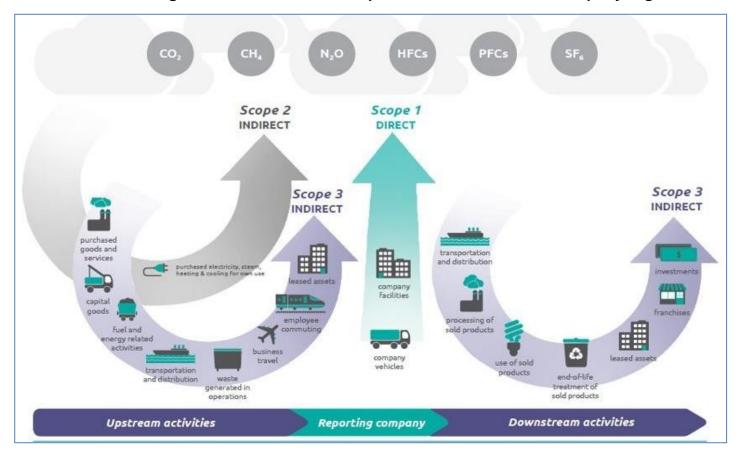
- Scope 1 Direct emissions from Council controlled or owned sources
- Scope 2 Indirect emissions from the generation of purchased energy used by Council
- **Scope 3** Indirect emissions associated with the value chain of the Council, both upstream into the Council and downstream out of the Council

¹⁸ Government conversion factors for company reporting of greenhouse gas emissions, https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting

¹⁹ Greenhouse Gas Protocol, https://ghgprotocol.org/corporate-standard

Scope 1 and 2 emissions are generally considered to be areas that an organisation has a high degree of control over and can therefore reduce the resultant emissions significantly, if not completely. Scope 3 are considered to be indirect emissions that an organisation cannot directly control and therefore the ability to reduce emissions is far more challenging.

Below: Overview diagram of GHG Protocol scopes and emissions for a company/organisation



Source: https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf, page 5.



Above: The emissions arising from any vehicle owned and operated by the Council, such as its refuse collection vehicles like the one pictured left, are classed as a 'scope 1' emission. This is because the Council has direct control over the use of the vehicle and the fuel it consumes. It is therefore fully responsible for the emissions which arise. Those emissions contribute towards the Council's overall carbon footprint.

The review process has determined that it is appropriate to include the following sources ('in-scope'):

Scope	Activities typical to an office- based organisation	Identified Council emission sources
1	Stationary Production of electricity, heat or steam	 Gas used in Council Offices e.g. The Grange Gas used in buildings operated by the Council e.g. E-Space North
1	Mobile Transportation of raw materials / waste	Travel in cars, vans and heavy goods vehicles operated by the Council
1	Fugitive Hydrofluorocarbons (HFC) emissions during use of refrigeration and air-conditioning equipment	Air conditioning used in Council Offices e.g. The Grange
2	Stationary Consumption of purchased electricity, heat or steam	 Electricity used in Council Offices e.g. The Grange, Portley Hill Depot Electricity used in Council owned street and car park lighting which also includes road signs and illuminated bollards Electricity used in business facilities operated by the Council e.g. E-space North, E-space South Electricity used in public facilities operated by the Council e.g. Ely Market Square, Jubilee Gardens
3	Stationary & Process Production emissions from purchased materials	Purchased materials – Excluded (see below)
3	Mobile Transportation of raw materials / products / waste, employee business travel, employee commuting	 Staff business travel and accommodation Employee commuting – <i>Excluded (see below)</i> Supply and treatment of water used in Council Offices e.g. The Grange Supply and treatment of water used in public facilities e.g. Public toilets 'Well to tank' (this being emissions arising from the production, transportation, transformation and distribution of fuel before it reaches the vehicle that actually uses the fuel)

Table above: Identified Council-related emissions in relation to typical GHG emissions for service sector / office based organisations

Methodology - Excluded Emissions

In addition to the sources detailed above, there are other emission causing activities that the Council holds insufficient detail to accurately measure.

These are listed below (taken from and defined in the GHG Protocol as 'scope 3' emissions) and are as follows:

Category 1	Purchased goods and services
Category 2	Capital goods
Category 7	Employee commuting
Category 8	Upstream leased assets
Category 9	Downstream transportation and distribution
Cotogony 12	Downstroom loosed seeds

Downstream leased assets Category 13

Category 15 Investments

It is not unusual for certain activities to be categorised as 'out of scope'. However, over time, the Council intends to make as many of these areas as possible 'in scope', therefore taking even greater responsibility for emissions arising, even where direct control is not present. Of purchased materials, for example, paper is likely to be an early candidate for bringing 'in scope', due to reliable data for the carbon impact of paper use becoming available. We think, for example, that we emit around a further 3.5 tonnes of CO2e from our paper consumption (700,000 sheets consumed) which is not reported in the figures below, but we need to understand these emissions in greater detail to ensure a robust figure can be reported. We will aim to do that for the 2022-23 monitoring year (Environment Plan 2024). Employee commuting may be another area we could attempt to quantify scope 3 emissions arising.

Methodology - Data Collection

The energy data used to calculate the carbon footprint is gathered from different sources, for example invoices received by the Council, annual energy statements from utility providers and property services. Work continues to ensure that this data is robust and systems are in place to ensure ongoing timely and accurate collection of such data.

Emissions Source Type	Data Source	Data Quality / Estimation techniques
Gas consumption	Energy invoices from different suppliers, meter readings	Where estimations have been used records are held with source data. Methods include: Annualising consumption or average data calculated using bookended data
Heating oil	Energy invoices from different suppliers	Annualising consumption where required
Refrigerants	Service invoices for air conditioning units	Annualising consumption where required
Fleet vehicles	Fuel purchased and vehicle log books	Annualising consumption where required
Electricity	Energy invoices from different suppliers, meter readings	Where estimations have been used records are held with source data. Methods include: Annualising consumption or average data calculated using bookended periods

Water supply & disposal	Energy invoices from different suppliers	Annualising consumption where required
Waste	Waste collection reports	Annualising consumption where required
Staff business travel	Staff mileage claims, fuel purchased and vehicle log books.	Annualising consumption where required
Hotel Stays	Staff claim forms	N/A

Table: Source of data by emissions source

The Council's Carbon Footprint 2021-22 – a summary

The carbon footprint of East Cambridgeshire District Council (as an organisation) has been calculated in line with the UK Government's Environmental Reporting Guidelines for Voluntary Greenhouse Gas Reporting²⁰.

The baseline carbon footprint (using data for the financial year 1 April 2018 to 31 March 2019), as set out in our Environment Plan 2020, resulted in a baseline carbon footprint for the Council for 2018-19 of 1,317 tonnes of CO₂e.

For this fourth Environment Plan, of June 2023, it is estimated that the measurable carbon footprint for the Council in 2021-22 (i.e. to April 2022) as being **1,204 tonnes of CO₂e**. Thus, in headline terms, the Council's carbon footprint has seen **an overall 8.6% decrease** in its gross emissions between 2018-19 and 2021-22.

The change in emissions from baseline to present year is summarised in the table below:

	2018-19	2019-20	2020-21	2021-22
Scope 1: Direct emissions	839	871	892	843
Scope 2: Indirect emissions	164	120	95	95
Scope 3: Other Indirect emissions	314	325	254	266
Gross emissions total	1,317	1,315	1,241	1,204

Table: East Cambridgeshire District Council emissions by scope, 2018-19 to 2021-22, in tCO₂e

The Council's Carbon Footprint 2021-22 - in more detail

A detailed breakdown of all the Council's emissions is set out below (note: 'well-to-tank' is listed as a separate row, but is a direct consequence of fuel used by the Council, and therefore primarily arises from the fuel consumed by its fleet vehicles).

Scope 1 (tCO2e)	2018-19	2019-20	2020-21	2021-22
Gas Consumption	63.7	71.0	81.6	74.6
Heating Oil	*	*	17.8	18.4
Refrigerant gases	9.7	*	*	*
Fleet Vehicles	765.4	800.1	792.5	750.2
Scope 1 Total	838.8	871.1	891.9	843.2

²⁰ These reporting guidelines are based on internationally-recognised standards from the World Resources Institute and World Business Council for Sustainable Development: the GHG Protocol Corporate Accounting and Reporting Standard, and the GHG Protocol Scope 3 standard.

Scope 2 (tCO2e)	2018-19	2019-20	2020-21	2021-22
Electricity	152.5	118.3	86.5	86.3
Street Lighting	12.0	1.4	8.7	8.7
Scope 2 Total	164.5	119.7	95.2	95.0

Scope 3 (tCO2e)	2018-19	2019-20	2020-21	2021-22
Water and sewerage	7.1	7.5	8.1	5.9
Waste generated in operations	0.5	0.6	0.6	0.6
Business travel	81.9	84.7	24.0	41.8
Transmission & Distribution	14.0	10.2	10.2	8.2
Well-To-Tank (see text box below)	210.0	221.7	210.7	209.6
Scope 3 Total	313.5	324.7	253.5	266.2

Totals	2018-19	2019-20	2020-21	2021-22
Gross emissions (Tonnes CO2e)	1,316.9	1,315.5	1,240.7	1,204.4
i.e. emissions arising using a <u>location-based</u> reporting method for our electricity use**				
Renewable energy electricity tariff			-87.5	-87.2
Net emissions (Tonnes CO2e)	1,316.9	1,315.5	1,153.2	1,117.1
i.e. emissions arising using a <u>market-based</u> reporting method for our electricity use**				

^{*}Date gaps exist for these boxes, and therefore cannot be reported

What is 'well to tank'?

These are all the Greenhouse Gas emissions arising from the production, transportation, transformation and distribution of the fuel used to power a vehicle. Therefore, when you fill up your car **tank** with petrol or diesel, emissions don't just occur when you use that fuel to drive your car; a large volume of emissions will have already occurred getting the fuel from the oil **well** to the petrol station in the first place! These are **well** to **tank** emissions.

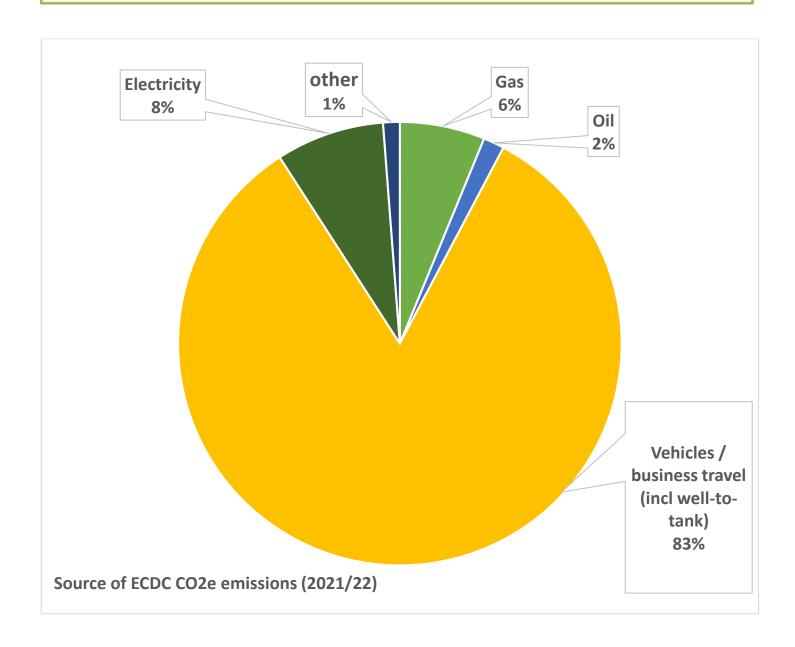
On the next page, we summarise the source of our emissions, which highlights how the vehicles we use dominate our overall emission levels, whilst our buildings contribute far less through the gas and electricity they consume.

^{**}see commentary under next section entitled 'Market-based and Location-based Reporting' for an explanation Table: East Cambridgeshire District Council emissions by scope and type, 2021-22, in tCO2e

Did you know?

East Cambridgeshire District Council purchases the electricity it uses in The Grange via a 'Pure Green' electricity tariff. Pure Green is electricity that comes from 100% renewable sources such as solar, wind and hydro, but does not include biomass.

More details: https://www.espo.org/amfile/file/download/file/57951/product/39737/



Market-based and Location-based Reporting

As set out in the above tables, around 7% of the Council's CO₂e emission come from 'scope 2' activities. In simple terms, in our case, these are emissions arising from the electricity the Council uses. When we calculating the Council's headline carbon footprint, we are reporting these scope 2 emissions on a location-based method basis, which means those emissions are calculated using the average emissions intensity of the national grid. We think this is the fairest and most honest way of reporting our true emissions. Indeed, Government (in its 2019 'Environmental Reporting Guidelines'²¹) make it clear that, whilst not compulsory,

"Organisations are encouraged to use location-based grid average emission factors to report the emissions from electricity, including those consumed from the grid."

However, an alternative way of reporting our scope 2 (i.e. electricity) activities is on a **market-based method basis**. Such a method takes account of the contractual basis of where we buy electricity from. The Council's electricity tariffs are almost entirely on a 100% renewable energy contract basis (a few of our isolated street lighting contracts are not, for example), and therefore under the market-based method, our scope 2 emissions would be almost eliminated entirely. This would reduce our total emission (i.e. our carbon footprint) by around 6%.

Some Councils and other organisations that are on 100% renewable energy tariffs are choosing to use this 'market-based' method to report their emissions, and consequently are claiming a lower carbon footprint than they would do so if they reported under the 'location-based' method. East Cambridgeshire District Council has chosen not to do so, for one simple reason. By reporting on a market-based method, that organisation doesn't actually reduce the net emission of itself or the country as a whole; it simply means another organisation uses a greater share of 'dirtier' electricity than otherwise would be the case, because the organisation using the 'market-based' method is in effect making the rest of the national grid, which is shared with everyone else, more carbon intensive. In fact, if an organisation which is on a 100% renewable energy tariff reports only on a market-based method basis, there is no incentive for that organisation to reduce its electricity use at all, because it would already be set at 0 tonnes CO₂e emissions.

Again, Government gives advice in the aforementioned Guidelines, as follows:

"Where organisations have entered into contractual arrangements for renewable electricity and wish to reflect a reduced emission figure based on its purchase, this can be presented in the relevant report using a "market-based" reporting approach. It is recommended that this is presented alongside the "location-based" grid-average figures."

Put another way, market-based reporting alone is arguably a misleading way of trying to claim a lower carbon footprint than would otherwise be the case under the location-based method. If market-based reporting is to be reported at all, it should, according to Government, be alongside location-based reporting. This is how we have reported it in the 'totals' table on the previous page.

Overall, whilst it is important that East Cambridgeshire District Council does operate a renewable energy tariff for its electricity supply, because that will generate investment in renewables across the country, the Council is not headlining its carbon footprint calculations on that basis. Instead, it prefers, in line with Government guidance, to headline its reporting of emissions using the location-based reporting method. However, the above commentary helps explain how we present our data in the most transparent and accurate way possible.

²¹ See Environmental reporting guidelines: including Streamlined Energy and Carbon Reporting requirements - GOV.UK (www.gov.uk)

The Council's Carbon Footprint 2021-22 – our biggest emitter

To get to 'net zero' emissions as quickly as possible, it is essential the Council understands what its biggest emitters are, and then target those areas first if practical to do so. Our detailed data collection, as summarised above, helps us to do this.

By far the largest single contributing area is a consequence of the Council's 'fleet vehicles' i.e. the vehicles it uses for waste collection, maintaining our parks and open spaces, general maintenance of our properties and land, and any lease vehicles, and especially so once 'well to tank' is factored in.

Breaking down the Council's 'fleet vehicles' data further, the Council's waste collection vehicles were the primary source of emissions arising. Those refuse vehicles consumed 259,440 litres of diesel in 2021-22 and emitted around 810 tCO₂e (when 'well to tank' is factored in), and are therefore responsible for over two-thirds of the Council's entire emissions.

Did you know?

Two thirds of the Council's entire carbon footprint arise from one source: **our waste collection vehicles**. The best way to make significant emission reductions, therefore, is to target action on those vehicles. We will do this by starting to switch to low carbon fuel in our waste collection vehicles from 2024.

How can you help us reduce emissions from our waste collection vehicles?

Collecting your recycling and waste material is one of the most important services we provide to every resident in East Cambridgeshire.

To help us reduce the carbon footprint of collecting your recycling and waste, we would be most grateful if you could:

- place the correct bin or bag out for collection before 7am on your collection day but not before
 6pm the night before.
- place the correct bin or bag where your property meets the boundary or at the agreed collection point.
- ensure all your recycling and waste is in the correct container.

By doing all of the above should mean we avoid having to do repeat or wasted journeys to your property, which will help minimise the miles our vehicles have to travel.

By reducing the miles travelled, we reduce our greenhouse gas emissions, which will benefit both the climate and our local air quality.

Thank you!

Did you know?

You can further reduce the amount of waste by using additional recycling points in the District (e.g. plastic bags and film bins at the supermarket). You can find out more by checking our recycling A-Z on our website: www.eastcambs.gov.uk/east-cambs-street-scene/waste-collections-and-street-cleansing

3. Carbon Emissions Overall Target and Interim Targets

Introduction

East Cambridgeshire District Council recognises the urgency to reach net zero as soon as possible, and acknowledges that deep, early cuts to emissions is needed.

We now recognise that our original target, set way back in 2019, of 'exploring' the 'feasibility of reaching net zero carbon emissions by 2050'22 was not ambitious enough.

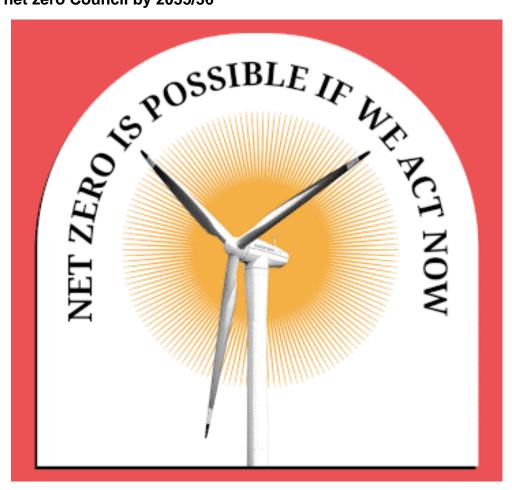
In June 2021, the Council's net-zero target was brought forward by 10 years to 2040, supported by a series of interim emission reduction targets by 2025/26, 2030/31 and 2035/36.

But, for this June 2023 Environment Plan, we think we must set even more ambitious targets. And we believe we can deliver on these.

New Targets for a New Administration

Our new, and more ambitious, headline targets are:

- A 40% reduction²³ in our net CO₂e emissions by 2025/26
- An 80% reduction in our net CO₂e emissions by 2030/31
- A truly net zero Council by 2035/36



²² Our original target was set in October 2019, when the Council agreed that it "will explore and consider…measures required and feasibility of reaching net zero carbon emissions by the Council by 2050"

²³ Each target is compared with 2018/19 baseline emissions

How will we achieve a 40% reduction in our net annual CO₂e emissions by year 2025/26?

By 2021/22, three years after establishing our baseline emissions of 1,316.9 tonnes CO₂e in 2018/19, the Council had managed to achieve modest cuts in its emissions, but we need to now speed the cuts up to address a recognised climate emergency. Therefore, we now think a further 30% cut is needed, and achievable, by 2025/26, on top of the near 10% cut in emissions achieved so far.

We will achieve a 40% (c520 tonnes CO2e) reduction from our 2018/19 baseline by:

- Targeting our biggest emitter, our refuse collection vehicles, much sooner than was
 previously planned. We think it is possible to reduce emissions arising from our refuse
 collection vehicles by c400 tonnes CO2e per annum by 2025/26 at the latest, by using low
 carbon fuel and more efficient collection rounds.
- Installing PV solar panels on our buildings, thereby increasing the use of renewable energy and reducing electricity we source from the national grid. We think it is possible to reduce our emissions from electricity sources by up to c75 tonnes CO2e per annum.
- Reducing business miles travelled by our staff, through use of video conferencing and more
 efficient coordination of site visits. This could save up to c50 tonnes CO2e every year.
- Wider efficiency savings, helped by widespread staff and councillor awareness raising and carbon literacy training. This could save up to c50 tonnes CO2e each year.

How will we achieve an 80% reduction in our net CO₂e emissions by year 2030/31?

We need to make deep cuts to our emissions, and as quickly as possible. We think an 80% reduction is both necessary and feasible by 2030/31.

We will achieve an 80% (additional c520 tonnes CO2e) reduction by:

- Further targeting our fleet vehicles when they reach end of life, so most, if not all, are powered by low carbon means, with some being electric charged vehicles. This should see a further c250 tonnes CO2e reduction.
- Further investment in renewables, resulting in a very low emission output from the electricity we use, saving a further c50 tonnes CO2e.
- Ending all use of heating oil (c20 tonnes CO2e saving) and gas use (c50 tonnes CO2e saving).
- Further widespread efficiency savings, targeting another c150 tonnes CO2e savings each year.
- Should any of the above fail to materialise, or potentially in addition to all above, we may undertake some form of carbon offsetting programme, through, for example, tree planting and/or improved land management. This could be directly (i.e. on our own land, existing or purchased) or through a partner landowner. Such offsetting will aim to be locally based in East Cambridgeshire, and will be required to have a secondary benefit of boosting nature conservation on such land. However, offsetting is seen as a 'last resort', and cutting emissions in the first place remains the priority.

How will we achieve a truly net zero council by year 2035/36?

The UK government has set a legally binding target of being 'net zero' by 2050. We think the emergency needs addressing sooner than that, and are targeting being net zero, as an organisation, by 2035/36, a full 15 years sooner than we previously agreed.

We will become a net zero Council (requiring an additional c160 tonnes CO2e reduction) by:

- Having electric only fleet vehicles, charged by renewable energy, saving a further c100 tonnes CO2e
- Further investment in renewables, producing at least as much renewable energy as we consume, over a year, and potentially having storage batteries if we produce excess renewable energy. This should save a further c25 tonnes CO2e. (Note: our total volume of electricity will actually increase substantially by 2035/36, compared with baseline year 2018/19, as it will replace gas, diesel, oil and petrol use. However, due to our own renewable energy production and the near decarbonisation of the national grid, we should be in a position whereby our emissions via electricity use are virtually eliminated.)
- No fossil fuel (gas, diesel, oil and petrol) mainstream use across our estate. There will likely
 be some very limited use of fossil fuels, such as vehicle/machine lubrication oil, unless
 vegetable based solutions become available.
- If not already done so, probably having some form of carbon offsetting programme (see
 description in the 2030/31 targets), especially to account for our increased 'scope 3'
 emissions that we will be reporting by this time (e.g. the emissions arising from the things
 we buy, such as a laptop or paper, as and when such emissions data becomes more readily
 available). Offsetting is a last resort, but can be used as a final step to net-zero.

For a description of the risks and challenges in meeting our various targets, please see Appendix 1.

Below: Newly installed solar PV panels on ECDC's E-Space North (Littleport) office building [ECDC photo]



Should I buy an electric car to help the environment?

This is not an easy question to answer! It depends whether you already have a car, what age it is, what you want a new car for and how it will be charged.

For example, it is important to factor in the full emission lifecycle of a vehicle. Getting rid of a perfectly useable vehicle 'early' (i.e. before end of life), in order to switch to a low carbon vehicle, could arguably be a counterproductive measure from an emissions point of view due to the huge embodied carbon (see glossary) in a new vehicle. This is because the embodied carbon in a vehicle can be similar to, and sometimes greater than, the carbon emissions emitted in the entire operating life of a vehicle.

The calculations are complex, but to minimise the overall emissions arising from the lifecycle of a vehicle, the vehicle purchased should be as small as is necessary to achieve the task it is needed for (it will then have a smaller embodied carbon content arising from its manufacturing), be used for as long as possible (and shared with other users would be even better) and be driven efficiently.

A new electric vehicle actually has a significantly higher embodied energy content than a new non-electric car, due to the emissions arising from manufacturing the battery. However, over the lifetime of the two vehicles, the electric car should outperform the non-electric car for total emissions arising.

The worst option is to: (a) purchase a vehicle that you don't really need; (b) purchase an oversized vehicle; and/or (c) not use the vehicle to its full potential before it is beyond repair/written off.

Best of all would be to not buy a vehicle at all, or borrow / share one when strictly necessary. But if you are at a stage when you need to buy a new vehicle, and you can afford one, then choosing an electric vehicle will likely be the best option for the environment. If you do so, try to charge it when national energy demand is low (e.g. at night) and/or when national renewable energy production is high (i.e. windy/sunny days).

Below: testing newly installed EV charging points at Barton Rd carpark, Ely. These should be fully operational over summer 2023 [ECDC staff photo]



4. Biodiversity and the Natural Environment

Introduction – the stark facts

Humans are an incredibly successful species. Sadly, our success has come at a high cost for our natural environment.

Human activity has altered 75% of the earth's surface. In East Cambridgeshire, it is arguably 100%.

As a consequence of how we have altered the earth's surface, 1 million animal and plant species are threatened with extinction. The global biomass of wild animals has plunged by 82%.

Closer to home, East Cambridgeshire is one of the least biodiverse places in the country.

Overall, in the last 50 years, over two-thirds of all global biodiversity populations have been lost. We only have one third left.²⁴

Did you know: Domesticated animals far outstrip wild animals

Humans and their domesticated animals account for 96% of global mammal biomass. Just 4% is reserved for wild mammals. The biomass of poultry for human consumption is three times greater than that of all wild birds combined.

Declining Wild Bird Numbers

Have you ever wondered why you don't see many Greenfinches anymore? Between 2008-2018 their populations have declined 67% in the UK. They now find themselves on the UK's 'red list' of 70 bird species with the highest conservation concern. The 'red list' is updated approximately every 6 years, the last being in 2021: https://www.rspb.org.uk/globalassets/downloads/bocc5/bocc5-report.pdf.

UK farmland birds have also suffered greatly. For example, Corn Bunting, Grey Partridge, Turtle Dove and Tree Sparrow have all declined by at least 90% since 1970. They also find themselves on the 'red list'.

On our doorstep, the Ouse Washes is famous for overwintering birds, such as the Bewick's Swan, with the Ouse Washes being home to their largest roost in Europe. Sadly, UK-wide, overwintering populations are down 88% between 1993-2018. On the Ouse Washes, 946 Bewick's were recorded over winter 2022/23, down from many thousands only a decade or so ago. The Bewick's Swan also finds itself on the 'red list'. See https://www.wwt.org.uk/wetland-centres/welney/news/bewicks-swans-at-welney-winter-2023/

Why does it matter?

Our nature environment provides numerous benefits to people and communities' humanity, many of which are fundamental to our lives. It enables the food we eat to grow, clean air to breathe and water to drink. We also, of course, derive huge cultural, mental health and wellbeing benefits from the natural environment all around us. If we harm nature, we are harming us, harming our quality of life. Appendix 2 sets out more details on the benefits of nature, if you are interested to learn more.

²⁴ For a summary see https://www.bbc.co.uk/newsround/63228555; For further details, see https://www.wwf.org.uk/press-release/living-planet-report-2020

How is the natural environment performing in East Cambridgeshire?

We have an incredibly mixed picture, here in East Cambridgeshire.

On the one hand, we host several internationally important wildlife sites. Examples of such sites include three wetland-based Ramsar ²⁵ sites (the Nene Washes, Great Ouse Washes and Chippenham Fen), a number of Special Areas of Conservation (SACs)²⁶ including part of Fenland SAC, and also Special Protection Areas (SPAs)²⁷, such as the Ouse Washes.

We also have a number of nationally important Sites of Special Scientific Interest (SSSI) including Devil's Dyke, Fordham Woods and Ely Pits and Meadows.



But on the other hand, the vast majority of East Cambridgeshire (and Cambridgeshire as a whole) has been massively depleted of nature as a consequence of human land management, mostly for farming purposes.

For example, East Cambridgeshire has only 5.2% tree cover, and finds itself in the bottom 10 districts across the country for tree cover. Across Cambridgeshire, only 8.5% of land is recognised for nature purposes, which is about half the national average.

Hope for the Future

But there is hope. Scientists agree that nature has the ability to heal itself, if only we let nature back in. We can't keep shutting the door, and shutting out nature. Otherwise, what remains of biodiversity will be reduced further and further, to the point it will not be able to recover.

²⁵ Ramsar Sites are wetlands of international importance that have been designated under the criteria of the Ramsar Convention on Wetlands for containing representative, rare or unique wetland types or for their importance in conserving biological diversity. See https://jncc.gov.uk/our-work/ramsar-convention/

²⁶ SACs are internationally important high-quality conservation sites that will make a significant contribution to conserving the habitats and species identified in Annexes I and II, respectively, of <u>European Council Directive</u> <u>92/43/EEC</u> on the conservation of natural habitats and of wild fauna and flora.

²⁷ SPAs are internationally important and protected areas for birds https://jncc.gov.uk/our-work/special-protection-areas/

What can East Cambridgeshire District Council do to help conserve and enhance the natural environment?

First, we have acknowledged that the planet faces a biodiversity crisis. As a District Council, we have done that. And by acknowledging it, we've also committed to act.

The Council is not a major landowner (unlike, for example, the County Council which has a large farm estate portfolio), so it is limited by what it can do directly. However, it has significant collaboration and policy responsibilities, which means it can also require or influence others to act.

Indeed, the Council has, from 2023, an enhanced legal duty "to conserve and enhance biodiversity" and "must from time to time consider what action the authority can properly take"²⁸ to achieve that.



Taking action does not have to be on a grand scale to be effective – just simple wildflower seed sowing can make a huge difference, as demonstrated above, taken at Ship Lane Carpark, Ely, in summer 2022 [ECDC photo]

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²⁸ See NERC Act 2006 (as updated) s40 - https://www.legislation.gov.uk/ukpga/2006/16/section/40

By the end of 2023, the Council intends to publish a strategy to outline exactly what we are going to do to meet our biodiversity duties. However, to illustrate some of the ways the Council can help conserve and enhance the natural environment:

- We can make sure we manage our parks and open spaces in a way which encourages wildlife to thrive, whilst also functioning as somewhere to play and visit. This could involve tree planting, cutting the grass in a different way or less frequently, create new habitats and using less pesticides or fertilisers;
- We can set policies to make sure developers create nature rich environments alongside new developments. And, importantly, enforce such policies;
- We can support farmers and other landowners to amend the way they manage their land, for the benefit of nature. This could be assisting with bids for grants, for example;
- We can offer our own funds to set up grant schemes to help local communities do things in their own area to support nature;
- We can help communicate what people can do to help nature recovery, such as nature friendly gardening; and
- We can work with partners across Cambridgeshire, to help conserve and enhance large scale nature sites, such as the Ouse Washes or Wicken Fen.

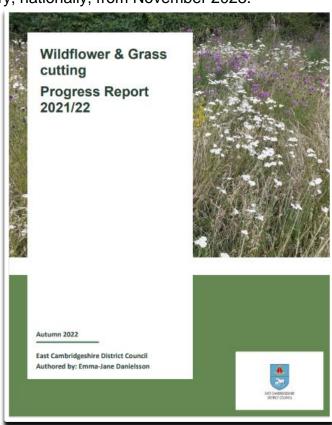


Above: Wicken Fen is the National Trust's oldest reserve, with over 9,000 species recorded there. There are long term plans to work with surrounding landowners for the benefit of nature and people, known as the Wicken Fen Vision. [photo: ECDC staff collection]

What has East Cambridgeshire District Council done so far, to help nature?

Whilst there is much more to do, we've already started to take action to help nature recovery in East Cambridgeshire. For example,

- We've changed the way we have managed some of our parks and open spaces to enable wildflowers and pollinators to thrive. This has shown great success, with rare Bee Orchids being an example benefactor. We've recently published a <u>Wildflower and Grass Cutting Report</u> 2021/22²⁹ with more details (see graphic below).
- We manage 11 churchyards³⁰ throughout the district, where burials have come to an end and responsibility for maintenance has passed to the local authority. Within these, the Council tries to encourage wildlife by having bird and bat boxes along with wildflower areas.
- We manage approximately 27 miles of awarded watercourses (sometimes referred to as 'award ditches'). These are watercourses which were 'awarded' to the District Council under the Enclosures Act for the Council to maintain (rather than maintained by adjacent landowners). We aim to de-silt the ditches and flail the bank sides every four years if needed. The ditches provide excellent habitat for a variety of wildlife and we ensure that all maintenance work is carried out after September to avoid harming any breeding birds and invertebrates.
- We've published a <u>Natural Environment Supplementary Planning Document</u>³¹, setting out our expectations for developers to follow in new development schemes.
- We've published a <u>Biodiversity Net Gain (BNG)</u>: <u>East Cambridgeshire</u>³² document, setting out our approach to this new system of creating new habitats via the planning system. BNG is becoming mandatory, nationally, from November 2023.



²⁹ See https://www.eastcambs.gov.uk/sites/default/files/Wildflower%20and%20grass%20cutting%20final%20report%202022.pdf

³⁰ See https://www.eastcambs.gov.uk/environment/closed-churchyards

³¹ See https://www.eastcambs.gov.uk/sites/default/files/Natural%20Env%20SPD%20-%20Adoption%20versionAC 0.pdf

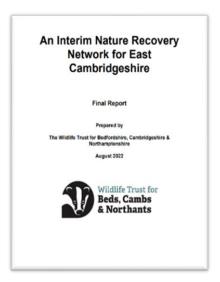
³² See https://www.eastcambs.gov.uk/sites/default/files/BNG%20in%20East%20Cambridgeshire%20-%20interim%20guidance%20note.pdf

Supporting 'nature recovery' in East Cambridgeshire

In November 2022, the Council adopted a <u>Nature Recovery Network</u>³³ document (see graphic below), which identifies nine Priority Areas in the district for landscape-scale action to support nature's recovery.

It provides, for the first time ever, a framework of **where** we need to focus our efforts, and **how** to focus our efforts, if nature is truly to recover in the district. That could be, for example, tree planting in some areas, but in other areas that would be wrong. In some areas, wetland creation or grassland meadows might be of the greatest benefit for wildlife.

The East Cambridgeshire Nature Recovery Network document will also provide an excellent resource for preparing the Cambridgeshire-wide '<u>Local Nature Recovery Strategy</u>', which is due to be prepared by a wide range of partners, including ourselves, over 2023/24.



'Doubling Land for Nature'

Cambridgeshire has one of the smallest percentages of land managed for nature in the country. Currently only 8.5% of the county is covered by natural or green spaces. Natural Cambridgeshire, the Cambridgeshire and Peterborough Local Nature Partnership (LNP), is a partnership bringing together district councils (including East Cambridgeshire District Council), the County Council, Natural England, the Environment Agency, the National Farmers Union and more. Recently, it adopted its long-term target of 'Doubling Land for Nature' across Cambridgeshire. The LNP is working on proposals to commence delivery of that ambition, including funding to make it happen. East Cambridgeshire District Council fully supports this initiative.



Middle Fen, Stuntney [ECDC staff photo]

³³ See https://www.eastcambs.gov.uk/sites/default/files/East%20Cambs%20NRN%20-%20Final%20-%20Aug2022%20-%20Iow%20res.pdf

5. Actions and Projects

Introduction

To boost our natural environment and to achieve our carbon emission targets as set out in section 3, will be a monumental task. There is an indefinite list of changes required, many of which are only realistically feasible on a regional or national scale.

However, there are realistic and practical actions that can be taken at a local level, and now.

The following section provides a breakdown of actions that the Council will seek to take forward over **June 2023 to June 2024**, as well as a review of the actions we committed to in June 2022.

In order to make decisions on what projects to take forward, the Council has adopted the following key principles:

- Cost of the action proposed in relation to the CO₂e saved (i.e. high CO₂e saving per £ spent) or the degree of likely benefit to the natural environment;
- Ease of implementing (for example, easy / quick actions will make carbon savings sooner);
- Public demonstration (by undertaking highly visual or engaging actions we could stimulate others to also act themselves).

Review of our Top 20 Actions for 2022/23

To help move towards our longer-term vision, the Council commits each year to a set of 'Top 20 Actions'. The previous set were agreed in June 2022, for the period June 2022 to June 2023. Those actions are set out below (first column), and commentary on the degree of meeting those actions is also set out (second column).

Our Target (set in June 2022)		Our Progress (by June 2023)
	ECDC to achieve, as an organisation, Investors in the Environment (iiE) accreditation Bronze award in 2022, and work towards achieving Silver award in 2023 (with the top accreditation of Green award sometime after June 2023).	ECDC successfully secured 'bronze' accreditation in December 2022, the first district council in Cambridgeshire to do so. We have commenced working towards silver accreditation, which we are targeting to achieve by the end of 2023.
		Press release (10.1.23):
		https://www.eastcambs.gov.uk/press/council- achieves-bronze-investors-environment- accreditation
	Support 5-10 schools seeking to achieve national eco-schools accreditation , by subsidising their first year of subscription fees and providing wider support and advice throughout the accreditation process.	10 schools signed up to try to achieve the Eco Charter accreditation, 5 of which have already completed their short and long-term action plans. We look forward to as many as possible of these school achieving accreditation over the coming years.
		Link to Eco-Charter website:
		https://www.pect.org.uk/projects/eco-charter/

 Establish an annual 'East Cambridgeshire green awards' scheme, which recognises those local residents, communities and businesses that have demonstrated a clear commitment to improving the local environment in the district. Following a thorough investigation of the options available for such an awards scheme, including researching costs, communications and staff resources required to run a successful awards scheme (such as the established Suffolk Greenest County Awards), it was decided that establishment of an East Cambridgeshire based awards scheme would be postponed to a future year until it was clear that there would be sufficient resource available to generate high interest and make it a success. We will also investigate whether external support could be generated, such as sponsorship or expertise, or whether there is appetite at a county level to establish a Cambridgeshire wide awards scheme.

4. Install photovoltaic (PV) solar panels on ECDC's E-Space North office building by end of 2022, aiming to generate at least half of the building's electricity needs over a full year, and selling any excess at peak generating times to the national gird. In parallel, investigate further opportunities for additional PV panel installation on ECDC's land and buildings, with a particular target being the roof space of The Hive leisure centre. We have successfully installed panels across the two south facing roofs of E-Space North (the Council's business and conference centre providing serviced office space to rent in Littleport for start-ups, small, growing and established businesses), and electricity is now being generated on site. We hope to achieve up to 60% of the electricity needed on site via the solar panels, which not only will reduce the council's carbon emissions, but potentially save £10,000 or more in electricity costs each year. We will be monitoring the precise outputs over the coming months and years, to help inform future solar panel installations on other Council property. The panels were installed on E-Space North in April 2023, slightly behind schedule. This was primarily due to exceptionally high demand nationally for contractors and a lengthy approval period (4 months) by the electricity regulators. The lesson learnt, therefore, is that it can take up to a year from agreeing where to place panels to actually installing such panels.

Press release (14.3.23):

https://www.eastcambs.gov.uk/press/ecdc-installenergy-saving-solar-panels-e-space-north-%C2%A0

 Target a 20% reduction in ECDC's paper use over 2022/23, compared with a precovid baseline of 2017-1019 average of 1.07m sheets per annum; and establish Over 2022/23, we successfully achieved a 35% reduction in paper use, when compared with our pre-covid baseline usage, using 699,500 A4/A3/A2/A1 sheets over the year.

more ambitious medium- and longer-term paper reduction targets by June 2023.

However, our paper use still amounts to around 3.5tonnes CO2e* in emissions, around 50 trees consumed and perhaps around 7 million litres** of water used during its manufacturing.

Our new longer-term targets are being set via this year's Top 20 Actions.

*assuming circa 6gCO2e per sheet, of which around 5g is production of paper, and 1g for average form of disposal. These figures are adapted from published UK government conversion factors.

** assumes 10 litres of water per A4 sheet. The actual figure depends on a range of factors, and could be anywhere from 2-20 litres. We do not have precise data, hence an average is used.

 Invest in one or more of ECDC's public toilets, through potential measures such as efficient (low energy) hand driers and solar panels for heating water Having reviewed our (ECDC managed) public toilet blocks, we decided the greatest environmental impact (and financial value for money) was through the installation of high energy efficient hand driers. To trial the programme, we installed 6 driers in the Cloisters toilet block in March 2023. These driers replace paper towels. Paper towels have a significant carbon footprint through their manufacture, distribution and disposal. The paper towels were also causing blockages to plumbing through their misuse. The driers, therefore, should also have a significant financial saving (reduced paper purchase / disposal, reduce plumbing blockage call-outs). New or replaced solar panels on the toilet blocks were not deemed high value / high carbon saving for the money that would have been needed to be spent, but this will be kept under review. If the Cloisters hand drier trial is a success, we will look to install driers in other public toilet blocks.

7. In respect of our fleet vehicles (eg waste and recycling lorries; parks and open space maintenance vehicles and vehicles used by Palace Green Homes), investigate the potential of low carbon fuel, such as HVO, and work towards implementing if practical to do so. Following a thorough review of the options available, the Council agreed on 27 March 2023 to purchase 10 new waste and recycling vehicles with the intention to run them off Hydrotreated Vegetable Oil (HVO), which has around 90% lower carbon emissions than traditional diesel. Such vehicles are expected to be on the road by early 2024.

Press release (16.03.23):

https://www.eastcambs.gov.uk/press/councilinvest-new-veg-fuelled-recycling-vehicles 8. Palace Green Homes commit to replace all future contracts for site plant in preference for equipment powered by alternative means rather than using 100% diesel or petrol fuels. This may include the use of HVO diesel replacement fuel or full/hybrid electrically powered vehicles where appropriate but preference will be for static plant where site conditions allow. The selection of plant will be reviewed at the outset of the construction phase of each project and selected to meet the specific build requirements of the site development proposals. Selection will assess and favour the lowest operational carbon footprint possible.

Palace Green Homes has ensured site plant contracts for our next development project are compatible with the use of HVO fuel as a diesel alternative. Orders are being placed with suppliers to become operational upon occupation of the site and commencement of procurement, ensuring fulfilment of the commitment to reduce the consumption of fossil fuels in our operations. This is in place and will be monitored by the Company to ensure it remains in perpetuity and identify any staff training or education needed in support.

Prepare a Travel Plan for the Council
which aims to reduce car use to and from
the Councils offices, both in terms of staff
commuting as well as business related
travel, and explore opportunities to offer
incentives to staff to take up low carbon
modes of travel.

Over winter 2022/23, the Council's in-house 'Green Team' (a voluntary group of staff across the organisation, that come together regularly to help formulate ideas and plans to minimise the Council's environmental footprint) conducted a successful travel survey of all staff, and prepared a draft 'Travel Plan' for consideration by the Management Team. Following refinement, the Travel Plan is due for publication over summer 2023.

10. Help improve the energy efficiency of existing housing stock in the district, in particular through: (a) successfully implementing around £1.75m in home energy efficiency improvements, funding which has been awarded from the LAD3/HUG national funding stream; (b) in partnership with Cambridgeshire Energy Retrofit Partnership (CERP), establish a framework of contractors that can undertake grant-funded and privatelyfunded retrofit schemes; (c) establish with CERP a suite of communications (including a bespoke website) to assist residents in understanding the retrofit options available and access to potential contractors; and (d) undertake further research to understand more fully from an East Cambridgeshire perspective the options and cost implications of achieving Government targets for 2035 and 2050 in relation to

Utilising the LAD3/HUG1 funding we authorised nearly 100 measures to take place on 65 properties, at a total cost of over £1m. Despite this success, a severe shortage of contractor capacity and increased material/labour costs (both common problems, nationally) has meant we didn't do as many projects as we had hoped.

To help, the CERP consortium has recently procured a framework with six contractors. This significantly increases capacity to deliver the next grant funded scheme (HUG2) and provides trusted routes to retrofit for privately funded work by residents.

Separately, CERP is currently establishing a suite of public communications, and we are pleased to have launched our bespoke countywide website www.actiononenergycambs.org.

We continue to review research to help inform our understanding of the cost and benefits in relation to reducing carbon emissions from reducing carbon emissions from domestic dwellings.

domestic dwellings, and have carefully studied a <u>Cambridge City Retrofitting Your Home</u> <u>document³⁴</u>, which estimates a total cost of £4.65billion to retrofit all of the homes in Cambridge. If we used similar estimates, the total cost of a full retrofit of homes in East Cambridgeshire would likely be around £3billion.

- 11. Working with the East Cambridgeshire
 Partnership Forum and East Cambs CAN,
 help launch a new environment-based
 website which will:
 - Promote local action for climate and the environment;
 - Provide a central hub for all local environment related resources/services;
 - Update local people about events, campaigns and successes.

With our financial assistance, East Cambs Climate Action Network (EastCambsCAN), launched its website in March 2023, thus providing a platform to reach out to far greater number of people than ever before. The website is owned and managed by the East Cambs CAN, with resource pages, event listing and campaign news. Please note, ECDC and its officers have no editorial rights, and the views expressed on the website are those of East Cambs CAN and its contributors. ECDC looks forward to continued engagement with, and challenge from, East Cambs CAN in our shared aspiration to take action against climate change.

Website link:

https://eastcambscan.org/

- 12. Working with Ely Cycling Campaign and other groups to update and **expand help** and advice in relation to cycling opportunities, cycle parking and upcoming cycling infrastructure proposals across East Cambridgeshire
- We have updated our walking and cycling pages on our website with more cycling information, and intend to continue to bolster such resource over time. This will be alongside wider improvements to our website in relation to climate change and the natural environment.
- 13. As well as targeting the delivery of the planned 24 Electric Vehicle Charge (EVC) points in three ECDC carparks by end of September 2022 (see Action 12 from 2021/22), support the provision of additional EVC points throughout the district through increased advice and support, as well as ensuring (when it is the Council's duty to do so) district wide compliance of the new Part S Building Regulations (Infrastructure for the Charging of Electric Vehicles) and the Electric Vehicles (Smart Charge Points) Regulations 2021, both of which come into force in June 2022 and should lead to

The 24 new EVC points are all installed, and will shortly be operational, providing charging opportunities for residents and visitors to Ely and Soham. Whilst the delay in installation from autumn 2022 to spring 2023 was unfortunate, this was due to the unacceptable terms of the provisional contractor originally chosen, meaning a second contractor was sought.

The Part S Building Regulations are now operational and, whilst such new regulations take time to feed through to new developments on the ground, we have confidence so far via our monitoring that developers understand the new regulations and are complying with them without

³⁴ See https://www.cambridge.gov.uk/media/11677/retrofitting-your-home-report-non-accessible-version.pdf

widespread public and private EVC points becoming available of a standardised and 'smart' operating nature. the need for ECDC intervention. This means new homes being approved through the planning and building control system today, will be equipped with electric vehicle charging infrastructure.

Press release for the EV charge points (28.2.23):

https://www.eastcambs.gov.uk/press/electricvehicle-charging-points-council-carparks%C2%A0-%C2%A0

14. Continue to facilitate the East
Cambridgeshire Partnership Forum (see
Action 18 from 2021/22), including
investigating the potential of setting up a
regular 'climate café' whereby anyone
with an interest in discussing ideas and
actions to help address climate or natural
environment issues can get together,
hopefully leading to new and exciting
actions on the ground.

The Forum continues to successfully operate, meeting approximately every 1-2 months, and bringing together a diverse range of groups and individuals, all with an interest in environmental matters in East Cambridgeshire. The 'climate café', led by EastCambsCAN, has met several times now, and has a programme of monthly events.

More info and a booking page:

https://eastcambscan.org/events/

15. Utilising funding from the recently launched £2m East Cambridgeshire Growth and Infrastructure Fund, establish a grant scheme for **natural environment capital projects** that deliver long lasting nature benefits in the district.

Rather than using the Growth and Infrastructure Fund (GIF) to establish a grant-based scheme as originally intended, the Council successfully established a separate £180,000 'pride of place' fund. From this, £100,000 has been set aside to support, via 100% grants, small scale local community natural environment improvements. The scheme is due to be formally launched in June 2023, with spend to take place from summer 2023.

The GIF, however, did approved a number of environment related projects, including for a new footbridge in the Wicken Fen vision area, solar panels on Little Thetford village hall, and £800,000 towards delivering a cycle way linking Wicken and Soham.

Press release for GIF (25.11.22):

https://www.eastcambs.gov.uk/press/councilapproves-%C2%A323-million-fundingcommunity-projects

16. Help to facilitate a natural environment youth engagement programme which, for example, could seek to pair up youth clubs (and any other youth-based organisations or networks) with local wildlife reserves or nature recovery programmes, encouraging

Alongside opportunities within Eco-schools (see Action 2), we have been working with Wicken Fen to establish more regular volunteering opportunities for young people. We have also updated our ECDC Youth webpages, including Youth Climate Action and Making a Difference.

those of a youth age to engage with their local environment, learn new skills and take pride in where they live.

Look out for more Youth events planned this summer.

Website for ECDC Youth Climate Action:

https://www.eastcambs.gov.uk/content/youthclimate-action

17. Rerun the successful East

Cambridgeshire Create an Orchard

Programme, which targets the creation of at least 26 Orchards (East Cambs

COP26) across East Cambridgeshire, whereby ECDC encourages and helps the creation of new (or renewed) orchards by community groups, Parish Councils or schools. ECDC to provide free fruit trees, stakes and other essential equipment to establish the orchard (land, planting and maintenance provided by the group/council/school).

The Council exceeded its original target of 26 new orchards, with 28 new orchards now planted across East Cambridgeshire, each with about 10 new fruit trees. A map of the locations can be found on our website:

<u>https://www.eastcambs.gov.uk/climate-change/community-orchards-district</u>

Press release (15.3.23):

<u>https://www.eastcambs.gov.uk/press/council-</u>celebrates-planting-28-new-community-orchards

18. Establish a policy and implementation framework for **locally delivering**'biodiversity net gain', a mechanism whereby new development must provide a biodiversity net gain from their development, either on-site or through nature improvements off-site.

ECDC adopted in November 2022 a new framework for delivering increased biodiversity via new development in the district. We continue to strengthen that work, and gearing up for mandatory biodiversity net gain from November 2023.

Press release (9.12.22):

<u>https://www.eastcambs.gov.uk/press/biodiversity-east-cambs-increase-each-new-development-site</u>

- 19. Work with Natural Cambridgeshire Local Nature Partnership, including a continued contribution to its running costs, aiming to develop and deliver the following:
 - Commence the longer term aim of having a community-led local nature recovery plan for every town and parish council in East Cambridgeshire.
 - Nature Recovery Now! help the LNP develop a Community Climate and Nature Champions programme (working with other willing district councils in Cambridgeshire) to recruit and train local people to enable them to lead nature recovery projects where they live.

ECDC has continued its strong working relationship with the local LNP, including making a financial contribution of £5,000 during 2022/23 towards its running costs. The charitable status LNP pioneered the now familiar 'doubling nature' vision, and provides expertise and help to ECDC on a wide range of nature related initiatives.

With the LNP supports, ECDC aims to publish in June 2023 a template community/parish led nature recovery plan, and we hope to encourage as many parishes as possible to prepare one over the coming years.

Our 'pride of place' grant funding scheme (see action 15) provides the opportunities for dozens of community based projects to take off over the coming 12 months or so.

- Seek funding for community nature recovery grants, including seed corn monies.
- 20. Establish, and map, the 'priority landscapes' for nature recovery in East Cambridgeshire (such as the Wicken Fen Vision area), and, working in partnership with others, commence a long term programme of increasing awareness and understanding (and ultimately take up) amongst landowners and farmers within those priority landscapes of the various subsidy and grant schemes available that will assist with nature-recovery and climate change adaptation, whilst also maintaining a working and productive farming landscape, including Environmental Land Management Schemes (ELMs), opportunities from Biodiversity Net Gain (BNG), forestry grants (in appropriate locations only) and water quality schemes.

The Council adopted in November 2022 a new 'nature recovery network' for East Cambridgeshire, which establishes the long-term framework for where nature recovery would be most effective to take place (in nine identified 'priority areas'), and what sort of nature recovery would be best in each area. For the first time, we now know where to direct strategic scale investment and action to help restore and enhance the natural environment. Building on that work, we've commenced engagement with landowners and farmers, so that the actions in the framework can be turned into reality.

Press release (9.12.22):

https://www.eastcambs.gov.uk/press/biodiversityeast-cambs-increase-each-new-developmentsite

Our 20 Commitments for 2023/24

Building on the commitments and achievements of last year, the Council commits to the following set of 'top 20 actions' for the period June 2023 to June 2024:

Theme 1: Taking Direct Action to reduce the Council's Greenhouse Gas Emissions:		Why are we doing this action?
1.	Via an investment of over £2m in new vehicles, commence by the first half of 2024 the use of Hydrotreated Vegetable Oil (HVO) fuel in our refuse collection vehicles (RCVs), aiming to reduce the carbon emissions of such vehicles by up to 90%.	Our RCVs currently contribute around 80% of the Council's entire CO2e emissions. Targeting those vehicles has the potential to significantly reduce our carbon footprint.
2.	Progress up to £100,000 further investment in photovoltaic (PV) solar panels on our own estate.	Our medium-term aim is to generate at least as much renewable electricity energy as we consume. This investment also makes financial sense, as it will significantly reduce our electricity bills.
3.	The Council will make further reductions in its paper use , so that, by 2030/31, we will use 70% less paper per year than we did, on average, during the period 2017-2019 (when we used an average 1.07million sheets a year). Specifically, we will reduce our paper use by 10% every year compared with 2022/23 paper use, meaning our targets are: • 2023/24 = 630,000 sheets of paper used (max) • 10% reduction each year thereafter • By 2030/31 = 335,000 sheets of paper used (max)	Reducing paper use has widespread environmental benefits, including: Less trees consumed Less water used during manufacturing Lower carbon emissions arising Less waste to deal with Lower costs, overall However, there could be some additional costs (financial and environmental), if new technologies are needed in order to move away from paper, so we will need to be careful that reducing paper use does not result in alternative forms of environmental disbenefits.
4.	The Council will finalise its staff Travel Plan , and implement at least five actions from it by June 2024.	We want our staff to lead by example when it comes to travelling to work, and travelling for work purposes. This Travel Plan should help cut our transport emissions.

Theme 2: Taking Direct Action to Support Nature Recovery in East Cambridgeshire		Why are we doing this action?	
5.	Spend up to £40,000 tackling one or more disused public areas, and turning them into nature rich community areas. One such area, off Heaton Drive, Ely, will be achieved in collaboration with Palace Green Homes.	We are keen to demonstrate, in one or two locations, how land can be transformed from underused, low nature value, to one which is of benefit to both people and nature.	
6.	Launch in summer 2023 a new long term 'one plus one' campaign, seeking to achieve the installation of one bird or bat box for every household in the district.	Like action 10 (green fair), we are looking to launch ideas that will help trigger action, imagination and fun! Just think what nearly 40,000 new bird or bat boxes could do to help turn around the recent rapid decline in bird and bat numbers.	
7.	Via the 'Green Fair' in August 2023 (see action 10), put to the public vote the launch of a single species recovery programme for East Cambridgeshire, with the long term aim of East Cambridgeshire being recognised as the national hub helping the recovery of that species - East Cambridgeshire: Home of [You Choose the Species!] Recovery. By June 2024, we will have invested at least £5,000 to kick start on-theground improvements for the species you vote for.	Whilst protecting all habitats and species is vitally important, sometimes we can achieve more by collectively getting together to support one particular species. Will it be barn owls, or otters? Or perhaps hedgehogs or bees? It's your choice – come and vote on 5 th August 2023!	
8.	To mark the Coronation of King Charles III, as well as his 75 th birthday in November 2023, we will plant 75 oak trees, via gifting the trees to parish councils, community groups and schools. For schools, we will also provide a selection of tree related literature to help children appreciate and understand the value of trees.	Renowned in history and legend, oak trees symbolise royalty, patriotism and strength. The Coronation Chair is made of oak, and is now over 700 years old. But perhaps an oak tree's greatest feat is nurturing wildlife. They are a haven for a colossal 2,300 wildlife species, providing vital spaces to eat, shelter and breed. In addition, they can capture up to 20kg of carbon dioxide a year from the atmosphere.	
	Separately, we will update our Trees and Woodland Strategy , so that we maximise tree planting and tree protection through both the planning system and on our own land; and at the same time, emphasise the need for the right tree to be panted in the right place.		

Theme 3: Supporting Others to Take Action:	Why are we doing this action?
 The Council will implement its £100,000 'Pride of Place' grant scheme, aiming to 100% grant support dozens of open space improvements and nature led projects in our communities. 	We know there are lots of very committed people wanting to help improve the local environment in the community, but often lack the funds to make it happen. This fund aims to plug that gap, to bring project ideas into reality.
10. Working alongside Ely Cathedral's 'Green Fair' on 5 August 2023, set up a family friendly activity and education day on Palace Green, with a focus on nature related hands on activities, engagement events and children's activities.	Helping people understand what they can do to help the local natural environment is a crucial part of the jigsaw. And targeting young people in a fun and engaging way might help trigger a lifetime of conservation interest and action.
11. The Council will identify candidate sites for installing free water bottle filling stations, with a target of installing a minimum of three such stations during 2023/24. Candidates sites will be investigated based on ease of installation and high public footfall (such as Ely Market and Riverside area – we'd welcome other suggested locations by emailing us at climatechange@eastcambs.gov.uk).	Providing free water to fill your water bottle has widespread benefits, including less plastic use/waste, financial saving for residents (compared with shop bought drinks) and health benefits. Such stations can also help us to adapt to our changing climate, with hot weather meaning a greater need to drink water to keep ourselves hydrated.
12. The Council will undertake a programme of Electric Vehicle Charging (EVC) initiatives , including: improved information on our website about EVC; assisting parish councils and residents to find grants to help install EVC points; and bid for grants to install more EVCs in our own public carparks.	Electric vehicle ownership is on the up, and charge points are becoming more available. We need to further increase supply of electric vehicles and charge points to meet growing demand for this lower carbon form of transport.
13. We will aim to spend up to £2m investing in energy efficiency measures for non-gas homes in East Cambridgeshire, as part of a wider £10m Cambridgeshire Energy Retrofit Partnership (CERP) scheme of which we are a member. We will also provide wider support to help other residents, including those on-gas, to access grants for energy efficiency installations, partly through our new website: https://www.actiononenergycambs.org/ .	CERP have provisionally been awarded an additional £10M of funding for HUG2 (which is likely to equate to approximately £2M for East Cambridgeshire). Using our new contractors, we will seek to help wider residents to access other schemes such as ECO4 and ECO4 flex, which can help occupiers of gas heated properties with access to grants.

14. East Cambs Street Scene (ECSS), the Council's wholly owned company that collects your domestic waste, will target a reduction of over 100 tonnes of black bag waste collected over the year to March 2024. To achieve this, ECSS will further promote ways for residents to reduce waste, recycle more and compost more food and green waste where possible.

With your (the public) tremendous efforts, we already have an excellent track record for high domestic recycling rates and low black bin waste volume collected. But we want to do even better! Reducing waste and recycling more is not only beneficial to the environment in itself, but it also reduces the amount of fuel we need to use to collect your black bins, saving even more emissions. Every single resident in East Cambs can help us hit this 100 tonnes reduction target – every bit of extra recycling really does help! Thank you!

Theme 4: Policies, Decision Taking, Accreditation and Recognition:

Why are we doing this action?

15. Undertake an environment training programme for all Councillors and staff ('carbon literacy' training), so the whole organisation understands the scale of the climate and biodiversity crisis, what the options are to tackle the crisis and what each individual can do in their role to help address the emergency. By June 2024, target Carbon Literate Silver accreditation, which means at least 50% of employees and councillors have undertaken the training by that stage.

All our staff, from accountants to youth workers, should be 'in it together' as we try to do our bit to help the climate and biodiversity emergency. To help staff learn how they can help, we all need to have a basic understanding of the issues and opportunities involved.

16. The Council will aim to achieve, as an organisation, Investors in the Environment (iiE) accreditation Silver award in 2023, and work towards achieving Green award in 2024.

The IIE programme is an excellent way for the Council to be 'challenged' by independent external experts, to see what we could do more of to protect the environment. Achieving the different levels of accreditation is a great way to celebrate with staff all the good things we are doing.

17. In acknowledgement that climate change is happening, and will continue to accelerate, the Council will establish a **climate adaptation and climate risk plan**, identifying the greatest risks to the Council and its services, and how it can start to help our communities adapt to a changing climate and biodiversity loss. To complement this, we will also

Climate change is already happening, and we need to understand what it will mean for us and be prepared for it. Our communities will expect us to be ready to help manage the commence preliminary work and consultation on a **new 'climate' chapter for the Local Plan**, which will look at how new buildings can be both more energy efficient and have the ability to adapt to a changing (warming) climate.

inevitable changes that will occur due to climate change.

One tool to help both reduce emissions, as well as adapt to a changing climate, is to make sure new homes are fit for a zero carbon future. We can help make this happen via the Local Plan.

18. How do you imagine a future 'cleaner, greener East Cambs?'. By June 2024, we will facilitate an engagement programme with residents, businesses and the wider community, and come up with a collectively generated set of targets for East Cambridgeshire as a whole. For example, we want your help to establish targets such as: net zero emissions for the district as a whole; increased recycling rates; and/or electric vehicle uptake.

As a district, we emit an astonishing 1.25 trillion grams of CO2 a year into the atmosphere. We all need to do our bit to help radically reduce this figure. And as your local authority, we are willing to help facilitate the establishment of district wide targets, targets suggested by you, for you, to help reduce our collective emissions and help reverse the decline in nature.

19. To proactively fulfil our duty to conserve and enhance biodiversity, we will: (a) by 1 January 2024, publish an 'ECDC Biodiversity Action Plan' which will contain policies and specific action that we will take to conserve and enhance biodiversity; (b) support all parish council with their duty to publish a similar such action plan for their parish; and (c) play an active role in the preparation of the first ever county-wide Local Nature Recovery Strategy (LNRS). To help deliver and communicate all these actions, we will establish and dedicate a special section on our website to biodiversity.

The Environment Act 2021 introduced new duties on public authorities, such as ECDC and parish councils, to proactively conserve and enhance biodiversity. It also established mandatory county level LNRSs, which we will have an important role so its proposals reflect our East Cambridgeshire nature recovery priorities.

20. Work with Natural Cambridgeshire Local Nature Partnership (LNP), with a special focus over 2023/24 on supporting community-led preparation of local nature recovery plans, and continue to support, via PECT, up to ten East Cambridgeshire schools gain eco-charter status. Continue a financial contribution to the running costs of both programmes.

We know we are not the experts on nature, but we will happily support and engage with those that are. We should be proud of what our local LNP achieves, and they are well worthy of our support.

We are also deleted to support PECT, so that as many schools as possible in East Cambridgeshire can seek ecocharter status – and hopefully get accredited! Good luck to all the schools and students involved!

6. Financing the Strategy and Action Plan

Introduction

Like all councils, we have challenging financial and resource pressures. We are also a small Council, operating with a relatively small budget (around £10m per annum total spend), compared with other councils. County Councils, for example, have operating budgets of hundreds of £millions. However, we cannot use any of these challenges as an excuse for not finding new ways of living, and doing 'our bit' with the budgets we operate under. We can find realistic and genuine ways to make positive changes that limit our impact on and improve our environment, and we can also regulate others to do their fair share, through the policies we set and licenses we operate.

All potential projects referred to in this Plan will, where necessary, go through the Council's approval process and receive expenditure approval in accordance with the budget setting and procurement processes. It must be noted that these corporate controls are required regardless of eventual funding streams as the Council needs to ensure value for money is achieved.

Funding streams

The Council has access to several potential funding streams and the choice of most appropriate funding will depend upon achievement of value for money. This will be assessed following the completion of relevant business cases for individual projects. External funding will always be considered before the use of internal Council funds.

Some of the ways the Council may decide to fund the projects associated with the Plan are:

- **Invest to Save:** For example, capital expenditure ('investment') to improve the energy efficiency of the buildings or vehicles we own can save money every year thereafter through lower energy costs. The money to fund the original expenditure could be from the Council's own reserves or from a loan.
- Grants and Loans: These can be from Government or private sources.
- Match-Funding: Some grants might require the Council to contribute some (often half) the funding for a project.

More specifically, at the time of writing, the following budgets are available, or potentially available:

- Council direct 'revenue' funding: £100,000 per annum funding was agreed by the Council in 2020 to help deliver on the actions within each annual Environment Plan. We therefore have £100,000 for the financial year 2023/24 to help deliver the top 20 actions identified. Some of this fund is used to pay staff salaries, where staff are directly involved in delivering projects.
- **Government Grants:** in partnership with Cambridgeshire County Council, City and District councils, we continue to successfully bid for grants to improve the energy efficiency of private properties, with around £2m available in 2023/24. We are hoping to step up our grant bids, in order to deliver more projects across East Cambridgeshire.
- Council direct 'capital' funding: Over £2m has been set aside for 2023/24 for improving the
 energy efficiency of our refuse collection vehicles. A further £100,000 has been set aside for
 2023/24 for energy related capital projects, which is likely to be directed to photovoltaic (PV)
 solar panels on our office buildings. The Council will continue to consider making further
 investments if it proves value for money and helps generate an annual income (as well as a
 carbon saving) for the investment made.

7. Further Reading

There is a host of information available on the internet, and we set out some links in the Appendices.

We also intend to improve information we post on our own website, via this page:

https://www.eastcambs.gov.uk/climatechange

We have recently updated our climate related Youth Pages, with links to what actions you can take:

https://www.eastcambs.gov.uk/content/youth-climate-action

https://www.eastcambs.gov.uk/content/youth-climate-action-facts-and-links

https://www.eastcambs.gov.uk/content/youth-climate-action-make-difference

For **local action and advice**, please visit the East Cambridgeshire Climate Action Network (East Cambs CAN) website:

https://eastcambscan.org/

For a **global look** at the issues involved with climate change, the United Nations website has a host of information:

https://www.un.org/en/climatechange

For wider 'sustainable development' issues, the United Nations has a dedicated resource relating to its sustainable development goals:

https://www.un.org/sustainabledevelopment/

If you are particularly interested in learning more about climate change and environmental matters, and **you would like to reward yourself with a certificate**, we recommend you have a go at completing any of the Open University courses available on the web. Most are free, and can take as little as 1 hour to complete

https://www.open.edu/openlearn/nature-environment/free-courses

8. Stakeholder engagement

It is clear that the Council, working alone, cannot achieve the target of net-zero carbon emissions across both the geographical area of East Cambridgeshire and throughout the Council's own operations. Nor can it alone instigate a full nature recovery to take place in our district.

Yet, the Council is committed to working in partnership in order to make this ambition a reality. As such, in addition to Council Members and Officers, the Council engages with, for example, the following stakeholders:

- Youth Council
- Citizen Engagement
- Schools
- Natural Cambridgeshire Local Nature Partnership (LNP)³⁵
- Wildlife Trust
- Business Community
- Parish Councils
- Cambridgeshire County Council
- Cambridgeshire and Peterborough Combined Authority
- Other Local Authorities
- Government
- Local Environment Lobby Groups (such as EastCambsCAN)
- National Environment Lobby Groups (such as Extinction Rebellion)

We also run a 'Partnership Forum' every two months or so, with many of those listed above represented (and more are welcome to join).

We intend to further step up our engagement over 2023/24, including our participation at the Green Fair in August 2023, the coordination of a set of district wide targets and the launch of a grant fund for community nature improvement projects ('pride of place').

³⁵ The LNP comprises a wide range of organisations committed to improving the natural environment of Cambridgeshire, including: Natural England; Defra; Environment Agency; NFU; RSPB; Wildlife Trust; Anglian Water and Cambridge University

10. Glossary

The Council recognises that some of the terminology in this Environment Plan can be confusing. We hope this glossary will help with understanding some of the technical words and phrases, but do get in touch if there is a word or phrase you don't understand in this Environment Plan, so we can add a definition or explanation in the next Plan for 2024.

To further help Councillors and Officers of the Council to understand some of the key messages and terminology used, we are committing over 2023/24 to run what are known as 'carbon literacy' training courses. Such courses help build knowledge and capacity within the Council to create a positive shift to how the Council operates and makes decisions in response to climate change and biodiversity loss.

Adaptation – see Climate Change Adaptation

Biodiversity – Biodiversity is all the different kinds of life you'll find in one area—the variety of animals, plants, fungi, and even microorganisms like bacteria that make up our natural world. Each of these species and organisms work together in ecosystems, like an intricate web, to maintain balance and support life. Biodiversity supports everything in nature that we need to survive: food, clean water, medicine, and shelter.

Carbon Dioxide Equivalent (CO2e) - By using CO2e as a measuring tool means that the different global warming potential (GWP) of different gases are taken into account. Quantities of GHGs are multiplied by their GWP to give results in units of carbon dioxide equivalent (CO2e).

Carbon Footprint - a measure of the greenhouse gases emitted into the atmosphere from sources in a specified area or by an organisation or individual. It usually includes all relevant greenhouse gases, the most common of which is carbon dioxide (CO₂). Emissions of other GHGs such as methane (CH₄) or nitrous oxide (N₂O), are measured in 'carbon dioxide equivalent' (CO₂e).

Nationwide, emissions of CO₂ make up 81% of GHG emissions, with the remainder from methane (11%), nitrous oxide (4%) and fluorinated gases (3%), when weighted by Global Warming Potential (GWP). The biggest source of greenhouse gas emissions in the UK is transport, closely followed by energy supply.

To help set the wider context, this Environment Plan reports the carbon footprint of the geographical area of Cambridgeshire-Peterborough as a whole, then East Cambridgeshire as a whole, and finally that of East Cambridgeshire District Council as an organisation.

Whilst not an exact science, you can also have a go at calculating your own (or your family's) carbon footprint using an online tool such as https://footprint.wwf.org.uk/. Calculating a carbon footprint can provide a useful indicator of how much impact you or a business is having, and pointers to where action could be taken to reduce the footprint (and hence reduce your impact on the environment)

Climate Change - Climate is the average weather in a place over many years. Climate change is a shift in those average conditions. The rapid climate change we are now seeing is caused by humans using oil, gas and coal for their homes, factories and transport.

When these fossil fuels burn, they release greenhouse gases - mostly carbon dioxide (CO2). These gases trap the Sun's heat and cause the planet's temperature to rise. The world is now about 1.1C warmer than it was in the 19th Century. Temperature rises must slow down if we want to avoid the

worst consequences of climate change, according to climate scientists. They say global warming needs to be kept to 1.5C by 2100.

However, unless further action is taken, the planet could still warm by more than 2C by then. A 2021 report by the independent Climate Action Tracker group calculated that the world was heading for 2.4C of warming by the end of the century. If nothing is done, scientists think global warming could exceed 4C in the future, leading to devastating heatwaves, millions losing their homes to rising sea levels, and the irreversible loss of plant and animal species.

Climate Change Adaptation - 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. Over 2023/24, we will prepare a separate document in relation to the adaptation actions the Council can take.

Climate Change Mitigation - It describes those actions which reduce, prevent or capture greenhouse gas emissions. Alongside the views of our communities, the current carbon footprints of both this Council as an organisation, and that of the entire geographical area of East Cambridgeshire as a whole, informs our action planning.

Embodied Carbon - Embodied carbon includes any CO₂e created during the manufacturing of a product (eg building materials require material extraction, transport to manufacturer, manufacturing etc) and the transport of those products to the final destination (eg building materials to the building site). Put simply, embodied carbon is the carbon footprint of a product or project before it becomes operational or is used.

Global Warming Potential (GWP) - A factor describing the radiative force impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of CO₂. Nationwide, emissions of CO₂ make up 81% of GHG emissions, with the remainder from methane (11%), nitrous oxide (4%) and fluorinated gases (3%), when weighted by Global Warming Potential (GWP). See also **Carbon Dioxide Equivalent (CO₂e).**

Greenhouse Effect - The Sun serves as the primary energy source for Earth's climate. Some of the incoming sunlight is reflected directly back into space, especially by bright surfaces such as ice and clouds, and the rest is absorbed by the surface and the atmosphere. Much of this absorbed solar energy is re-emitted as heat (longwave or infrared radiation). The atmosphere in turn absorbs and re-radiates heat, some of which escapes to space. Any disturbance to this balance of incoming and outgoing energy will affect the climate.

If all heat energy emitted from the surface passed through the atmosphere directly into space, Earth's average surface temperature would be tens of degrees colder than today. Greenhouse gases in the atmosphere, including water vapour, carbon dioxide, methane, and nitrous oxide, act to make the surface much warmer than this because they absorb and emit heat energy in all directions (including downwards), keeping Earth's surface and lower atmosphere warm. Without this greenhouse effect, life as we know it could not have evolved on our planet. Adding more greenhouse gases to the atmosphere makes it even more effective at preventing heat from escaping into space. When the energy leaving is less than the energy entering, Earth warms until a new balance is established.

Greenhouse gases emitted by human activities alter Earth's energy balance and thus its climate. Humans also affect climate by changing the nature of the land surfaces (for example by clearing forests for farming) and through the emission of pollutants that affect the amount and type of particles in the atmosphere.

Scientists have determined that, when all human and natural factors are considered, Earth's climate balance has been altered towards warming, with the biggest contributor being increases in CO₂.

Greenhouse Gases (GHGs) – The main GHGs are: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and Nitrogen Trifluoride (NF3). The Kyoto Protocol – the international agreement addressing climate change - covers these seven main GHGs. The last four are fluorinated gases ("F-gases") which are a range of man-made compounds (including HFCs, PFCs, SF6 and NF3) used in a variety of industries including refrigeration, air-conditioning and the manufacture of cosmetics, pharmaceuticals, electronics and aluminium. F-gases are extremely potent greenhouse gases with some having GWPs of several thousand or more. The greenhouse gases covered by the Kyoto Protocol account for over 99% of global greenhouse gas emissions.

Land Use, Land Use Change and Forestry (LULUCF) - One of the sectors under the United Nations Framework on Climate Change that measures and accounts for emissions and removals of CO₂ from land and forests. Other sectors are things such as 'transport' and 'industry'. However, LULUCF is an unusual sector in that it measures not just carbon releases, but also carbon removals. This is because when a tree grows it temporarily sequesters CO₂, and when it dies or is removed, it releases the CO₂ back into the atmosphere. Across Europe, LULUCF presently removes more carbon from the atmosphere than it releases. This means it is a carbon sink, not a carbon emitter, which is good news. This is not the case across Cambridgeshire or East Cambridgeshire, where LULUCF is a very large net emitter of CO2e because, in simple terms, the way we are using our land in Cambridgeshire is causing large scale releasing of greenhouse gases from the ground (such as drying peat) and we have very little by way of carbon capture through, for example, trees. Some parts of the UK have a 'negative' LULUCF score (i.e. more carbon removed than is emitted), such as Wales as a whole, Northumberland and, perhaps more surprising, some southern counties such as Hampshire.

Mitigation – see Climate Change Mitigation

Natural Capital – Natural capital comprises our 'stock' of waters, land, air, species, minerals and oceans. This stock underpins our economy by producing value for people, both directly and indirectly. Goods provided by natural capital include clean air and water, food, energy, wildlife, recreation and protection from hazards. Improving our natural capital addresses how to enhance our existing nature reserves, improve biodiversity and tackle air, land and water pollution to keep our planet healthy for all species.

Net Zero Carbon - 'Net Zero Carbon' means, first, the reduction of greenhouse gas emissions to the lowest possible level. Then, for any remaining emissions, offsetting them through carbon removal methods such as tree planting or carbon capture and storage, so we have 'net zero' emissions overall to the atmosphere.

Well to Tank – These are all the Greenhouse Gas emissions arising from the production, transformation and distribution of the fuel used to power a vehicle. Note: Well-to-tank emissions excludes emissions from the subsequent use of the fuel in a vehicle and excludes emissions from the manufacture of any vehicle.

Appendices

Appendix 1: risks and challenges for meeting our emission targets and interim targets

In section 3, we set out targets for reducing our greenhouse gas emissions. There are a number of challenges and risks in reaching such targets. These include:

- The rate of decarbonisation of the national grid fails to materialise as expected.
- Electric HGV-style vehicles (or other zero-carbon fuelled vehicles) do not get developed in the market place, or are prohibitively expensive, in the next 5-10 years.
- Nil or limited feasible (practical, deliverable, affordable) means of establishing our own renewable energy infrastructure arises in the next 3-10 years.
- Energy use in our buildings (and/or the carbon intensity of such energy) does not reduce as hoped for, despite investment and staff training.
- National policy or legislation changes result in a greater level of service requirements being deployed (such as increased waste collection and waste separation) which results in increased emissions.
- Growing populations and households, meaning the Council is serving more people over time
 and consequently (all things being equal) would result in a rise in Council emissions (for
 example, the housing stock of the district is rising by 1-2%pa, which means 1-2% more
 homes every year requiring their waste to be collected, which will cause an increase in
 emissions arising to collect such waste).
- Unforeseen events / emergencies (such as the covid pandemic), which disrupts efficiency savings and requires increased energy use.

The targets set out, therefore, should be regarded as ambitious, working towards targets, rather than fixed guarantees. Indeed, the Council would like to exceed them, if at all possible, but is equally mindful that many events are beyond its control which could impair its ability to achieve them.

Appendix 2: Natural Environment Benefits and Threats

How can we 'measure' the benefits of (or harm to) our natural environment?

It isn't easy, but there are ways to identify what benefits our natural environment provides, and consequently what harm arises if we neglect it. Scientists usually break down the natural environment into two main types to do this. First, the all-encompassing 'natural capital' and second, forming part of the first and the one we perhaps most think of, 'biodiversity'. These are explained a little more below.

Natural Capital: Natural capital is our 'stock' of water, land, air, species, minerals and oceans. From this stock goods and services are produced, including clean air and water, food and pollination, energy, wildlife, recreation and protection from hazards. These services provide economic, social, environmental, cultural, and well-being benefits.

Biodiversity: Biodiversity, our flora and fauna, is an essential component of natural capital stocks and an indicator of the stocks' condition and resilience. It provides benefits directly to people, for example, the pollination of plants to produce seeds. This benefits society primarily through food provision, and has a global economic value of approximately £120 billion and within the UK alone in the region of £690 million each year.

Methods to measure the benefits

There are a range of established methodologies now available to value these benefits and quantify these financially to allow for easy incorporation into decision making. Such methods are not commonly used yet, but are highly likely to become more and more common, in the same way that it is becoming more common to measure the 'carbon footprint' of actions we take.

By providing a financial value to our natural environment, it can demonstrate to decision makers the full cost of exploiting our environment for short term gain, compared with the gains achievable through enhancing or protecting it. This is known as the 'natural capital approach'.

As an example, currently, the UK consumes resources equivalent to three planet earths. This means that if every human on the planet consumed the same amount of resource as someone in the UK, there simply would not be enough resource to share around – we'd need three planets to do so, not just the one we have. The UK is not alone in consuming more than its fair share of what the earth can provide. Most 'western' developed countries similarly consume around 'three planets worth'.

This is not sustainable.

We must therefore become far more resource efficient, reduce consumption and reduce waste, especially as our environment takes time to replenish itself. The UK Government also recognises the need for change in its recent 'A Green Future: Our 25 Year Plan to Improve the Environment'.

Threats to our natural environment

Climate Change: Climate change impacts species and ecosystems, and therefore the services they provide, in many ways. Changes in prevailing weather conditions (temperature, precipitation, seasonality) directly affects ecosystem processes as well as species survival, encourages the spread of pathogens, and disrupts the timing of life cycle events. It decouples evolutionary relationships and undermines complex processes that underpin ecosystem function.

There are many lines of evidence that show that species are already being affected by climate change. With the damage to this natural capital comes impacts on the services they provide us, and the development of feedback loops which exacerbates both the cause and effects of this damage.

Risks include:

- Damage to crops from severe weather/lack of water;
- Loss of top soils due to floods;
- Changing temperatures impacting wildlife through changes to habitat and food chains;
- Damage to historic buildings from air pollution.

Pollution: Clean air is one of our natural capital 'stocks' but air pollutants generated by a mixture of natural and human-made processes are creating health and environmental damage. The main challenge is the production of particulates and nitrogen dioxide (NO2) resulting from the combustion of fossil fuels, causing unacceptable impacts on health. Particulates, when inhaled, can lodge in the lungs and exacerbate existing respiratory problems whilst NO2 can increase asthma impacts in children. Our wildlife is also impacted by poor air quality reducing new growth and vulnerable species not thriving.

Managing the impacts of air pollution from cars and power stations is possible and there are many synergies between approaches to manage air pollution and reduce carbon emissions.

Polluting our rivers and oceans from single-use plastics and agricultural run-off poses a significant threat to marine-life and reduces the ability of our oceans to nurture and restock itself.

- An estimated 79% of all plastic waste ever created is still in our environment and needing to be cleaned up;
- Waterways become clogged with plastic pollution, preventing natural functioning of the systems and harming wildlife when consumed;
- Agricultural run-off, for example use of fertilisers, cause oxygen levels in waterways to diminish such that flora and fauna cannot survive.

Population Growth and Development: Cambridgeshire is one of the fastest growing counties in the UK. Growth necessitates the provision of more housing, food and water, which must be managed sustainably to minimise the environmental impact of our county's success. There are numerous examples globally of economic development taking place to the detriment of nature. Examples have included:

- Damage to landscape from minerals extraction for building materials;
- Loss of natural habitat to make way for new homes or road building programmes;
- Increasing air pollution from burning fossil fuels for travel;
- The impact of agricultural pesticides on water quality and biodiversity.

To achieve sustainable growth, it is important that everyone acts to conserve and enhance our natural capital. Using Cambridgeshire's growth as an opportunity, natural capital can be developed and enhanced through:

- Provision of increased green spaces for people and nature;
- Increasing tree planting to assist with shade/urban cooling, air quality and biodiversity;
- Switching from cars to more active travel choices such as walking, cycling and mass transport solutions.

Appendix 3 - Monitoring and Evaluation

Introduction

Successful implementation and ongoing delivery require a robust, transparent governance procedure which will ensure strategic ownership of the Council's carbon reduction aims in line with the climate emergency declaration. This governance process will bring together the diverse range of projects undertaken throughout the Council which contribute to the organisation's overall environmental impact.

Identifying Projects

The Council is committed to identifying opportunities to reduce carbon emissions across all areas of its operations. In order to achieve this the Council has introduced the following:

- A core team of officers, representing key service areas, have been identified. These officers will meet informally on a regular basis in order to discuss ideas and forthcoming projects.
- Decisions taken by the Council are now be subject to a Carbon Impact Assessment (CIA). This involves lead officers undertaking a review of their project/decision and considering what impact it will have on the Council's aim to achieve net-zero carbon emissions. A summary of the CIA will be included in the governing report to enable the relevant decision maker to make an informed decision. The introduction of this process, which we periodically update and improve upon, also helps raise awareness of the challenge amongst officers and will lead to officers considering the potential environmental impacts earlier in the decision making process, for example, at the contract specification stage.
- Steps to ensure that officers throughout the organisation have the opportunity to make suggestions for projects that could help to reduce carbon emissions.

Initiating Projects

Before any project gets off the ground the relevant Council officer will ensure that all of the necessary procurement and governance steps are undertaken. Consideration will also be given, on a case by case basis, to any communication activity that may be required alongside any specific monitoring requirements.

Monitoring

The impact of individual projects will primarily be monitored by collating data for all emissions sources that are within the organisational scope. This will be undertaken in line with the process set out earlier in this document. Where it is possible and feasible to do so individual projects will be monitored more frequently to ensure any deviation from projections are identified and addressed as soon as possible.

Separately, the Council will continue to monitor the Government's approach to UK carbon pricing and the implications of that scheme on the Council and wider stakeholders.

Reporting Progress

Each year the Council will produce an annual report no later than the 30th June each year.

Baseline Year Recalculation Policy

There may be circumstances under which it becomes necessary to recalculate our baseline year emissions. If significant changes were to occur - either within the Council's organisation or to recognised methodologies - it could challenge the validity of existing data. To mitigate this, we have developed the following baseline year recalculation policy which will ensure that any significant changes are identified, measured for a recalculation threshold and processed accordingly:

Change scenario	Baseline year recalculation?
Mergers, Acquisitions, Divestitures	
Acquisition of (or insourcing) a facility that did not exist in the baseline year.	Potentially recalculate baseline year emissions depending on likely impact to be consistent with new approach, or correct errors
Disposal of (or outsourcing) a facility to another company.	Potentially recalculate baseline year emissions depending on likely impact to be consistent with new approach, or correct errors
Transfer of ownership/ control of emissions sources.	No base year recalculation required
This includes changes in lease status.	
Organic Growth and Decline	
Organic growth	No base year recalculation required
Organic decline	No base year recalculation required
Changes in Quantification Methodologies / Errors	
Changes in emission factors or methodologies (e.g. change in activity data) that reflect real changes in emissions (i.e. changes in fuel type or technology)	No base year recalculation required
Changes in measurement methodologies, improvements in the accuracy of emission factors/ activity data, or discovery of previous errors/ number of cumulative errors	Potentially recalculate baseline year emissions depending on likely impact to be consistent with new approach, or correct errors

The Council will review the scope on an annual or biennial basis to ensure that data is collected from all relevant sources.

Appendix 4: Impacts and Risks associated with Climate Change

Climate change has many impacts. These will be realised by the Council in a variety of different ways. The table below summarises some of these.

Impact / Risk	Description	Possible Impacts for the Council
Flood Risk	Projected increases in extreme rainfall will bring increased risk of flooding. The nature of surface water rainfall means that many areas will be affected by increased flooding. Runoff from compacted or impermeable areas will increase and water will accumulate in low spots. As temperatures increase and sea levels rise areas like the Fens will become under greater threat.	Infrastructure: Disruption to transport links could affect staff travel to work and access to parts of the district and wider county for meetings. Disruption to travel could disrupt Council response processes by restricting access to some parts of the district. There may be increased risk of power outages associated with flooding and thunderstorms, which could cause disruptions to transport, logistics and processes.
		Finance : Increased costs of flood related damage and flood investigations. Increased costs for providing flood resilient infrastructure to existing buildings. Increased social costs associated with providing support for people suffering from emotional issues associated with flooding and uncertainty.
		People and health: Council employees may suffer from increased stress or mental health problems associated with flooding of their homes or the uncertainty associated with increased flood risk.
		Property : Council buildings and property may be damaged by flooding if located within flood risk areas.
Heat Waves	Climate change is projected to bring an increase in warm temperature extremes and it is very likely that heat waves will occur more frequently and last longer. Cambridgeshire is one of the warmer parts of the country, so could be significantly impacted by these changes. Cities will be impacted more than rural areas	Infrastructure: Disruption to transport links could affect staff travel to work and meetings. Disruption to travel could also disrupt Council response processes by restricting access to some parts of the district.
		Finance: Increased costs associated with summer cooling in Council buildings. Increased costs associated with installation of air conditioning and heat resilient infrastructure.
		People and health: Working conditions may become unsuitable for staff which could impact employee concentration and performance.
		Property: Office spaces may become unsuitable to work in during heat wave conditions. This will have implications on the design, construction and maintenance of existing and new office space.

Drough t

With increased temperatures extremes and more frequent and longer lasting heat waves will mean increased water restrictions in Europe. Cambridgeshire is already one of the driest counties in England so could be significantly impacted by this. The frequency of drought is likely to increase in presently dry regions by the end of the 21st Century. Heat and drought can also cause eutrophication of waterways and water habitats causing mass die off of plants and water life, meaning further water pollution and contamination of water supply.

Infrastructure: Roads can be affected under drought conditions and subject to cracking (a matter of concern for Cambridgeshire County Council with knock effects for East Cambridgeshire District Council residents).

Finance: Increased water costs for office buildings. Increased social costs as more people fall below the poverty line as a result of increased food and water costs.

People and health: Employees may be emotionally or physically impacted by reduced food and water availability and increased costs associated with this.

Sea Level Rise (SLR)

Rising global temperatures are causing polar ice to melt and oceans to expand, resulting in global sea level rise. Global sea levels rose by circa 0.19 metres between 1901 and 2010. Cambridgeshire is one of the most low-lying counties in England so could be significantly impacted by sea level rise in tidal and fen areas.

It is anticipated that the East of England could experience a dramatic sea level rise of up to 0.54 metres by 2100 under a high greenhouse gas emission scenario.

Infrastructure: Transport links may be impacted by SLR in low-lying parts of the district. SLR could restrict or prevent access to low-lying parts of the district, disrupting access for social needs, emergency planning and other service provision.

Finance: Costs of re-locating Council buildings, infrastructure and Council operated housing away from high risk areas and provision of SLR resilient infrastructure.

People and health: Council staff and communities in low-lying regions may be emotionally affected by the uncertainty surrounding sea level rise and re-location. Increased pressure on social needs to provide increased support.

Air polluti on

Transport is a major source of short-lived greenhouse gas pollutants. which can result in direct damage to human health. Road transport (particularly diesel traffic) is a significant contributor to air pollution such as particulate matter (PM) and ground-level ozone (O3). Rising temperatures are also projected to increase levels of ozone. as are other greenhouse gases such as carbon monoxide, methane and nitrogen oxides. Short-lived greenhouse pollution can also cause acid rain. Air pollutants have been linked to health conditions such as asthma and eczema.

Infrastructure: Ground level ozone could create a risk of damage to infrastructure, ecosystem services and functions. This could in turn influence agricultural productivity and water supply.

Finance: Increased social costs associated with providing support to people impacted by pollution related health impacts. Increased costs associated with repair of Council buildings impacted by acid rain.

People and health: Poor air quality can pose a risk to employee health which could lead to more sick days. Air pollution has been associated with the development and worsening of asthma and can also make people who already have asthma more sensitive to asthma triggers. Air pollutants have also been associated with health implications such as eczema. Urban air pollution can increase risk of cardiovascular, respiratory diseases and cancer. Council staff travelling for or to work may be particularly impacted by air pollution from vehicles.

Property: Ozone pollution can cause acid rain which could cause damage to Council buildings. Indoor air pollution could increase mould and damp in office space.

Appendix 5: East Cambridgeshire District Council's 'Environmental Policy' (adopted March 2022)

(Please Note: the 'net zero' target set out in the policy below will be updated to reflect this 2023 Environment Plan, as and when a refresh of the Environment Policy is agreed by the Council. The policy below was agreed in March 2022.)

East Cambridgeshire District Council Environmental Policy

The policy

At East Cambridgeshire District Council we recognise that we can affect the environment through: the services we provide and how we deliver them; our policies; our enforcement of laws and regulations; the choices we make when buying goods or commissioning services — as well as our role as a community leader. This policy will support the Council in its commitments to take action on urgent environmental issues facing the district and the wider world. This includes the increasing threats presented by dangerous climate change and loss of biodiversity and habitats.

In addition to fulfilling our statutory environmental responsibilities and complying with all legal and other requirements, including any voluntary commitments, we will use our powers and influence to further protect and improve the environment – challenging ourselves to make continual improvements in our performance.

We will:

- Annually update and implement our 'Environment Plan', which is a Strategy and Action Plan to boost the environment and help mitigate climate change.
- Target becoming at, or near to, net zero by 2034/35, and a truly net zero organisation by 2040, with annual updates towards those targets published. We want to reduce our actual emissions, not buy 'credits' to offset our emissions – and on that basis we will primarily use 'location based' reporting of our emissions, not 'market based' reporting.
- Working with partners, develop our understanding of the risks presented by climate change and ensure our services and infrastructure (such as our water management and flood prevention capacity) are adapted to protect the district and its residents.
- Prevent or minimise pollution to air, water and land (including noise pollution, litter, fly
 tipping and the impacts of car travel) and work to ensure that air quality in East
 Cambridgeshire meets all legal limits on air pollution levels.
- Protect and enhance the quality, extent and accessibility of East Cambridgeshire's 'green infrastructure' (open spaces, trees, waterways and natural environment) for people and biodiversity. Use the improvement of green infrastructure to help the district adapt to climate change and reduce carbon emissions.
- Contribute to the creation of a sustainable built environment through the planning process and achieving a high level of sustainability in our own development projects.
- Minimise energy and water demand across our estate and use all resources efficiently to reduce the environmental impacts of their consumption by our services and activities.
- Encourage the appropriate generation and use of renewable and low carbon energy, including through the installation of projects within our own estate.
- Minimise waste and the impact of its disposal by applying the 'waste hierarchy': maximising waste reduction, reuse, recycling or composting and energy recovery to minimise the amount sent to landfill.

- Reduce the environmental impacts of the goods we buy and the works and services we commission, and promote a circular economy.
- Use products and materials such as paper efficiently.
- Promote a culture of environmental awareness within the Council, including through the provision of training and ensuring that staff are aware of their role in implementing this policy.

We will convey this policy to all our employees and Council Members and make certain that they are provided with proper training and information to increase awareness of environmental matters.

A Council Member has, from January 2021, been designated as the 'Natural Environment and Climate Change Member Champion', overseeing the corporate implementation of this policy and help promote it within, and beyond, the organisation. Separately, the Strategic Planning Manager will act as the 'Natural Environment and Climate Change Officer Champion', coordinating the day-to-day delivery of activities under this Policy, and promoting the Policy throughout the organisation.

We will make this policy available on our website, in a location and format that is accessible and easy to find.

Implementing the policy

All staff are expected to implement this policy within the Council wherever it relates to their work and managers are expected to ensure it is implemented as relevant and appropriate.

We recognise the importance of effective communication in delivering this policy, as well as the potential of participation and dialogue to enhance progress.

We will communicate this policy within the Council and to our external stakeholders, enabling our staff and others to fulfil their role in delivering it by providing information and other support.

We will also encourage dialogue within the Council and with our stakeholders to foster debate, learning and greater environmental improvement. This will include the public, businesses, education and community organisations, and regulators.

We will encourage the public, schools and partners to take action too, through environmental information, advice and services.

Accountability

This Policy has been approved by the Operational Service Committee (21 March 2022) and will be regularly reviewed. The Council will publicise its environmental performance and progress each year, in its Environment Plan, to enable the people of East Cambridgeshire to hold us to account.