

East Cambridgeshire District Council

ENVIRONMENT PLAN (YEAR 3)

A Strategy And Action Plan To Boost The Environment And Help Mitigate Climate Change

June 2022



Plant a tree for the [👑]Queen's
Teebilee.

The trees
blossom and
so do
we.



Watercolour painting by Martha Rickett, Aged 10, and winner of the East Cambridgeshire 'Plant a Tree for the Jubilee' art competition, May 2022

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Foreword

I am delighted to introduce this latest edition of our Environment Plan, June 2022. Each June we publish an updated Plan, and it is always great to look back at what has been achieved in the past 12 months, as well as look forward to new and exciting actions we are proposing for the coming 12 months.

Despite the on-going challenges we all faced this past 12 months, from covid to on-going cost of living rises, it's important we don't lose sight of the huge challenge we face around climate change and reversing biodiversity loss.

And it strikes me how much these things are all interlinked.

For example, if there is one thing that the covid pandemic taught us, it is how much we value high quality parks and open spaces, watching wildlife in their natural habitats and taking great pleasure from a new area sown with wildflower seeds. And if these are all local, we travel less and spend less money getting there, for the benefit of the environment and our pockets.

At the same time, as the cost of living rises are causing everyone real difficulties, especially the eye-watering rise in our gas, electricity, oil and petrol prices, by reducing our fossil fuel consumption (through better home insulation, or driving that little bit less) we can help offset those higher prices as well as be doing our bit for reducing carbon emissions into the atmosphere.

I know all of this is easier said than done. But I am very keen to help, to take actions which not only boost the local natural environment or reduce our carbon emissions, but which also helps some of the challenges we face by the cost of living rises. Actions which are truly win-win.

Reflecting on the past 12 months, my personal highlights include:

- The opening of a huge new tree maze in Ely Country Park, designed by youngsters in the district, which is fun and free, as well as helping capture carbon from the near 5,000 trees planted. These trees will also provide homes for a huge variety of birds and other creatures. I can't think of another project which could capture so many wide-ranging benefits.
- Our highly successful orchard programme, which has helped create or regenerate 20 publicly accessible orchards right across the district. Orchards are one of my favourite local landscapes, with gorgeous blossom in early Spring, followed by all those red apples or green pears in autumn. But not only do they look beautiful, they will provide free and healthy food for people and for wildlife, and as the trees grow, they too will capture some carbon from the atmosphere. Another win-win action, and so successful I'm delighted to announce we are planning on running the programme again this winter, creating even more orchards for us all to enjoy.
- I know it wasn't easy at the start, but we took the brave move to reconfigure our waste collection routes earlier this year. We hadn't altered the routes for years, and they were no longer fit for purpose. By altering the routes in a more efficient way, we are hopeful of saving an astonishing 5,000 litres of diesel and 12,000kg of carbon dioxide emissions every year. This is not only great for the environment, but saves the council money, money which can be better spent on improving our parks and open spaces, or planting more trees or wildflower areas. I can't thank you enough for your help and patience when the new routes were introduced, but I'm sure you agree it was worth it.



But it's not all about what we, as a Council, do directly on the ground, but what we can do to help you make a difference. Therefore, I'm really pleased that our partnerships are developing really strongly, as I know we have to work together on this climate and biodiversity crisis we face.

For example, I was delighted by the success of the East Cambridgeshire Parish Conference that we hosted in May 2022, resulting in a host of pledges from parish councils to take actions in their communities.

As a Board Member of the Cambridgeshire-Peterborough Combined authority, I was also delighted the Board adopted its first ever environment action plan in March 2022, something which I personally campaigned for over the winter. It sets a framework for action not only in East Cambridgeshire, but right across the county.

And I'm really pleased to hear that, working with the local environment group 'East Cambs CAN', we are soon to launch a new independent website which will contain lots of valuable information and signposting to advice, nature activities and events anyone can join. The website is independent of East Cambridgeshire District Council, but we are to grant fund it in order to make a local environment group bring their idea into reality, and I wish East Cambs CAN every success with it.

But we must continue to do more. So this year, in this Plan, we set out another set of Top 20 actions that we have challenged ourselves to achieve in the next 12 months. Real actions now, not vague commitments for a distant date.

For example:

- Installing photovoltaic (PV) solar panels on the Council's E-Space North office building, in Littleport, aiming to generate at least half of the building's electricity needs over a full year, and looking at all our other buildings to see if we can install more, elsewhere.
- Use some of the recently launched £2m East Cambridgeshire Growth and Infrastructure Fund to help deliver natural environment projects across the district – watch this space on announcements on this.
- Working directly with local schools, helping them to achieve 'eco-school accreditation', whilst at the same time I want the Council to become the first district council in the county to achieve an Investors in the Environment accreditation. But these accreditations will only get awarded if we take actions to warrant it, so lots of hard work ahead!

These projects, and many more, are set out in this Environment Plan, so please do take a look and see what exciting things are coming up.

In fact, I continue to be really excited about the future. Let's change the focus from tackling a pandemic crisis to tackling the climate and biodiversity crisis. Let's recognise the real challenges we face with the cost of living rises, but find creative and environmentally friendly ways to mitigate those challenges. I want this Council to be at the forefront of a 'green recovery' agenda, and I would urge all of you to join us and play your part.

Together 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

The current generation has a duty to protect and improve the health of our planet for those that follow.

The world is facing unprecedented challenges in population growth, climate change, pollution and ever increasing and competing demands on its land and natural resources. By 2050 the world population is expected to rise from its current level of 7.7 billion to 9.8 billion¹. There is global consensus that climate change poses significant risk to the health of the planet and its ability to sustain life.

Local Authorities have a responsibility, both in their own activities and those undertaken with partners, as well as in the influence they can bring to bear, to reduce the adverse effects of their populations on the planet.

East Cambridgeshire, and Cambridgeshire as a whole, is a growing area. Increasing populations result in increasing need for businesses, houses, health, retail and leisure outlets, transport and other supporting infrastructure, all of which can lead to adverse impacts on the environment. With growth comes a responsibility to balance competing demands and mitigate the negative impacts of that growth as far as is reasonably possible.

We know, and fully support, that residents are calling for action. We acknowledge that this Council has a significant role to play in protecting and improving the environment for future generations.

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'). We published our first Environment Plan in June 2020, refreshed it in June 2021, and we are pleased to publish this third edition Plan for June 2022.

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

We also accept that greater rigour is needed now, and hereafter, to protect our environment and mitigate the effects of climate change. We accept that every day action is delayed it becomes more likely we will pass irreversible environmental tipping points. Human driven climate change is one of the most complex issues facing us today. It poses significant risk to our health, our economy, our environment, and endangers the wellbeing of future generations.

Pollution, in all forms, is also another global environmental concern. People of all ages, all walks of life and all social and economic backgrounds are becoming increasingly concerned they will leave or inherit an environment that is irreparably damaged, forcing others to live with the consequences of the decisions we make today.

Carbon dioxide, the greenhouse gas that has driven recent global warming, lingers in the atmosphere for hundreds of years, and the planet (especially the oceans) takes a while to respond to warming. So even if we stopped emitting all greenhouse gases today, global warming and climate change will continue to affect future generations. All Governments (national, regional and local) have a duty to limit the negative impacts of environmental change by cutting carbon emissions, protecting

¹ United Nations, Department of Economic and Social Affairs

<https://www.un.org/development/desa/en/news/population/world-population-prospects-2017.html>

biodiversity and reducing pollution. The necessity of reaching net-zero was enshrined in UK law on 27th June 2019, requiring the UK to bring all greenhouse gas emissions to net zero by 2050. More recently, Government has committed to a new interim target of a 78% cut in emissions by 2035.

Human activity contributes significantly to the increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. The International Panel on Climate Change (IPCC) estimates that human activity has already caused 1°C warming above pre-industrial levels. If temperatures increase at the current rate, warming is likely to reach 1.5°C between 2030 and 2052, leading to regional scale changes to climate including dramatic increases in the frequency and intensity of flood or drought events across the world, including the UK. These risks are set to increase should warming reach 2°C, and the longer that temperatures remain high, the harder it becomes to reverse the damage.

Balancing growth and environmental protection

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.

Saying 'no' to growth is not an option. There is a pressing need for new homes and infrastructure, but we recognise the need for **sustainable growth** such as minimising the need to travel, providing sustainable transport options and reducing the carbon emissions from buildings, whilst enhancing natural assets through restoring local heritage, providing increased green spaces for people and nature and increasing tree planting to assist with shade and urban cooling.

Imperatives for Action

There are three clear imperatives for action, as outlined by the Global Commission for Adaptation, which will directly impact our ability to serve our communities in the most effective way.

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.

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 now. The Global Commission on Adaptation has demonstrated that the overall 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 have we 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 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 Plan aims to further facilitate that process.

Our Vision (last updated - June 2021)

Our vision for 2040 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)

Interim Targets

This Council recognises the need to act fast now to reduce our net emissions as quickly as possible, and as deeply as possible, on our journey to net zero emissions.

As such, and as introduced in the second edition of this Environment Plan (June 2021 edition), the Council has already brought forward by 10 years, from 2050 to 2040, its own net zero carbon emissions target date, and has set the following interim targets:

- A 20-33% reduction in our net CO₂e emissions by year 2025/26.
- A 66-80% reduction in our net CO₂e emissions by year 2030/31.
- A near 100% reduction in our net CO₂ emissions by year 2034/35.
- A truly net zero carbon emission organisation by 2040, with no fossil fuel consumption.

For further information on how these interim targets have been established, and the assumptions and definitions used, please see section 3.

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 will describe 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.

Our Overarching Environment Policy

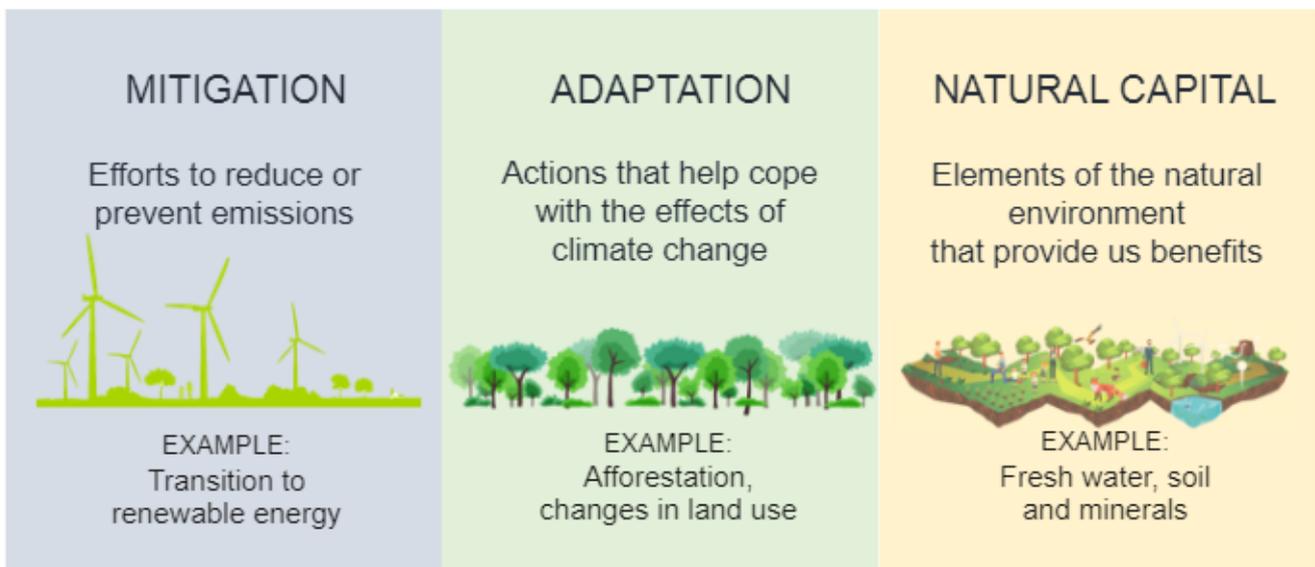
In March 2022, the Council adopted an overarching 'Environment Policy', which is a single, simple overarching statement from which all our activities, such as this Environment Plan, will stem from. A copy can be found Appendix 4.

Identifying the Key themes to build our Environment Plan

In preparing its own strategy, Cambridgeshire County Council identified, in 2020, three key themes covering technical, organisational and engagement aspects to provide the context and how we work with partners and our community. It continues to use such themes in its 2022 strategy update. East Cambridgeshire District Council endorses these themes and, to assist with coordination of activities with the County Council, will use the same themes in this Plan.

They are:

- 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;
- Enhancing and conserving natural capital such as wildlife, plants, air, water and soils.



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

What is mitigation?

Mitigation of carbon emissions addresses the causes of climate change. 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.

What is adaptation?

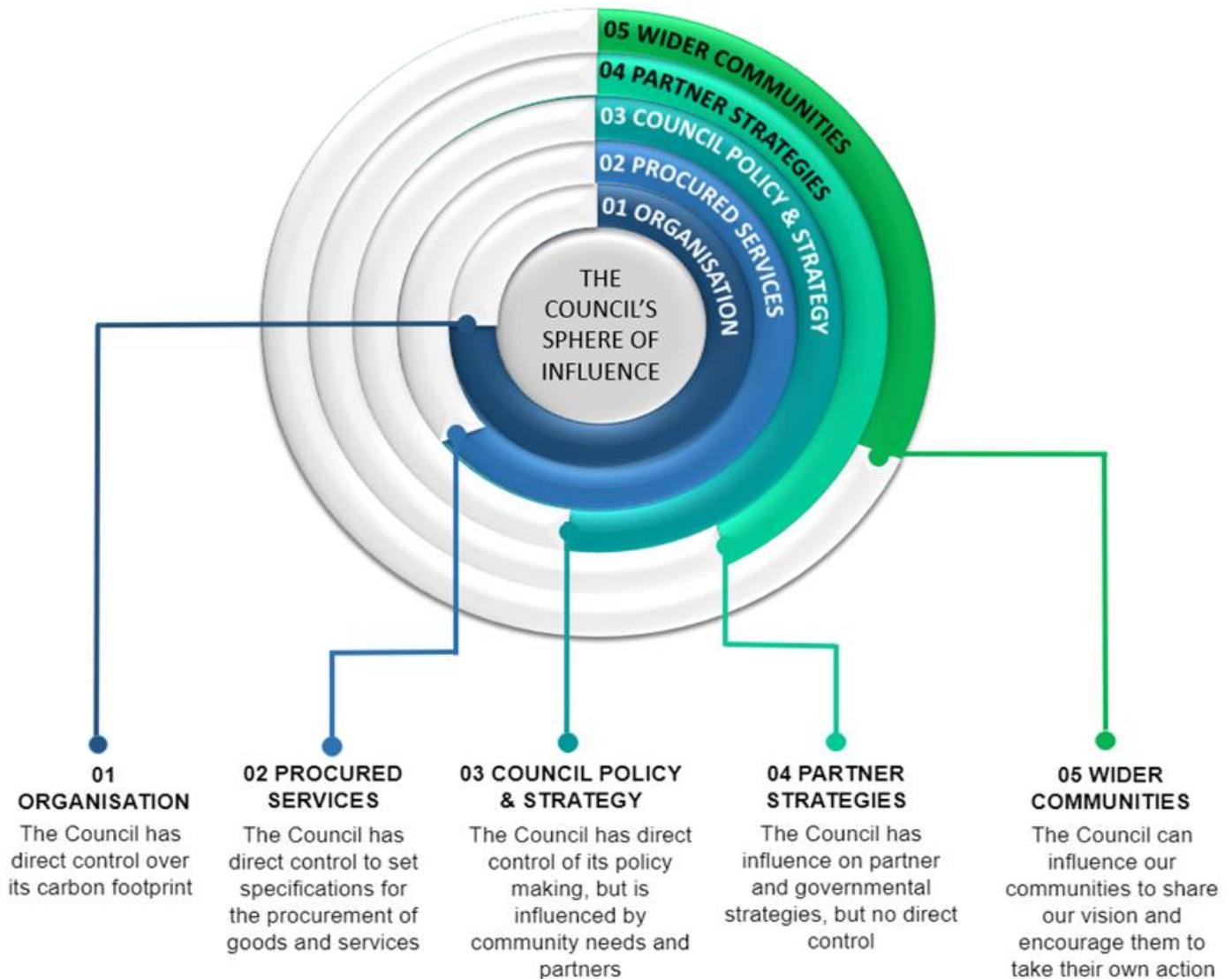
Adaptation consists of those actions that enable us to deal with the effects of climate change, such as flood risk management in response to heavier more frequent rainfall. We have commenced preparation of a separate document in relation to the adaptation actions the Council can take, though Appendix 3 has some preliminary views on how society can and will need to adapt.

What is 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.

Control and influence of the strategy

This is a Plan for the Council (rather than the district of East Cambridgeshire) and identifies how we must work with our public and private sector partners and communities across East Cambridgeshire and beyond. As part of its strategy, the Council recognises what is under its direct control and wider influence. The diagram below was developed by the County Council, but is equally applicable to East Cambridgeshire District Council:



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 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 Recommendations report in October 2021, the Cambridgeshire Peterborough Combined Authority (CPCA) adopted a 'Climate Action Plan 2022-2025'² 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 Strategy³, 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.

Natural Cambridgeshire's 'Doubling Nature' programme

Natural Cambridgeshire, a charity based Local Nature Partnership for Cambridgeshire and Peterborough, is another key strategy for the local area, including East Cambridgeshire. Natural Cambridgeshire's overarching ambition is to '*work together to create a quality natural environment where people and wildlife flourish*'⁴. 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.

² See [Document.ashx \(cmis.uk.com\)](https://document.ashx(cmis.uk.com))

³ See [Climate Change and Environment Strategy - Cambridgeshire County Council](#)

⁴ See [Natural Cambridgeshire - Putting nature at the heart](#)

2 Mitigating Climate Change

Introduction

Mitigation can mean using new technologies and renewable energy, making older equipment more energy efficient, reducing consumption and waste, or changing management practices or consumer behaviour, to reduce or prevent emission of greenhouse gases and limit the magnitude or rate of long-term global warming due to human emissions of greenhouse gases.

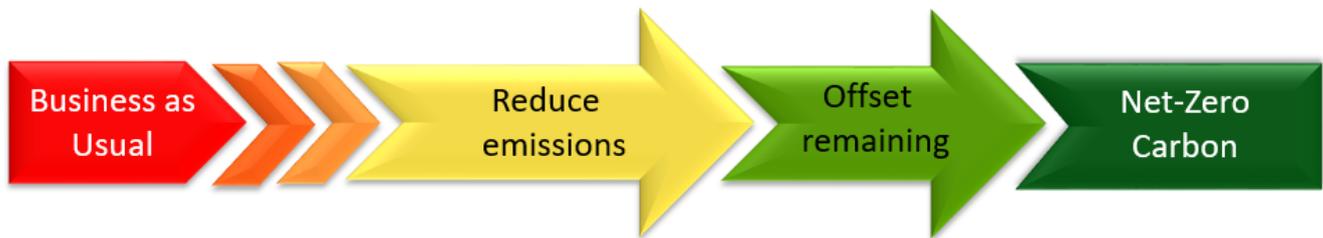
It is important to understand that the sooner mitigation of carbon emissions occurs, the greater the overall reduction of carbon emissions generated by 2040. For example, if you reduce 20 tonnes of CO₂ in 2022, this produces a cumulative impact of 400 tonnes reduction by 2040.

'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.

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



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

Carbon Footprints

Before an individual, organisation or nation decides what it should do differently to reduce its emissions, it needs to properly understand what its 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 (GHGs)⁵ emitted into the atmosphere from sources in a specified area or by an organisation. 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)⁶.

⁵ 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 (BEIS, 2019a). The greenhouse gases covered by the Kyoto Protocol account for over 99% of global greenhouse gas emissions.

⁶ 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)

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)⁷. 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.

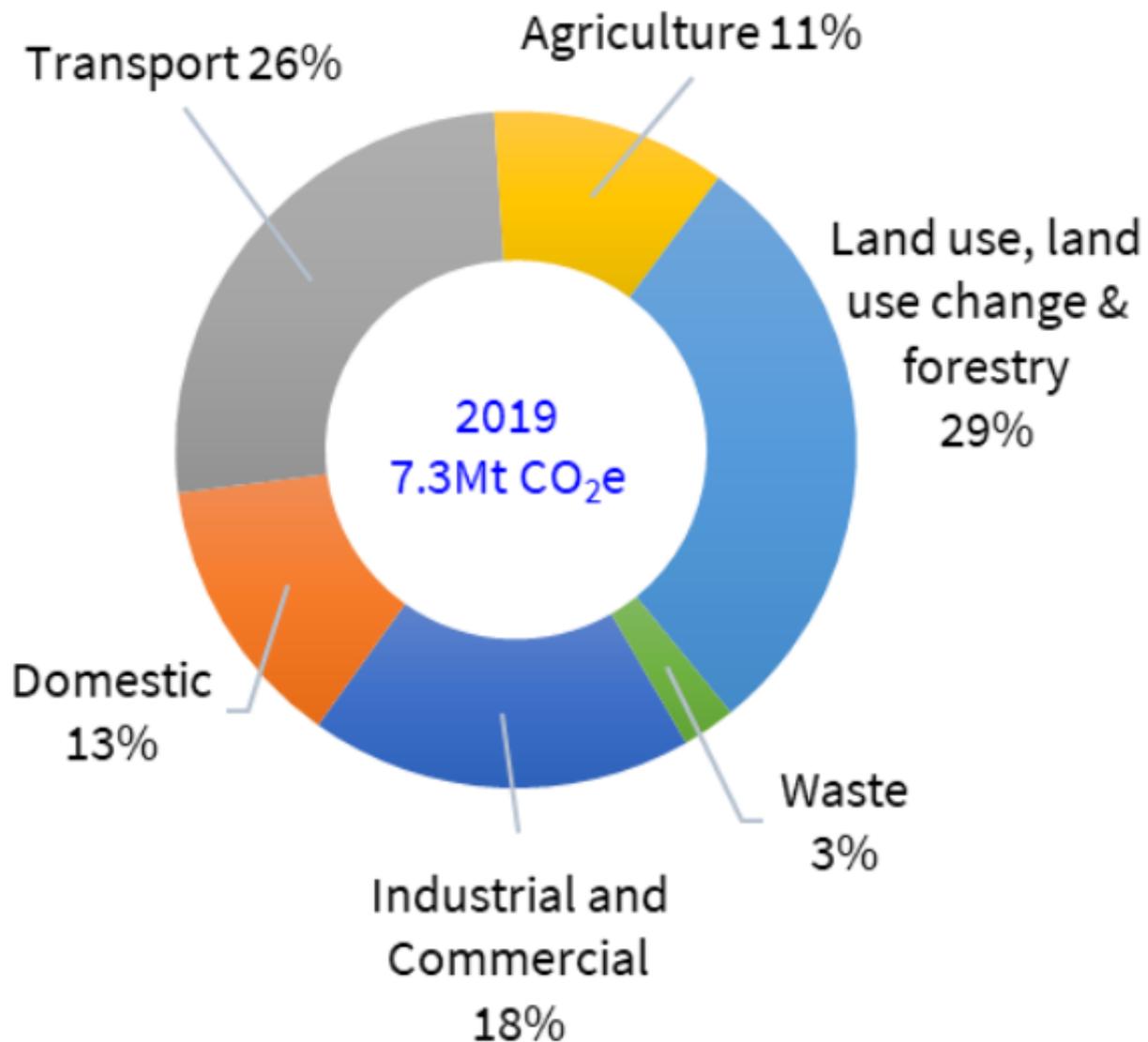
Whilst not an exact science, you can also have a go at calculating your own (or your family's) carbon footprint using an online tool such as <https://footprint.wwf.org.uk/>. Calculating a carbon footprint can provide a useful indicator of how much impact you or a business is having, and pointers to where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

⁷ Global warming potential. 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.

Cambridgeshire's Carbon Footprint

Recent government data sets show the carbon footprint for Cambridgeshire as a region was around 7.3million tonnes CO₂e in 2019 (out of 454.8MtCO₂e for the UK as a whole).

The following diagram splits Cambridgeshire's emissions down into various main sectors:



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

Cambridgeshire's largest sources of emissions therefore came from land use, land use change & forestry (LULUCF) (29%). Most of the emissions from LULUCF come from agriculture and peatlands. While the national data is uncertain, our generally poor condition peat means Cambridgeshire could be contributing up to 26% of peatland emissions nationally.

Our emissions in Cambridgeshire are considerably higher than the national average on a per capita and per km² basis, with particularly high emissions (compared to national averages) in the Transport and LULUCF sectors.

East Cambridgeshire's Carbon Footprint

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 Government Department for Business, Energy and Industrial Strategy (BEIS) annually publishes detailed local authority level CO₂ emissions data. Unfortunately, this does not provide data on the other recognised Kyoto Protocol GHGs emissions, collectively known as CO₂e emissions. As such, this data 'misses' 19% of all GHGs. Nevertheless, it provides a useful baseline.

The data is published with a 2 year lag (year x-2), and therefore 2019 (published in the second half of 2021) is the most recent data available, and is set out below.

Please note that, for the 2019 data (released in 2021), BEIS made significant changes to the way it calculates emissions, especially in relation to land use and industry and commercial. As such, the following information is not comparable to the graphs used in the previous 2020 and 2021 East Cambridgeshire Environment Plan, because BEIS has 'backdated' its calculations to 2005.

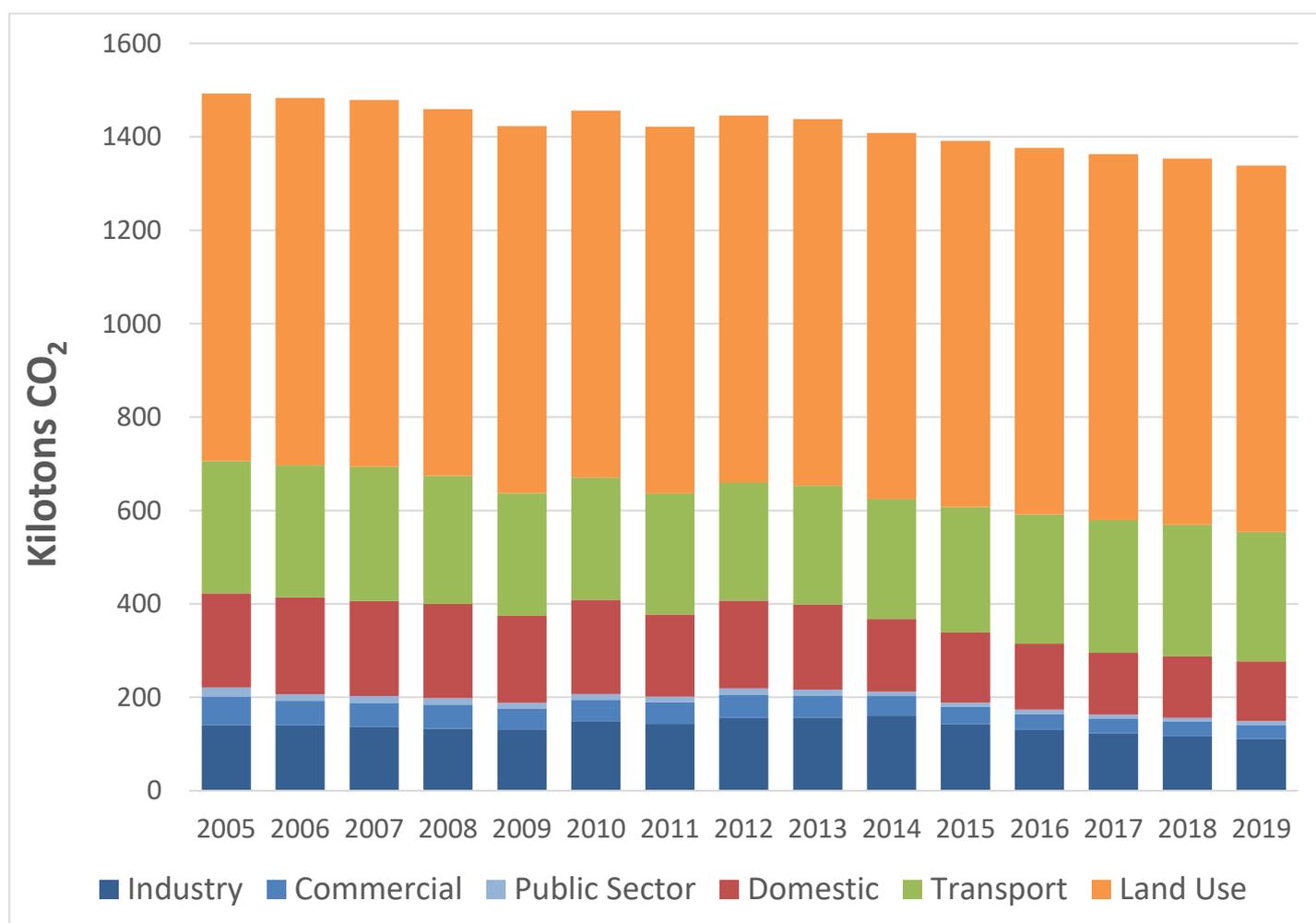


Figure: East Cambridgeshire's CO₂ emissions by end-user sector, 2005 – 2019 (BEIS, 2021)

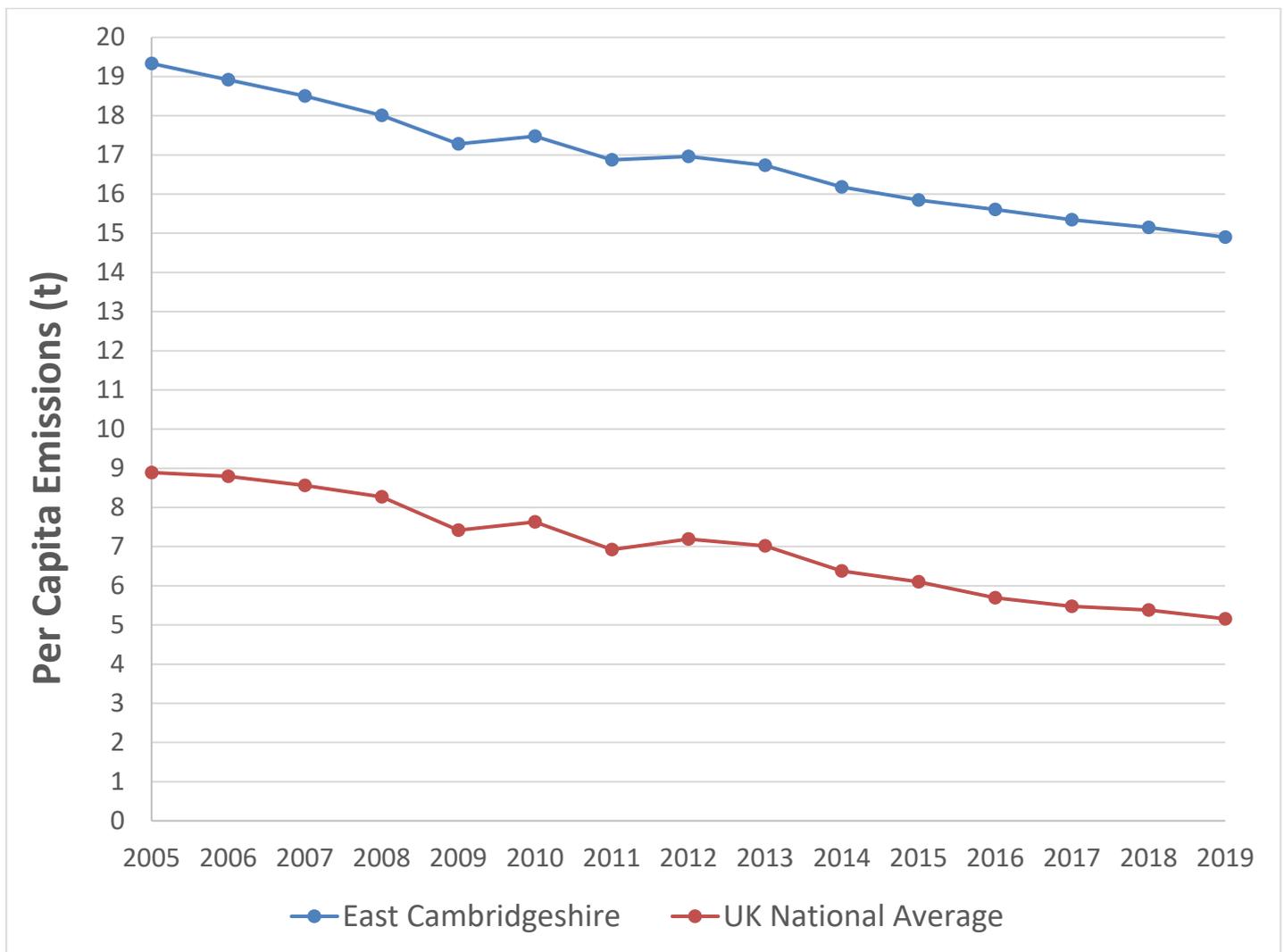


Figure: Per capita emissions for East Cambridgeshire and UK National Average, 2005 – 2019 (BEIS 2021)

From the two charts above, two key points arise.

First, is the huge difference, per capita, of emissions in East Cambridgeshire compared with the UK average. What it is identifying is that, in East Cambridgeshire, we emit **nearly three times** as much CO₂ per person (14.90tCO₂ in 2019) compared with the average across the UK (5.16tCO₂ in 2019). The primary reasons for this are as follows:

- More than half of our emissions are due to Land Use i.e. emissions from agriculture and peatlands. Compared with much of the UK, we have a lot of agricultural land in East Cambridgeshire and a relatively low population. Therefore, when all those emissions from agricultural activities are shared between each person who lives in East Cambridgeshire, it means each person has the equivalent of a very high CO₂ emission.
- But it is not just Land Use (i.e. our high agriculture / rural nature) 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 (eg to Cambridge).

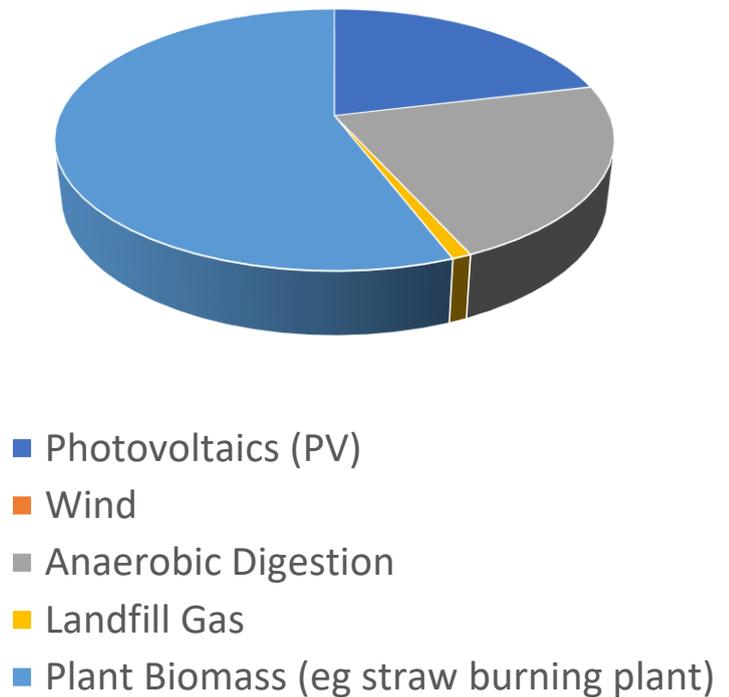
Second, and more positive, is the evident trend in East Cambridgeshire (and nationally): CO₂ emissions are slowly and steadily declining over the last 15 years, due mainly to the decarbonisation⁸ of the electricity grid, albeit the gap between East Cambridgeshire and the UK average remains very similar.

Renewable Energy Generation

But it is not all bad news in East Cambridgeshire. Whilst our per capita emissions are one of the highest in the UK, on the flip side (and not reflected in the above statistics) we are also a high per capita producer of renewable energy.

According to the latest BEIS data⁹ of September 2021, **East Cambridgeshire** generated 449,691 MWh of renewable electricity in 2020, a record year, and broken down as follows:

Type of Renewable Energy	MWh generated in 2020
Photovoltaics (PV)	95,213
Wind	307
Anaerobic Digestion	99,054
Landfill Gas	4,280
Plant Biomass (eg straw burning plant)	250,837
All other possible sources (eg hydro, tidal)	0
Total	449,691



On a per household basis, the same BEIS data estimates that East Cambridgeshire has 35,183 households, which means an average of 12.78MWh of renewable electricity was produced per household in East Cambridgeshire in 2020. 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, schools and other public buildings, but nevertheless demonstrates that the district is a significant generator of renewable energy.

It is worth comparing generation of renewable energy in East Cambridgeshire with the rest of Cambridgeshire and Peterborough, as the table below shows. This identifies that East Cambridgeshire generates more renewable energy than any other Cambridgeshire or Peterborough

⁸ 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.

⁹ See [Regional Renewable Statistics - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/regional-renewable-statistics)

district, on a total MWh basis, and on a per household basis, and over 60% more renewable energy than the next best (Fenland), and twice as much as South Cambridgeshire or Huntingdonshire. Unsurprisingly, Cambridge City scores least favourable, producing less than 3% renewable energy per household compared with East Cambridgeshire, reflecting its very limited geographical area to install renewable energy infrastructure.

District	Photovoltaics (PV)	Wind	Anaerobic Digestion	Landfill Gas	Plant Biomass	All other possible sources	Total MWh	Households in district	MWh per household in the district
East Cambridgeshire	95,213	307	99,054	4,280	250,837	0	449,691	35,183	12.78
Fenland	34,887	266,121	27,179	1,488	0	0	329,675	42,077	7.84
South Cambridgeshire	283,943	86,386	1,374	28,081	0	0	399,784	60,330	6.63
Huntingdonshire	88,768	198,122	1,821	19,641	15,143	154	323,650	69,948	4.63
Peterborough	32,346	109,158	0	20,190	0	0	161,693	76,131	2.12
Cambridge City	8,102	0	0	0	0	6,011	14,113	47,778	0.30

Overall, East Cambridgeshire comes in 22nd (out of 407) local authorities in the UK, in terms of renewable energy produced per household in the district (after assuming off-shore wind is not allocated to its nearest local authority), with around half of the 21 districts ahead of us being in Scotland (large rural areas with large on-shore wind).

What the two sets of data tell us is that East Cambridgeshire has a very high emissions rate, on a per capita basis, but equally a very high rate of generation of renewable energy on a per capita basis. In seeking to reach the overall goal of 'net zero' across East Cambridgeshire, it is therefore important to not only tackle what do we emit (and try to reduce it), but also consider what renewable energy we generate (and how could we, in appropriate places, increase it). And the same principle should apply to individual businesses and organisations, local communities and right down to each individual.

East Cambridgeshire District Council's Carbon Footprint

Defining the Scope

The previous section, looking at Cambridgeshire-Peterborough as a whole, and East Cambridgeshire as a whole, used data collected and published by other parties. However, 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).

Emissions-releasing activities are classified into three groups known as scopes. Scope 1 and 2 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 to net-zero is far more challenging.

These scopes, and their relevant associated activities, are defined in the GHG Protocol Corporate Standard as follows:

Scope	Definition / Activity
1 (Direct)	<i>Emissions from sources that are owned or controlled by the organisation</i>
Fuels	Fuel sources combusted at a site or in an asset owned or controlled by the organisation.
Refrigerants	Refrigerants that leak from air-conditioning equipment.
Passenger vehicles	Travel in cars and on motorcycles owned or controlled by the organisation.
Delivery vehicles	Travel in vans and heavy goods vehicles that are owned or controlled by the organisation.
2 (Indirect)	<i>Emissions that are a consequence of the organisation's operations, but occur from sources owned or controlled by another company</i>
Electricity (grid)	Electricity used by an organisation at sites owned or controlled by them.
3 (Other Indirect)	<i>Emissions that are a consequence of the organisation's operations, which occur at sources which they do not own or control</i>
Business travel	Travel for business purposes in assets not owned or directly operated by the organisation.
Hotel stays	Overnight hotel stays for work purposes.
Material use	Process emissions from purchased materials.
Waste disposal	Emissions from end-of-life disposal of different materials using a variety of different disposal methods.
Water supply	Emissions from water delivered through the mains supply network.

Water treatment	Emissions from water returned to the sewage system through mains drains.
Transmission & Distribution	Emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organisations that purchase it).
Well-to-Tank (WTT)	Upstream emissions of extraction, refining and transportation of a primary fuel source prior to its point of combustion.

Table: GHG Emission scopes and associated emission releasing activities (BEIS,2020)

In order to produce our organisational carbon footprint it is essential to accurately establish the scope of the operations on which our organisation will report. This process is known as defining the 'organisational boundary'.

The organisational boundary means establishing what 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.

We have 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	<ul style="list-style-type: none"> Gas used in Council Offices e.g. The Grange Gas used in buildings operated by the Council e.g. E-Space North
	Mobile	Transportation of raw materials/waste	<ul style="list-style-type: none"> Travel in cars, vans and heavy goods vehicles operated by the Council
	Fugitive	Hydrofluorocarbons (HFC) emissions during use of refrigeration and air-conditioning equipment	<ul style="list-style-type: none"> Air conditioning used in Council Offices e.g. The Grange
2	Stationary	Consumption of purchased electricity, heat or steam	<ul style="list-style-type: none"> Electricity used in Council Offices e.g. The Grange, Portley Hill Depot Electricity used in 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	Excluded (see below)
	Mobile	Transportation of raw materials/ products/ waste, employee business travel, employee commuting	<ul style="list-style-type: none"> Staff business travel and accommodation Employee commuting – Excluded (see below) 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

Table: Identified Council related emissions in relation to typical GHG emissions for service sector / office based organisations (WRI/WBCSD, 2004)

Excluded Emissions

In addition to those sources detailed above, there are other areas which give rise to emissions that the Council feels should be included but for which, at this time, insufficient detail is held to enable them to be included. These all fall within the category of 'scope 3':

Scope 3

- Waste production
- Purchased materials
- Employee commuting
- Third parties

It is not unusual for such matters to be categorised as 'out of scope'. However, over time, we intend to make as many of these areas as possible 'in scope', therefore taking even greater responsibility for emissions arising, even where we don't have direct control over those emissions. 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.

Data Collection

The energy data used to calculate the baseline was 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.

Energy Type	Source	Data Quality/Estimation techniques
Gas	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.
Passenger vehicles	Staff mileage claims, fuel purchased and vehicle log books.	Annualising consumption where required
Delivery 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.
Business travel	Staff mileage claims	N/A
Hotel Stays	Staff claim forms	N/A
Refrigerants	Energy invoices	N/A
Water supply	Energy invoices from different suppliers.	Annualising consumption where required

Table: Source of data by energy type

Calculating the Baseline

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 straight forward, using what are known as 'conversion factors'. The carbon conversion factors used for this Plan are the latest UK Government published carbon conversion factors (BEIS, July 2021).

The Council will use the most up to date conversion factors 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.

Overall Summary

The carbon footprint of East Cambridgeshire District Council (as an organisation) comprises emissions that occur as a result of the Council's own operations. We have calculated the carbon footprint of the Council's own operations in line with the UK Government's Environmental Reporting Guidelines for Voluntary Greenhouse Gas Reporting¹⁰.

The first Plan, of June 2020, reported the baseline upon which future years progress will be monitored. That baseline carbon footprint (using data for the financial year 1 April 2018 to 31 March 2019) resulted in a **baseline carbon footprint for the Council**, as an organisation, **for 2018/19 of 1,317 tonnes of CO₂e** (full breakdown in the June 2020 Plan).

The second Environment Plan, of June 2021, reported the carbon footprint for the Council for 2019/20 (i.e. to April 2020). It reported the Council's carbon footprint as being **(for 2019-20) 1,315 tonnes of CO₂e**.

For this third Environment Plan, of June 2022, we are reporting a carbon footprint for the Council for 2020/21 (i.e. to April 2021) as being **(for 2020-21) 1,241 tonnes of CO₂e**.

This is summarised in the table below:

Total Gross Emissions 2019-20	Tonnes of CO ₂ e
for Scope 1 (Direct)	892
for Scope 2 (Indirect)	95
for Scope 3 (Other indirect)	254
Grand Total	1,241

Table: Emissions by scope, 2020-21

Thus, overall, in headline terms, the Council's carbon footprint for 2020/21 (1,241 tCO₂e) is showing a limited decrease from the baseline year of 2018/19 (1,317 tCO₂e)

Our transport related emissions (1,012 tCO₂e) account for around four-fifths of all the Council's emissions. To put the figure into context, the average UK citizen has a total carbon footprint of less than 10 tCO₂e per annum, so it demonstrates just how high our emissions from transport are.

¹⁰ 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. (BEIS, 2019a)

Further details on the Council's 2020/21 carbon footprint are provided on the following two pages, starting with a breakdown in more detail of where the Council's emissions arise.

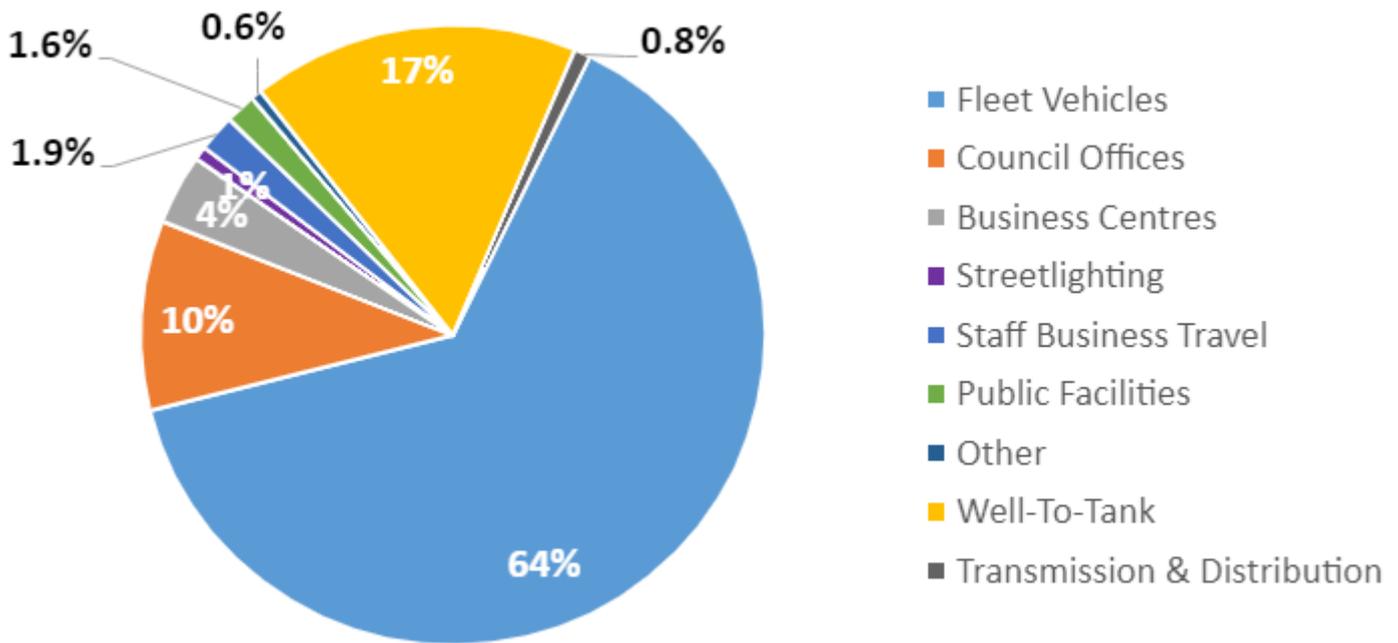


Figure: Emissions by business area, 2020-21

Understanding the Council's biggest emitters helps focus identification of projects, as set out in Section 5 of this Plan. 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; it also includes what is known as 'well to tank', that being the emissions arising from the production and distribution of fuel before it enters the vehicles). When the Council's fleet vehicles are combined with the relatively small (but still significant) staff business travel, the Council's 'transport' activities consequently result in 1,012 tonnes of CO₂e in 2020/21 (baseline = 1,049tCO₂e), which is 80% of the Council's entire volume of emissions.

Of the Council's 'fleet vehicles', the Council's waste collection vehicles consumed over 270,000 litres of diesel in 2020/21 and emitted around 860 tCO₂e (when 'well to tank' is factored in), and are therefore responsible for over two-thirds of the Council's entire emissions.

More detailed figures on all the Council's emissions are set out below (with 'well-to-tank' listed separately, rather than merged into the individual applicable rows, but generally speaking it adds approximately 25% to the direct emissions):

	Scope 1	Scope 2	Scope 3	Grand Total
Buildings & Utilities				
Electricity		87		87
Gas Consumption	82			82
Streetlighting		9		9
Water and sewerage			8	8
Transmission & Distribution			10	10
Well-To-Tank			14	14
Heating Oil	18			18
[Buildings & Utilities Total]				[251]
Transport				
Business travel			24	24
Fleet Vehicles	792			792
Well-To-Tank			196	196
[Transport Total]				[1,012]
Waste				
Waste			1	1
Grand Total	892	95	254	1,241

Figure: Breakdown of emissions by scope and type, tonnes of CO2e

3. Carbon Emissions Overall Target and Interim Targets

Introduction

When declaring a climate emergency in October 2019, the Council agreed that it “*will explore and consider...measures required and feasibility of reaching net zero carbon emissions by the Council by 2050*”. The relevance of 2050 is important: it is the same year legally committed to by UK government, whereby UK greenhouse gas emissions by 2050 should be net zero emissions¹¹.

However, even since October 2019, the urgency to reach net zero as soon as possible is ever increasing, and the importance of deep, early cuts to emissions is increasingly needed. For example, national Government itself has recently (April 2021) committed to a 78% cut by 2035, as a step towards net zero by 2050. And new analysis (October 2021)¹² shows that we have only about 6 years remaining under ‘business as usual’ before Cambridgeshire, as a collective, will have exhausted all of our ‘allowed’ share of emissions to 2050. We can’t, therefore, wait until 2050 to act. We have to act now.

As such, in June 2021 the Council agreed to bring forward to 2040 (from 2050) the date for the Council’s operations to become truly net zero, with an effectively net zero level achieved by 2034/35. The Council also agreed a series of interim targets towards net zero.

Determining those targets required an analysis of what is causing our emissions. The previous section highlighted that the Council’s Fleet Vehicles (of which, waste collection vehicles are the primary source) are far and away the leading cause of the Council’s emissions: around 80%.

To get to net zero emissions, then obviously each of the contributors needs to reduce its fossil fuel consumption to zero (or close to zero) and do so by relying more on renewable sources of energy.

One option, especially in the interim stages towards net zero, is to produce more renewable energy than it consumes, to offset any remaining fossil fuel or other combustion fuel usage. However, this is not technically allowable under the true definition of ‘net zero carbon’ because it still involves the use of fossil fuels which are not offset by carbon capture. But, an argument can be made to use this as a basis for interim targets during the period when the national grid is still reliant on fossil fuels, because the renewable energy generated and exported to the grid should result in an equivalent reduction in fossil fuels needed to be consumed by the grid (though this assumption will gradually become less reliable, as the grid on some days of the year (sunny and windy days) could be entirely renewable energy fed in any event, meaning any additional renewable energy fed into it by the Council’s infrastructure would not be offsetting any fossil fuel use, unless such energy is stored in some way).

Overall, to get to net zero will require national measures (primarily, the 100% decarbonisation of the electricity grid, and the likely outlawing of fossil fuel direct combustion in vehicles). Ultimately, it will require society to be almost entirely run on electricity (rather than direct combustion of fossil fuels, such as gas, petrol and diesel), and that electricity created through renewable energy sources. There may also be a role for alternative fuels, such as hydrogen, with such hydrogen manufactured via renewable energy (and hence, carbon neutral).

But, this Council did not want to simply ‘wait for change to happen’ and wait for measures to be mandated on organisations such as this Council. Indeed, many would argue we have a moral duty to

¹¹ - see The Climate Change Act 2008 (2050 Target Amendment) Order 2019

¹² see Cambridgeshire & Peterborough Independent Commission on Climate, Final Report, October 2021 [FINAL CLIMATE REPORT LOW \(002\).pdf \(hubspotusercontent40.net\)](#)

make change happen, and quickly, in order for this Council to do its bit to help avert the worst of the emerging environmental crisis. As such, setting challenging organisational-targets towards net zero is a sensible and appropriate measure for all organisations, including this Council.

Establishing a set of Targets

After considering a wide range of evidence to inform its position (including Tyndall Centre evidence, IPCC recommendations, UK Climate Change Committee evidence, CPCA Climate Commission Final Report, environmental lobby group recommendations and targets set by other organisations), the Council wanted to set interim targets that were ambitious yet realistic. And, on that basis, it is a statement of fact that the biggest source of emissions by the Council is from its vehicle fleet, and of that (and by far), from its waste collection vehicles.

And therein lies a fundamental problem: reducing the emissions from our vehicle fleet is extremely challenging and not a straight forward problem to solve or plan for. First, it would require low carbon/electric waste collection vehicles to be available on the market, that can successfully undertake waste collection in a rural district such as East Cambridgeshire. Put simply, such vehicles are not presently available, or certainly not widely available. Even if they were, or soon became available, they would require considerable capital cost to purchase (running into £m's). And, to complicate things further, Government is finalising its waste strategy, which means any early purchase of new vehicles now could be incompatible with that new national strategy and requirements.

Even if these hurdles can be overcome in the next few years, it also has to be factored in that getting rid of perfectly useable vehicles 'early' (i.e. before end of life), in order to switch to a low carbon vehicle, could arguably be a counter-productive measure from an emissions point of view due to the huge embodied carbon¹³ in a new vehicle. This is because the embodied carbon in a vehicle is often greater than the carbon emissions emitted in the entire operating life of a fossil fuel consuming vehicle (it is, for example, accepted internationally that most petrol or diesel cars produced in the world consume more energy (and hence emissions of CO₂e) during the manufacturing of that car, than the car will ever emit through its entire life of petrol/diesel consuming use).

Thus, buying an electric waste collection vehicle or other low carbon vehicle may appear a good measure, and will actually reduce the Council's headline annual carbon footprint (especially if the vehicle is charged via renewable energy), but the net consequence on the environment may be worse due to the hidden carbon footprint of embodied carbon – put more simply, you could be doing wrong, when you think you are doing right. Taking the right decision, therefore, is not always a simple calculation, irrespective of the amount of money involved.

On the basis of the evidence available, therefore, it was deemed not feasible to set a significant reduction in carbon emission from our (waste collection dominated) fleet vehicles until probably around 2030, when it is hoped such low carbon / electric vehicles will be available on the market.

In the meantime, as an alternative, it was agreed in 2021 to focus on two issues in the short term: making the delivery rounds of such vehicles as efficient as possible (and hence reduce the miles travelled); and, investigate whether any lower emission fuels are available to service the existing fleet (such as biofuels). In the more medium term, put in place a target date of securing low carbon / electric fleet vehicles starting from around 2030, and ending by 2035, with any new purchase in the meantime

¹³ 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.

(to replace any vehicles which reach end of life prior to 2030), aligning to a new end of life of around 2030 to 2035.

Turning to our office and other buildings, there is greater scope to reduce their carbon footprint in the shorter term, through a combination of energy efficiency measures, behaviour change (of staff occupying and using such buildings) and through renewable energy generation. As part of that process, we should make the transition away from gas heating to electric based heating, but only when such gas heating systems reach, or are close to reaching, 'end of life', again for embodied carbon reasons. Again, targeting a 2030 date for such a transition to take place would be sensible.

However, even if we implemented all of the above by, say, 2030 or 2035, for vehicles and for buildings, the Council would not be 'net zero' because of the carbon element of electricity. For example, an electric vehicle in use today is not 'carbon neutral' if it is charged up via the grid (the grid still being powered by gas and coal to a significant degree).

Thus, to align to the 'net zero' aspirations, the Council itself would need to generate the same amount of electricity from renewable sources as it consumed, at least until the national grid was truly decarbonised. To do this, the Council would need to explore direct investment in renewable energy generation, on its own land, on a commercial scale. For example, rather than the Council focussing only on reducing its energy use, it also focusses attention on generating renewable energy in the first place. And, in doing so, determines how, for each £1 spent, the greatest net CO_{2e} savings can be achieved.

For example, once the easier and relatively inexpensive energy efficiency saving measures have been taken (on our buildings or vehicle routes), chasing further savings may cost a lot of money for very little CO_{2e} saving. A more effective measure could be to generate renewable electricity ourselves, so that overall our emissions are reducing towards net zero on an interim basis. That investment would, of course, also deliver an annual financial return from the selling of any excess generated electricity.

Bringing all of the above together, the following **ambitious targets** were agreed in June 2021, and are reconfirmed in this June 2022 updated Environment Plan:

- **A 20-33% reduction in our net CO_{2e} emissions by year 2025/26 (compared with a 2018/19 baseline).** That will be achieved via: reduced energy use in our buildings; a lower carbon conversion factor for the energy we do use, due to the broader national decarbonisation of the electricity grid; maximising the efficiency and performance of our existing fleet vehicles; investment in our own renewable energy infrastructure; and minimising the use of business miles of our staff. By 2020/21, we appear to have achieved around a 5% cut so far (though year-on-year figures can fluctuate).
- **A 66-80% reduction in our net CO_{2e} emissions by year 2030/31.** That will be achieved via further investment in our own renewable energy infrastructure; some investment in electric based fleet vehicles; and (potentially) moving off the gas grid to heat our buildings.
- **A 100% net reduction (i.e. near or at net zero position) in our CO_{2e} emissions by year 2034/35.** That will be achieved by moving to a vast majority, if not entirely, electric based vehicle fleet; zero gas use in our buildings; and further investment in renewable energy infrastructure.

(Note: This '100% net reduction' target will not mean a truly 'net zero carbon' organisation at this stage, because greenhouse gas reporting accounting rules dictate that if an organisation sources any electricity from the national grid, and the national grid is not yet fully decarbonised, then that organisation still causes emissions. Put another way, an organisation cannot 'net off' any renewable energy it generates, unless such energy is directly consumed by the organisation (i.e. it would have to have no grid consumption to be truly net zero carbon).

However, from a headline perspective, we believe it is reasonable to claim a ‘100% net reduction in our emissions’ if, on a net basis, we use no fossil fuels directly (petrol, gas, diesel) and produce at least as much renewable electricity as electricity we consume; or, if we still have some limited direct fossil fuel use at this stage, we produce more renewable electricity than (a) the electricity we consume and (b) enough renewable energy to offset the remaining fossil fuel use.)

- **A truly ‘net zero carbon’ organisation (and potentially negative carbon emission organisation) by 2040.** To achieve this will almost certainly require the national grid to be 100% decarbonised, and the organisation will use no fossil fuels for any of its operations. To be a negative carbon emission organisation, the organisation will generate more electricity than it consumes and, if technology exists, the excess electricity generated would be used to extract CO₂e from the atmosphere (‘carbon capture’), making the organisation a negative contributor to CO₂e levels in the atmosphere.

There are, of course, 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 results 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 interim targets of 2025/26, 2030/31 and 2034/35 are all on the basis that we calculate our net emissions by offsetting our fossil fuel use with renewable energy generated (accepting that this method is not truly in line with the definition of how ‘net zero carbon’ should be calculated). The 2040 target is, however, in line with the true definition of net zero, because it involves no fossil fuel 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

Market-based and Location-based Reporting

As set out earlier, the Council emits around 95 tonnes CO₂e from ‘scope 2’ activities, which in simple terms is emission arising from the electricity the Council uses. **We are reporting these 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 latest 2019 'Environmental Reporting Guidelines'¹⁴) 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 entirely on a 100% renewable energy contract basis (following action the Council took in 2020 to change our suppliers), and therefore under the market-based method, our scope 2 emissions would be reduced from 95 tonnes CO₂e to **zero tonnes CO₂e**. This would reduce our total emission (i.e. our carbon footprint) by around 8%.

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 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 electricity use at all, because it would already be set at 0 tonnes CO₂e.

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.

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 has not claimed any carbon footprint credit for doing so. Instead, it prefers, in line with Government guidance, to headline its reporting of emissions using the location-based reporting method. However, it gives the above commentary on the effect of our emissions under the market-based method. By doing so, the Council believes it is providing its emissions data in the most transparent and accurate way possible.

¹⁴ See [Environmental reporting guidelines: including Streamlined Energy and Carbon Reporting requirements - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/environmental-reporting-guidelines-including-streamlined-energy-and-carbon-reporting-requirements)

4. Biodiversity and the Natural Environment

Introduction

Our 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. This is referred to as the 'regulating' services or benefits we get from nature. We also, of course, derive huge cultural, mental health and wellbeing benefits from the natural environment all around us.

Put another way, damaging our natural environment, especially if beyond recovery and repair, will mean a diminished quality of life for us all and for future generations.

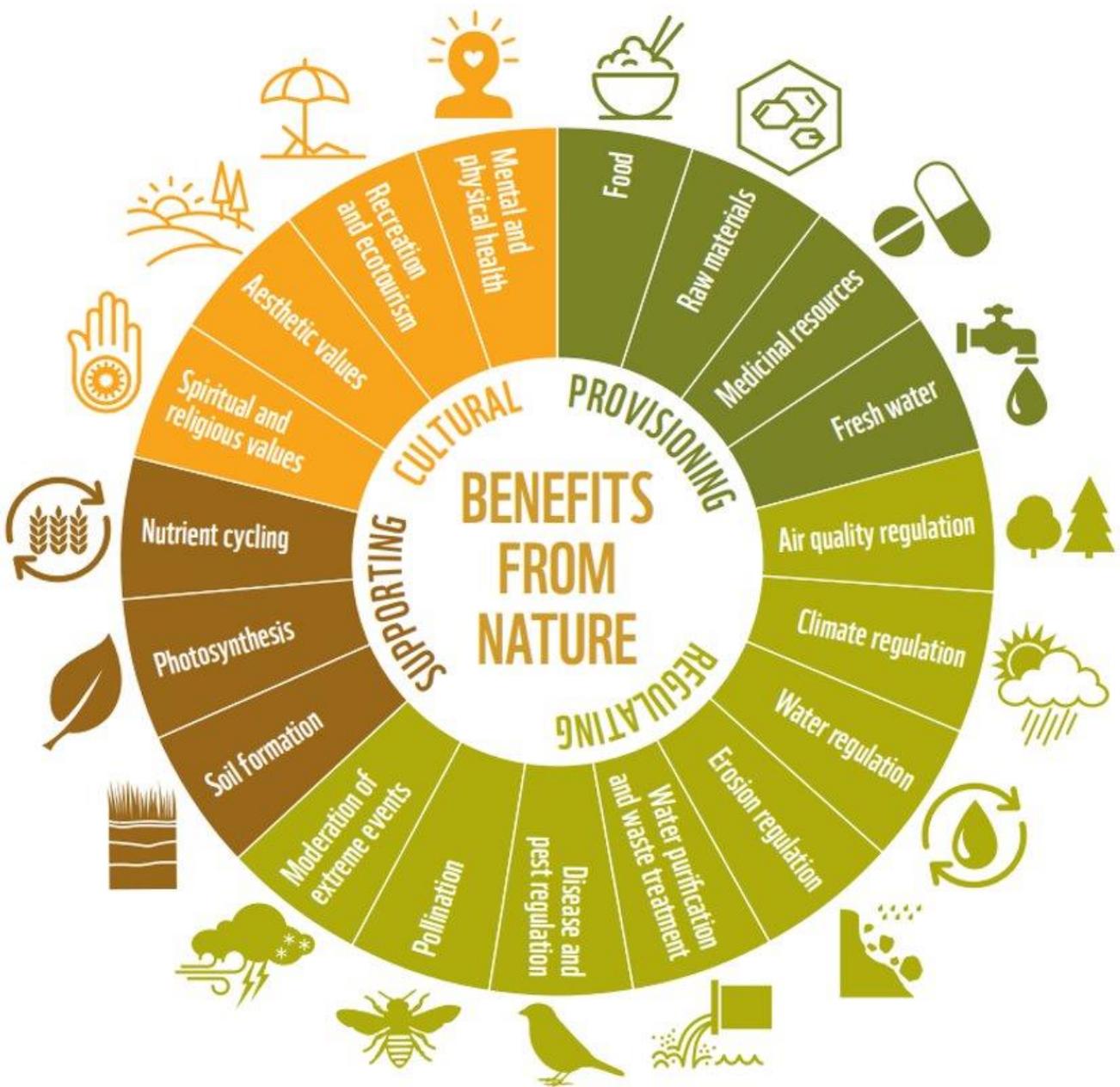


Figure: Benefits from nature, adapted from Millennium Ecosystem Assessment, 2005

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

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.

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

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

East Cambridgeshire is home to a number of nationally and internationally important wildlife sites. It has a number of Sites of Scientific Interest (SSSI) including Devil's Dyke. It also hosts three internationally important Ramsar sites (the Nene Washes, Great Ouse Washes and Chippenham Fen), as well as a number of internationally important Special Areas of Conservation (SACs) including part of Fenland SAC. Through our partnerships we can help to maintain these valuable sites in positive conservation status.

We can also encourage and help facilitate new biodiverse rich sites within the district.

Planning Policy and Planning Decision Maker

As a District Council, we are responsible for preparing planning policies for the district, as well as determining the vast majority of planning applications for development in the district (a limited number are determined by other bodies, such as minerals and waste development whereby both policy and decisions on applications are taken by Cambridgeshire County Council).

Our 2015 Local Plan contains many policies to help protect and enhance the natural environment, but over 2020 we recognised we could go further. Following public consultation, we therefore adopted a new Natural Environment Supplementary Planning Document (SPD), which sets out much more detailed requirements for development proposals to follow. Examples of the sorts of things we can achieve through making decisions on planning applications are:

- Preventing harm to any designated nature site;
- Requiring a 'net gain' in biodiversity via development i.e. the quantity and/or quality of biodiversity must be better for a particular site after development has happened, than it was before; and
- Helping improve water quality.

Parish Councils can also set their own natural environment planning policies for their local parish, via a 'Neighbourhood Plan', and we encourage them to do so and offer support throughout the process.

Reducing plastic pollution

The Council buys services and goods to deliver its statutory responsibilities. It will look to improve its procurements and work with its supply chain to find better, more sustainable options to replace single use plastics.

Priority areas for natural capital through collaboration with partners and our communities

Peatland: In its natural (damp) state, peatland acts as a 'carbon sink', sucking carbon dioxide out of the atmosphere and 'locking' it in the ground. Wicken Fen is a good example of such wet peatland. However, the vast majority of our peatland is not in its natural state due to intensive farming (and consequent drying of the peat, which releases large volumes of carbon dioxide into the atmosphere). Large parts of East Cambridgeshire are, of course, peat-based fenland, especially the northern half of the district.

To exacerbate matters, fen peatlands are among the UK's most diverse habitats for wildlife, but the vast majority have been lost to drainage and agricultural practices, with just small pockets like Wicken Fen remaining. These habitats rely on a delicate balance of water volume and quality to maintain their diverse range for flora and fauna, and what remains of them are often internationally recognised for their importance.

But there is some good news emerging on peatland. Already there are projects such as Wicken Fen Vision (the National Trust) and, in Huntingdonshire, the Greater Fen Project (Wildlife Trust) working to conserve and re-wet small additional areas of our peatlands, as well as work with farmers in those areas to produce crops in a less damaging, but still profitable, way.

The NFU, for example, are fully behind such initiatives, not only for the sake of the natural environment, but to protect the assets the farmers own: if we continue to dry out our peatland, the rich peat soil literally disappears into the atmosphere (we lose 1-2cms of peat per year), to the point that in 50-100 years it is predicted that most of the fenland peat soil will have gone, leaving poorer quality soils (eg clay) behind.

East Cambridgeshire District Council fully supports the County Council bringing this issue to greater prominence, and welcomes its proposals to manage its own land in a different way. Whilst our ability to influence how peatlands are managed is limited, we will support all efforts to raise awareness and change land management practices, where we can, for the benefit of wildlife and for the benefit of our climate.

Green Spaces and '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.

5. Actions and Projects

To boost our natural environment and to achieve our carbon emission targets as set out in section 3, will be a momentous 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 of this report provides a breakdown of actions that the Council will seek to take forward over **June 2022 to June 2023**, as well as a review of the actions we committed to in June 2021.

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 (whilst of less importance than other principles, by undertaking highly visual or engaging actions we could stimulate others to also act themselves).

Review of our Top 20 Actions for 2020/21

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 2021, for the period June 2021 to June 2022. 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 2021)	Our Progress (by June 2022)
1. Develop (including in partnership with East Cambridgeshire Street Scene (ECSS)) a programme of engagement activities with schools , helping to educate young people of the importance of climate change and the natural environment, and what they can do to help	<i>Following discussions with some schools and investigating options, the Council opted to work closely with Peterborough Environment City Trust (PECT) to launch an eco-school programme from Feb 2022. This is the first district-wide programme run in the country. Seven schools (as at May 2022) have signed up to the programme, from across the district, and each will get a free subscription to the accreditation programme, paid for by ECDC. Signed up schools will commence activities with their pupils from Sept 2022, linked to the curriculum. It is hoped more schools will be encouraged to join, once the initial batch has rolled out.</i> <i>(note: ECDC has committed to the setting up of this programme, and paying initial subscription fees. Future annual subscriptions will be the responsibility of the school, though there is no commitment beyond the initial period if schools decide not to continue with the accreditation).</i>

<p>2. Actively participate, and encourage others to participate, in the 'Queen's Green Canopy' initiative, which is a programme of tree planting in winter 2021 and winter 2022.</p>	<p><i>Officers have worked closely with Cambridgeshire County Council and the Cambridgeshire Lord Lieutenant to help promote the Queen's Green Canopy initiative across the area. The Council has also actively taken part by planting trees itself and handing out free fruit trees (see action 4, below). A map of trees planted in East Cambridgeshire and logged under the initiative can be found on the website: The Queen's Green Canopy (queensgreencanopy.org)</i></p>
<p>3. Create a new Queen Elizabeth Jubilee Tree Maze, via: running a competition with children to design the maze; plant out in a suitable location the winning maze design, using a native tree/hedging species (eg hornbeam); educate the benefits of the maze (biodiversity / carbon locking / active lifestyles).</p>	<p><i>This has been a highly successful action over the past 12 months, starting with a successful competition (including being invited into schools to give a presentation and explain why we wanted to plant a maze) with entries received from across the district, from budding artists aged 4 to 14. Nearly 5,000 trees were then planted out in Ely Country Park over the winter, to fit the winning designs, creating both a main maze as well as a more toddler friendly smaller version. The two mazes were officially opened during the Jubilee week celebrations at the end of May 2022. Over the next few years, we look forward to the trees maturing into a full height maze, with considerable potential for engagement and education events, as well as lots of fun!</i></p>
<p>4. Establish an East Cambridgeshire Create an Orchard Programme and target the creation of at least 26 Orchards (East Cambs COP26), 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).</p>	<p><i>This initiative was 'oversubscribed' such was the demand for the fruit trees in the first winter of the programme, helping create 20 new orchards already. The new orchards, all of which are publicly accessible or linked to a school, are spread right across the district, from Bottisham to Littleport, and from Mepal to Soham. Full details of the orchard locations can be found on our website at Community Orchards (www.eastcambs.gov.uk/climate-change/community-orchards-district).</i></p>
<p>5. Implement new grass cutting and wildflower management arrangements in suitable locations, to help support greater biodiversity</p>	<p><i>This is an ongoing initiative, and we are aiming to write up a log of where we have implemented the new arrangements and publish it on our website.</i></p>
<p>6. Develop a preliminary 'nature recovery strategy' for East Cambridgeshire, to feed</p>	<p><i>This year long piece of work (a full year is needed, in order to undertake survey work in the different seasons) is to conclude this summer</i></p>

<p>into Cambridgeshire wide nature recovery actions and frameworks</p>	<p><i>(2022). The work, undertaken with the support of the local Wildlife Trust, will help identify the priority areas for biodiversity and landscape enhancements in East Cambridgeshire, which in turn will help the Council progress its new duties under the Environment Act 2021, such as Biodiversity Net Gain. By identifying the priority areas, for the first time East Cambridgeshire will be establishing a long-term vision of where and how we can bring about a 'nature recovery' in the district, for the benefit of people and for nature.</i></p>
<p>7. Undertake a series of energy efficiency improvements on The Grange (such as window replacement, loft insulation and LED lighting). In addition, commence a programme of 'behavioural change' activities for staff, so as to encourage efficient use of energy with The Grange. Combined, this action should reduce energy use within The Grange.</p>	<p><i>The programme of energy efficiency work has completed, including new LED lighting installed (at around 75% improved efficiency compared with previous lighting) and a large number of 'secondary glazing' added to improve the energy efficiency of the building.</i></p> <p><i>Separately, the Council has recently signed up to a national 'Investors in the Environment' (iE) accreditation programme. The programme helps coordinate a wide range of staff actions to reduce resource use in the Council. We are aiming to achieve 'bronze' status during 2022, the first council in Cambridgeshire to do so, and progress through 'silver' and 'green' levels over the coming years.</i></p>
<p>8. Before the end of 2021, report findings of a preliminary investigation into whether ECDC could operate its own renewable energy infrastructure, such as solar panels (PV) over one of its car parks. If feasible, progress implementation, with the target in future years of generating enough renewable energy to match the energy used by ECDC in its buildings, street lights and storage depots</p>	<p><i>Following investigations in Autumn 2021, it was agreed by the Council (Operational Services Committee, Nov 2021) that the Council progresses the option of installing PV solar panels on its E Space North, Littleport, building. The roof space was deemed the more effective council owned place in the district to generate electricity, with a good match between energy generated and energy demanded by the building, and had low embodied carbon implications (unlike the car park option, which required additional steel supports, of a high carbon content as well as additional cost).</i></p> <p><i>We recently have sought suppliers to install the panels, and hope to have the panels installed over 2022 (subject to supplier availability, which is challenging due to the high demand for installations nationally).</i></p>
<p>9. Help improve the energy efficiency of existing housing stock in the district, in particular through: (a) direct delivery of over</p>	<p><i>The delivery of the LAD1b funding scheme has been very challenging nationally, acknowledged</i></p>

£1m in home energy efficiency improvements to at least 100 homes in the district, comprising of Sanctuary Properties (40 properties), low income private homes (10 properties) and park homes (50 properties) (*Note: these improvements are a partnership between ECDC, Sanctuary Properties and the Cambridgeshire Action on Energy Partnership*); (b) the recruitment of a new ECDC part time Home Energy Advisor to offer advice and support to all residents on home energy and fuel poverty issues; and (c) undertaking further research, including with Sanctuary Properties, to gain a deeper understanding of the scale of need and opportunities available to make further future energy efficiency improvements to existing homes in the district.

by Government (BEIS) who have extended the scheme closure date twice.

East Cambs DC, as part of a wider consortium of Cambridgeshire Councils known as the Cambridgeshire Energy Retrofit Partnership (CERP), had aimed to undertake energy improvements to approx. 100 properties. However, the group faced a number of significant problems in identifying installers who had both the skills (to meet new standards for installations introduced by BEIS midway through the scheme roll out), and capacity to undertake the work (due to labour shortages and the impact of Covid restrictions). The new Government standards caused particular difficulties for improving the planning energy efficiency for 50 Park Homes, and we continue to await guidance from BEIS on how to move forward.

Notwithstanding these frustrations and delays arising from the nationally imposed 'moving goalposts' (a problem affecting districts nationally), we are progressing with what we can by the updated deadline of 30th June 2022.

Despite the challenges above, CERP were very successful in bidding for £6 million of funding from the newest scheme (LAD3/HUG due to run from April 22 – March 23) of which £1.75 million was bid for East Cambs DC. This scheme has seen a significant increase on maximum grant awards for homeowners in comparison from the previous scheme (from max £10,000 to max £25,000, depending on the energy inefficiency of a home and whether it is on or off the gas grid). This means that we can, where needed, implement multiple measures on a single property to drive the maximum improvement of energy efficiency possible. We have included Park Homes in our new scheme in anticipation that the outstanding BEIS guidance will be forthcoming.

We note that Installers are investing internally in the recruitment and training of specialists roles needed to meet the new installation processes required by BEIS for funded work and this should mitigate the skills shortages previously highlighted and provide more confidence to homeowners when planning to undertake these types of improvements.

	<p><i>Separately, the Council recruited a part time officer in July 21 who is responsible for administrating current and future grant funded schemes and, who is working in partnership with other CERP colleagues to deliver a trusted route to retrofit for residents and landlords who wish to privately fund improvements.</i></p> <p><i>We also continue to explore available methods to identify the volume and potential costs involved in retrofitting all domestic properties within East Cambridgeshire. A comprehensive Housing stock conditions report was delivered in 2021 and is being utilised to identify potential grant funded opportunities. This forms the basis of future projects to assess the challenge relating to privately funded and Social Housing upgrades.</i></p> <p><i>Overall, therefore, whilst our originally set targets for 2021/22 under this Action 9 have faced some unexpected challenges and delays, for reasons beyond our control, we now have considerably more confidence that those challenges are being addressed, and additional funding opportunities arising, so that delivery on the ground can be stepped up considerably compared with financial year 2021/22.</i></p>
<p>10. In respect of our fleet vehicles (eg waste and recycling lorries; parks and open space maintenance vehicles), work with ECTC and ECSS to, as first priority, reconfigure routes and collection rounds with a view to minimising miles travelled. Separately, respond to the new national waste strategy and continue to monitor the emerging electric/low-carbon vehicle market. Ensure any purchase (or lease) of new fleet vehicles, during 2021/22, considers the potential for electric/low-carbon vehicles to become more widely available from 2025 onwards</p>	<p><i>From 28 March 2022, our newly reconfigured waste collection rounds commenced. Once the new rounds have bedded in, it is estimated that the new and more efficient routes will save up to 5,000 litres of diesel a year, resulting in both a financial cost saving as well as 12 tonnes of CO2 saving per year.</i></p> <p><i>Separately, ECTC and ECSS continue to investigate more medium-term solutions, working in partnership with nearby councils to learn of options available and best practice. An interim solution prior to electric vehicles could be, for example, the use of Hydrotreated Vegetable Oil (HVO) fuel, which might be possible to use in some of our existing fleet vehicles with a much lower carbon impact than diesel.</i></p>
<p>11. Adopt a new Cycling and Walking Strategy for East Cambridgeshire, and use that strategy as the basis for influencing change,</p>	<p><i>East Cambridgeshire Cycling and Walking Routes Strategy was approved by Finance and Assets Committee Nov 2021, and we now move</i></p>

<p>bidding for funds and for negotiation with developers</p>	<p><i>on to securing funding to deliver the priorities set out.</i></p> <p><i>Sustrans have been commissioned to produce route feasibility studies for the following routes:</i></p> <ul style="list-style-type: none"> • <i>Fordham – Burwell</i> • <i>Haddenham – A142</i> • <i>Little Downham – Ely</i> • <i>Littleport – Chettisham – Ely</i> • <i>Swaffham Prior – Reach – Burwell</i> <p><i>The studies will develop early work to understand possible costs and benefits of potential interventions and ensure proposals clearly align with national policy. This information will be used to seek funding from external sources to enable delivery of the routes.</i></p> <p><i>Also working with Sustrans, the Wicken to Soham route costs have been updated and this information was used to inform a successful bid by ECDC and Soham Town Council to secure CPCA Market Towns funding towards the delivery of the route.</i></p>
<p>12. To progress the delivery of Electric Vehicle Charging Points (EVCPs) across the district, through the direct delivery of new EVCPs in at least one of our public car parks during 2021/22, and through working with the Combined Authority on a county-wide strategy to support the mainstream roll out of EVCPs</p>	<p><i>In April 2022, the Council finally received confirmation of funding support to deliver charging points in three public car parks. That funding application and approval process took longer than anticipated, and installation costs remain high (typically £10-15,000 per Point), and this meant delivery on the ground is slightly behind schedule. On the positive side, we should be able to progress three sites, rather than the ‘minimum of one’ originally planned. Subject to final agreements, we are hopeful of installing the charge points in the following car parks by September 2022:</i></p> <ul style="list-style-type: none"> • <i>Clay Street Car Park, Soham – 4 chargers / 8 sockets</i> • <i>Barton Rd Car Park, Ely – 4 chargers / 8 sockets</i> • <i>Newham Street Car park, Ely – 4 chargers / 8 sockets</i> <p><i>(the specification of the chargers will mean it will take up to 3 hrs for a full charge)</i></p> <p><i>Separately, the Combined Authority is working with the New Anglia Local Enterprise Partnership to produce an Alternative Fuels Strategy and Action Plan for East Anglia, which will also</i></p>

	<i>consider hydrogen fuelled vehicles. ECDC officers continue to engage in the preparation of that strategy, which is due to be published later this year.</i>
13. Improve the 'Carbon Impact Assessment' procedure, developed in coordination with partners and in line with Combined Authority Climate Commission recommendations. This will help demonstrate the carbon implications of the decision being made.	<i>An updated ECDC-only CIA process was launched to internal staff in summer 2022. The CIA process is an ongoing measure which we intend to continuously improve and deepen, in terms of analysis and impacts arising from decisions. The Combined Authority has yet to progress any Cambridgeshire wide CIA process.</i>
14. Encourage and monitor the take up of the newly launched 'mix and match' training courses for staff and councillors . The OU recognised and developed courses accommodate a wide range of staff interests and skills, helping to build a base of environment knowledge across the council, no matter what the core duties of that person are. All staff and Members are targeted to have completed at least one such course by end 2021	<i>Training scheme was launched in April 2021. Completion rates by staff were mixed, and towards the end of the year it became apparent that full staff completion would not occur. As a consequence, in early 2022 it was decided to change the approach to engaging staff by using a more structured approach offered by Investors in the Environment, which was launched to all staff in April 2022 (see action 7).</i>
15. Continue to embed a greater culture of home working (to reduce commuting) and less business travel (e.g. for site visits) , taking advantage of lessons learnt during the Covid-19 lockdown, with the aim of encouraging staff to undertake less, and more coordinated, site visits and meeting attendance. Target 20% reduction in business miles from pre-pandemic levels	<i>This is an on-going initiative, and data for the past two years has clearly been influenced by covid-related restrictions (which continued longer into 2021/22 than was perhaps envisaged in June 2021). Nevertheless, staff mileage only shows a marginal increase in 2021/22 compared with 2020/21 (when more severe lockdown measures were in place), and remains significantly down compared with the pre-covid year of 2019/20. The graph at the end of this table illustrates the three years of data, and we will continue to monitor this through 2022/23, where covid restrictions are expect to remain low/nil.</i> <i>Please note, the chart is based on expenses claims, rather than actual mileage undertaken or emissions arising. However, there is a direct correlation between expenses claims and actual miles/CO2e.</i>
16. Active role in encouraging / lobbying for the highest energy efficiency standards in new development , as part of: <ul style="list-style-type: none"> the new 'spatial strategy' for the Oxford-Cambridge Arc; 	<i>This is an ongoing action, but in the past 12 month period, the Council has:</i> <ul style="list-style-type: none"> <i>lobbied government for the development in the Arc to "go well beyond national building regulations" in terms of energy efficiency, as</i>

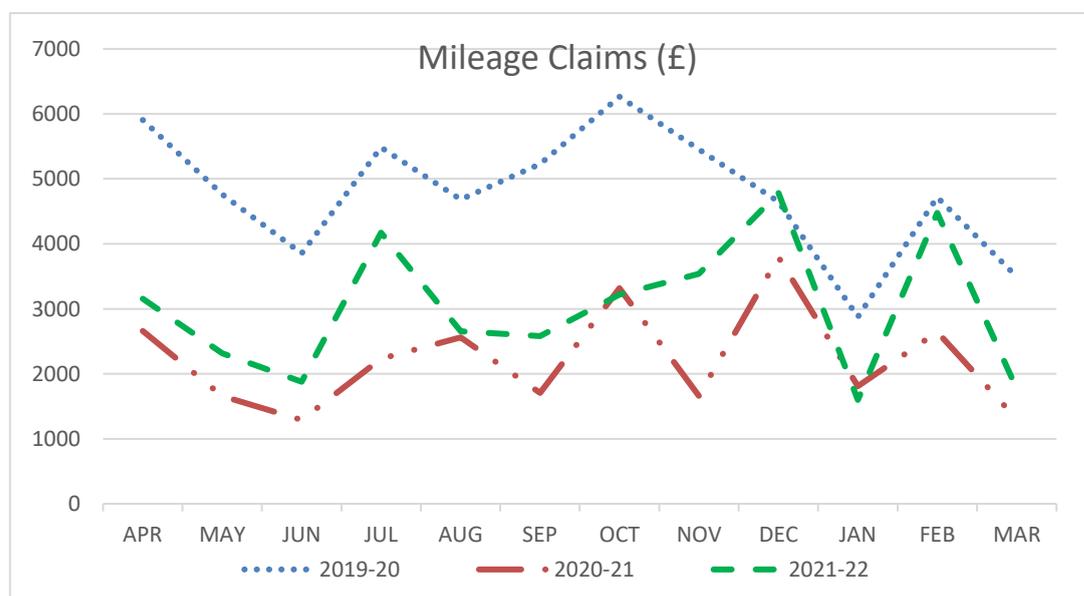
<ul style="list-style-type: none"> • the proposed new national Building Regulations and ‘Future Homes Standard’; • the new planning system being introduced via the Planning White Paper; • any emerging Neighbourhood Plan that Parish Councils produce; and • any future development schemes by Palace Green Homes / Community Land Trusts (CLTs) in the district. 	<p><i>well as greater commitments to the natural environment and supporting the ‘green’ economy.</i></p> <ul style="list-style-type: none"> • <i>Assisted parish councils with advice on the potential of neighbourhood plans to include climate related policies, including a full parish conference on 3 May 2022 devoted to climate and natural environment, on the theme of what parish councils could do to help.</i> <p><i>Frustratingly, we continue to wait for Government to progress updated building regulations and the promised planning system reform, both of which have progressed little over the past 12 months.</i></p>
<p>17. Work proactively with the Combined Authority, seeking to implement as many as reasonably practical of the Climate Change Independent Commission recommendations (due Sept 2021).</p>	<p><i>In October 2021, the Commission published its final Report ¹⁵, which was endorsed by the Combined Authority Board (upon which ECDC’s Leader, Anna Bailey, sits). At Anna Bailey’s request, the Board further agreed in March 2022 a detailed action plan to take forward the recommendations across Cambridgeshire-Peterborough.</i></p> <p><i>Overall, the Council remains a very proactive partner helping to implement as many as reasonably practical of the Commission’s recommendations.</i></p>
<p>18. Further develop the recently established East Cambridgeshire Partnership Forum, with the aim of the Forum to help devise actions and targets to reduce carbon emissions and boost the natural environment collectively across the East Cambridgeshire area. Potentially establish a non-ECDC website as a base for information and actions.</p>	<p><i>2022 has seen a considerable reinvigoration of the Forum, with regular meetings and dialogue taking place.</i></p> <p><i>“A great meeting - people are getting to know one another, and themes are emerging” was feedback from one member after the last meeting.</i></p> <p><i>Of the Forum members, four volunteered their own time to make individual presentations (and engage with attendees) at the Parish Conference on 3 May 2022. Members have also contributed several ideas for the 2022/23 Top 20 Actions.</i></p> <p><i>Working with the Forum, we have worked up a brief for a partnership website, to be funded by ECDC but content led by East Cambs CAN (a</i></p>

¹⁵ See <https://cambridgeshirepeterborough-ca.gov.uk-6985942.hs-sites.com/cpicc-initial-report>

	<i>local environment campaign group), which we hope to launch later this year.</i>
19. Continue to prepare an annual ECDC Environment Plan , setting out the latest 'carbon footprint' of the Council, a series of annual actions, and a longer-term target to reduce ECDC's net emissions by 20-33% (by 2025); 66-80% (by 2030); 100% (by 2035); and achieve a truly net zero carbon organisation by 2040.	<i>We continue to commit to updating our environment plan each year, as well as making our 'carbon footprint' calculations as robust and as wide ranging as possible. For example, we've commenced collecting data in order to calculate the carbon footprint of the paper we use, and will continue to investigate how to account for the carbon footprint of other items we procure (which are technically known as 'scope 3' emissions, and are often very difficult to calculate because the council has no direct control over those emissions but, by purchasing such goods, it is indirectly responsible for them).</i>
20. Work with Palace Green Homes (PGH), the Council's commercial property and development company, assisting it to implement its recently adopted Sustainability Policy ; and, for all its future major development proposals (i.e. developments of 10 homes or more, which don't already have planning consent as at 1 June 2021), achieve the Local Nature Partnership's 'Working with Nature Charter Mark'	<i>PGH is progressing its first application for a Working with Nature Charter Mark status. Looking further forward, it has committed 'by 2030 our new homes will be carbon net zero'.</i>

Graph outlining 2019/20, 2020/21 and 2021/22 staff and member mileage claims (in £) – see notes on action 15 in the above table for an explanation.

The top 'dotted' line is data for 2019/20, the bottom 'dash and two dots' line is data for 2020/21 (the main covid affected year) and the middle 'dashed' line is data for the latest year of 2021/22.



Our 20 Commitments for 2022/23

Building on the commitments and achievements of last year, the Council commits to the following set of 'top 20 actions' for the period June 2022 to June 2023:

Accreditation and Recognition:

1. ECDC to achieve, as an organisation, **Investors in the Environment (iE)** accreditation Bronze award in 2022, and work towards achieving Silver award in 2023 (with the top accreditation of Green award sometime after June 2023).
2. 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.
3. 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.

Taking Direct Action to Reduce the Council's Emissions:

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 grid. 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.
5. Target a **20% reduction in ECDC's paper use** over 2022/23, compared with a pre-covid baseline of 2017-2019 average of 1.07m sheets per annum; and establish more ambitious medium- and longer-term paper reduction targets by June 2023.
6. 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.
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.
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.
9. Prepare a **Travel Plan for the Council** which aims to reduce car use to and from the Council's 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.

Helping Others to Reduce Their Emissions:

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 privately-funded 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 reducing carbon emissions from domestic dwellings.

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.
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.
13. As well as targeting the **delivery of the planned 24 Electric Vehicle Charge (EVC)** points in three ECDC car parks 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 widespread public and private EVC points becoming available of a standardised and 'smart' operating nature.
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.

Supporting Nature Recovery in East Cambridgeshire:

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

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.
 - 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.

6. Financing the Strategy and Action Plan

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.

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 a 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 2022/23 to help deliver the top 20 actions identified.
- **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. We are hoping to step up our grant bids, in order to deliver more projects across East Cambridgeshire.
- **Council direct 'capital' funding:** £50,000 has been set aside for 2022/23 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>

If you are particularly interested in learning more about climate change and environmental matters, and 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>

8. Monitoring and Evaluation

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. This includes changes in lease status.	No base year recalculation required
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

Table Baseline year recalculation policy

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

9. 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. 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 works with, for example, the following stakeholders:

- **Youth Council**
- **Citizen Engagement**
- **Schools**
- **Natural Cambridgeshire Local Nature Partnership (LNP)***
- **Business Community**
- **Parish Councils**
- **Cambridgeshire County Council**
- **Cambridgeshire and Peterborough Combined Authority**
- **Other Local Authorities**
- **Government**

**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*

Appendices

Appendix 1: 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.	<p>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.</p>
		<p>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.</p>
		<p>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.</p>
		<p>Property: Council buildings and property may be damaged by flooding if located within flood risk areas.</p>
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	<p>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.</p>
		<p>Finance: Increased costs associated with summer cooling in Council buildings. Increased costs associated with installation of air conditioning and heat resilient infrastructure.</p>
		<p>People and health: Working conditions may become unsuitable for staff which could impact employee concentration and performance.</p>

Impact / Risk	Description	Possible Impacts for the Council
		<p>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.</p>
Drought	<p>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</p>	<p>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).</p> <p>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.</p> <p>People and health: Employees may be emotionally or physically impacted by reduced food and water availability and increased costs associated with this.</p>
Sea Level Rise (SLR)	<p>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.</p> <p>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.</p>	<p>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.</p> <p>Finance: Costs of re-locating Council buildings, infrastructure and Council operated housing away from high risk areas and provision of SLR resilient infrastructure.</p> <p>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.</p>
Air pollution	<p>Transport is a major source of short-lived greenhouse gas pollutants, which can result in direct damage to</p>	<p>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.</p>

Impact / Risk	Description	Possible Impacts for the Council
	<p>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.</p>	<p>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.</p> <p>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.</p> <p>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.</p>

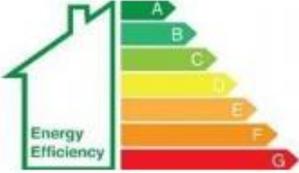
Appendix 2: Climate Change Mitigation Measures

Climate change mitigation measures can be incorporated into both existing and new infrastructure to reduce carbon emissions and improve energy efficiency. There are a number of ways to do this, and the following table describes some of these measures.

Table: Methods to mitigate carbon emissions

	Mitigation measure	How does this mitigate carbon emissions?	Description
Renewable Energy and Storage	<p>Solar Panels</p>  <p>Photo</p>	Reduces fossil fuel usage for electricity and heating (if electric).	Sunlight is absorbed by the photovoltaic panels and is used to generate electricity.
	<p>Solar Thermal</p>  <p>Photo ©Greentech</p>	Reduces fossil fuel usage for water heating.	Heat from the sun is used to warm water running in pipes through the panel. Depending on the temperature the water reaches, the temperature can be “topped up” using conventional methods.
	<p>Battery Energy Storage</p>  <p>Photo ©Greentech Media</p>	Enables intermittent renewable energy sources to become viable alternatives to fossil fuels.	Stores electricity for use at times when generation is low.
	<p>Air Source Heat Pump</p>  <p>Photo ©burtonwright</p>	Reduces or removes fossil fuel usage for heating.	Air is used to heat liquid refrigerant. The pump uses electricity to compress the refrigerant to increase its temperature then condenses it back to release stored heat. This heat is sent to radiators and stored as hot water.
	<p>Ground Source Heat Pump</p>  <p>Photo ©Homebuilding & Renovation</p>	Reduces or removes fossil fuel usage for heating.	Coils or pipes containing refrigerant are buried in the ground. Heat from the ground is used to warm the refrigerant and an electric heat pump is used to raise this temperature further. This heat is transferred from the refrigerant via a heat exchanger in the building to providing hot water and heating.

	Mitigation measure	How does this mitigate carbon emissions?	Description
	<p>Hydrogen</p>  <p>Photo ©National Planning</p>	<p>Reduces or removes fossil fuel usage for heating.</p>	<p>Hydrogen, produced through electrolysis of water using solar or renewable energy, or, produced using natural gas but using carbon capture and storage, is being considered heating homes.</p>
	 <p>National Planning Policy Framework</p> <p>Presented to Parliament by the Secretary of State for Housing, Communities and Local Government by Command of Her Majesty February 2019</p>	<p>Enables standard requirements for mitigation actions within developments.</p>	<p>The Planning System in England is 'plan-led.' The Local Plan contains policies that set out what development is needed where – either by identifying specific sites or general types of site. When a planning application is submitted, it is tested against those policies to see whether or not it should be approved.</p>
	<p>Building Regulations</p> 	<p>Can be set to reduce energy demand of homes (e.g. through energy efficiency measures).</p>	<p>These are statutory minimum standards for design, construction and alterations to virtually every building.</p>
Energy Efficiency	<p>Passive House</p>  <p>Photo ©Magnetitte</p>	<p>Little to no domestic heating requirements.</p>	<p>Homes designed to combine ultra-low energy consumption with consistently good air quality. They are built with superinsulation, low-volume heat recovery ventilation systems and tightly controlled rates of air infiltration, which combine to make sure the building's carbon footprint is as small as possible. These types of buildings do not require conventional heating systems.</p>

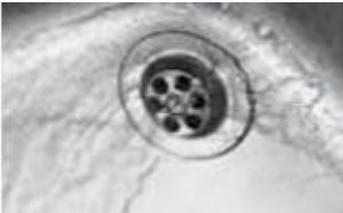
	Mitigation measure	How does this mitigate carbon emissions?	Description
	Fabric First/Insulation  Photo ©MyBuilder.com	Reduces heat loss from buildings, reducing heating requirements.	Materials used to reduce heat loss from buildings – these can be built into new builds or retrofitted. It can come in many forms specific to the area being insulated including: Pipe insulation Roof insulation Wall insulation
	Other energy efficiency measures  Image ©Base Energy	Reduce energy consumption, thereby reducing emissions from generation.	Various methods to reduce energy consumption. e.g. LED Lighting and double glazing.
	District Heating/Heat Networks  Image ©Energy Saving Trust	Facilitates low carbon heating.	Groups of co-located (e.g. a village or town) buildings sharing the same heating source. They are directly connected via insulated pipes to a local renewable heating source, such as a ground source heat pump. This enables faster transition to renewables.
Transportation	Active transport eg. Cycling, walking  Photo ©The Independent	Zero carbon.	Avoids travel by vehicles.
	Car Sharing/Car Clubs  Photo ©Pacific Rent-A-Car	Reduces the number of vehicles on the road.	Car sharing is the sharing of car journeys so that more than one person travels in a car, and prevents the need for others to have to drive to a location themselves. Car clubs are a model of car rental where people rent cars for short periods of time, often by the hour.
	Public Transport  Photo ©intelligenttransport.com	Reduces the number of vehicles on the road.	Public Transport reduces the number of vehicles on the road, but provides far greater benefits than car sharing as more people can use the same vehicle.

	Mitigation measure	How does this mitigate carbon emissions?	Description
	<p>Electric Vehicles (private and public) and charge points</p>  <p>Photo ©Rolec</p>  <p>Photo ©Electrek</p>	<p>Removes combustion of fossil fuels as the direct source of energy.</p>	<p>Electric vehicles (EVs) do not rely on the internal combustion engine (ICE) burning petrol or diesel to function. Instead they contain batteries which charge on electricity, removing their carbon emissions as well as reducing air quality impacts. If the electricity comes from renewable sources, use of these vehicles is carbon free.</p>
	<p>Hydrogen Vehicles</p>  <p>Photo ©intelligenttransport.com</p>	<p>Removes combustion of fossil fuels as the direct source of energy.</p>	<p>For larger vehicles, Hydrogen could be used as a fuel source. This is where Hydrogen is electrolysed to produce electricity. Water vapour is the only by-product emitted from the exhaust.</p>

Appendix 3: Adaptation measures

Climate change adaptation measures can be incorporated into both existing and new infrastructure to reduce the effects of climate change. This is done by improving our resilience to the changes that are anticipated to come forward over the coming years. There are a number of ways to do this, and the following table describes some of these measures.

Table Methods to adapt to climate change impacts

Adaptive measure	What change does this adapt to?	Description
<p>Rainwater harvesting/ water butts</p>  <p>©SusDrain 2019</p>	<p>Flood and drought.</p>	<p>Rainwater is collected in water butts and used as a non-portable water resource such as toilet flushing. Harvested water can also be used for gardening and small-scale infrastructure.</p>
<p>Grey water harvesting</p>  <p>© The Green Age</p>	<p>Flood and drought.</p>	<p>Wastewater from baths, showers, washing machines, dishwashers and sinks can be re-used for portable water sources.</p>
<p>Sustainable Drainage Systems (SuDS)</p>  <p>©SusDrain 2012</p>	<p>Flood, heat waves and drought.</p>	<p>SuDS mimic nature and manage rainfall at the source. They slow the flow of surface water and treat it before it enters watercourses. They provide areas to store water at the surface and allow green and blue infrastructure to be incorporated into urban spaces.</p>
<p>Property Level Resilience (PLR)</p>  <p>©Flood Protection Solutions</p>	<p>Flood, SLR.</p>	<p>Protective measures installed in existing homes and buildings to offer protection from flooding. This is best suited for existing buildings located in high flood risk areas which are expected to be impacted most by high intensity flooding and sea level rise associated with climate change.</p>

Adaptive measure	What change does this adapt to?	Description
<p>Green space and low level vegetation</p>  <p>©Cambridge Independent</p>	<p>Flood, drought, heat waves.</p>	<p>Can be incorporated into both new and existing developments. Areas of green space can be used as flood storage providing adaptation to flooding. They also allow water to be absorbed into the ground, recharging drinking water supplies to provide adaptation to drought.</p>
<p>Tree planting</p>  <p>©Cambridge City Council</p>	<p>Air pollution, flood, heat waves and drought.</p>	<p>Trees provide shading and urban cooling to allow adaptation to increased temperatures and heat waves. They provide adaptation to increased rainfall and flooding by intercepting rainfall. The interception of rainfall allows more water to be absorbed into the ground providing groundwater recharge and thus adaptation to drought. Trees can improve air quality by removing particles and gases from the air (14).</p>
<p>Resilient building design</p>  <p>©Building Green</p>	<p>Heat waves, flooding, sea level rise, air pollution, drought.</p>	<p>Buildings designed better to adapt to changing temperatures through installation of energy efficient air conditioning, window shading and tinting. Buildings can also be designed with air pollution filters, and ventilation to reduce indoor air pollution. Green walls can be a successful air pollution adaptation measure in city areas, as planting of large trees along narrow streets can obstruct wind flow, limiting their ability to absorb pollutants. Buildings can be designed with floor levels above the projected flood or sea level to adapt to flooding and sea level rise. Buildings can also be adapted to include water re-use/ recycle measures and water saving features such as automatic taps to adapt to drought.</p>
<p>Locating services</p>  <p>©The Independent</p>	<p>Flooding, sea level rise.</p>	<p>Infrastructure services such as power supplies, property and transport links should be located in areas at less risk of flooding and sea level rise.</p>

Appendix 4: East Cambridgeshire District Council's 'Environment Policy' (adopted 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.