CLIMATE CHANGE STRATEGY

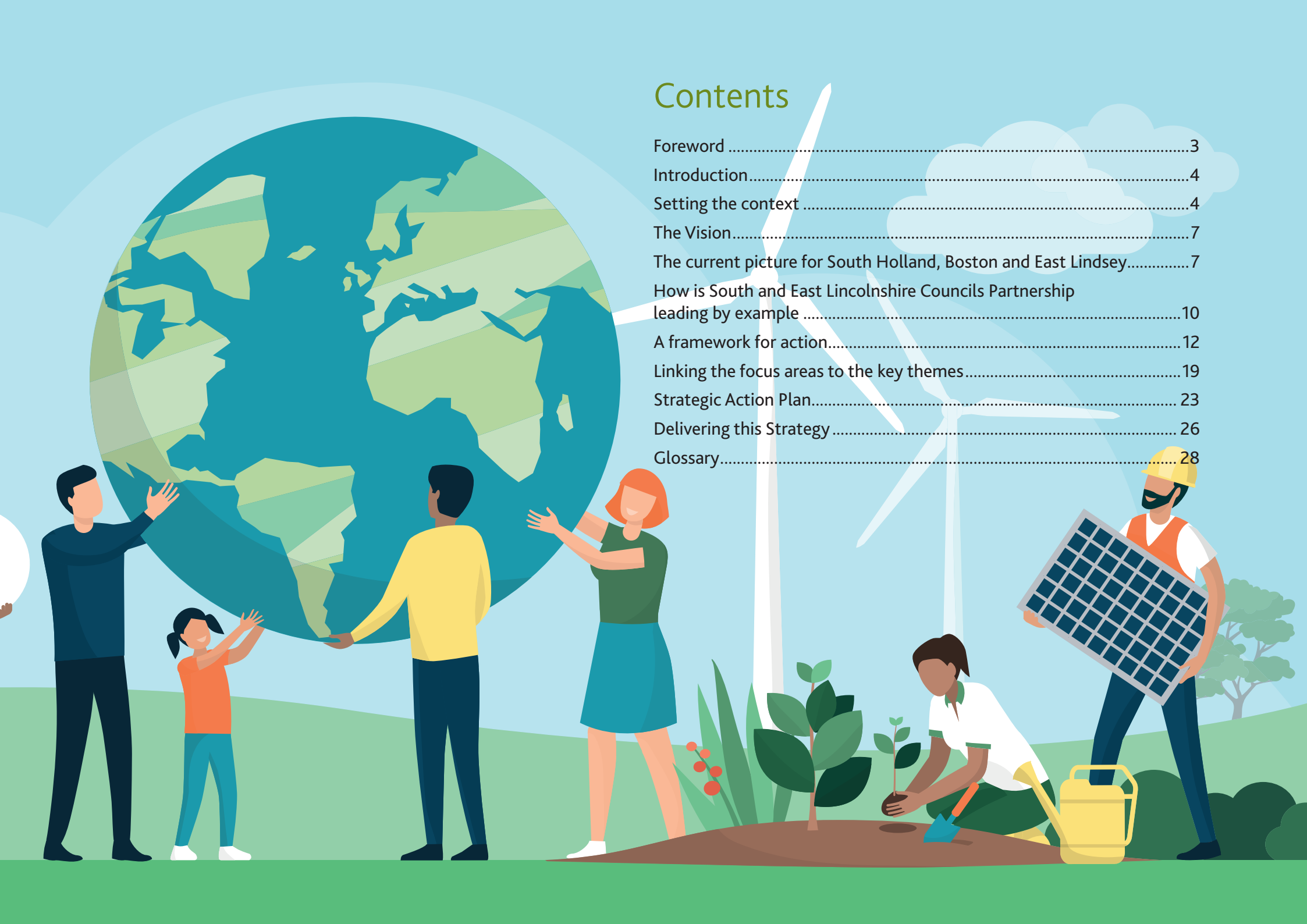
FINAL - SPRING 2022

SOUTH HOLLAND DISTRICT COUNCIL

BOSTON BOROUGH COUNCIL

East Lindsey DISTRICT COUNCIL

served by One Team



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Foreword

Given the challenge that Climate Change presents for us all, it seems fitting that the development of this Strategy is one of the first major pieces of work produced by the newly-formed South and East Lincolnshire Councils Partnership.

This strategy sets out our collective commitment to tackle climate change but we cannot achieve the outcomes alone. Our ground-breaking Partnership provides us with a stronger voice at a local, regional and national level which will be key as we work in partnership with businesses, communities and organisations across South and East Lincolnshire to deliver what is needed.

While the focus of this Strategy is very much focused on meeting the net zero commitments we have made both locally and as a country as whole, it is also about ensuring a more sustainable future to enable the communities of South Holland, Boston and East Lindsey to thrive.

East Lindsey is a wonderful place to live and grow. Our environment is very special and we have a responsibility to look after it. I fully support this strategy as it protects and respects our landscape for future generations and recognises the opportunities that exist for our local residents and businesses.

Cllr Craig Leyland,
Leader of East Lindsey District Council

It is great to see a strategy that my own Council and our neighbours have developed together. Our unique fenland geographical landscape requires us to take Climate Change seriously. This document shows that South and East Lincolnshire is in touch with its businesses and communities and committed to supporting them.

The Lord Porter of Spalding CBE,
Leader of South Holland District Council

Managing carbon emissions throughout the Borough of Boston is critical to maintaining our thriving agricultural industry which has shaped our landscape for generations. We are committed to working hard with partners to manage our natural resources in a sustainable and responsible way and to embracing the challenges and opportunity that are ahead.

Cllr Paul Skinner,
Leader of Boston Borough Council

Introduction

Climate Change is widely considered to be one of, if not the greatest, challenge facing our society.

Its impact is already being felt, most noticeably through the increasing occurrence of extreme weather events such as exceptional rainfall and rising temperatures. Responding to the challenges and finding ways to slow down further changes are tasks which will take time and require input at all scales from local through to international, from individual actions to policy changes at the highest levels.

Local authorities are well placed to drive forward and influence the action required. Through the services we deliver, the strategic and regulatory functions we provide and through our position as community leaders we can help to educate, guide and implement some of the changes we must make as a society to play our part but we will need to work together to achieve what is required.

Many of the possible approaches have multiple benefits in not only building resilience and driving down emissions, but also in helping to deliver positive outcomes for the natural environment and the health and wellbeing of our communities. It is imperative that we re-frame the issue of Climate Change to one which demonstrates how taking action can improve quality of life for everyone.

The purpose of this Climate Change Strategy is to provide direction around how to achieve a more sustainable future across South Holland, Boston and East Lindsey as we all work towards a shared net zero target. That must ensure an approach that balances economic, social and environmental considerations equally. It is heavily focused on mitigation - ***actions to reduce the impact of human activity on the climate system, primarily through reducing greenhouse gas emissions*** - but some degree of Climate Change is still inevitable and adaptation will also have an important role to play.

Setting the Context

The United Nations Framework Convention on Climate Change (UNFCCC) defines Climate Change as, ***"A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."***

They key cause of human contribution to Climate Change is through the increased production of Greenhouse Gases (GHGs). GHGs such as carbon dioxide, methane and nitrous oxide occur naturally in the Earth's atmosphere, trapping heat and energy from the sun in a process known as the 'greenhouse effect'. Increases to GHG emissions push up levels of heat and energy in the Earth's atmosphere, causing a rise in global temperatures.

To give an indication of how things have changed, carbon dioxide levels in the atmosphere are greater than they have been at any point in the last 800,000 years. The last time the Earth saw similar levels was around 4-million years ago when the average temperature was 2-4°C warmer than today, and the sea level was 10-25m higher[1].

[1] *Siegert, M., Haywood, A. Lunt, D., van de Flierdt, T., Francis, J. (2020) What ancient climates tell us about high carbon dioxide concentrations in Earth's atmosphere, Grantham Institute Briefing Note 13, Imperial College London. https://doi.org/10.25561/79292.*

International Context

The Paris Agreement is a legally binding international treaty on Climate Change adopted by 196 parties, including the UK Government, at COP 21 in December 2015. Its goal is to limit global warming to well below a 2°C increase, preferably to a 1.5°C increase, compared to pre-industrial levels.

In response to that decision, the United Nations Intergovernmental Panel on Climate Change (IPCC) published a special report in 2018 on the impact a 1.5°C rise in global temperatures would have on our planet and the critical steps that needed to be taken to try and keep rises below that level.

Action by the UK Government

The 2008 Climate Change Act set out a legal framework for the UK to cut greenhouse gas emissions to 80% below 1990 levels by 2050. It represented the first global, legally-binding Climate Change mitigation target to be made by a country.

The Act also established the Committee on Climate Change (CCC), an independent body which provides evidence-based advice to Government. In 2019, the CCC published its own report, supporting the findings of the IPCC and advising the UK Government to revise its long term 2050 carbon emissions. This saw a new target adopted to cut GHG emissions to net zero by 2050 with the UK Government becoming the first country to nationally declare a Climate Emergency in May 2019.

As the UK prepared to host the COP26 climate summit in 2021, the UK's sixth carbon budget set out the world's most ambitious Climate Change target to reduce emissions by 78% by 2035 compared to 1990 levels, with the budget also incorporating the UK's share of international aviation and shipping emissions for the first time.

The Local Picture

It is important to try and translate all that is happening at a national and global scale into meaningful action at a local level.

In Lincolnshire, while all local authorities are moving at different paces, there is a shared common goal to not only achieve net zero but to achieve a more sustainable way of living that protects and improves our communities. Those involved with Climate Change across the county are working closely together to ensure we are sharing knowledge and learning from each other. Lincolnshire County Council launched its Green Masterplan in 2020 to set out the guiding principles of how we can collectively meet the challenges and opportunities Climate Change presents. These are:

- Don't waste anything - working toward a circular economy
- Consider wider opportunities - working in partnership to share funding, experience and networks and prevent duplication of effort
- Take responsibility and pride - to cherish, protect and improve the county we have many reasons to be proud of

Net Zero defined

Many different terms are often associated with reducing emissions but it is important to understand the distinctions between them.

Achieving net zero emissions means to pursue an ambitious 1.5°C aligned science-based target for full value chain emissions i.e. Scope 1, 2 and 3 emissions. Where any residual emissions remain these can be offset with certified Greenhouse Gas removal mechanisms such as tree planting or carbon capture technology.

Scope	Emission Type	Definition	Examples
Scope 1	Direct Emissions	Emissions from sources directly owned or controlled by the reporting body	Natural gas, fleet
Scope 2	Indirect Emissions	Indirect emissions from the generation of purchased energy consumed by the reporting body	Electricity
Scope 3		Upstream and downstream emissions that occur in the value chain of the reporting body	Business travel and commuting, waste, water, procured goods and services

This contrasts with, for example, carbon neutral targets which may not account for all emissions Scopes and which allow emissions to be offset by high quality, certified carbon credits.

Carbon Management Hierarchy

The key priority in seeking to reduce emissions is that there should be a hierarchical approach to their management which seeks to eliminate them as far as possible, followed by carbon and energy reduction and then by substitution measures such as low-carbon alternatives like renewable energy. Compensation measures are then the final step once other options have been exhausted.

These principles are best outlined in the IEMA Greenhouse Gas Management Hierarchy (updated 2020):

ELIMINATE	• Influence business decisions / use to prevent GHG emissions across the lifecycle • Potential exists when organisations change, expand, rationalise or move business • Transition to new business model, alternative operation or new product/service
REDUCE	• Real and relative (per unit) reductions in carbon and energy • Efficiency in operations, processes, fleet and energy management • Optimise approaches (e.g. technology and digital as enablers)
SUBSTITUTE	• Adopt renewables/low carbon technologies (on site, transport, etc) • Reduce carbon (GHG) intensity of energy use and of energy purchased • Purchase inputs and services with lower embodied/ embedded emissions
COMPENSATE	• Compensate 'unavoidable' residual emissions (removals, offsets etc) • Investigate land management, value chain, asset sharing, carbon credits • Support climate action and developing carbon markets

[2] *UK local authority carbon dioxide emissions estimates 2019*

The Vision

The areas covered by South Holland District Council, Boston Borough Council and East Lindsey District Council achieve net zero emissions in advance of the UK Government. In doing so, action supports social, economic and environmental outcomes that help adapt to and mitigate the impacts of climate change and build a more sustainable future for our local communities.

The current picture for South Holland, Boston and East Lindsey

Carbon dioxide (CO2) is the main greenhouse gas, accounting for 80% of GHG emissions in the UK in 2019[2]. Data published by the Department for Business, Energy and Industrial Strategy on an annual basis provides the latest estimates of end-user CO2 emissions for local authority areas in the UK.

South Holland

Emissions in South Holland reduced by 25.8% between 2005 and 2019. The three largest contributing sectors are transport, domestic properties and land use, land use change and forestry.

	kt CO2 (2019)	Detail
Transport	190.7	Emissions include freight and passenger transport, both for private and business purposes
Housing	140.5	Emissions from energy consumption in and around the home
Land Use, Land Use Change and Forestry (LULUCF)	109.2	Emissions/removals of CO2 from changes in the carbon stock in forestland, cropland, grassland, wetlands, settlements and harvested wood products, and of other greenhouse gases from drainage (excl. croplands and intensive grasslands) and rewetting of soils, nitrogen mineralisation associated with loss and gain of soil organic matter, and fires.
Industrial	91.1	Emissions from businesses defined as UK Standard Industrial Classification (SIC07) subsections 01-32, 35-39 & 42
Commercial	44.3	All other SIC07 subsections
Agriculture	20.1	Emissions of greenhouse gases from livestock, agricultural soils (excluding carbon stock changes which are included in the LULUCF sector) and agricultural machinery.
Public Sector	7.2	Emissions from the combustion of fuel in public sector buildings, e.g., hospitals and schools. SIC07 subsections 84-87.
TOTAL	**603.1**	

Boston

In Boston, emissions reduced by 35.29% between 2005 and 2019. Transport and domestic properties are again the main two contributors with emissions from industry also coming in the top three for emissions.

	kt CO2 (2019)	Detail
Transport	117.5	Emissions include freight and passenger transport, both for private and business purposes
Housing	94.9	Emissions from energy consumption in and around the home
Industrial	52.8	Emissions from businesses defined as UK Standard Industrial Classification (SIC07) subsections 01-32, 35-39 & 42
Commercial	21.9	All other SIC07 subsections
Agriculture	9.5	Emissions of greenhouse gases from livestock, agricultural soils (excluding carbon stock changes which are included in the LULUCF sector) and agricultural machinery.
Public Sector	8.7	Emissions from the combustion of fuel in public sector buildings, e.g., hospitals and schools. SIC07 subsections 84-87.
LULUCF	8.3	Emissions/removals of CO2 from changes in the carbon stock in forestland, cropland, grassland, wetlands, settlements and harvested wood products, and of other greenhouse gases from drainage (excl. croplands and intensive grasslands) and rewetting of soils, nitrogen mineralisation associated with loss and gain of soil organic matter, and fires.
TOTAL	313.7	

East Lindsey

Emissions in East Lindsey reduced by 27.31% between 2005 and 2019. The three largest contributing sectors are transport, domestic properties and land use, land use change and forestry.

	kt CO2 (2019)	Detail
Transport	274.2	Emissions include freight and passenger transport, both for private and business purposes.
Housing	224.9	Emissions from energy consumption in and around the home
Land Use, Land Use Change and Forestry (LULUCF)	174.0	Emissions/removals of CO2 from changes in the carbon stock in forestland, cropland, grassland, wetlands, settlements and harvested wood products, and of other greenhouse gases from drainage (excl. croplands and intensive grasslands) and rewetting of soils, nitrogen mineralisation associated with loss and gain of soil organic matter, and fires.
Industrial	90	Emissions from businesses defined as UK Standard Industrial Classification (SIC07) subsections 01-32, 35-39 & 42.
Commercial	66.2	All other SIC07 subsections.
Agriculture	49.9	Emissions of greenhouse gases from livestock, agricultural soils (excluding carbon stock changes which are included in the LULUCF sector) and agricultural machinery.
Public Sector	15.1	Emissions from the combustion of fuel in public sector buildings, e.g., hospitals and schools. SIC07 subsections 84-87.
TOTAL	894.2	

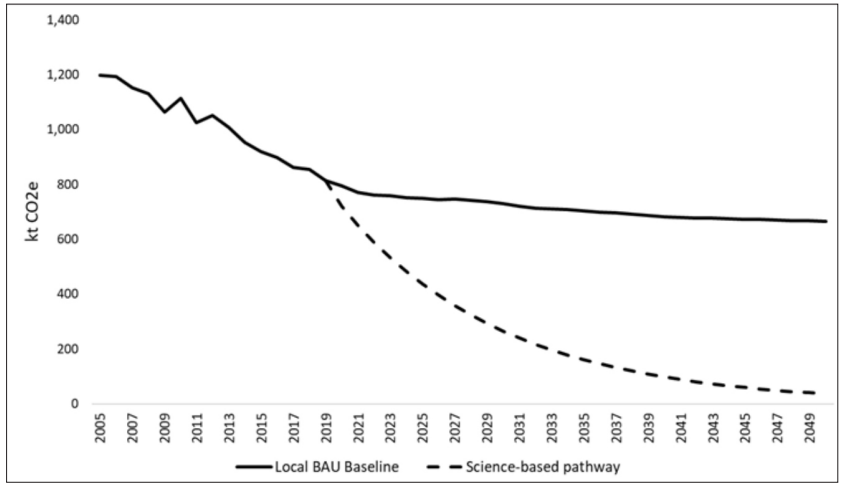
Carbon budgets

The Inter-governmental Panel on Climate Change (IPCC) has argued that from 2020, keeping within a global carbon budget of 344 billion tonnes of GHG emissions would give us a 66% chance of limiting average warming to 1.5 degrees and therefore avoiding dangerous levels of climate change.

If we divide this global figure up on an equal basis by population, this gives East Lindsey a total carbon budget of 6 megatonnes (i.e. 6 million tonnes) from 2020[3].

Based only on the fuel and electricity used within its boundaries, East Lindsey currently emits c.0.8 million tonnes of carbon a year, meaning that it would use up its carbon budget in just over 7.5 years.

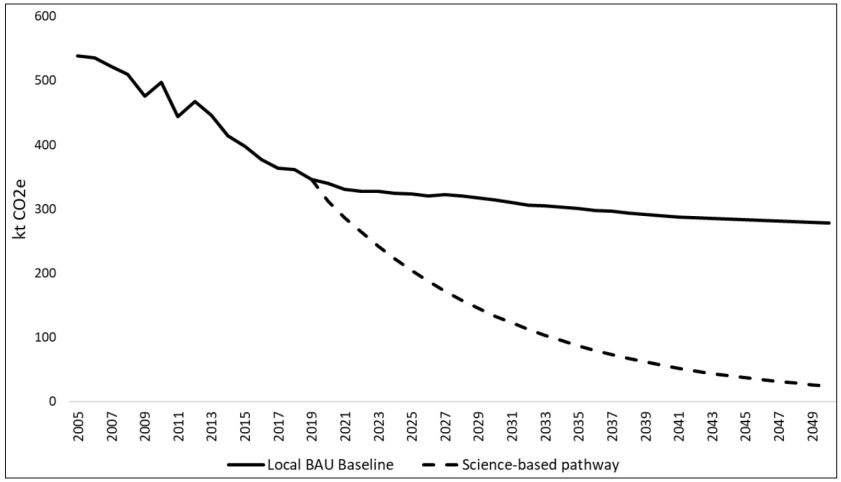
With on-going decarbonisation of electricity, and taking into account population and economic growth, it is projected that East Lindsey's 2005 level of emissions will have fallen by 44% by 2050. If however it is to stay within its carbon budget, East Lindsey needs to reduce its emissions by 9.5% year on year.



Business As Usual and Science-based pathway for East Lindsey.

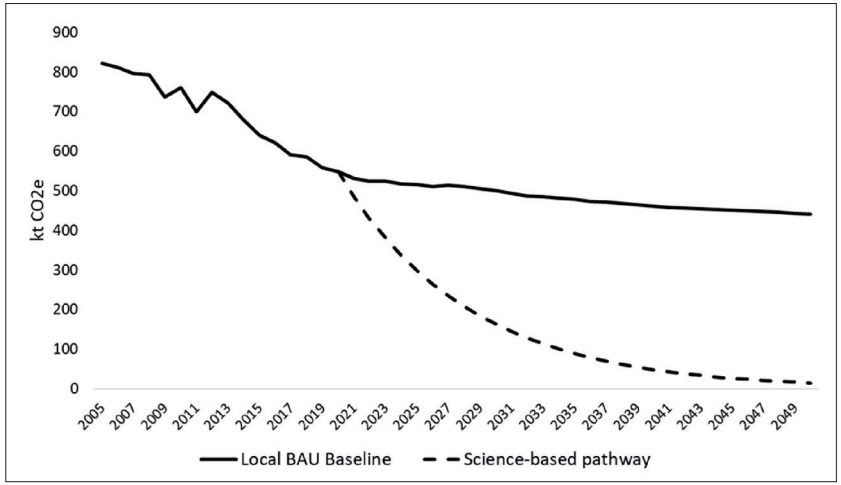
[3] *Gouldson, A. Sudmant, A. Duncan, A. (2019). "A summary carbon roadmap for Boston". Place based Climate Action Network, https://pcancities.org.uk/*

Similarly, Boston has a budget of 3 megatonnes (i.e. 3 million tonnes) which at current rates would be exhausted in 9 years. However, Boston could stay within its carbon budget by reducing its emissions by 8.2% year on year.



Business As Usual and Science-based pathway for Boston.

South Holland has a total carbon budget of 3.5 megatonnes which at current rates would last just over 6 years. The District could however stay within its carbon budget by reducing its emissions by 11.4% year on year.



Business As Usual and Science-based pathway for South Holland.

How is South and East Lincolnshire Councils Partnership leading by example?

Focus 1: Reduce the carbon footprint of our own activities

Both East Lindsey District Council (ELDC) and Boston Borough Council (BBC) have engaged the Carbon Trust to produce Carbon Reduction Plans for their own operations. The ELDC plan was adopted in November 2019 and the BBC plan was adopted in January 2022.

Both Councils have adopted net zero commitments in advance of the UK Government with ELDC specifying a target to reduce emissions from its own operations by 45% by 2027 and to net zero by 2040. Action Plans setting out the projects and initiatives required to deliver the reductions needed are being implemented to ensure progress remains on track.

Adapting and mitigating to climate change requires an holistic approach to sustainability in addition to emissions reductions. Both Councils have agreed priorities within their Corporate Strategies in relation to tackling climate change. New Environment Policies have also been adopted to set out the framework for how they will work to protect the natural environment for residents and visitors.

South Holland District Council (SHDC) joined with Boston and East Lindsey to form the South and East Lincolnshire Councils Partnership (SELCP) in September 2021. This provides an opportunity to understand existing actions SHDC has taken which contribute to the agenda whilst also working closely with Boston and East Lindsey to identify opportunities to align policy and processes where appropriate.

Leading by example is key and through both existing service provision and new developments and initiatives we will ensure implications for our carbon footprints are fully considered from the outset.

Focus 2: Support and facilitate partnership working of stakeholders throughout South Holland, Boston and East Lindsey to take action to achieve net zero emissions across the area

All three Councils have a key role to play in both leading by example and supporting the wider community to deliver this climate change strategy. While their sphere of influence is limited, they are well placed to drive and influence change through the services they deliver, as trusted community leaders and through their regulatory and strategic functions. Key activities will include:

- Support the vulnerable and fuel-poor households with energy efficiency measures
- Local Plans that support sustainable development and climate change adaptation/mitigation
- Guidance for businesses on adaptation to climate change
- Work with businesses to understand and reduce their carbon footprints
- Support town and parish councils to take action at a local level

- Identify strategic sites for biodiversity net gain and carbon offsetting initiatives
- Strengthen and enhance existing ecological networks to build resilience to climate change
- Ensure spatial planning plays a key role in the transition to a low-carbon society

Focus 3: Climate Change Adaptation

Adaptation: Adjustments to natural or human systems in response to the actual or anticipated impacts of climate change, to mitigate harm or exploit beneficial opportunities.

- Undertake a comprehensive risk-based assessment of vulnerabilities to weather and climate within the SELCP area
- Develop an adaptation plan that details the SELCP's response to the evidence of our changing climate
- Review procurement procedures to embed adaptation and mitigation approaches into key contracts and services
- Ensure effective partnership working to address climate change risks across administrative boundaries

A framework for action

The scope of emissions that is in the direct control or influence of the three councils is relatively small. This strategy seeks to provide an overarching framework to reduce emissions as a whole across South Holland, Boston and East Lindsey.

A number of strategic themes have been identified as central to the road to net zero, but achieving the necessary outcomes will need cross sector input from a wide range of stakeholders working towards a common goal.

Many of the themes will also involve a number of cross-cutting elements and taking forward action will require an holistic view of the interdependencies and multiple benefits that are at play.

Following stakeholder engagement into the strategy in Autumn/Winter 2021, three overarching focus areas were consistently highlighted as golden threads which should run throughout the strategy: Innovation, Education and People.

These overarching focus areas have not only been identified as central to the road to net zero but to recognise that there are a number of interdependencies and cross-cutting areas that need to be considered.

Overarching focus areas

Innovation

The transition to net zero will require both technological and cultural change on a level which for many is currently difficult to comprehend. While planning for this change is challenging, it presents huge opportunities for creative ideas and new ways of working and the chance for South and East Lincolnshire to be trailblazers for both developing and embracing change.

Education

Education is key to bringing about the cultural shifts that will be required in the way we go about our daily lives. It is also vital to upskilling our local workforce and ensuring private and public sector support for training and development. Whether it is equipping young people with the knowledge and skills they need to gain employment or supporting those in traditional 'high carbon' industries to reskill, education is central to ensuring the opportunities that the climate change agenda presents are not missed. Carbon Literacy training across all sectors will have a key role to play.

People

The community of South and East Lincolnshire is central to the success of this strategy. Whether residents, visitors or those involved in business – everyone has a role to play in the road to net zero. This strategy must recognise that people are all in different places on that journey and it is imperative that a just transition brings everyone along and excludes no-one from playing their part. The engagement of youth ambassadors is an important focus of this thread.

A series of key sector themes underpin this approach, reflecting the input that will be required to achieve the necessary outcomes from a wide range of stakeholders across South and East Lincolnshire.

Key themes

Transport

Emissions from the transport sector are the largest contributors to the carbon footprints of the SELCP area accounting for 37% of Boston's total emissions, 32% of South Holland's and 31% of East Lindsey's. Emissions attributable to transport across all three areas are rising as a proportion of all emissions.

Reducing emissions and the promotion of more sustainable travel solutions are included to some extent in existing travel plans and strategies in the county with a new Lincolnshire Transport Plan due to be adopted in early 2022. An Ultra-Low Emission Vehicle Strategy is currently in progress and set to be agreed in 2022.

An Air Quality Management Area (AQMA) currently exists at Haven Bridge and Boston Borough Council coordinates an Action Plan which includes steps that will achieve mutually beneficial outcomes.

Challenges/Opportunities

Development of the Port of Boston as a fresh fruit and vegetables hub is already starting to tackle the need for lower carbon supply chains. Furthermore, Town Deals for both Boston and Skegness include plans to enhance their respective railway stations along with the growth of walking and cycling options.

A large number of businesses, particularly in the agri-food supply chain across Boston and South Holland, rely on the road network to support their operations to ensure timely delivery and dispatch of produce.

The rural nature of the region means there is limited travel connectivity, particularly along the coast, and many towns are poorly served by public transport. This will make decarbonising transport a challenging task in the years ahead with residents often having to travel several kilometres to access key services such as doctors and supermarkets.

While electric vehicles provide one potential option, as technology advances it is likely there will be a mixture of solutions adopted and opportunities to trial alternatives such as hydrogen, or interim alternatives such as compressed natural gas.

Built Environment

Emissions from energy consumption in and around domestic properties is the second largest contributor to carbon emissions across the area. Without action, emissions in this sector are predicted to increase by as much 8% across South Holland, Boston and East Lindsey by 2050.

The challenges in this sector going forward are two-fold: both ensuring that new builds and retrofits of existing properties are fit for the future but also ensuring that developments continue to be considered economically viable once new technologies are incorporated.

The communities of South and East Lincolnshire are rural in nature with high proportions of off-gas grid properties still reliant on solid-fuel systems. A range of initiatives will be required to educate and find solutions to alternative methods of heating residents' homes.

Consideration also needs to be given to the issue of both retrofit and new developments fit for the future within the commercial sector.

Challenges/Opportunities

Currently all new developments must meet the energy efficiency standards required by UK Building Regulations. The Government is consulting on updated standards for new homes which are expected to include a ban on gas boilers from 2025 amongst other measures.

Engagement with developers will be key to finding solutions which will enable the development of affordable, energy efficient homes.

There is also an increasing understanding of the need to reduce embodied carbon in new build and retrofit schemes and this is likely to gain further traction in the next few years.

The challenges of retrofitting heritage buildings also needs to be considered to identify how we improve the thermal efficiency of listed buildings and conservation areas across the region without compromising history and appearance.

Energy/Renewables

Taken as a whole across the different sectors, energy consumption is the largest source of emissions across the area. Whether through the heating of private or public sector property or through energy usage as part of industrial and commercial processes, there will need to be significant changes to the way energy is both produced and consumed.

In terms of energy demand, South Holland, East Lindsey and Boston all perform poorly on fuel poverty with all three having a higher percentage of households in fuel poverty than the national average.

A key challenge for the whole area is in terms of network capacity which at times are currently presenting a barrier to renewable generation and storage. Engagement with the Distribution Network Operators will be essential as will the ability to accurately predict potential expansion and take up of particular technologies to ensure the energy infrastructure is able to meet demand.

Challenges/Opportunities

Nationally, renewable energy generation continues to grow with 42% of electricity produced in 2020 from wind, solar, water and wood compared with 41% generated from gas and coal plants. If this growth on the path to net zero is to continue however, small scale renewables solutions together with larger scale developments are going to be essential to achieving the net zero aspirations.

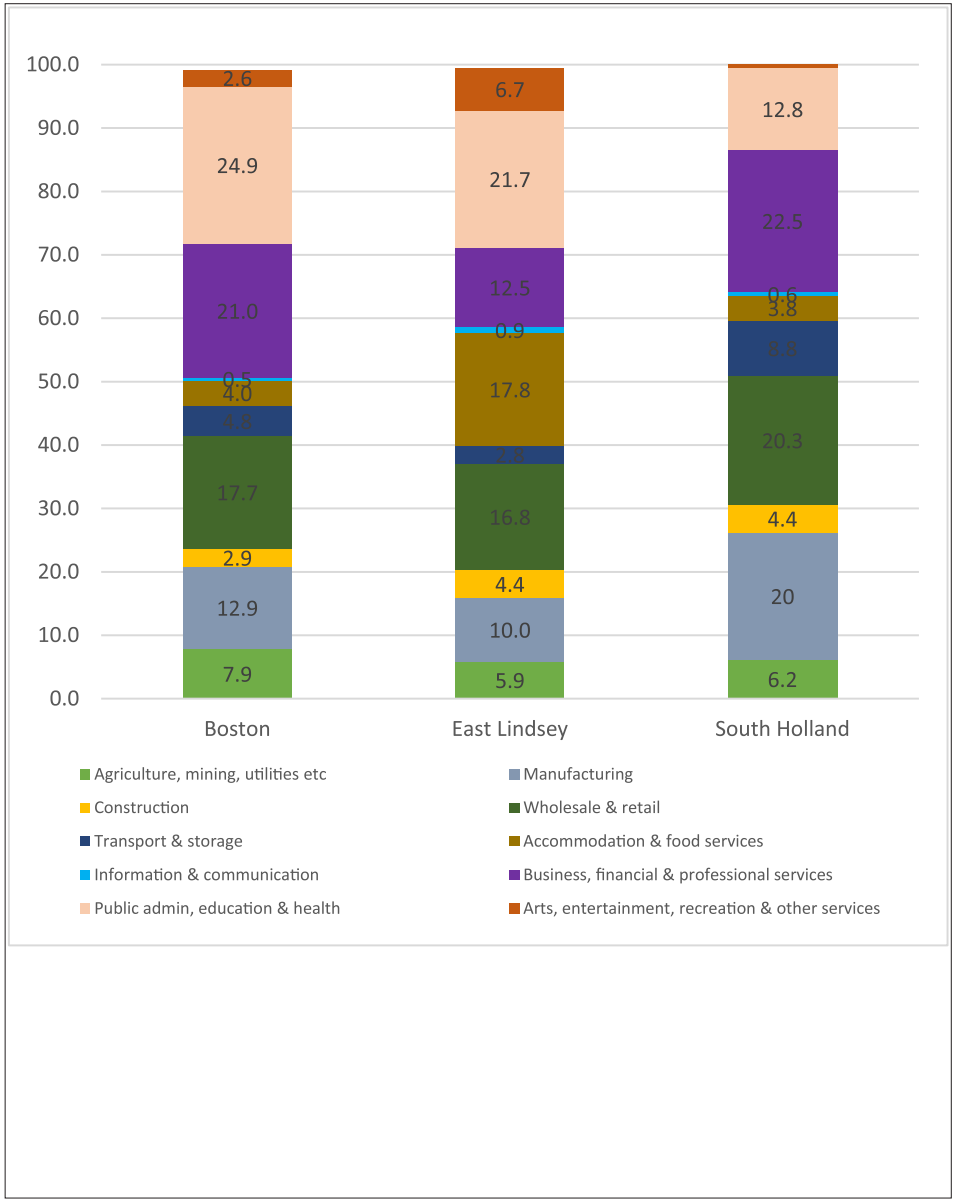
As a coastal sub-region, any potential to harness opportunities presented from tidal energy should always be kept in mind.

Business

Emissions from industrial and commercial activities combined make up another significant proportion of the carbon footprint of the SELCP area.

The employment share by sector can be broken down as shown below, with key areas including public admin, education and health; wholesale and retail; business, financial and professional services and manufacturing. The main difference in East Lindsey is the significant proportion of accommodation and food services employment.

Employment share by sector (%) across East Lindsey, Boston and South Holland



Challenges/Opportunities

Since the height of the Covid-19 pandemic in early 2020, many businesses have adopted new ways of working in particular with many employees working from home and reducing business travel. Harnessing those gains needs to be continued to ensure a green recovery.

Consumers have a large power of influence and businesses are set to see increasing pressure to meet the challenges and opportunities of moving towards circular economy - reducing waste and protecting natural resources while also securing sustainable procurement and supply chains.

Agriculture/Food

Agriculture is one of the dominant industries across the South and East Lincolnshire Councils Partnership area. The Agri-Food industry as a whole plays a major role in the region's economy and the development of a South Lincolnshire Food Enterprise Zone at Holbeach aims to promote innovation within the sector including areas such as low carbon technology.

The sector has a relatively unique position in being able to influence both emissions and sequestration of GHGs. Unlike most other sectors however, only around 10% of emissions are carbon dioxide with nitrous oxide and methane making up the majority. These not only have a much higher global warming potential than CO2 but can be more complex to address because of the involvement of natural processes.

Arable cropping and salad/vegetables are the primary production types across the area but there are also a number of livestock operations. Horticulture is also a key part of this sector, particularly in South Holland, and growers have an equally important role to play in leading and driving change.

		Farmed area by type (hectares)				
	No. of holdings	Farmed area	Cereals	Arable (exc cereals)	Fruit and Veg	Grassland
Boston	277	31,894	10,969	8,274	7,149	3,368
East Lindsey	1,131	145,462	70,540	36,576	6,237	21,097
South Holland	608	64,062	30,050	18,806	7,126	3,395

Challenges/Opportunities

Agriculture is not only well placed to lead on changes to reduce emissions. Farmers are also the custodians of our natural environment and have an important role to play in nature's recovery with innovative solutions offering the opportunity to deliver multiple benefits to society.

There will be challenges ahead as the impact of our diets on climate change continues to undergo scrutiny and a new Agriculture Bill seeks to deliver significant changes to the way farm support is delivered.

Water Resources

Water is a key theme because it covers not only consumption and resource management but also flood risk from coastal inundation, rivers and surface water. The South and East Lincolnshire Councils Partnership area is particularly vulnerable to climate change impacts because of a relatively low rainfall and its low-lying nature with a long coastline.

In East Lindsey alone, 38% of the District is at risk from coastal inundation alone, with additional risk coming from surface water flooding i.e. from rivers, drains and localised flooding.

Across the area, the considerable risk of flooding is substantially reduced by the work of internal drainage boards in partnership with other bodies such as the Environment Agency. This does inevitably mean that significant energy and financial resources are spent on removing water from the region for much of the time which is then unavailable during drier periods.

Challenges/Opportunities

Climate change is expected to lead to warmer and drier summers together with milder and wetter winters and the ability to manage water to ensure supply is available where and when it is needed is essential.

Given the area's coastal geography, sea level rise undoubtedly presents one of the biggest challenges for the future and partnership working will be vital to ensuring effective adaptation and mitigation strategies.

Nature-based Solutions

Climate change will add to the increasing pressures on our natural environment but if managed correctly, the natural environment can also play a key role in how we mitigate for and adapt to the challenges it presents.

The SELCP area is fortunate to be home to Lincolnshire Wolds Area of Outstanding Natural Beauty with the internationally important estuaries of The Wash and The Humber on its doorstep. It has a total of 74 designated sites of national/international importance.

There are also 514 locally designated biodiversity and geodiversity sites in South Holland, Boston and East Lindsey although just 41% are considered as being 'positively' managed - the vast majority are in Boston and South Holland.

It is important to recognise that the wider importance of the natural environment must expand well beyond designated sites.

Challenges/Opportunities

Carbon sequestration, water storage, water quality, flood protection and urban cooling can all be delivered through a well-managed natural environment together with a range of societal benefits such as green tourism and improved health and wellbeing. The fenland landscape of South Lincolnshire holds significant potential in particular through tackling both climate change and biodiversity loss through the opportunity to restore peatland sites which provide the Earth's largest terrestrial carbon stores.

The Environment Act 2022 aims to halt the decline of nature by the end of 2030

by restoring natural habitats and increasing biodiversity. It gives local authorities an important role to play in not only putting spatial planning for nature on a statutory footing but also in working in partnership to ensure a Local Nature Recovery Strategy delivers action which enables both nature and people to thrive.

Visitor Economy

Tourism is already an important part of the South and East Lincolnshire economy, particularly along the coastline of East Lindsey. It does however mean that there is a large influx of people to the area and so ensuring visitors are engaged with, and catered for, in a changing environment will be key.

The rural nature of the region often means that access to the area by public transport is more challenging and a large proportion of visitors travel by private car. Access to the coast in particular, can already put a strain on the existing road infrastructure at peak periods.

Awareness of the need for sustainable tourism is growing and the area will need to ensure it is able to offer opportunity for climate conscious visitors to access and enjoy low carbon experiences in the region.

Challenges/Opportunities

There is already a focus on the impact of international travel and foreign holidays on carbon emissions and as awareness around this grows, people may choose to take more holidays within the UK with coastal locations likely to be the most attractive.

Many thousands of visitors to the area stay in accommodation such as caravans which are potentially more vulnerable to the impacts of extreme heat or flooding and this will need to be considered going forward.

Weather and climate are anticipated to have an impact on tourism patterns and an understanding of how this may change travel behaviours will be important. Higher temperatures could push more people away from inland sites to the coast and may also see more tourists coming to the UK from abroad where temperatures, e.g. in the Mediterranean, become too great. Overall visitor patterns may see a shift in peak travel periods away from the summer season into spring or autumn as temperatures are more appealing.

Ensuring that local infrastructure can meet the needs of visitors such as enabling them to charge electric vehicles or find shelter from excessive heat will need to be a key part of tourism industry planning across our region.

Linking the focus areas to the key themes

Innovation

Transport: technological innovation is key to the decarbonisation of transport. Current focus is predominantly on electrifying fleets but workable solutions for Heavy Goods Vehicles are still complex and a combination of low-carbon solutions is likely to be the reality in the short to medium term. At the current time, the challenges of rolling out the required charging infrastructure for domestic and commercial use must be addressed.

Built Environment: innovation in the built environment sector will be multi-faceted and include the reimagining of traditional development methods together with the inclusion of new and emerging technologies across the energy, water and construction sectors. Innovation will also play an important role in finding solutions to both retrofit schemes and new developments which address viability concerns within the sector currently, particularly across our region. Innovation will be crucial not only in reducing carbon emissions but in adapting buildings to reduce vulnerability to those that inhabit them from temperature extremes and flood risk.

Energy/Renewables: renewable energy generation is central to a net zero future and while this sector continues to grow there is still huge scope for small-scale domestic and commercial utilisation of the technology. Supporting residents and businesses to explore this will be vital together with ensuring the region is not left behind in the innovation needed to future-proof the energy distribution network.

Business: opportunity exists for SMEs across the region to not only embrace innovative ways of working but to be involved in developing future technology. There will also be a role for knowledge-sharing to take place between businesses and for those that are further ahead on the net zero journey to support and guide others in how to make the necessary steps. Opportunities for new businesses to position themselves in the low-carbon sector must also be harnessed to support local jobs and local supply chains.

Agriculture: there is much talk within the farming industry around potential for a 'fourth agricultural revolution' referring to the opportunity that new technology is anticipated to bring to the sector. In particular, the use of Artificial Intelligence is receiving heavy investment for the opportunities it presents to boost food production while minimising environmental degradation. The University of Lincoln is at the leading edge of this work and makes our region well placed to pioneer the use of advancements in technology. Smaller farmers/growers must be supported to ensure they too can embrace the revolution.

Water Resources: water must be seen as a valuable commodity and a shift in focus needs to happen from removing it from our region as quickly as possible, to enabling innovation in terms of storage and reuse to ensure a constant supply when needed most. Hotter summers will lead to greater scarcity of water so the ability to store water during wetter periods to combat this will be necessary. Difficult and challenging new approaches to water management may also be required to address the threat presented by the flood risk from coastal inundation, rivers and surface water.

Nature-based Solutions: The natural environment has the potential to provide some of the most effective tools to help combat climate change and provide a more sustainable way of living for the future. Technology, along with behavioural change, can help restore healthy natural systems. In addition, placing an economic value on nature through a Natural Capital approach can help incorporate the wider benefits of the environment into decision making at all levels.

Visitor Economy: Innovation in this sector is likely to focus initially around better data and understanding of how climate change may impact on people's travel decisions and behaviours. Cross sector opportunities for diversification into the tourism industry are also likely to exist, such as those linked to the agricultural sector. Ensuring that the region keeps up with innovation in other sectors – particularly around transport – will also be important to ensure there are no limitations on how people travel to the region or how they move about during their stay.

People

Transport: Supporting local people to make more sustainable travel choices will be a challenging issue for the region. Not only are public transport links often limited, the rural nature of the county means switching to alternatives such as walking or cycling are often less feasible and there are also challenges in the short to medium term of ensuring sufficient infrastructure is in place for any transition to electric vehicles. With high levels of fuel poverty and deprivation, the ability for many people to switch to greener vehicles due to cost is also an inhibitor and there will be challenges to address around ensuring an inclusive transition for all.

Built Environment: Changes in the built environment sector towards greater use of smart building management systems (both domestic and commercial) and technological changes particularly around heating, will require easily accessed advice for local people. There will also be the need for support, particularly for residents, to ensure they are not left behind in the transition because of difficulties in accessing new technology or funding the changes that are needed.

Energy/Renewables: Fuel poverty is already a key area of concern for the region and with energy costs continuing to rise the move away from reliance on fossil-fuel heating, in a similar way to transport, is as much about an inclusive transition for all as it is reducing carbon emissions. The sector will also support the potential to upskill and retrain local people, providing a range of employment opportunities.

Business: The transition to net zero will provide opportunities for SMEs but support for people on how to change and adapt to ensure they can meet the challenges and seize the opportunities will be important. Recognition schemes

which highlight the green credentials of businesses will help to showcase those making change and help local people to buy with confidence and make more sustainable choices.

Agriculture: Providing opportunities for local, affordable supply chains will enable people to make more sustainable choices that help support the local farming economy. The notion of a fourth agricultural revolution that centres around the use of technology is also set to open up employment in the industry to a wider audience providing skilled opportunities to local people. The sector has huge potential to contribute to carbon sequestration and nature's recovery and this needs to be acknowledged and understood by local communities.

Water Resources: The coastal nature of the region means greater vulnerability to the effects of climate change. Engagement with communities will be particularly important where challenging decisions may be needed around issues such as future flood risk and will help to reduce the risk to people in the event of extreme events. People will also have an important role to play in changing behaviours to reduce water consumption and maximise opportunities to capture and reuse water.

Nature-based Solutions: The Covid-19 pandemic has brought home the importance of the natural environment to people more than ever. Access to nature supports improved health and wellbeing outcomes and helps connect people with their local area as well as providing opportunities for green tourism. Ensuring accessible green space is available to everyone will bring wider benefits to society while also contributing to Nature Recovery Networks.

Visitor Economy: The potential for a growing tourism sector provides opportunity to train and retain a more skilled workforce within the sector, demonstrating to young people particularly that the industry can provide a long-term career choice. Engagement with tourists to better understand their needs and expectations will be important to maximise the potential that exists.

Education

Transport: As the largest contributor to carbon emissions in South and East Lincolnshire, education will have an important role to play in reducing transport emissions. The Covid-19 pandemic has already changed travel habits in a way that many perhaps wouldn't have thought possible previously with working from home and remote meetings now commonplace. Education and information sharing will be important in enabling people to make greener travel choices and in helping businesses to implement new ways of working.

Built Environment: The move away from fossil-fuel heating systems and the need to improve the energy efficiency of properties – both at the outset and through retrofit – will require a cultural changes in the way we heat and live in our homes. Educating residents and businesses about the need to reduce operational emissions from the built environment will help demonstrate the 'easy wins' that can be made and ensure people are better informed to make sustainable choices in the future. Ensuring local education providers also offer opportunities for training a local workforce and supply chain to deliver sustainable construction practices will also be vital.

Energy/Renewables: As a growing sector, there are significant opportunities within the energy and renewables sector to both upskill and reskill local people. Education providers from schools through to colleges and universities will all have a role to play in helping people to explore the opportunities and to ensure availability of training provision locally to ensure a correctly skilled workforce to meet future demands and support the local economy.

Business: Helping businesses to understand and monitor their carbon footprint and identify routes to make their operations greener will be important. The

sharing of best practice between businesses will be central to helping firms make positive changes and to understand the potential opportunities for inclusive, sustainable growth.

Agriculture/Food: Education is two-fold for the farming industry – to support improved understanding and embrace change within the sector itself and to better inform the wider public around food production enabling them to make better choices in line with the climate change agenda. Encouraging farmer-to-farmer learning together with helping businesses understand what climate change means for them will also be beneficial.

Water Resources: Climate change is likely to lead to water shortages across our region in years to come and educating people and businesses around the need to reduce water usage and seek opportunities to reuse and store water will be important. Education will also work closely alongside engagement with communities to ensure they are better informed about future risk from flooding or drought and to ensure they are prepared for future scenarios.

Nature-based Solutions: Education around the natural environment is important to ensure it is valued, not only for the habitat it provides and biodiversity it supports, but for the wider benefits it offers to society. Community engagement and understanding of Local Nature Recovery Strategies and Nature Recovery Networks will also be important. Greater understanding of how investment in the natural environment can also support outcomes such as carbon sequestration, improved health and wellbeing, flood prevention and tourism opportunities will help ensure it is given equal weight alongside societal and economic considerations.

Visitor Economy: Educating the operators of 'traditional' tourism businesses to become more sustainable and offer low carbon experiences for visitors will be crucial to ensuring the area can maximise the opportunities that climate change presents for the tourism economy. Engagement and education of visitors to the area around how they support sustainable tourism while in the region will also be key to ensuring that an influx of people to the area does not impact negatively on carbon emissions.

Strategic Action Plan

This high level Action Plan sets out some of the key areas that this Climate Change Strategy needs to address. A Delivery Plan will be established by SELCAN to set out in greater detail how the actions will be achieved and how success will be determined and monitored.

	Action	Outcome	Timeframe
	Develop an EV policy for the area based on modelling current and predicted future requirements.	An evidenced-based plan to ensure charging infrastructure is rolled out in a strategic manner to provide comprehensive coverage.	2022-23
	Explore opportunities to decarbonise public transport through new and emerging technology and maximise potential links with walking and cycling options	Schemes which seek to enable residents and visitors to make low-carbon travel choices more easily including through opportunities to try alternative technology solutions	Within 5 years
	Promote the continuation and expansion of new ways of working developed during the Covid-19 pandemic to reduce regular commuting and unnecessary travel	A society that harnesses and builds on the gains in travel reduction experienced during the Covid-19 pandemic, reducing emissions from transport	2022-23
	Embed climate change mitigation and adaptation within strategic planning policies	Strategic policies that set out effective plans to futureproof development across the sub-region	Within 3 years
	Encourage and promote efficient use of energy in the home and in businesses	Residents and business owners that are better informed with regard to Energy Saving Advice and are able to make changes to lower energy bills and reduce carbon emissions	2022-23
	Foster exemplar approaches to the sustainable design of new developments and adaptive technologies	Promote to the wider sector positive examples of futureproofed developments to improve sustainability standards across developments in the region	Within 5 years
	Support residents to access available funding to improve energy efficiency and reduce fuel poverty	Opportunities to secure funding for local people are fully explored and a coordinated approach to ensuring grants reach the right people is implemented	2022-23
	Encourage a better understanding of embodied carbon levels within new developments and work with the industry to identify low carbon alternatives	The industry understands the implications of embodied carbon is better informed to ensure new ways of working are explored and implemented as part of the net zero transition	5-10 years

KEY = Innovation = Education = People

	Action	Outcome	Timeframe
	Encourage sustainable procurement practices that support local supply chains and foster the building of a circular economy	Reuse is at the heart of procurement decisions across the region alongside ensuring the local economy is boosted by supporting local businesses and supply chains wherever possible	Within 3 years
	Support and advise local businesses on understanding their current carbon footprint and identifying routes to decarbonise their operations	Businesses that know the impact of their own operations and have a plan for how the will reduce carbon emissions over time	2022-23
	Promote and foster opportunities for businesses to grow and develop within the low carbon and renewables sector	Businesses that are positioned to take advantage of the opportunities that are presented to embrace change, deliver new ways of working and grow with a changing world rather than being left behind	Within 5 years
	Work with education providers across the board to ensure opportunities for training and upskilling the local workforce area provided	Opportunities for local people to train/retrain are provided locally together with support for them to find employment/business opportunities within the local area, keeping skills within the local economy	Within 5 years
	Introduce Carbon Charter Awards Scheme for businesses to showcase their climate change credentials	A system similar to food hygiene status, where customers are able to make sustainable choices because businesses are demonstrating their credentials openly and recognised for the efforts they make	2023
	Promote and support innovation and uptake of new technology in the farming sector to enable more sustainable farming practices	No business is left behind in the fourth agricultural revolution and farmers feel supported and empowered to embrace new technology for the benefit of their business and the wider community	Within 5 years
	Education and encourage residents to access affordable, local and seasonal food through promoting local supply chains and food markets	Consumers are well informed about where their food comes from and able to make sustainable choices	Within 3 years
	Identify opportunities and support farmers to access mechanisms to enable less productive land to be used for environmental schemes which also deliver multiple benefits for society.	Farmers feel able to embrace and support land management scheme that delivers for both the environment and climate change and for the individual farmer and are supported to ensure results	2024-2025
	Promote technologies and behaviours that reduce water consumption across all domestic and commercial sectors	Water is a valued asset and usage is reduced through the use new technology and behavioural change	Within 3 years
	Work with developers to reduce water consumption demand in new builds and retrofits	Standards are raised across the development sector so that consumption is minimised and technologies to enable storage and reuse are mainstream	Within 3 years

KEY = Innovation = Education = People

	Action	Outcome	Timeframe
	Support initiatives to improve the management of waterways and coastal areas to reduce flood risk and benefit the natural environment	Management programmes are designed collaboratively and are appropriately informed to provide solutions that ensure operational outcomes while also benefitting the wider environment	Within 3 years
	Ensure strategic partnership working delivers long-term coastal change management and planning, as well as building resilience to communities at risk of coastal and riverine flooding through adaptation and mitigation	All stakeholders are well engaged through strong approaches to partnership working. Clear lines of communication ensure that communities feel informed and included as part of future management decisions	Within 3 years
	Encourage and promote land use change and management decisions that help both nature and people build resilience to climate change	New management schemes and practices are designed from the outset to deliver a range of other benefits to local communities alongside the need to build resilience	Within 3 years
	Work in partnership to ensure gains for the natural environment are delivered in a strategic manner with long-term plans to ensure effective management is maintained	Biodiversity net gain, together with other initiatives to conserve and enhance habitats, are informed decisions based on existing data to ensure they are both appropriate and effective. Plans for long term management are considered and implemented at the outset	2023-2024
	Where tree planting is part of the solution, ensure a 'right tree in the right place' approach is taken	Decisions on tree planting provide enhancements to the natural environment and local communities based on strategic decision making	2022-2023
	Promote an understanding of the economic benefits that a well-managed natural environment can bring to the S&ELCP area	Natural Capital mapping tools are used to assist decision makers by identifying ways in which economic and social activity is dependent upon the natural environment	2023-2024
	Ensure that South and East Lincolnshire becomes a leader for low carbon experiences for visitors and residents, maximising links to the environment, heritage and culture	The area becomes recognised for its sustainable tourism credentials alongside its more traditional offer	Within 5 years
	Undertake an exercise using best available data to predict how tourism patterns may change across our area – identifying potential pressure points	A better informed tourism industry that is able to plan for and meet future demand that may result from changing behaviours within the sector	Within 3 years
	Produce guidance for visitors to the area around sustainable tourism and the role they can play in contributing to the net zero ambition while staying in the region	Visitors understand the impact they can have and tourism businesses make it easy for them to make sustainable choices while staying in the area as part of an enjoyable travel experience	Within 3 years

KEY = Innovation = Education = People

Delivering this Strategy

The South and East Lincolnshire Councils Partnership is well placed to facilitate the delivery of this strategy but this can only be achieved with the full support of stakeholders from across the public, private and third sector together with local community engagement.

Meeting the net zero ambition of the UK as a whole will require action on every level but will only achieve the necessary results through education, through sharing knowledge and best practice and ultimately through working in partnership.

South and East Lincolnshire Climate Action Network (SELCAN)

The key delivery mechanism for taking forward this strategy will be through the establishment of the South and East Lincolnshire Climate Action Network (SELCAN). Facilitated by three Councils, SELCAN will bring together private, public and community sectors to jointly tackle climate change.

Its remit will be to drive strategic thinking and promote on the ground delivery and implementation of projects to reduce emissions across South Holland, Boston and East Lindsey and build a more sustainable future.

Representation will be through a number of seats identified for each key sector, designed to provide a cross section across the area. SELCAN will meet quarterly but may choose to establish small working groups where issues are felt to be particularly sector or geographically specific.

SELCAN will be an independent body which owns, monitors and reviews progress against the strategy with secretariat provided by South Holland District Council, Boston Borough Council and East Lindsey District Council.

Communications

This strategy has been produced by the South and East Lincolnshire Councils Partnership but is a strategy for the whole area.

The success of its delivery is dependent on:

- The effectiveness of the leadership and the commitment within the public sector and private sector in working towards a net zero future
- Every individual, business and organisation in South Holland, Boston and East Lindsey being aware of the challenges ahead and having an understanding of the actions that can be taken
- Effective engagement with everyone making effective, lasting, cultural changes to play their part in a net zero future

To this end, communication will be key and the engagement plan sets out the outcomes that need to be achieved:

Action	How will this be achieved?	Timescale	How will it be monitored?
Ensure every individual, business and organisation is aware of the Climate Change Strategy and what it seeks to achieve	Media campaign, public consultation, engagement events, e-Messenger	Next 12 months	Engagement with consultation and events
People living and working in South Holland, Boston and East Lindsey understand climate change and its potential impacts on our area	Media campaigns, engagement events,	1-3 years	Climate change questions included in residents surveys. Responses can be compared
All sectors are actively participating in SELCAN and working to achieve a cultural change towards a sustainable future for Boston, South Holland and East Lindsey	Direct approaches to key sector representatives, online presence, strong partnership working, SELCAN ambassadors	1-3 years	Monitored by numbers of stakeholders pro-actively participating in SELCAN with representation across the identified sectors
Individuals, businesses and organisations understand where they can make a difference and are seeking to play their part	Workshops, business networks, toolkits for key sectors	1-3 years	Feedback from events and workshops Number of enquiries received
The South and East Lincolnshire sub-region is recognised as an exemplar in how everyone is working together to achieve the net zero ambitions of the nation	Carbon Charter Awards, media campaigns on success stories, BEIS statistics	3-5 years	Engagement with Awards, publicity achieved, reductions in annual BEIS figures for Boston and East Lindsey

Glossary

Biodiversity net gain - an approach to development and/or land management, that aims to leave the natural environment in a measurably better state than it was beforehand.

Carbon budget - the quantity of greenhouse gas emissions that can be emitted in total over a specified time by a given entity in line with scientific targets to keep within certain temperature increase.

Carbon credits - a term used to describe a tradeable certificate or permit giving the holder a right to emit a measured amount of greenhouse gas.

Carbon footprint - the total greenhouse gas emissions resulting from the activities of individual, event, organisation, service or product expressed as carbon dioxide equivalent (CO2e).

Carbon offsetting - a mechanism used to compensate for greenhouse gas emissions made elsewhere through. Usually through a body funding activities or projects that improve or enhance the environment or buying carbon credits to balance out the emissions from their own operations.

Carbon neutral - a process of reducing greenhouse gas emissions which allows for offsetting through the purchase of high quality, certified carbon credits.

Circular economy - an economic system aimed at eliminating waste by keeping resources in use for as long as possible, extracting the maximum value from them while in use, then recovering and regenerating products and materials at the end of their life.

Carbon sequestration - the process of capturing and storing atmospheric carbon dioxide.

Decentralised energy - projects which generate, use and store energy off the main grid including micro-renewables, heating and cooling networks.

Ecological networks - the composition of core areas of habitats and corridors such as hedgerows or watercourses which enable the free movement of species throughout a landscape.

Embodied carbon - the total greenhouse gas (GHG) emissions generated to produce a built asset.

Fuel poverty - a situation where a household has fuel costs that are above the national average and in spending that amount are left with a residual income below the official poverty line.

Greenhouse Gases - gases in the Earth's atmosphere that trap heat. The main greenhouse gases are Carbon Dioxide (CO2), Methane (CH4) and Nitrous Oxide (NO2) and are usually expressed in terms of their Carbon Dioxide equivalent value (CO2e.)

Local Area Energy Plan - a data driven approach which brings together the decarbonisation of heat, transport and power by incorporating in interactions and impact on the energy network in a given spatial area.

Local Nature Recovery Strategy - spatial strategies which establish priorities and map proposals for specific actions to drive nature's recovery and provide wider environmental benefits.

Net zero - a process of reducing greenhouse gas emissions whereby any residual emissions that remain these can be offset with certified greenhouse gas removal mechanisms such as tree planting or carbon capture technology.

Residual emissions - any emissions which remain after all technically and economically feasible opportunities have been implemented.

Science-based target - a carbon emissions target which is in line with the scale of reductions required to keep global temperature increases below 2°C above pre-industrial temperatures.

Scope 1 emissions - direct emissions from sources directly owned or controlled by the reporting body such as fleet vehicles or natural gas consumption.

Scope 2 emissions - indirect emissions from the generation of purchased energy such as electricity.

Scope 3 emissions - indirect emissions that occur in the value chain of an organisation, be that upstream or downstream, such as business travel, waste disposal or water consumption.

SME -Small and Medium-sized Enterprises.

Urban cooling - a range of methods used to lower temperatures in built-up area and reduce the impact of the urban heat island effect.

CLIMATE CHANGE STRATEGY

FINAL - SPRING 2022