



FUTURE FENS: INTEGRATED ADAPTATION

Manifesto

A vibrant future for the Fens

The Fens, their communities and the local economy are at increasing risk from the changing climate.



Sea level rise and more extreme weather events will lead to more severe and persistent floods. Drought risk is increasing too, with the need to manage competing demands for fresh water between communities, industry, agriculture and the natural environment in an area that has just two-thirds of the UK's average rainfall.

But it doesn't have to be this way. A multi-sector Taskforce has come together to share knowledge, resources and ambition, creating an integrated approach to water management for the Fens that will deliver resilience and adaptation to the changing climate.

Future Fens: Integrated Adaptation has the potential to be the most radical approach to water management in this landscape since it was first drained with the help of Dutch engineers in the 17th century. This manifesto sets out the risks, the opportunities and the shared commitments that aim to bring renewed environmental, social and economic prosperity to this unique region.

The Fens: Landscapes and communities at risk

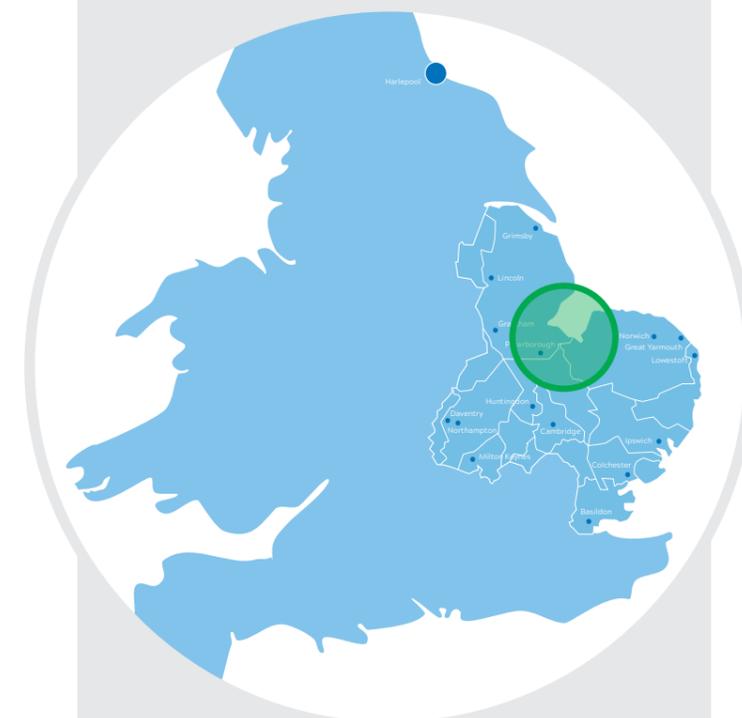
One of the areas of the UK most exposed to climate change impacts, the Fens are on the frontline of rising sea levels, at growing risk of severe tidal flooding. Yet this region, spanning three counties in the East of England, is also the driest part of the country, with water shortages a real and increasing risk, particularly during the summer months. This landscape is a microcosm of the vast challenges which face us from climate change.

With over half of the UK's most fertile land, agriculture here provides a fifth of the nation's crops and a third of its vegetables. Prolonged drought would pose enormous challenges to food production.

Yet the heavily engineered landscape and intensive agriculture means that, although many specialist species make their home in the Fens, their distribution is often limited to the remaining undrained fragments of fenland, washlands, or fen ditches, making them vulnerable to extinction.

Historic wetland and lowland peat habitats that support a wealth of plants and wildlife, and store vast amounts of carbon, are at risk too. Much of our lowland peat landscape is needed for agriculture. Without action now, to manage these soils and habitats sustainably and by ensuring they are resilient to climate change, we will see a further loss of biodiversity.

Already, climate risk is holding back development and trapping local people in a low-wage economy. Without co-ordinated adaptation actions, the future impacts from climate change could lead to large-scale relocation of communities and businesses, and severe declines in agricultural production, resulting in the UK becoming increasingly reliant on food imports.





“ Solutions like those developed in the Fens can be rolled out across other lowland areas the world over, adapting effectively to the changing climate. ”

A wealth of opportunity

But alongside these huge challenges is a huge opportunity: to adapt to rising temperature and changing weather patterns through a radical holistic approach to water management that draws on international expertise to meet the needs of people and environment.

Future Fens: Integrated Adaptation is an unprecedented collaboration between local, regional and national partners to realise these opportunities.

With the growing cities of Cambridge and Peterborough, and the OxCam Arc, on the doorstep, there is enormous opportunity here, not just for the Fens but for the whole of the UK, and with the potential for learning here to be shared with low-lying areas across the world.

Together, the Taskforce members aim to –



Protect and enhance the environment



Maintain much-needed food security



Develop new water resources to help meet future needs



Alleviate risks from drought and flood



Lock carbon in natural systems



Enable greater Investment to a region that includes some of the UK's most deprived areas.

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I welcome the innovative work **Future Fens: Integrated Adaptation** Taskforce partners are leading to keep pace with a changing climate and growing population. Collectively we need to provide flood resilience and secure future water supplies with an approach that moves past simply responding to the latest weather incidents. **Future Fens** could provide resilience to the area whilst anticipating future stresses underpinning local aspirations to ensure the Fens growth is not constrained and indeed enabled by this work. ”

The Rt Hon Steve Barclay MP, Chancellor of the Duchy of Lancaster, Minister for the Cabinet Office and MP for North East Cambridgeshire.

A blueprint for landscape-scale adaptation

Future Fens: Integrated Adaptation will be a global exemplar for how to adapt to the impacts of climate change. As the UK takes to the international stage at COP26 in November 2021, this project will demonstrate how nations can chart a path for living with, not battling against, water.

Solutions like those developed in the Fens can be rolled out across other lowland areas the world over, adapting effectively to the changing climate.



Making Integrated Adaptation happen

Future Fens: Integrated Adaptation is being led by funding partners Anglian Water, the Environment Agency, Water Resources East and the Cambridgeshire and Peterborough Combined Authority, with the support of more than 40 organisations from a wide range of sectors. A Taskforce has been set up and knowledge pooled through a series of visioning and mapping workshops.

The Taskforce's origins lie in close collaboration with Fenland District Council and the local community to consider options for the regeneration of the town of Wisbech, at the centre of the Fens, including the potential for a new Garden Town designed to be resilient to future climate.

Building from these origins, active collaboration has continued, including a field trip to the Netherlands organised by engineering consultancy Royal Haskoning DHV, on the basis of its Defra award-winning approach to flood-risk modelling (TRICO). This proved to be a step-change in innovative modelling, long-term integrated planning and a wider learning opportunity that could be incorporated into the regeneration of the town and surrounding area. Direct funding from the Dutch Government followed towards a pilot scheme. This work concluded that a technical solution could be provided to ensure future resilience to climate change.

What we will deliver

Working together, Taskforce members have developed and agreed 10 key strategic outcomes:

<p>1 AN INTEGRATED WATER MANAGEMENT SOLUTION AS THE COLLECTIVE VISION</p>	<p>By bringing water into the heart of landscape planning we aim to provide climate change adaptation, resilience and mitigation on a holistic scale.</p> <p>Our plans include the integration of new water resources with coastal and flood resilience into a major long-term adaptation pathway. They also link wider land and environmental management and potential options around carbon sequestration.</p>
<p>2 UNLOCKING SUSTAINABLE ECONOMIC GROWTH ALONGSIDE NATURE RECOVERY</p>	<p>Our approach will seek to unlock new eco-housing, business growth, new green transport infrastructure, increased biodiversity and innovative agri-tech.</p> <p>We will explore multi-sector opportunities for strategy integration, shared public value and cost efficiencies.</p>
<p>3 ADAPTATION AND RESILIENCE TO DROUGHT AND FLOODING</p>	<p>We recognise that we are in a climate emergency – we must act now or face the consequences.</p> <p>Whatever we develop there will be an equal focus on the environment. We need to find equilibrium and a sustainable future.</p>
<p>4 INVESTMENT BRINGING MUCH-NEEDED CERTAINTY FOR THE FUTURE</p>	<p>Our integrated water management solution will be the enabler for investment.</p> <p>We will develop comprehensive research, modelling and appraisals to ensure future viability and robust decision making.</p>
<p>5 THE PACE OF CHANGE REQUIRED FOR DELIVERY OF MAJOR INFRASTRUCTURE</p>	<p>We will carefully reassess existing plans to ensure that we make the most of the opportunity provided by an adaptive approach to planning and propose revised infrastructure investment timelines to align with opportunities. Climate change is accelerating and ambitious timelines are critical for success.</p> <p>We will work collaboratively to decide what can be delivered in the immediate and longer term timescales, where new technologies might provide alternative routes to successful adaptation and mitigation.</p>

<p>6 A MULTI-SECTOR ROADMAP AND CONVERGENCE OF STRATEGIES</p>	<p>We will develop a multi-sector Roadmap with the aim of long-term coordinated investment, at the necessary pace.</p> <p>Within the Roadmap, we will deliver a plan for strategic convergence across all sectors. This will facilitate the sharing of integrated benefits, identify public value, progress community engagement, enable robust decision making and review funding opportunities.</p>
<p>7 ALIGNMENT TO THE GOVERNMENT'S GROWTH VISION FOR THE OXCAM ARC</p>	<p>We will liaise closely with the Government and local leaders on this wider growth opportunity.</p> <p>We are a collective of stakeholders who want to take forward our adaptive pathway for the whole region.</p>
<p>8 SHARED INTERNATIONAL LEARNING AND EXPERIENCES</p>	<p>We will work with colleagues in the Netherlands to identify an area that shares the same challenges in relation to water, flood, land use and economic drivers. We expect to derive considerable value through working closely with both the Netherlands and California.</p> <p>We will encourage international sharing of learning. Through our involvement in the Resilience Hub at COP26 in November 2021 we will develop a declaration of shared intent with the Living Deltas Hub, with the aim of building new, worldwide partnerships for truly global integrated adaptation.</p>
<p>9 LEVELLING UP THIS IMPORTANT REGION: ENHANCING QUALITY OF LIFE</p>	<p>We will maintain our focus on social prosperity, as the Fens contain some of the worst patterns of rural poverty and deprivation.</p> <p>Through this proposal we aim to build on the strengths of the Fens to maximise opportunities to deliver thriving communities, regenerated market towns, better transport connectivity, improved health and well-being, new green space, new jobs and upskilling: resulting in an improved quality of life for Fenland communities.</p>
<p>10 ALIGNMENT TO REGIONAL MITIGATION ACTIONS</p>	<p>We will align our adaptation vision to local authority (and other organisations') plans for climate change mitigation – particularly seeking out opportunities where both can be delivered simultaneously through nature-based solutions.</p> <p>We will achieve these important steps in parallel and at pace.</p>



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Anglian Water

Businesses can and should make a positive difference to the communities they work within. This is why our purpose as a company goes far beyond the provision of safe, clean drinking water and water recycling services, to enhancing the environmental and social prosperity of the communities in our region. This is the ethos we embraced when we first began working in Wisbech in 2013 with Business in the Community and our partners in the @One Alliance.

Since then, and with the help of other sectors and like-minded businesses, our ambition for this area has grown into something which we hope will be a global exemplar of how to take a place-based approach to climate change adaptation. If we are to meet the tough challenges posed by growth, water scarcity, drought and flood and make a difference to the lives of local communities, we need to think differently.

We are working in partnership to develop proposals for two new reservoir systems which, together with flood management interventions, have the potential to transform opportunity in the Fens, delivering an integrated solution that

addresses a combination of challenges and delivers a broad set of benefits across multiple sectors. Both systems would see water being captured during high flows and transferred into pumped storage reservoirs for use during summers and times of drought. Combined, these new systems could provide up to 250 million litres of water for public water supply every day.

Early concept design work on the reservoir systems includes additional flood storage areas, storage capacity for irrigation and wetlands to enhance biodiversity. We are also exploring the opportunity to use open water transfers which would benefit navigation and tourism in the region.

We are wholly committed to delivering on these ambitious proposals, working with regulators and partners to maximise this unique opportunity for the Fens.



Water Resources East

Water Resources East (WRE) is excited to be right at the heart of the **Future Fens: Integrated Adaptation** project. Our vision is for Eastern England to have sufficient water resources to support a flourishing economy, a thriving environment and the needs of its population, and for the region to be seen as an international exemplar for collaborative integrated water resource management.

We are delivering our ambitious vision through planning, research and partnership development with over 180 key organisations, as we:

- Work with all water users in Eastern England to identify ways in which they can become as water efficient as they can be.
- Promote the need for additional storage of water within the landscape, increasing resilience for all water users and seeking to identify multi-sector opportunities to link water scarcity with flood risk management solutions.
- Plan ways to transfer water from areas of surplus to areas of deficit, increasing connectivity using both open water channels as well as pipelines.
- Link land and water management approaches more effectively, increasing resilience and restoring and enhancing the natural systems and resources on which all water users depend.

The Fens are a truly special place, and we have a once-in-a-lifetime opportunity to deliver our vision and achieve transformational change in the way that water is managed at landscape scale through collaboration and innovative thinking.





Environment Agency

At the Environment Agency we have the strategic overview for flood and coastal erosion in England and we take pride in owning, operating and maintaining much of the flood infrastructure that supports the economy of our Fen communities and businesses. Food infrastructure in the Fens also enables the economy to thrive in the wider region, and the Fens to punch above its weight nationally in terms of agricultural productivity.

This flood infrastructure has its roots back in the 17th century. Working in conjunction with the many Internal Drainage Boards in the Fens, it provides for our natural environment, amenity, navigation, irrigation and public water supply, as well as agriculture. However, while we continue to invest, the infrastructure is complex, ageing, carbon hungry and financially costly, and although it protects from flooding today, there are some uncomfortable truths to face regarding the future. A long-term plan is vital.

With our climate and biodiversity crisis comes the need to act to become carbon net zero; to enhance the natural environment; to become



more resilient to an increased threat from flooding; and to adapt to inevitable sea level rise in a landscape where a large proportion of land already lies below sea level.

Therefore, our unique commitment to the Fens within the National Flood & Coastal Erosion Risk Management Strategy is crucial. To develop a long-term plan for the Fens requires a greater level of collaboration than has ever been seen in local history. The key to this is being bold, innovative and much more integrated across sectors than ever before. That's why we are proud to play a sponsoring role within Future Fens: Integrated Adaptation.



Cambridgeshire and Peterborough Combined Authority

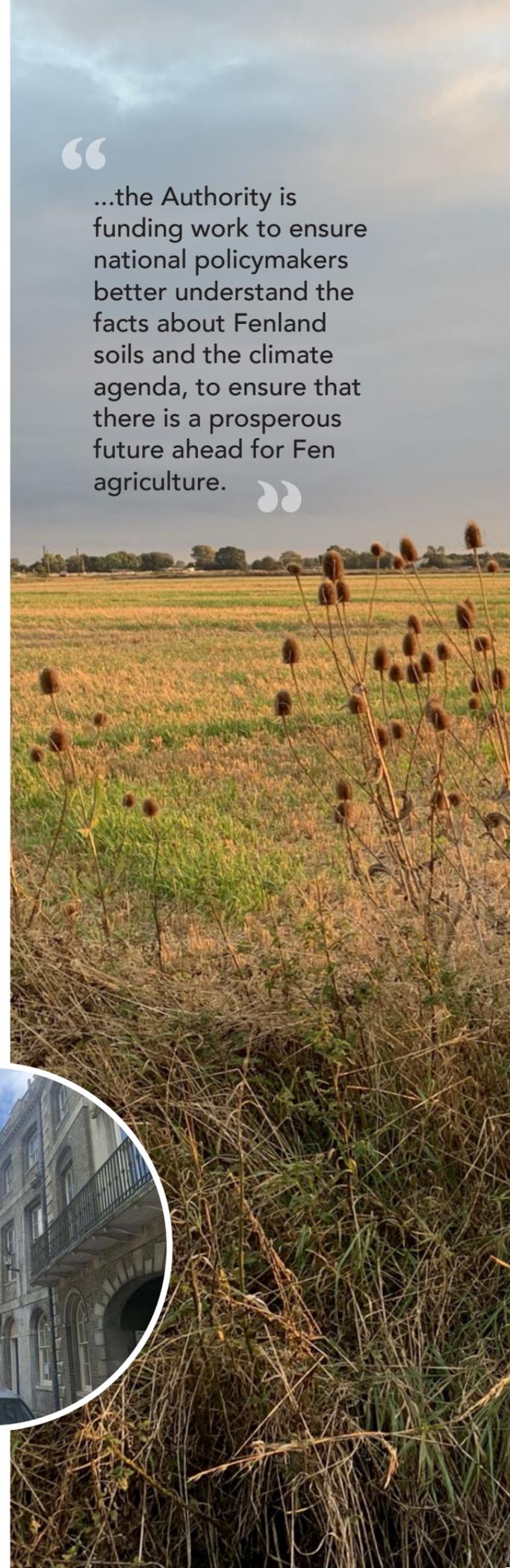
The sustainable future prosperity of the Fens is at the heart of the mission of the Cambridgeshire and Peterborough Combined Authority, and of the elected Mayor Dr Nik Johnson. The Authority has recently joined the sponsor group for the **Future Fens: Integrated Adaptation** initiative.

The Combined Authority's programme of investment in transport, skills and business support aims to address the inequalities between the high-wage, high-productivity economy of Greater Cambridge and the less-favoured market towns and villages of the Fens, which reflect a historic legacy of underinvestment.

As part of that, the Combined Authority is committed to addressing the challenges climate change poses for the Fens. Basing itself on the recommendations of the Cambridgeshire and Peterborough Independent Commission on Climate chaired by Baroness Brown, the Authority aims to ensure that the transition to net zero can take place in a way that supports continuing economic growth, and that is just and fair to communities facing particular challenges because of their location and income levels. As part of that, the Authority is funding work to ensure national policymakers better understand the facts about Fenland soils and the climate agenda, to ensure that there is a prosperous future ahead for Fen agriculture.



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The success of **Future Fens: Integrated Adaptation** depends on us all

Future Fens: Integrated Adaptation is an integrated, collaborative and innovative stakeholder partnership. This manifesto is just the first step, and we want you to help shape and be part of its successful delivery.

We welcome all views and encourage everyone to get involved in helping to transform this unique part of the UK.

For further information, please contact



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