

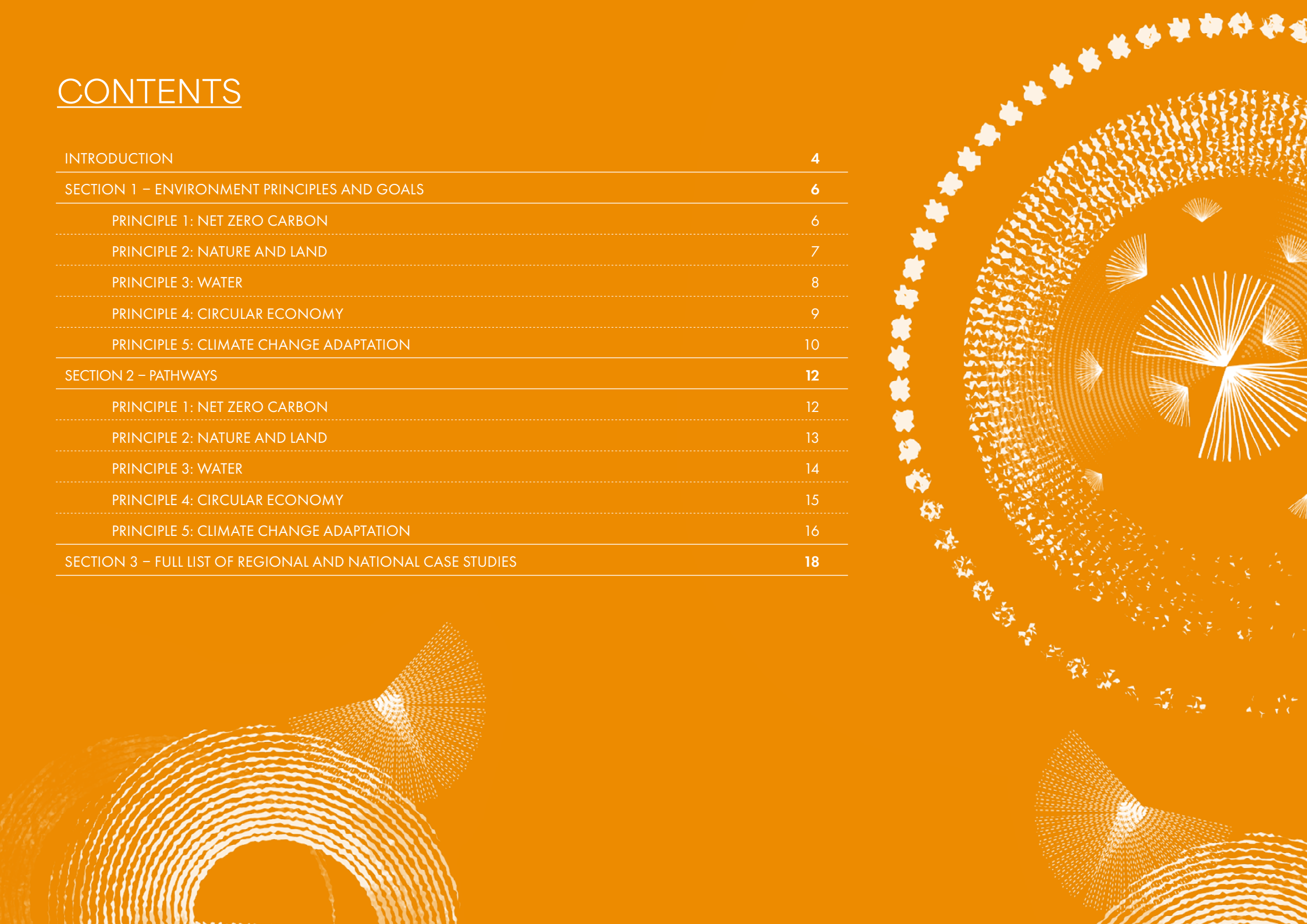
OXFORD TO CAMBRIDGE REGION



ENVIRONMENT PRINCIPLES 2025

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FOREWORD



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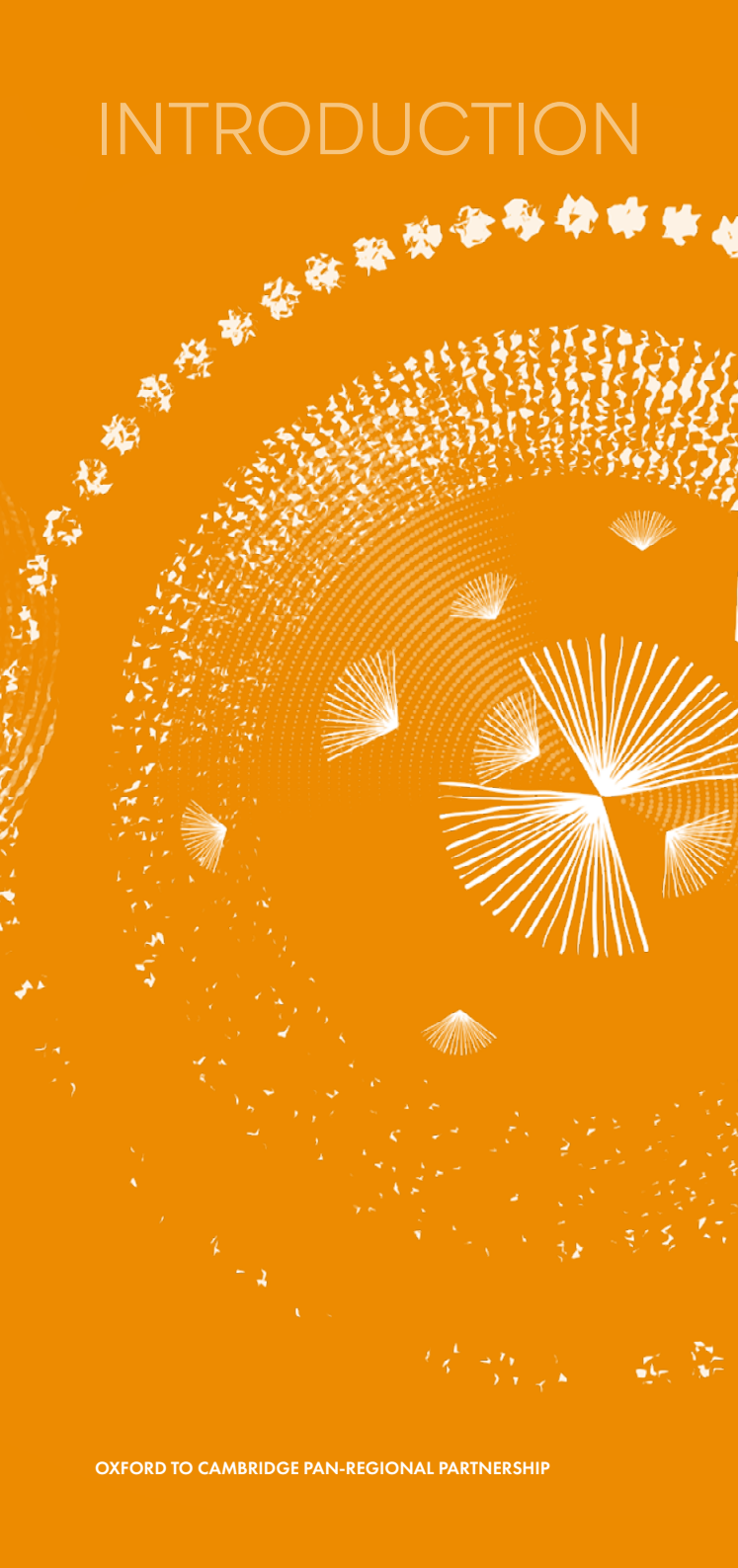
The 2025 edition of the Environment Principles creates a framework and pathway for a sustainable future that recognises that a healthy environment and a strong sense of place are the cornerstones of a thriving regional economy.

Many people and organisations—community leaders, academia, business, governmental, and non-governmental bodies—have shaped this set of Environmental Principles.

Adopted and endorsed by stakeholders across the geography, the Principles offer a shared regional commitment to a prosperous and sustainable future—a future that delivers the transition to netzero, that sees invests in nature recovery across landscapes, that enables the sustainable use of our water resources, shapes a growing circular economy, and ensures communities can adapt to climate change.

They are an immediate call to action. Only by ensuring environmental sustainability is placed at the centre of regional growth initiatives can the region maximise its strengths as a national hub for science and technology, play its role in growing the UK economy, and deliver the benefits of growth to local communities.

INTRODUCTION



BACKGROUND AND CONTEXT

This document presents the renewed Environment Principles. The Principles build on previous work carried out by the Oxford-Cambridge Arc and articulate a statement of shared intent to deliver an ambitious environmental agenda within the region.

By capturing and articulating a coherent set of shared environment ambitions, partners and stakeholders across the region have come together to create a framework for achieving environmentally progressive and sustainable growth.

These Principles were developed collectively and collaboratively by regional stakeholders from a wide range of sectors, including local authorities, government agencies, academic institutions, non-governmental organisations and charities, trade bodies and professional organisations and the private sector.

There is already a strong environmental agenda within the region, and a multitude of cross-sectoral work is already happening. The region recognises this and aims to amplify and build on it through these renewed environmental principles.

These Principles therefore express a regional ambition for a holistic and joined-up approach to placemaking that protects and enhances our natural, built and historic environment, reduces inequality and social isolation, and supports human health and wellbeing. Through this, opportunities will be created to drive innovation, attract investment into the region, and provide new green jobs and skills.

Crucial to the achievement of all five Principles will be

- Funding and investment to support a just and equitable transition.
- Collecting and harnessing data to develop modelling, inform decision-making and guide policy development.
- Drawing on local knowledge and citizen science to develop context-specific solutions and to engage communities in environmental initiatives.
- Knowledge and skills sharing across sectors and geographic boundaries.

STRUCTURE OF THIS DOCUMENT

This document is structured in three parts:

Section 1 sets out the five renewed Principles, goals and pathways. Each Principle includes:

- A rationale outlining the need for the Principle, the imperative to act, and the regional context
- A headline goal and a set of sub-goals

Section 2 sets out the pathways needed to achieve for each Principle, outlining avenues for a programme of future activities and collaboration.

Section 3 offers an index of case studies for each Principle, including the names of the projects and links to the resources where more information can be found. Some of these case studies are referenced throughout the Principles as evidence of positive activity that is already happening in the region. Additional case studies are included in the complete list from both a regional and national context to illustrate pioneering or best practice. These case studies demonstrate to stakeholders what is possible and to provide valuable evidence to support the replication of innovative and ambitious environmental policies and activities.

This document constitutes **Part 1** of the regional Environment Principles. It should be read with **Part 2: Methodology, cross-cutting themes & stakeholder analysis**, and **Part 3: Key targets**.



ENVIRONMENT PRINCIPLES AND GOALS

PRINCIPLE 1: NET ZERO CARBON

In 2022, the Oxford to Cambridge (Ox-Cam) region accounted for 6% of the UK's territorial greenhouse gas (GHG) emissions. The average person in the Ox-Cam region also emitted more greenhouse gases than the average person in the UK (see figure 2). Notably, in 2022, the average person in the Ox-Cam region emitted 37% more transport-related greenhouse gas emissions than the UK average.

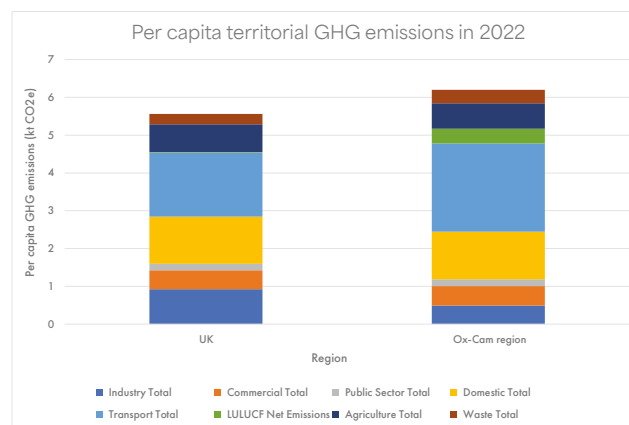


Figure 2: Comparison of UK and OxCam region per capita GHG emissions by sector in 2022. Source: DESNZ, UK local authority and regional greenhouse gas emissions statistics, 2005 to 2022.

The region is committed to a swift and ambitious transition to net zero carbon that not only addresses climate change but also offers opportunities for growth and innovation. The region's economic prosperity is intertwined with nature will be dependent upon our ability to "account fully for the impact of our interactions with Nature" and to "rebalance our demand with Nature's capacity to supply"¹. As the Dasgupta review reminds us, "our economies are embedded within Nature, not external to it"².

To be a global leader in the transition to net zero, the region has committed to collaborating across sectors and geographic boundaries. To achieve this, the region has committed to aligning resources with this shared ambition to accelerate progress towards this ambitious goal.

Immediate and accelerated regional efforts are needed to stimulate the transformation needed in key sectors such as energy, buildings, transport, agriculture, and society. This includes step changes in areas such as the generation and deployment of renewable energy, the energy efficiency of our built environment, the protection and enhancement of green infrastructure, nature-based solutions, active and low-carbon transport, and carbon management technologies.

In particular, the region recognises the need for a regional energy strategy: sustainable, inclusive growth and economic development depends on a fit-for-purpose energy infrastructure.

GOAL 1: TRANSITION TO NET ZERO CARBON AT PACE AND AT SCALE

- A strong commitment to net zero recognises the imperative for a speedy transition to net zero.
- Large-scale transformation across all sectors is necessary, including energy, buildings, transport, agriculture and society
- A step-change in the deployment of renewable energy, energy efficiency in building and transport, investment in infrastructure and development of carbon management technologies is required to meet the demands of the net-zero transition.

¹ The Economics of Biodiversity: The Dasgupta Review. Headline Messages. Gov UK, February 2021.

² Ibid.

PRINCIPLE 2: NATURE AND LAND

The UK is one of the world's most nature-depleted countries³ and the Ox-Cam region is considered to be amongst the most nature-depleted regions in England. While the region covers 8.6% of England's land area, only 10% of its land is recognised as an Area of Outstanding Natural Beauty, and only 500 square kilometres of its 11,125 square kilometres are designated as a Site of Special Scientific Interest (SSSI).

As the Dasgupta review reminds us, while nature has intrinsic value and right to exist, "our economies, livelihoods and wellbeing all depend on our most precious asset: Nature."⁴ Nature is a vital component of our economic and social system because of its provision of ecosystem services and natural capital.

The region is committed to protecting, restoring, enhancing and creating nature areas in rural and urban settings to support landscape-scale nature restoration and regeneration. Sustainable management of agricultural land will support ecological resilience, nature recovery and food security.

Central to this commitment is the need to reduce habitat fragmentation with coordinated, landscape-scale approaches to conservation and land management. Improving habitat connectivity, establishing corridors for wildlife, and supporting nature-friendly approaches to farming and land use on a regional scale.

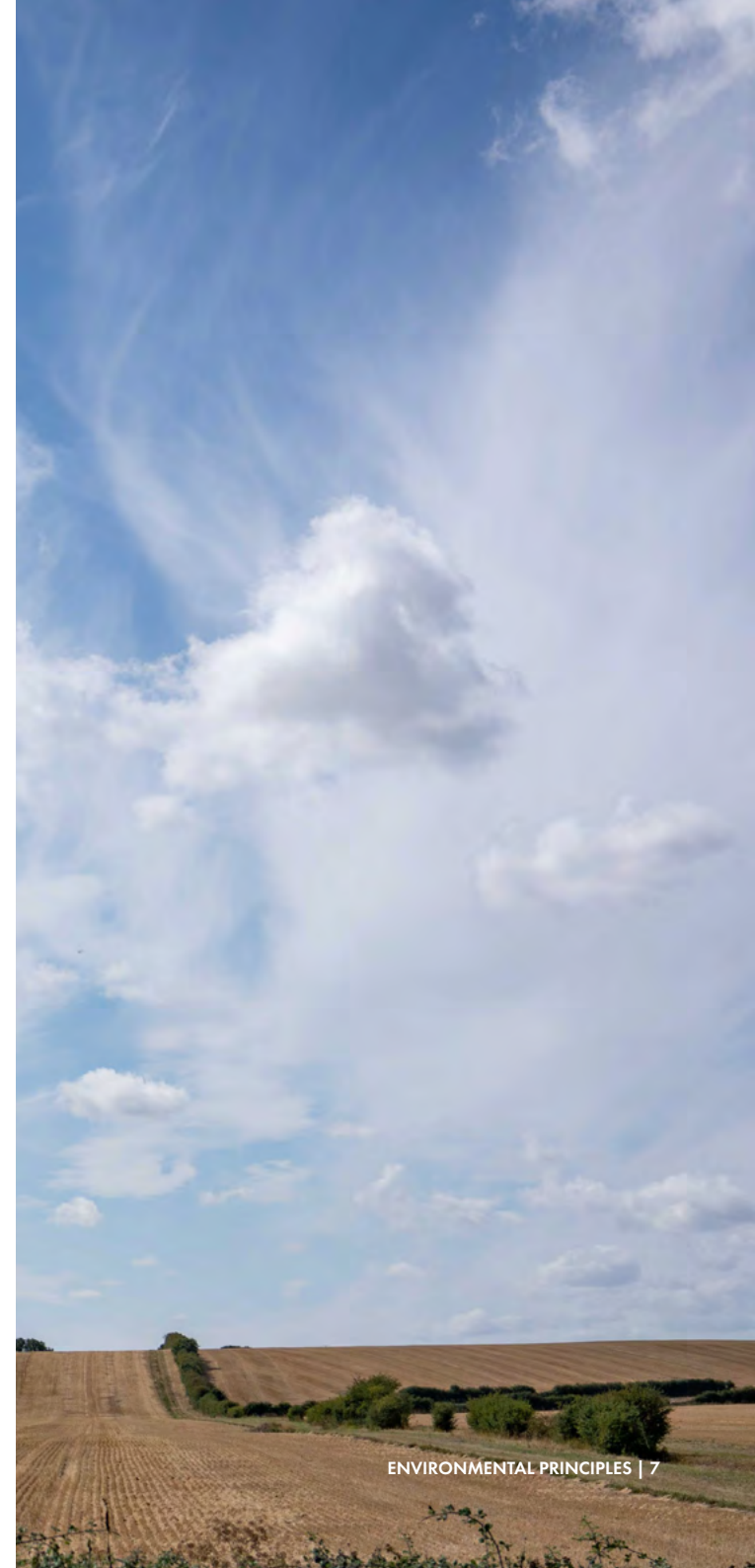
Collaboration across sectors is imperative to deliver a coordinated, long-term, and integrated approach to land management. Spatial planning frameworks must acknowledge the interconnectedness of nature across administrative boundaries. Spatial planning bodies will be well-placed to lead and coordinate delivery across a large regional geography.

GOAL 2: MORE REGIONALLY CONNECTED, NATURE-RICH AND SUSTAINABLY MANAGED LANDSCAPES.

- Improve the interconnectedness of nature and ecosystems, including rivers, across administrative boundaries and between rural and urban areas.
- Ensure ecologically resilient, productive landscapes and a thriving natural environment supports the wellbeing of people and nature, and provide the foundations for a thriving economy.
- Recognise the need for collaboration and coordination of land use.
- Provide for the long-term interoperability of spatial planning regimes across geographies.

³ State of Nature 2023 report.

⁴ The Economics of Biodiversity: The Dasgupta Review. Headline Messages. Gov UK, February 2021.





PRINCIPLE 3: WATER

The geography across the region contains a rich hydrological network with approximately 5,710km of rivers and streams across the Ox-Cam region⁵. The Great Ouse and the Nene rivers are the region's largest water bodies. The region also hosts part of the River Thames. Collectively, the region's rivers, waterbodies and wetlands provide valuable ecosystem services and wildlife habitats. However, the region faces significant water quality challenges: 251 of the region's 344 river waterbodies are not achieving good ecological status because of point source pollution. Pollution discharge is responsible for 83% of water quality failures.

The region faces significant pressures on water as a resource. The Environment Agency classifies the region's four water supply companies (Cambridge Water, Thames Water, Affinity Water, and Anglian Water) as 'seriously water stressed'. Pressures on water will only rise in light of the growth agenda and climate change and has the potential to constrain opportunities for growth.

As a result, the region recognises that a concerted effort must be made to restore the region's water ecosystems to good ecological health to protect and support healthy aquatic ecosystems and wildlife from the threats of pollution, habitat loss and climate change. The region also recognises the steps that must be taken to manage water resources and demand efficiently and effectively to meet the needs of the environment and people. Further, water resources must be secured and sustainably allocated to meet future water needs.

GOAL 3: RECOVER WATER ECOSYSTEMS AND MANAGE WATER SUSTAINABLY

- Restore river ecosystems to a healthy ecological state.
- Protect healthy aquatic ecosystems.
- Manage water efficiently to secure future water needs and availability.
- Ensure fair access to water for all users.



PRINCIPLE 4: CIRCULAR ECONOMY

The Circularity Gap Report – the United Kingdom (Circle Economy, 2023)⁶ estimates that the UK consumes 15.3 tonnes of materials per person per year, 20% more than the global average of 12 tonnes. However, only 7.5% of these materials are used again, creating a ‘circularity gap’ of 92.5%.

There is an inextricable link between material consumption, carbon emissions and the economy. The UK’s sectors with the highest material intensity - construction, agrifood and services - are also the most carbon-intensive. For example, embodied carbon from the construction and refurbishment of buildings currently makes up around 20% of the UK’s built environment emissions.⁷

In 2019, the UK’s consumption-based carbon footprint was 749 million tonnes of CO₂e, 54% of which resulted from the extraction and production of imported materials and products. The report estimates that a transition to a more circular economy could cut material use by 40% and decrease the UK’s carbon footprint by 43%.

As well as the need for a circular economy to play its role in responding to the threats of climate change, recovery of biodiversity and ecosystems and reducing pollution, the circular economy offers positive opportunities for economic growth and social value. By designing out waste, maximising material efficiency and promoting material recovery, there is opportunity to create jobs, develop new skills and contribute to the wellbeing of communities.

The region is committed to leading the development, innovation, and creation of effective circular economy strategies. This involves promoting circular business models that prioritise waste prevention, resource efficiency, and material recovery and creating new business models that increase the circularity of materials. By conserving resources and extending their lifespan, we not only reduce our environmental impact but also create a more sustainable and prosperous economy.

GOAL 4: MAXIMISE THE ECONOMIC VALUE OF MATERIALS. MINIMISE THE ENVIRONMENTAL IMPACT OF MATERIAL USE.

- Support systemic transformation in the way products are produced and consumed to design out waste from inception.
- Define and promote circular business and operational models that support innovation.
- Deliver economic growth, innovation and social value through job creation and skills development.
- Conserve resources at their highest possible value and prevent pollution and waste.



⁶ The Circularity Report (Version 1.0). Conde, Collicchio et al, 2023. Available at: https://cdn.prod.website-files.com/5e185aa4d27bcd348400ed82/647f3580d9008b413d70e7fb_20230525%20-%20CGR%20United%20Kingdom%20-%20Report%20-%20210x297mm.pdf

⁷ Embodied Carbon Primer: Supplementary Guidance to the Climate Emergency Design Guide. LETI, 2020.



PRINCIPLE 5: CLIMATE CHANGE ADAPTATION

The UK is already experiencing the impacts and consequences of climate change, with 2022 being the warmest year on record, and temperatures in some areas reaching over 40C. As average temperatures continue to rise, summers will become hotter and drier, while winters will become wetter, with intense rainfall increasing the risk of flooding. The costs of not acting will lead to higher financial, environmental and human costs in future⁸.

The region recognises that collective action across the region is needed to build resilience against the adverse impacts of climate change. A nature-led and joined-up approach will be crucial for adapting to climate change and ensuring the sustainability of our communities, industry, agricultural sector and infrastructure. Developing joint climate plans, for example, and sharing knowledge and resources will play a pivotal role in achieving this.

Community-based adaptation initiatives will be as important as large-scale infrastructure projects in safeguarding our region from extreme weather. Building trust and alignment among the public, private, and third sectors is key to a stable and long-term strategic approach to ensure no one is left behind.

GOAL 5: ACT COLLABORATIVELY TO ACHIEVE GREATER RESILIENCE TO CLIMATE CHANGE AND ITS IMPACTS.

- Build capacity to withstand and adapt to the adverse impacts of climate change, including flood risk, drought, heat, and loss of habitats.
- Promote a nature-led, catchment-scale approach to flood risk mitigation.
- Support the preparation of joint climate planning, where knowledge, resources, and decision-making can be shared, infrastructure built, and community-based adaptation initiatives taken forward.
- Build trust between government, business, communities and individuals to act in the long-term interest.



COLLECTIVE ACTION
AND COMMUNITY-
BASED INITIATIVES
ARE KEY TO BUILDING
RESILIENCE AGAINST
CLIMATE CHANGE
AND SAFEGUARDING
OUR FUTURE.

SECTION 2 – PATHWAYS



⁹ For example, Cranfield University is home to a global research airport that provides a unique environment and facilities for research and development of aerospace innovation and technology. The University is also part of a Knowledge Transfer Partnership with car manufacturer Nissan to develop V2X (vehicle-to-everything) technology, which would allow battery electric vehicles to connect to their surroundings. The University is also home to the Green Business Network, which aims to help businesses reduce their impact on the environment, and to build a collaborative environment among businesses to promote and implement sustainable practices.

¹⁰ For example, South Oxfordshire and Vale of White Horse District Councils Joint Local Plan 2041 (pre-submission publication version), once adopted, will have one of the most ambitious climate change policy suites in the country. For example, Policy CE2 will require applicants to meet industry-leading design standards on space heating demand, energy use intensity, energy performance, energy offsetting and demand management, as well as measuring and minimising embodied carbon.

¹¹ Key approaches should include passive design, nature-based solutions, circular economy, traditional materials and historic landscape considerations.

¹² See also Principle 4: Circular economy.

¹³ Use of guides such as Historic England Advice Note 18 – Adapting Historic Buildings for Energy and Carbon Efficiency (available at: <https://historicengland.org.uk/images-books/publications/adapting-historic-buildings-energy-carbon-efficiency-advice-note-18/>) and 'How to Save Energy in an Older Home', Historic England, 2024 (available at: <https://historicengland.org.uk/advice/your-home/energy-efficiency/making-changes-to-save-energy/>).

¹⁴ The four key principles of England's Economic Heartland Regional Transport Strategy are: 1 – Achieving net zero carbon emissions from transport no later than 2050, with an ambition to reach this by 2040. 2 – Improving the quality of life and wellbeing through a safe and inclusive transport system accessible to all which emphasises sustainable and active travel. 3 – Supporting the regional economy by connecting people and businesses to markets and opportunities. 4 – Enabling the efficient movement of people and goods through the region and to/from international gateways, in a way which lessens its environmental impact.

¹⁵ This involves: 1 – Collectively seeking to expand and improve active travel networks that reduce emissions, air pollution and support healthy, active lifestyles. 2 – Providing more integrated sustainable transport options and infrastructure, both hardware (such as rail and bus interchanges and dedicated cycle routes) and software (such as cross-ticketing and real time transport information). 3 – Promoting the transition to electric vehicles (EVs) and reducing individual car use through the expansion of affordable EV car clubs and retrofitting home charging infrastructure.

¹⁶ Such as the conservation of peat bogs and peatlands (eg The Fens) as major carbon sinks, as well as important archaeological assets. See here for more details: <https://www.fansforthefuture.org.uk/>.

¹⁷ Oxfordshire Greentech and Cambridge Cleantech are examples of existing green business networks in the region. By bringing together businesses, organisations, innovators, investors, corporates, academics and the public sector, they support the growth of the low carbon sector and facilitate innovation, collaboration and knowledge transfer.

PRINCIPLE 1: NET ZERO CARBON

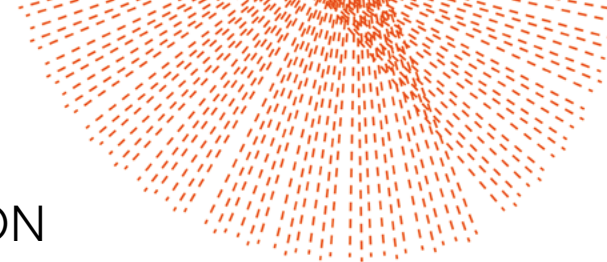
Goal 1: Transition to net zero carbon at pace and at scale

- A commitment to net zero recognises the imperative for a swift transition to net zero
- Large-scale transformation across all sectors is necessary, including energy, buildings, transport, agriculture and society
- A step-change in the deployment of renewable energy, energy efficiency in buildings and transport, investment in infrastructure and development of carbon management technologies is required

Pathways

The region has identified the following pathways to achieve this goal:

- 1.1. Promote and support the region as a hub for innovation, research and development of the solutions needed to drive the net zero transition.⁹
- 1.2. Develop a Regional Energy Strategy
 - a) Create a regional strategic approach to energy and carbon, and build a framework to enable regional carbon budgeting.
 - b) Construct a network for innovative energy and carbon-management solutions, encompassing wind, solar, hydrogen, district heating networks and carbon capture and storage.
 - c) Address grid constraints with infrastructure investment and capacity building.
- 1.3. Achieve net zero carbon in the built environment by,
 - a) Advocating approaches to growth that integrate land use, sustainable transport, and critical infrastructure.
 - b) Share knowledge of adopted net zero carbon planning policies and build evidence bases that promote and support their wider adoption¹⁰.
 - c) Promote sustainable and historic approaches to design and construction to reduce to operational and embodied carbon impact of new developments.^{11,12} Promote the resilience of passive design features in historic construction and design.
- 1.4. Recognise the importance of reducing the carbon intensity of existing buildings, including historic and culturally significant buildings, with retrofit energy efficiency measures and the use of on-site renewable energy generation technology.¹³
- 1.5. Transition to net zero transport.
 - a) Work collectively to achieve the four key principles set out in England's Economic Heartland's Regional Transport Strategy.¹⁴
 - b) Enable the efficient movement of people and goods with minimal environmental impact by improving and expanding active travel networks, public and freight transport infrastructure and EV charging infrastructure.¹⁵
 - c) Recognise the role that appropriately designed Low or Zero Emission Zones play in addressing air quality challenges and promoting the use of lower-impact forms of transport.
- 1.6. Promote nature-based solutions that support carbon sequestration in Local Nature Recovery Strategies and other land management approaches.¹⁶
- 1.7. Drive decarbonisation in the private sector. Expand green business networks to scale up impact¹⁷. Promote investments linked to ESG requirements.
- 1.8. Acknowledge the need for a cultural and behavioural shift towards more sustainable lifestyles, drawing inspiration from the region's cultural heritage and traditions to inform future solutions



PRINCIPLE 2: NATURE AND LAND

Goal 2: More regionally connected, nature-rich and sustainably managed landscapes.

- Improve the interconnectedness of nature and ecosystems, including rivers, across administrative boundaries and between rural and urban areas.
- Ensure ecologically resilient, productive landscapes and a thriving natural environment supports the wellbeing of people and nature, and provide the foundations for a thriving economy.
- Recognise the need for collaboration and coordination of land use.
- Provide for the long-term interoperability of spatial planning regimes across geographies.

Pathways

The region has identified the following pathways to achieve this goal:

- 2.1. Implement the 'Lawton report'¹⁸ key principles of "more, bigger, better and joined"¹⁹ by:
- a) Doubling the area of land managed primarily for nature by increasing the size of current sites and creating new large-scale sites for conservation and recreation.
 - b) Reversing habitat fragmentation and rural-urban separation by increasing habitat connectivity where appropriate and supporting urban greening initiatives.
 - c) Commissioning and harnessing ecosystem data and mapping to support decision-making aligned to the priorities captured by Nature Recovery Strategies.
 - d) Supporting the application of integrated landscape-scale approaches to nature conservation.²⁰

- 2.2. Net gain and the built environment
- a) Ensure Biodiversity Net Gain in all new developments will be secured in perpetuity through long-term management²¹.
 - b) Continue to work with the Government to develop a suitable Environmental Net Gain metric.
- 2.3. Support nature-friendly land-management practises
- a) Work with the agricultural sector to adopt regenerative or nature-friendly practices²¹ and to minimise pollution from agricultural activities.²³
 - b) Support legislation and payment schemes that incentivise the provision of ecosystem services.²⁴
- 2.4. Maximise the health and wellbeing benefits of nature
- a) Improve access to nature-rich green space in rural and urban areas, where appropriate, while maintaining a sense of wilderness and protecting species.
 - b) Increase community engagement with nature, particularly for underprivileged communities in nature-poor urban areas.²⁵
- 2.5. Better integrate nature, heritage and the historic environment
- a) Enhance greenspace within and around heritage assets, including Conservation Areas, Listed Buildings, Scheduled Monuments, Registered Parks and Gardens and Battlefields.
 - b) Inform nature recovery schemes with historic landscapes and patterns.
- 2.6. Increase tree and woodland cover in the right places.



¹⁸ Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network. Report to Defra. Lawton et al, 2010.

¹⁹ The landmark report produced by Professor Sir John Lawton CBE FRS for DEFRA in 2010 states that in order to "halt and reverse the collapse of England's wildlife", we must implement the following solutions:

i. Improve the quality of current sites by better habitat management.

ii. Increase the size of current wildlife sites.

iii. Enhance connections between, or join up, sites, either through physical corridors or 'stepping stones'.

iv. Create new sites.

v. Reduce the pressures on wildlife by improving the wider environment, including through buffering wildlife sites.

²⁰ Such as through the Nature Recovery Network Delivery Partnership.

²¹ For example, Policy BG/BG in Greater Cambridge Local Plan (First Proposals) will require new development to achieve a minimum 20% biodiversity net gain, going beyond the minimum statutory 10% net gain.

²² Such as agroforestry and paludiculture. For example, re-wetting and paludiculture initiative in The Great Fen – Peatland Progress.

²³ Such as from synthetic fertilizers, pesticides and herbicides or slurry.

²⁴ Such as the Government's Environmental Land Management Scheme.

²⁵ Such as through community food growing and conservation initiatives.

PRINCIPLE 3: WATER

Goal 3: Recover water ecosystems and manage water sustainably

- Restore river ecosystems to a healthy ecological state.
- Protect healthy aquatic ecosystems.
- Manage water efficiently to secure future water needs and availability.
- Ensure fair access to water for all users.

Pathways

The region has identified the following pathways to achieve this goal:

- 3.1. Water quality
 - a. Monitor and restore the quality of waterbodies, watercourses and wetlands to good ecological health.²⁶
 - b. Research, identify and develop innovative solutions and methodologies to minimise water pollution and land contamination from growth, industry and agriculture²⁷.
- 3.2. Collaborate to deliver a holistic, integrated catchment-based approach to watershed management to prevent over-abstraction of aquifers, wetlands and rivers (including chalk streams).²⁸
- 3.3. Water efficiency and demand management
 - a. Advocate water efficiency standards in all new developments that go beyond statutory minimums.
 - b. Work with partners across sectors to seek reductions in existing household, business and industrial water consumption and leakage.
 - c. Promote the application of rainwater harvesting and greywater recycling systems in both new developments and retrofit of existing buildings.

3.4. Water and culture

- a. Improve access, understanding and enjoyment of the historic environment as part of the design and implementation of water management and supply measures.
- b. Promote safe recreational use standards where appropriate.
- c. Promote behaviour change approaches to reducing water consumption.



²⁶ Additional water monitoring can be provided through use of citizen scientists working with water organisations.

²⁷ Such as the principle of nutrient neutrality, which is when the nutrient load created through additional wastewater (including surface water) from a development is mitigated. In 2023 the previous Government launched the Nutrient Mitigation Scheme in specific areas impacted by high nutrient pollution.

²⁸ Work is already being done on this in the region.

Please see: <https://www.oxcamlnpc.org/projects/integrated-water-management/home>

PRINCIPLE 4: CIRCULAR ECONOMY

Goal 4: Maximise the economic value of materials. Minimise the environmental impact of material use.

- Support systemic transformation in the way products at all scales are produced and consumed to design out waste from inception.
- Define and promote circular business models and support innovation.
- Deliver economic growth and social value through job creation and skills development.
- Conserve resources at their highest possible value and prevent pollution and waste.

Pathways

The region has identified the following pathways to achieve this goal.

- 4.1. Support the research and development of new business and operational models that support circular economy goals and develop metrics to measure their success.
- 4.2. Promote circularity innovation and industrial symbiosis in sectors such as:
 - Manufacturing – Working with product manufacturers to ensure new products are designed to last, be repaired, and are made from recycled or repurposed materials wherever possible.
 - Agriculture and food production – Such as initiatives to repurpose organic waste as agricultural inputs and repurpose agricultural outputs for industrial or domestic uses.

- Construction – Encourage local planning authorities to seek higher standards of material efficiency in new developments. Support the economic and social value of repair, reuse and refurbishment over demolition and the sensitive adaptation of historic buildings. Reduce the embodied carbon of new developments by promoting circular economy approaches to construction, such as designing for longevity, adaptability and disassembly.
- 4.3. Improve local supply chains for recycled and bio-based materials, including supporting the development of material passports and reuse networks.
 - 4.4. Advocate at a national and international level for the advancement of circular economy legislation and policy.
 - 4.5. Support and promote the proximity principle²⁹ for minerals and waste, going beyond statutory minimums where possible. Support the repurposing of decommissioned minerals extraction sites to support environmental goals.³⁰
 - 4.6. Support and recognise the role of community groups and initiatives in promoting the circular economy and recognise the positive social and financial benefits that sharing, reuse, and repair initiatives have on local communities.³¹
 - 4.7. Recognise and support regional recycling services, where appropriate, to define and work towards higher standards of material efficiency and a goal of net zero waste.

²⁹ The proximity principle is the idea that minerals and waste should generally be managed as near as possible to their place of production.

³⁰ Such as transforming decommissioned minerals extraction sites into new nature conservation sites and wildlife habitats.

³¹ For example, CAG Oxfordshire is a network of over 100 community action groups working across Oxfordshire to take action on issues including waste, transport, food, energy, biodiversity and social justice.





PRINCIPLE 5: CLIMATE CHANGE ADAPTATION

Goal 5: Act collaboratively to achieve greater resilience to climate change and its impacts.

- Build capacity to withstand and adapt to the adverse impacts of climate change, including flood risk, drought, heat, and loss of habitats.
- Promote a nature-led, catchment-scale approach to flood risk mitigation.
- Support the preparation of joint climate planning, where knowledge, resources, and decision-making can be shared, infrastructure built, and community-based adaptation initiatives taken forward.
- Build trust between government, business, communities and individuals to act in the long-term interest.

Pathways

The region has identified the following pathways to achieving this goal:

5.1. Nature-based solutions^{32 33}

- a) Recognise the role of nature-based solutions in mitigating and adapting to climate change in both rural and urban settings, such as providing resilience against flooding, drought and extreme heat³⁴.
- b) Take advantage of cross-boundary regional geographies to conserve, protect and enhance natural assets.
- c) Use Local Nature Recovery Strategies to enhance nature-based solutions and explore opportunities to help wildlife adapt to climate change at the landscape scale.

5.2. Flood resilience and flood risk management

- a) Develop an integrated, catchment scale approach to flood and river ecosystem management plans.
- b) Work at scale to minimise and manage the risk of fluvial and coastal flooding, including approaches to manage population migration and business

continuity planning.

c) Build flood resilience and protect heritage assets through integrated approaches like canal restoration.

d) Promote awareness of water-dependent archaeological remains.

5.3. Climate resilience in the built environment

a) Improve community resilience to overheating in buildings and urban heat island effect by expanding 'cool' public spaces in urban areas and developing public awareness and behaviour change campaigns.

b) Support and enable spatial planning bodies to seek climate resilience in the design of townscapes, masterplans and new developments by implementing climate-adaptive design principles.^{35 36}

c) Incorporate climate adaptation measures into retrofit programmes for existing buildings, including historic or culturally significant buildings.³⁷

d) Advocate adaptive infrastructure such as roads and public transport to better cope with extreme heat.

5.4. Climate resilience in agriculture

a) Support the agricultural sector to adapt to the impacts of climate change and to improve soil quality.³⁸

b) Explore opportunities to use agricultural land for climate mitigation activities where appropriate.³⁹

5.5. Work collectively to deliver and, where possible, go beyond the measures set out in the Government's National Adaptation Programme.

³² See also Principle 2: Nature and land.

³³ The European Commission defines nature-based solutions as "solutions inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features into cities, landscapes and seascapes through locally-adapted, resource-efficient and systematic interventions." Examples of nature-based solutions are restoring peat bogs as carbon stores, paludiculture, urban greening, tree planting, sustainable drainage systems, agroforestry and agroecology, and maintaining and enhancing blue and green infrastructure networks.

³⁴ Extreme heat can be exacerbated in urban areas due to a process called the urban heat island effect. This is when urban areas experience higher air temperatures than rural areas due to the higher density of buildings and roads, which absorb and then release heat into the air.

³⁵ Climate-adaptive design principles could include minimising overheating through passive means, considering factors such as orientation, thermal mass, insulation, window design, shading and biophilic design. High water efficiency standards in new developments should also be implemented, including enabling rainwater recycling and greywater harvesting. In masterplan and townscape design, consider factors such as wind tunnelling, overshadowing, densities and green infrastructure.

³⁶ Such as developing a regional planning document on adaptive design.

³⁷ Support further research into overheating prevention in existing buildings.

³⁸ Such as by diversifying crops and adopting sustainable land management practices such as agroforestry and agroecology.

³⁹ Such as using agricultural land for solar photovoltaic panel arrays and tree planting.

A photograph of several ducks swimming in a pond. The water is dark blue with ripples. Tall, thin reeds are visible in the foreground and background, some in focus and some blurred. The ducks have brown and grey mottled feathers and orange beaks. Their reflections are visible in the water.

ACT COLLABORATIVELY
TO BUILD RESILIENCE
TO CLIMATE CHANGE
THROUGH NATURE-LED
SOLUTIONS, FLOOD
RISK MANAGEMENT,
AND SHARED CLIMATE
PLANNING.

SECTION 3 – FULL LIST OF REGIONAL AND NATIONAL CASE STUDIES

NET ZERO CARBON

NEW PASSIVHAUS PLUS DEVELOPMENTS:

- Lucy Cavendish College, Cambridge – new student accommodation. <https://www.passivhaustrust.org.uk/news/detail/?nId=1186>
- Bicester Eco Business Centre. <https://www.passivhaustrust.org.uk/projects/detail/?cId=103>
- Carrstone House, Maulden – new build private house. <https://www.passivhaustrust.org.uk/news/detail/?nId=740>
- Oxford Humanities Passivhaus concert hall, University of Oxford. <https://etude.co.uk/projects/oxford-humanities/>

CAMBRIDGE CLEANTECH LOW CARBON BUSINESS ECOSYSTEM.

<https://www.cambridgecleantech.org.uk/>

OXFORDSHIRE GREENTECH GREEN BUSINESS NETWORK.

<https://oxfordshiregreentech.co.uk/>

OXFORD-CAMBRIDGE SUPERCLUSTER.

<https://www.supercluster.org.uk/>

VINE FARM PARK, SOUTH CAMBRIDGESHIRE.

<https://www.baywa-re.com/en/cases/emea/cambridgeshire-gains-uks-largest-solar-farm>

CRANFIELD UNIVERSITY'S GLOBAL RESEARCH AIRPORT.

<https://www.cranfield.ac.uk/business/access-our-world-class-facilities/cranfields-global-research-airport>

CRANFIELD UNIVERSITY GREEN BUSINESS NETWORK.

<https://www.cranfield.ac.uk/som/green-business-network>

CRANFIELD UNIVERSITY KNOWLEDGE TRANSFER PARTNERSHIP WITH NISSAN TECHNICAL CENTRE EUROPE (NTCE).

<https://www.cranfield.ac.uk/press/news-2023/nissan-cranfield-partner-on-vehicle-to-everything>

POLICIES CE1, CE2, CE3, CE4 AND CE5 OF SOUTH OXFORDSHIRE AND VALE OF WHITE HORSE JOINT LOCAL PLAN 2041 (pre-submission publication version).

https://www.southandvale.gov.uk/app/uploads/2024/10/Joint-Local-Plan-2041-Publication-Version_October-2024.pdf

NATURE AND LAND

POLICY BG/BG OF GREATER CAMBRIDGE LOCAL PLAN (FIRST PROPOSALS).

<https://consultations.greatercambridgeplanning.org/greater-cambridge-local-plan-first-proposals/explore-theme/biodiversity-and-green-spaces/policy>

PEATLAND PROGRESS, CAMBRIDGESHIRE FENS.

<https://www.greatfen.org.uk/peatland-progress>

KINGSBROOK, AYLESBURY NATURE-FRIENDLY HOUSING DEVELOPMENT.

<https://www.kingsbrook-aylesbury.co.uk/wildlife/a-place-for-wildlife/>

CAMBOURNE NATURE RESERVE.

<https://www.wildlifebcn.org/nature-reserves/cambourne>

UPPER NENE VALLEY GRAVEL PITS SPECIAL PROTECTION AREA.

<https://www.northnorthants.gov.uk/planning-strategies-and-plans/upper-nene-valley-gravel-pits-special-protection-area>

LUTON TOWN CENTRE DE-CULVERTING.

<https://www.riverleacatchment.org.uk/index.php/luton-lea-cmp/luton-lea-projects/1189-luton-town-centre-de-culverting>

THE FOREST OF MARSTON VALE.

<https://www.marstonvale.org/>

BEDFORD BOROUGH COUNCIL AND CRANFIELD UNIVERSITY MIYAWAKI FOREST PROJECT.

<https://www.cranfield.ac.uk/press/news-2023/cranfield-university-joins-with-bedford-borough-council-to-plant-new-miyawaki-forest>

RECONNECTING BERNWOOD, OTMOOR AND THE RAY.

<https://www.bbowl.org.uk/sites/default/files/2023-07/rbor-report.pdf>

NENE PARK TRUST.

<https://www.nenepark.org.uk/>





WATER

EVENLODE LANDSCAPE RECOVERY PILOT.

<https://www.wildoxfordshire.org.uk/newsletters/landscape-recovery-river-restoration-in-the-evenlode>

EDDINGTON SUSTAINABLE COMMUNITY, CAMBRIDGE.

<https://my.landscapeinstitute.org/case-study/eddington-sustainable-community/35e0f6e5-008c-eb11-b1ac-000d3ad51568>

PROPOSED NEW FENS RESERVOIR

<https://fensreservoir.co.uk/>.

FENS FOR THE FUTURE PARTNERSHIP.

<https://www.fensforthefuture.org.uk/the-partnership/>

CIRCULAR ECONOMY

CAMBRIDGE CLEANTECH LOW CARBON BUSINESS ECOSYSTEM.

<https://www.cambridgecleantech.org.uk/>

OXFORDSHIRE GREENTECH GREEN BUSINESS NETWORK.

<https://oxfordshiregreentech.co.uk/>

FAIRMILE HOSPITAL, SOUTH OXFORDSHIRE.

<https://historicengland.org.uk/advice/planning/housing/heritage-works-for-housing/case-study-resources/>.

GARDEN QUARTER, CAVERSFIELD, NEAR BICESTER.

<https://historicengland.org.uk/advice/planning/housing/heritage-works-for-housing/case-study-resources/>

<https://historicengland.org.uk/advice/planning/design-in-the-historic-environment/design-case-study-garden-quarter-caversfield/>

REUSE OF A FORMER BANK IN CHIPPING NORTON, CONVERTED FOR USE BY A CHARITY.

<https://www.thebranchtrust.org/>.

POLICY R2 ON EMBODIED CARBON IN THE PROPOSED NEW OXFORDSHIRE LOCAL PLAN 2040 (CURRENTLY AT EXAMINATION).

<https://www.oxford.gov.uk/downloads/download/539/downloads-for-local-plan-2040-examination---001-csd---core-submission-documents>

ENTOPIA BUILDING, CAMBRIDGE.

<https://www.cisl.cam.ac.uk/about/entopia-building>; The Entopia Building | UKGBC

UKGBC CASE STUDIES.

[Case Studies Archives](#) | UKGBC

FORMER MILL ROAD LIBRARY, CAMBRIDGE

www.donaldinsallassociates.co.uk/projects/former-mill-road-library/

SOUTH CAMBRIDGESHIRE LOCAL PLAN POLICY (ADOPTED 2018) RESISTING DEMOLITION AND FAVOURING REUSE POLICY, ENCOURAGING THE RETENTION AND RE-USE OF HISTORIC BUILDINGS:

[Chapter 6 - Built and Natural Environment \(scamb.gov.uk\)](#)

COMMUNITY ACTION GROUP NETWORK, OXFORDSHIRE.

<https://www.cagoxfordshire.org.uk/>

LUNAZ DESIGN UPCYCLED ELECTRIC VEHICLES.

<https://lunaz.design/technology/>

CLIMATE CHANGE ADAPTATION

PROJECT GROUNDWATER FLOOD RISK PROGRAMME.

<https://www.projectgroundwater.co.uk/index.php?contentid=104>

LAMB DROVE SUDS SCHEME IN CAMBOURNE, CAMBRIDGE.

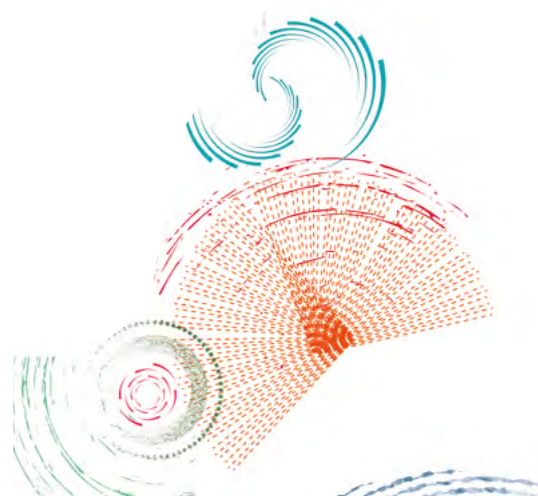
https://www.susdrain.org/case-studies/pdfs/lamb_drove_residential_suds_scheme_cambourne_final_v2.pdf

ENABLING WATER SMART COMMUNITIES.

<https://www.ewsc.org.uk/>

TREES FOR STREETS.

<https://www.treesforstreets.org/corporate-sponsor-e2-architecture/>



Credit: Upper Ray Meadow, Bedfordshire, Berkshire and Oxfordshire Wildlife Trust

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