

Appendix 13.1 Climate Change Policy



Appendix 13.1 Climate Change National Legislation, Policy and Guidance

To satisfy the requirements of the Environmental Impact Assessment (EIA) Regulations, a Greenhouse Gas (GHG) Emissions Assessment and Climate Change Risk Assessment has been undertaken for the Proposed Development. This Appendix sets out the guidance and standards that have been used to inform the scope, methodology, identification of likely significant effects and potential mitigation measures for both assessments.

GHG Emissions Assessment

International Agreements

Paris Agreement 2015

The 2015 Paris Agreement declared a long-term temperature target to strengthen the global response to the threat of climate change. The aim of the agreement is to prevent global temperature rise within this century to *“well below 2 degrees Celsius above pre-industrial levels and to limit the temperature increase even further to 1.5 degrees Celsius”*. This is often referred to as the 1.5 Degree Target.

In 2015 the UK Government signed the Paris Agreement, and in 2016, ratified it. Ratifying the Paris Agreement formally bound the UK to the *“below 2 degrees”* target (which in 2018 was reduced further to the 1.5 Degrees Target) and requires the UK Government to translate that commitment into legislative requirements. Through national legislation, the responsibility to realise the 1.5 Degrees Target disseminates from the UK Government to Local Planning Authorities (LPAs) and, ultimately, developers.

COP (UNFCCC)

The COP26 summit brought parties together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change. COP26 increased ambition and action from countries to keep the hope of limiting the rise in global temperature to 1.5°C. Glasgow focused on driving action across the globe on mitigation, adaptation, finance and collaboration.

COP27 was held in Sharm el Sheikh, Egypt, between 6-18th November 2022. Four key themes were identified which were mitigation, adaptation, finance and collaboration. One of the key outcomes was agreement to compensate nations for loss and damage from climate change through establishing a fund.

COP28 was held in Dubai, United Arab Emirates, between 30th November-13th December 2023. One of the key outcomes of COP28 was the first Global Stock Take (GST), which is a review of progress than UN member states were making towards the 2015 Paris Agreement. It was concluded that there is a need to rapid and sustained reductions in GHG emissions and called for parties to contribute to transitioning away from fossil fuels in energy systems. 117 countries agreed to triple the capacity of renewable energy and to double the rate of energy efficiency improvements by 2030.

Legislation

Climate Change Act (2008) (2050 Target Amendment) Order 2019

The Climate Change Act (CCA) 2008 established the context for government action on climate change, providing a legally binding framework for the UK to reduce GHG emissions and develop the UK's ability to adapt to climate change. The CCA 2008 requires the Government to compile a Climate Change Risk Assessment every 5 years and develop a National Adaptation Programme to address risks and opportunities from climate change.

In 2019, the CCA 2008 was amended to include a revision of the previous aim of 80% reduction of GHG emissions compared to 1990 levels by 2050. The CCA 2008 now mandates a net zero target by 2050:

“the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline.”

To reach net zero carbon emissions, the UK government has set legally binding carbon budgets, capping the amount of GHG emitted in the UK over a 5-year period.

Carbon Budget Orders 2009, 2011, 2016 and 2021

The Carbon Budget Orders (CBOs) are made in accordance with the duty to set carbon budgets as required by the CCA 2008. The CBOs provide the legal requirement to meet the carbon budgets set out in the table below:

Carbon Budget	Carbon Budget Level	Reduction Below 1990 Level
3 rd carbon budget (2018- 2022)	2,544 MtCO ₂ e	37% by 2020
4 th carbon budget (2023- 2027)	1,950 MtCO ₂ e	51% by 2025
5 th carbon budget (2028- 2032)	1,725 MtCO ₂ e	57% by 2030
6 th carbon budget (2033-2037)	965 MtCO ₂ e	78% by 2035
Recommended* 7 th carbon budget (2038-2042)	535 MtCO ₂ e	87%

The Carbon Budget Delivery Plan

The Carbon Budget Delivery Plan (CBDP) was published in March 2023 and sets out the Government's detailed proposals to enable the delivery of Carbon Budgets 4, 5 and 6 (i.e. to the end of 2037) in accordance with the UK's 2050 net zero carbon commitment under the Climate Change Act 2008.

The CBDP provides indicative projections of sectoral based residual emissions, based on an adjusted version of the Government's Energy and Emissions Projections (DESNZ, 2023), which apply assumptions of future economic growth, fossil fuel prices, electricity generation costs, UK population growth and other key variables.

EIA Regulations 2017

Schedule 4 of the 2017 EIA Regulations requires an Environmental Statement to include:

“4. A description of the factors specified in regulation 4(2) likely to be significantly affected by the development, climate (for example greenhouse gas emissions, impacts relevant to adaptation.)

5. A description of the likely significant effects of the development on the environment resulting from, inter alia:

(f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;”.

Policy

National Planning Policy Framework (NPPF) 2024

In terms of planning, addressing climate change is one of the core planning principles which the National Planning Policy Framework (NPPF, updated in 2024) expects plan-making and decision-taking to underpin. The NPPF recognises that planning plays a key role in reducing GHG emissions.

Paragraph 161 states:

“The planning system should support the transition to net zero by 2050 and take full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.”

Paragraph 164 states:

“New development should be planned for in ways that:

b) help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government’s policy for national technical standards.”

Planning Practice Guidance (PPG)

The Planning Practice Guidance (PPG) supports the NPPF. Regarding climate change, the PPG advises how to identify suitable mitigation measures in the planning process to address the impacts of climate change.

Paragraph: 007 Reference ID: 6-007-20140306 discusses how local planning authorities can identify appropriate mitigation measures in plan-making:

“Every area will have different challenges and opportunities for reducing carbon emissions from new development such as homes, businesses, energy, transport and agricultural related development.

...The distribution and design of new development and the potential for servicing sites through sustainable transport solutions, are particularly important considerations that affect transport emissions. Sustainability appraisal should be used to test different spatial options in plans on emissions.

Different sectors may have different options for mitigation. For example, measures for reducing emissions in agricultural related development include anaerobic digestion, improved slurry and manure storage and improvements to buildings. In more energy intensive sectors, energy efficiency and generation of renewable energy can make a significant contribution to emissions reduction.”

Clean Growth Strategy

The Clean Growth Strategy, published in 2017, sets out the UK’s policies and proposals to accelerate the delivery of increased economic growth and decreased emissions. The strategy aims to improve productivity across the UK to provide the best place for innovators and new businesses to start-up and grow. The Strategy also seeks to deliver on social and economic benefits, including higher quality more efficient buildings, rolling out emissions vehicles, and delivering a diverse and reliable energy mix. Key policies and proposals include: developing green finance capabilities, support businesses to improve energy productivity, set out action plans for industrial decarbonisation, phasing out fossil fuel heating, improve energy efficiency of homes and support low carbon heating, support the update of

ultra-low emissions vehicles, support clean energy innovation, and work towards zero avoidable waste.

UK Government Ten Point Plan

The Government's Ten Point Plan for a Green Revolution, published in 2020, sets out a series of points to help the UK build back better after the impact of coronavirus. This includes the following points:

- Point 4: Accelerating the Shift to Zero Emission Vehicles;
- Point 5: Green Public Transport, Cycling and Walking.

This includes targets for carbon savings through a combination of supporting manufacturing and uptake of Electric Vehicles, and delivery of safe and direct cycle and walking networks within England.

Powering our Net Zero Future

The UK Government's Energy White Paper 'Powering our Net Zero Future', published in 2020, builds on the Ten Point Plan to set out a strategy for providing cleaner, greener energy, supporting a green recovery through new green jobs and delivers opportunities to save money on bills for customers. The paper provides an illustrative example of what UK energy use may look like in 2050, which is anticipated to use more decarbonised electricity and hydrogen, incorporation of Direct Air Carbon Capture and Storage, with a markedly less reliance on oil and gas. Cumulatively, the emissions savings to 2032 from implementing the Energy White Paper will be 230 MtCO₂e. this will be achieved by targeting increase in offshore wind output, deploying, and investing in Carbon Capture, Usage and Storage, growing the installation of electric heat pumps, and developing 5GW of low-carbon hydrogen production capacity by 2030.

Powering Up Britain

After the creation of the Department for Energy Security and Net Zero in February 2023, Powering Up Britain presents the departments approach to energy and net zero, and comprises of *Powering Up Britain: Energy Security Plan*, and *Powering Up Britain: Net Zero Growth Plan*.

The former develops the goals set out in the British Energy Security Strategy and the Net Zero Strategy to ensure secure, economical, and low carbon nature of the energy transition. Focussing on how the UK can hold a competitive position on its long-term decarbonisation trajectory, it is complemented by *Powering Up Britain: Net Zero Growth Plan*, which clarifies how economic opportunities will be employed to enhance the UKs energy security alongside its commitments to net zero.

UK Government Road to Zero

The Road to Zero, published in 2018, sets out the Governments ambitions to reduce emissions associated with the transport industry. This document sets out how the UK Government will reduce emissions from vehicles on the road, promote the uptake of clean vehicles and support the necessary infrastructure, reduce emissions from HGVs and support local action.

Transport Decarbonisation Plan

'Decarbonising Transport A Better, Greener Britain', published in 2021, sets out additional commitments, actions and timings on decarbonising all forms of transport, including measures to increase cycling and walking, and delivering zero emissions buses and coaches, and zero emission fleets of cars, vans, motorcycles and scooters. This document sets out what consultation the Government will undertake to bring these measures forward, key milestones and available funding. The Government will support the delivering of 4,000 new zero emission buses and the infrastructure to

support them, a net zero railway network by 2050, stimulate the demand for zero emission trucks, and deliver over £12 billion for decarbonising local transport systems.

Net Zero Strategy 2021

The Net Zero Strategy: Build Back Greener sets out policies and proposals for decarbonising all sectors of the UK economy to meet the net zero target by 2050. The strategy highlights some of the urgent global action, which is required to avoid catastrophic climate change, including ending coal fired power generation, retiring petrol and diesel engines from all cars, and halting deforestation.

Proposals in the Net Zero Strategy include fully decarbonising the UK power system by 2035, setting a path for all new low carbon heating in homes and workplaces from 2035 and removing all road emissions at the tailpipe and kickstarting zero emissions international travel. The UK Government also has the ambition to deploy at least 5 MtCO₂/year of engineered greenhouse gas removals by 2030.

Review of Net Zero

Provoked by the recent transformation to the economic landscape and published in January 2023, Review of Net Zero is an independent evaluation of the governments approach to delivering its commitments to net zero to assess the current trajectory and ensure that the accompanying economic opportunities are being maximised.

Describing net zero as “the growth opportunity of the 21st century” the review acknowledged the widespread changes to the global economy that net zero will result in and encouraged decisiveness within government policy and intervention. Its main recommendations include a 10-year delivery plan for hydrogen energy, enforcement of nature-based solutions, and a review of green transition opportunities within the banking sector.

Local Planning Policy

The Site is within the administrative authority of St Albans City and District Council.

District Local Plan Review 1994

The District Local Plan Review was adopted by St Albans City and District Council in 1994. The following supporting text is relevant to the climate change chapter:

Paragraph 8.4: Energy conservation will assume greater importance over the plan period and applicants for all types of building will be expected to meet the challenge of utilising the best current energy practice without prejudice to the principles of good design and appearance.

Draft Local Plan 2041

The St. Albans City & District Draft Local Plan was submitted to the Secretary of State for Independent Examination on 29 November 2024.

Strategic Policy SP2 – Responding to the climate emergency states that:

The Council recognises the urgent need to respond to Climate Change through mitigation and adaptation. The Council will support proposals that help combat Climate Change where the proposals:

a) Demonstrate mitigation and adaptation to Climate Change, including pursuing the reduction of whole life-cycle carbon emissions (both operational and embodied);

b) Prioritise the development of previously developed land

- c) Are designed to improve resilience to Climate Change, including resilience to increasing temperatures, more frequent drought, more intense storms and wind speeds and heavy rainfall events*
- d) Use the most sustainable locations for growth and so minimising the need to travel while encouraging walking, cycling and the use of public transport;*
- e) Provide on-site renewables, high standards of energy efficiency, and low carbon energy;*
- f) Prioritise the use of sustainable and active modes of travel in new and existing developments;*
- g) Deliver biodiversity net gain;*
- h) Mitigate increasing flood risk;*
- i) Include Sustainable Drainage Schemes (SuDS) where appropriate;*
- j) Demonstrate tree planting;*
- k) Combine environmental payments through stacking different types of credits on sites (e.g. carbon, biodiversity, Suitable Alternative Natural Green Space (SANG) etc) where appropriate.*

Policy CE1 – Promoting Sustainable Design, Construction and Building Efficiency states that:

New buildings should be designed and constructed to ensure efficient use of energy, water and materials. Energy efficiency and reduced use of energy within buildings is a key component to reducing greenhouse gas emissions within the District.

Applicants must demonstrate sustainable design and construction and a high degree of resource efficiency through evidence supporting planning applications, to a degree proportionate to the proposal, through:

- a) Ensuring all new build development minimises the carbon, pollution and energy impacts of their design and construction. Building conversions, refurbishments and extensions must also minimise carbon and energy impacts. Proposals must demonstrate that they are seeking to limit greenhouse gas emissions through location, building orientation, design, landscape and planting, taking into account any nationally adopted standards;*
- b) Including water conservation, greywater recycling and storage facilities to reduce household water consumption to under 110 litres per person per day including external water use, and new development to include rainwater harvesting;*
- c) Retrofitting of existing buildings to improve energy and water efficiency and improve long term resilience to a changing climate*
- d) Adopting sustainable construction and demolition methods including using materials with low embodied carbon that are sustainably sourced, and the reuse and recycling of demolished material from the development site;*
- e) Minimising waste during the construction and operation phases of development by using the Circular Economy approach; and*
- f) Including Sustainable Drainage Systems (SuDS) in new developments as well as the potential for retrofit SuDS for existing buildings.*

Policy CE2 – Renewable and Low Carbon Energy states that:

The Council seeks to increase the use of renewable and low carbon energy in the District.

- a) Developments proposals must demonstrate, where appropriate, that the use of renewable or low carbon energy has been maximised.
- b) Major development proposals must set out at the planning application stage how they will make use of renewable or low carbon energy within the site through submitting and agreeing an Energy Statement with the Council. Agreed measure will be secured through conditions;
- c) The Council will support a range of low carbon and renewable energy solutions including, but not limited to, the following: Solar power, including photovoltaic panels, solar thermal heaters, and maximising passive solar heating through south facing designs; Wind turbines at different scales; Decentralised District Heating and Energy Networks; and Heat Pumps.
- d) To maintain the public benefits of renewable power, proposals which overshadow existing solar panels should be avoided and / or mitigated.

Harpenden Neighbourhood Plan 2018-2033

Policy ESD15 – Sustainability and Energy Efficiency states that:

'All development must support the objectives making the Neighbourhood Plan Area a low carbon area, supporting sustainable living, sustainable working and sustainable leisure and mitigating the impacts of climate change. Developments should be designed to minimise energy consumption including through the use of sustainable materials, high-energy efficiency levels, the incorporation of renewable energy initiatives and the efficient design of the building.'

Major developments are required to support sustainable living and utilise best practice in the use of sustainable resources, green technologies and sustainable transport infrastructure such as renewable energy and storage, decentralized heating systems, heat from waste systems, rainwater harvesting and electric car charging points.'

Policy ESD16 – Carbon Dioxide Emissions states that:

'Major developments must demonstrate an improvement to the baseline Target Emission Rate for carbon dioxide emissions as set out in Building Regulations.'

To reduce carbon dioxide emissions from developments, energy use should be reduced by sustainable use of energy in accordance with the following energy hierarchy:

- 1. Reduce energy usage. This can be achieved through adopting sustainable design principles that reduce the amount of energy needed.*
- 2. Supply energy efficiently. This can be achieved for example by using decentralised energy systems/combined heat and power.*
- 3. To use renewable energy*

Carbon neutral developments would be welcome.'

Policy ESD17 – Community Energy Initiatives states that:

'Community energy initiatives will be encouraged. In particular, the Neighbourhood Plan supports renewable energy schemes that demonstrate evidence of community consultation at early stages in the development, especially when this leads to a tangible benefit to the community. This could, for example, be in the form of allowing community investment in the

scheme or developer investment in other low carbon initiatives in Harpenden. However, any community energy initiatives must not have a negative impact on the amenity of local residents or the appearance and character of the surrounding area.'

Policy ESD19 – Water Conservation states that:

All development must be designed taking into account best practice in water efficiency, such as water efficient fittings and appliances, water harvesting and storage features, and green roofs. All major developments must provide evidence of anticipated internal water use at or below 120 litres per person per day.

The neighbourhood plan sets out several environment and sustainable design objectives, including '**EDO9: encourage and support renewable energy generation and storage projects and initiatives that develop Harpenden's environs as a low carbon area**'. **Policy ESD1 – Design strategy** states that 'all developments...must support Harpenden as a low carbon place to live and work'

South West Hertfordshire Joint Strategic Plan

The joint strategic plan, which is currently being developed, will provide a long-term blueprint for the area to 2050. In 2023, a vision for the joint strategic plan was published.

The first pillar **Living green in a healthy natural environment** states that there will be a commitment to net zero carbon and to ensure that all new development is net zero carbon and striving to be carbon negative, while improving the carbon performance of the existing built environment. The first pillar also has a green construction objective to build responsibly with modern methods that reduce resource consumption and reuse materials.

The sixth pillar **delivering robust and sustainable infrastructure** has an objective to promote local energy production with an increased focus on renewable sources, and to promote circular economies by promoting the reduction, reuse and recycling of materials.

Climate Emergency

In 2019, St Albans City and District Council declared a Climate Emergency and produced a strategy with more than 100 actions for 2020 to 2023. A new sustainability and climate crisis strategy was launched in 2024 which sets out the aim of achieving net zero by 2023.

Standards and Guidance

The following standards and guidance documents have been used to inform the carbon scope, methodology, identify likely significant effects and potential mitigation measures.

Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emission and Significance (IEMA, 2022)

The IEMA guidance defines significance of GHG emissions:

"The crux of significance is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050.

Often a project will cause a change in GHG emissions compared to the baseline which should be assessed. When setting this impact into context to determine significance, it is important to consider the net zero trajectory in line with the Paris Agreement's 1.5°C pathway"

World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI) Greenhouse Gas Protocol guidance (WBCSD and WRI, 2004)

The Greenhouse Gas Protocol identifies emissions sources as falling under three “scopes”, which are defined to enable GHG accounting and reporting. These scopes are defined below:

- **Scope 1: Direct GHG emissions:** direct GHG emissions occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment. GHG emissions not covered by the Kyoto Protocol, e.g. CFCs, NOx, etc. shall not be included in scope 1 but may be reported separately.
- **Scope 2: Electricity indirect GHG emissions:** Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated.
- **Scope 3: Other indirect GHG emissions:** Scope 3 is an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services.

Publicly Available Standard 2080: Carbon Management in Infrastructure (BSI, 2023)

PAS 2080 sets out a carbon management process for the delivery of infrastructure. PAS 2080 defines the life cycle stages of an infrastructure project and the primary sources of GHG emissions. The PAS 2080 life cycle stages have been used in this GHG emissions assessment, as shown in Figure 1 below.

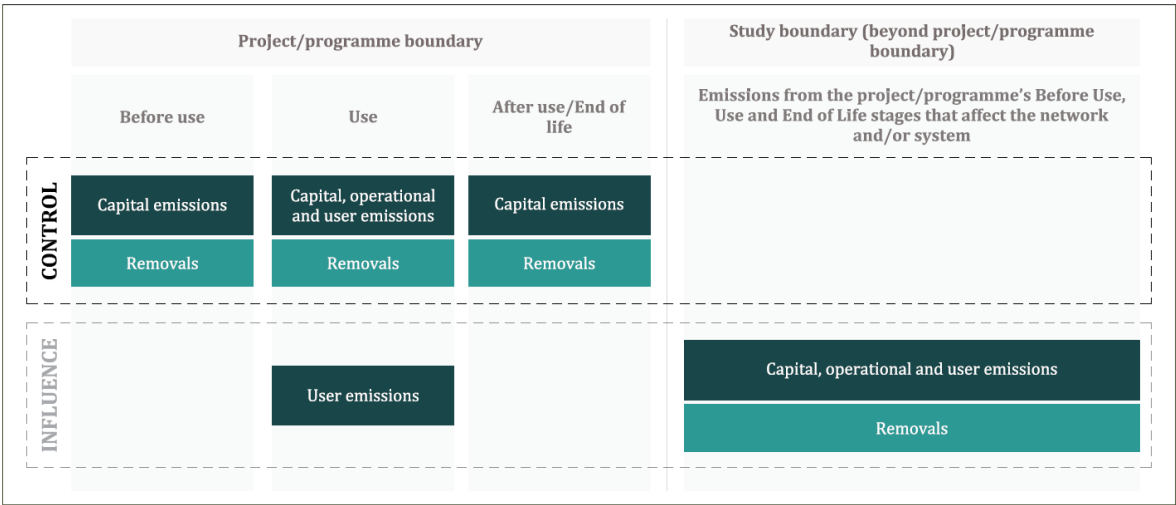


Figure 1: PAS 2080 whole life carbon framework for decision making.

Building Regulations Part L

The Buildings Regulations, specifically Approved Document Part L; ‘Conservation of Fuel and Power’, determine the energy efficiency and carbon emission standards required by new buildings. Part L was updated on the 15th June 2022. Part L addresses controls for:

- Insulation values of buildings elements;
- The allowable area of windows, doors and other openings;
- The air permeability of the structure;

- The heating efficiency of heating systems;
- Hot water storage and lighting;
- Mechanical ventilation and air conditioning systems;
- Space heating controls;
- Airtightness testing of larger buildings; and
- Requirements for Carbon Index ratings.

Future Homes Standard

The Government has released the first stage of consultation on proposed changes to Part L (conservation of fuel and power) of the Building Regulations under the document: 'The Future Home Standard: 2019 Consultation on Changes to part L (conservation of fuel and power) and Part F (ventilation) of the Building Regulations for new dwellings'.

The goal of the Future Homes Standard is to deliver homes that are zero-carbon ready from 2025. New homes will meet these standards through measures such as phasing out fossil fuel heating and ensuring new homes have high levels of energy efficiency. It is recognised that no further energy efficiency retrofit work is anticipated for them to become zero-carbon as the electricity grid continues to decarbonise.

Climate Change Risk Assessment

Legislation

Climate Change Act (2008) (2050 Target Amendment) Order 2019

The Climate Change Act (CCA) 2008 established the context for government action on climate change, which sets out the requirement to prepare National Adaptation Programmes that set out the actions that government and others will take to adapt to the challenges of climate change in the UK over the next 5 years.

Third National Adaptation Programme

The third national adaptation programme was published by the Department for Environment, Food and Rural Affairs in July 2023 and presents the actions the government will take to adapt to the impacts of climate change from 2023 to 2028. As the government's strategy to address the key risk and opportunities associated with climate adaptation, the following topics are identified: terrestrial and freshwater habitats, soil health, natural carbon stores, food supply, and human health.

Climate Change Risk Assessment 2021

The CCA 2008 also requires Government to prepare a five-yearly assessment of the risks for the UK of the current and predicted impacts of climate change. The UK Climate Risk Independent Assessment (CCRA3), published in 2021, sets out the six priority risk areas requiring further action in the UK. These areas are:

- Risks to the viability and diversity of terrestrial and freshwater habitats and species from multiple hazards;
- Risks to soil health from increased flooding and drought;
- Risks to natural carbon stores and sequestration from multiple hazards leading to increased emissions;

- Risks to crops, livestock and commercial trees from multiple hazards;
- Risks to supply of food, goods and vital services due to climate-related collapse of supply chains and distribution networks;
- Risks to people and the economy from climate-related failure of the power system;
- Risks to human health, wellbeing and productivity from increased exposure to heat in homes and other buildings; and
- Multiple risks to the UK from climate change impacts overseas.

EIA Regulations 2017

Schedule 4 of the 2017 EIA Regulations requires an Environmental Statement to include:

“4. A description of the factors specified in regulation 4(2) likely to be significantly affected by the development, climate (for example greenhouse gas emissions, impacts relevant to adaptation)

5. A description of the likely significant effects of the development on the environment resulting from, inter alia:

(f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;”.

Policy

National Planning Policy Framework (NPPF)

In terms of planning, addressing climate change is one of the core planning principles which the National Planning Policy Framework (NPPF, updated in 2024) expects plan-making and decision-taking to underpin. The NPPF recognises that planning plays a key role in minimising vulnerability, providing resilience and managing the risks associated with climate change.

Paragraph 162 states:

“Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.”

Paragraph 164 states that new development should be planned for in ways that:

“a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure.”

Planning Practice Guidance (PPG)

The Planning Practice Guidance (PPG) supports the NPPF. Regarding climate change, the PPG advises how to identify suitable mitigation and adaptation measures in the planning process to address the impacts of climate change.

Paragraph 004 Reference ID: 6-004-20140612 provides guidance on how adaptation and mitigation approaches should be integrated as follows:

“When [preparing Local Plans and] taking planning decisions local planning authorities should pay particular attention to integrating adaptation and mitigation approaches and looking for ‘win-win’ solutions that will support sustainable development. This could be achieved in a variety of ways, for example:

...through the provision of multi-functional green infrastructure, which can reduce urban heat islands, manage flooding and help species adapt to climate change - as well as contributing to a pleasant environment which encourages people to walk and cycle.

Local planning authorities should be aware of and avoid the risk of maladaptation (adaptation that could become more harmful than helpful).”

Paragraph: 005 Reference ID: 6-005-20140306 provides guidance on dealing with the uncertainty of climate risks when promoting adaptation in particular developments:

“The impact of climate change needs to be taken into account in a realistic way. In doing so, local planning authorities will want to consider:

- identifying no or low cost responses to climate risks that also deliver other benefits, such as green infrastructure that improves adaptation, biodiversity and amenity;
- *building in flexibility to allow future adaptation if it is needed, such as setting back new development from rivers so that it does not make it harder to improve flood defences in future; and*
- *the potential vulnerability of a development to climate change risk over its whole lifetime”*

Local Policy

Draft Local Plan 2041

In addition to the policies outline above, the following policies are relevant to the climate change risk assessment:

Strategic Policy SP10 – Natural Environment, Biodiversity and Green and Blue infrastructure states that the council will protect and enhance green and blue infrastructure for its role in combating climate change.

Policy **NEB8 – Managing Flood Risk** sets out that where the sequential and exception tests have been applied, proposals located within areas identified as being at risk of flooding will not be permitted unless the development is appropriately flood resistant and resilient and incorporate appropriate infrastructure to address the increasing potential for flood events due to climate change.

Strategic Policy SP13 – Health and Wellbeing states that the council supports pursuing schemes to be resilient and adaptable to climate change, including through SUDs, rainwater collection, and efficient design.

Harpenden Neighbourhood Plan 2018-2033

In addition to policy ESD15 as detailed above, the Harpenden Neighbourhood Plan policy ESD18 Flood Risk sets out that *proposals must incorporate a sustainable and integrated approach to the management of flood risk, surface waste, and foul drainage. These proposals should be robust to the expected impacts of climate change.*

South West Hertfordshire Joint Strategic Plan

One objective of the joint strategic plan is to provide healthy places to live, with a focus on creating homes and neighbourhoods that provide opportunities for healthy living and strong physical and mental wellbeing.

Another objective is to create sustainable buildings and infrastructure, by introducing nature based solutions that are resilient to the effects of climate change and protect and enhance water sources.

Standards and Guidance

The following standards and guidance documents have been used to inform the climate change resilience and adaptation scope, methodology, identify likely significant effects and potential mitigation measures.

Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation (IEMA, 2020)

The IEMA guidance sets out the factors that the assessment should establish the baseline conditions. IEMA guidance states:

“The current baseline is defined by historic climate conditions and the prevailing conditions at the time of the assessment. ... The practitioner needs to consider a range of factors including:

- *Extremes in short-term weather events that produce sudden shocks that can have substantial effects on some baseline receptors, such as: heat waves; extreme flooding and freezing conditions; gales and hurricane force windstorms; storm surges along coastlines.*
- *Extremes in longer-term climatic variability including: variations in precipitation over one or more seasons resulting in drought or extremely wet conditions; variations in average temperature which might affect receptors reliant on temperature to, for example, time when breeding cycles commence or end (which may be affected by availability of specific food sources); potential changes in prevailing wind directions as the weather system over central Europe changes.*
- *Changes in average climate norms resulting in: sea level rise; increases in freezing/thawing; changes in seasonal rainfall patterns.”*

This guidance has also been used to select the appropriate assessment scenario for defining the future baseline. IEMA guidance states:

“The recommended approach is to use a high emissions scenario, in the UK this would be RCP 8.5”

UKCP18 Guidance: How to use the UKCP18 Land Projections (Met Office, 2018)

The UKCP18 Guidance has been used to determine the correct application of the land projections data and to reference the uncertainty and limitations associated with its use.

“We recommend that you place any analysis using the global, regional and derived projections in the broader uncertainty context of the probabilistic projections, where the information is available.”