



Department for
Energy Security
& Net Zero

AoS and HRA of the new Nuclear National Policy Statement

AoS Scoping Report - Appendices Vol. 1



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Appendix A. Review of Plans, Policies and Programmes

Note: The following review of Plans, Policy and Programmes is not to be considered an exhaustive list and elements may have been superseded. However, it is the purpose to demonstrate the context of the Nuclear NPS and associated AoS and to show how these are broadly influenced in setting Objectives for both.

Table 1 - Key Policies, Plans and Programmes– International

Policy, Plan or Programme	Key Objectives / Targets / Guidance	Implications for the AoS
BIODIVERSITY		
Convention on Biological Diversity 2010	Sets out a conservation plan to protect global biodiversity, and an international treaty to establish a fair and equitable system to enable nations to co-operate in accessing and sharing the benefits of genetic resources. The new global vision is “By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential to all people”.	Ensure protection of biodiversity within AoS framework.
Kumming-Montreal Global Biodiversity Framework 2023	<p>The Kunming-Montreal Global Biodiversity Framework, building on the Strategic Plan for Biodiversity 2011–2020, its achievements, gaps, and lessons learned, and the experience and achievements of other relevant multilateral environmental agreements, sets out an ambitious plan to implement broad-based action to bring about a transformation in our societies’ relationship with biodiversity by 2030, in line with the 2030 Agenda for Sustainable Development and its Sustainable Development Goals, and ensure that, by 2050, the shared vision of living in harmony with nature is fulfilled.</p> <p>The vision of the Framework is a world of living in harmony with nature where “by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.”</p> <p>The mission of the Framework for the period up to 2030, towards the 2050 vision is: To take urgent action to halt and reverse biodiversity loss to put nature on a path to recovery for the benefit of people and planet by conserving and sustainably using biodiversity and by</p>	Ensure AoS framework taken account of goals and targets set out in this framework.

	<p>ensuring the fair and equitable sharing of benefits from the use of genetic resources, while providing the necessary means of implementation.</p> <p>The Framework has four long-term goals for 2050 related to the 2050 Vision for biodiversity.</p> <p>GOAL A: The integrity, connectivity and resilience of all ecosystems are maintained, enhanced, or restored, substantially increasing the area of natural ecosystems by 2050; human induced extinction of known threatened species is halted, and, by 2050, the extinction rate and risk of all species are reduced tenfold and the abundance of native wild species is increased to healthy and resilient levels; and the genetic diversity within populations of wild and domesticated species, is maintained, safeguarding their adaptive potential.</p> <p>GOAL B: Biodiversity is sustainably used and managed and nature's contributions to people, including ecosystem functions and services, are valued, maintained and enhanced, with those currently in decline being restored, supporting the achievement of sustainable development for the benefit of present and future generations by 2050.</p> <p>GOAL C: The monetary and non-monetary benefits from the utilization of genetic resources and digital sequence information on genetic resources, and of traditional knowledge associated with genetic resources, as applicable, are shared fairly and equitably, including, as appropriate with indigenous peoples and local communities, and substantially increased by 2050, while ensuring traditional knowledge associated with genetic resources is appropriately protected, thereby contributing to the conservation and sustainable use of biodiversity, in accordance with internationally agreed access and benefit-sharing instruments.</p> <p>GOAL D: Adequate means of implementation, including financial resources, capacity-building, technical and scientific cooperation, and access to and transfer of technology to fully implement the Kunming-Montreal Global Biodiversity Framework are secured and equitably accessible to all Parties, especially developing country Parties, in particular the</p>	
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	<p>least developed countries and small island developing States, as well as countries with economies in transition, progressively closing the biodiversity finance gap of \$700 billion per year, and aligning financial flows with the Kunming-Montreal Global Biodiversity Framework and the 2050 Vision for biodiversity.</p> <p>The Framework has 23 action-oriented global targets for urgent action over the decade to 2030. The actions set out in each target need to be initiated immediately and completed by 2030. Together, the results will enable achievement towards the outcome-oriented goals for 2050. Actions to reach these targets should be implemented consistently and in harmony with the Convention on Biological Diversity and its Protocols, and other relevant international obligations, taking into account national circumstances, priorities and socioeconomic conditions.</p> <p>1. Reducing threats to biodiversity</p> <p>TARGET 1: Ensure that all areas are under participatory, integrated and biodiversity inclusive spatial planning and/or effective management processes addressing land- and sea-use change, to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030, while respecting the rights of indigenous peoples and local communities.</p> <p>TARGET 2: Ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and marine and coastal ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity.</p> <p>TARGET 3: Ensure and enable that by 2030 at least 30 per cent of terrestrial and inland water areas, and of marine and coastal areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed</p>	
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	<p>through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities, including over their traditional territories.</p> <p>TARGET 4: Ensure urgent management actions to halt human induced extinction of known threatened species and for the recovery and conservation of species, in particular threatened species, to significantly reduce extinction risk, as well as to maintain and restore the genetic diversity within and between populations of native, wild and domesticated species to maintain their adaptive potential, including through in situ and ex situ conservation and sustainable management practices, and effectively manage human-wildlife interactions to minimize human-wildlife conflict for coexistence.</p> <p>TARGET 5: Ensure that the use, harvesting and trade of wild species is sustainable, safe and legal, preventing overexploitation, minimizing impacts on non-target species and ecosystems, and reducing the risk of pathogen spillover, applying the ecosystem approach, while respecting and protecting customary sustainable use by indigenous peoples and local communities.</p> <p>TARGET 6: Eliminate, minimize, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species, preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 per cent by 2030, and eradicating or controlling invasive alien species, especially in priority sites, such as islands.</p> <p>TARGET 7: Reduce pollution risks and the negative impact of pollution from all sources by 2030, to levels that are not harmful to biodiversity and ecosystem functions and services, considering cumulative effects, including: (a) by reducing excess nutrients lost to the</p>	
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	<p>environment by at least half, including through more efficient nutrient cycling and use; (b) by reducing the overall risk from pesticides and highly hazardous chemicals by at least half, including through integrated pest management, based on science, taking into account food security and livelihoods; and (c) by preventing, reducing, and working towards eliminating plastic pollution.</p> <p>TARGET 8: Minimize the impact of climate change and ocean acidification on biodiversity and increase its resilience through mitigation, adaptation, and disaster risk reduction actions, including through nature-based solutions and/or ecosystem-based approaches, while minimizing negative and fostering positive impacts of climate action on biodiversity.</p> <p>2. Meeting people’s needs through sustainable use and benefit-sharing</p> <p>TARGET 9: Ensure that the management and use of wild species are sustainable, thereby providing social, economic and environmental benefits for people, especially those in vulnerable situations and those most dependent on biodiversity, including through sustainable biodiversity-based activities, products and services that enhance biodiversity, and protecting and encouraging customary sustainable use by indigenous peoples and local communities.</p> <p>TARGET 10: Ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably, in particular through the sustainable use of biodiversity, including through a substantial increase of the application of biodiversity friendly practices, such as sustainable intensification, agroecological and other innovative approaches, contributing to the resilience and long-term efficiency and productivity of these production systems, and to food security, conserving and restoring biodiversity and maintaining nature’s contributions to people, including ecosystem functions and services.</p>	
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	<p>TARGET 11: Restore, maintain and enhance nature’s contributions to people, including ecosystem functions and services, such as the regulation of air, water and climate, soil health, pollination and reduction of disease risk, as well as protection from natural hazards and disasters, through nature-based solutions and/or ecosystem-based approaches for the benefit of all people and nature.</p> <p>TARGET 12: Significantly increase the area and quality, and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated areas sustainably, by mainstreaming the conservation and sustainable use of biodiversity, and ensure biodiversity-inclusive urban planning, enhancing native biodiversity, ecological connectivity and integrity, and improving human health and well-being and connection to nature, and contributing to inclusive and sustainable urbanization and to the provision of ecosystem functions and services.</p> <p>TARGET 13: Take effective legal, policy, administrative and capacity-building measures at all levels, as appropriate, to ensure the fair and equitable sharing of benefits that arise from the utilization of genetic resources and from digital sequence information on genetic resources, as well as traditional knowledge associated with genetic resources, and facilitating appropriate access to genetic resources, and by 2030, facilitating a significant increase of the benefits shared, in accordance with applicable international access and benefit-sharing instruments.</p> <p>3. Tools and solutions for implementation and mainstreaming</p> <p>TARGET 14: Ensure the full integration of biodiversity and its multiple values into policies, regulations, planning and development processes, poverty eradication strategies, strategic environmental assessments, environmental impact assessments and, as appropriate, national accounting, within and across all levels of government and across all sectors, in particular those with significant impacts on biodiversity, progressively aligning all relevant</p>	
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	<p>public and private activities, and fiscal and financial flows with the goals and targets of this framework.</p> <p>TARGET 15: Take legal, administrative or policy measures to encourage and enable business, and in particular to ensure that large and transnational companies and financial institutions:</p> <p>(a) Regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity, including with requirements for all large as well as transnational companies and financial institutions along their operations, supply and value chains, and portfolios;</p> <p>(b) Provide information needed to consumers to promote sustainable consumption patterns;</p> <p>(c) Report on compliance with access and benefit-sharing regulations and measures, as applicable;</p> <p>in order to progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production.</p> <p>TARGET 16: Ensure that people are encouraged and enabled to make sustainable consumption choices, including by establishing supportive policy, legislative or regulatory frameworks, improving education and access to relevant and accurate information and alternatives, and by 2030, reduce the global footprint of consumption in an equitable manner, including through halving global food waste, significantly reducing overconsumption and substantially reducing waste generation, in order for all people to live well in harmony with Mother Earth.</p> <p>TARGET 17: Establish, strengthen capacity for, and implement in all countries, biosafety measures as set out in Article 8(g) of the Convention on Biological Diversity and measures</p>	
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	<p>for the handling of biotechnology and distribution of its benefits as set out in Article 19 of the Convention.</p> <p>TARGET 18: Identify by 2025, and eliminate, phase out or reform incentives, including subsidies, harmful for biodiversity, in a proportionate, just, fair, effective and equitable way, while substantially and progressively reducing them by at least \$500 billion per year by 2030, starting with the most harmful incentives, and scale up positive incentives for the conservation and sustainable use of biodiversity.</p> <p>TARGET 19: Substantially and progressively increase the level of financial resources from all sources, in an effective, timely and easily accessible manner, including domestic, international, public and private resources, in accordance with Article 20 of the Convention, to implement national biodiversity strategies and action plans, mobilizing at least \$200 billion per year by 2030, including by:</p> <ul style="list-style-type: none"> (a) Increasing total biodiversity related international financial resources from developed countries, including official development assistance, and from countries that voluntarily assume obligations of developed country Parties, to developing countries, in particular the least developed countries and small island developing States, as well as countries with economies in transition, to at least \$20 billion per year by 2025, and to at least \$30 billion per year by 2030; (b) Significantly increasing domestic resource mobilization, facilitated by the preparation and implementation of national biodiversity finance plans or similar instruments according to national needs, priorities and circumstances; (c) Leveraging private finance, promoting blended finance, implementing strategies for raising new and additional resources, and encouraging the private sector to invest in biodiversity, including through impact funds and other instruments; 	
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	<p>(d) Stimulating innovative schemes such as payment for ecosystem services, green bonds, biodiversity offsets and credits, and benefit-sharing mechanisms, with environmental and social safeguards;</p> <p>(e) Optimizing co-benefits and synergies of finance targeting the biodiversity and climate crises;</p> <p>(f) Enhancing the role of collective actions, including by indigenous peoples and local communities, Mother Earth centric actions[1] and non-market-based approaches including community based natural resource management and civil society cooperation and solidarity aimed at the conservation of biodiversity;</p> <p>(g) Enhancing the effectiveness, efficiency and transparency of resource provision and use;</p> <p>TARGET 20: Strengthen capacity-building and development, access to and transfer of technology, and promote development of and access to innovation and technical and scientific cooperation, including through South-South, North-South and triangular cooperation, to meet the needs for effective implementation, particularly in developing countries, fostering joint technology development and joint scientific research programmes for the conservation and sustainable use of biodiversity and strengthening scientific research and monitoring capacities, commensurate with the ambition of the goals and targets of the Framework.</p> <p>TARGET 21: Ensure that the best available data, information and knowledge are accessible to decision makers, practitioners and the public to guide effective and equitable governance, integrated and participatory management of biodiversity, and to strengthen communication, awareness-raising, education, monitoring, research and knowledge management and, also in this context, traditional knowledge, innovations, practices and technologies of indigenous</p>	
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	<p>peoples and local communities should only be accessed with their free, prior and informed consent, in accordance with national legislation.</p> <p>TARGET 22:</p> <p>Ensure the full, equitable, inclusive, effective and gender-responsive representation and participation in decision-making, and access to justice and information related to biodiversity by indigenous peoples and local communities, respecting their cultures and their rights over lands, territories, resources, and traditional knowledge, as well as by women and girls, children and youth, and persons with disabilities and ensure the full protection of environmental human rights defenders.</p> <p>TARGET 23: Ensure gender equality in the implementation of the Framework through a gender-responsive approach, where all women and girls have equal opportunity and capacity to contribute to the three objectives of the Convention, including by recognizing their equal rights and access to land and natural resources and their full, equitable, meaningful and informed participation and leadership at all levels of action, engagement, policy and decision-making related to biodiversity.</p>	
Bern Convention	<p>The principal aims of the Convention are to ensure conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species (including migratory species) listed in Appendix 3. To this end the Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1000 wild animal species.</p>	<p>Ensure protection of wild plant and animal species and their natural habitat within AoS framework.</p>
Ramsar Convention 1971	<p>The Convention covers all aspects of wetland conservation and wise use. The Convention has three main 'pillars' of activity: the designation of wetlands of international importance as Ramsar sites; the promotion of the wise-use of all wetlands in the territory of each country;</p>	<p>Ensure protection of Ramsar sites</p>

	and international co-operation with other countries to further the wise-use of wetlands and their resources.	within AoS framework.
Convention on the Conservation of Migratory Species of Wild Animals 1979 (Bonn Convention)	The Convention is an international treaty of the United Nations which provides a global platform for the conservation and sustainable use of migratory animals and their habitats. This treaty brings together the States through which migratory animals pass, the Range States, and lays the legal foundation for internationally coordinated conservation measures throughout a migratory range.	Ensure protection of migratory animals and their habitats
Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) 1999	This is an intergovernmental treaty dedicated to the conservation of migratory waterbirds and their habitats across Africa, Europe, the Middle East, Central Asia, Greenland and the Canadian Archipelago. Developed under the framework of the Bonn Convention and administered by the United Nations Environment Programme (UNEP), AEWA brings together countries and the wider international conservation community in an effort to establish coordinated conservation and management of migratory waterbirds throughout their entire migratory range.	Ensure protection of migratory waterbirds within AoS framework.
CLIMATE CHANGE		
UN Framework Convention on Climate Change 1992, Kyoto Protocol 1997, Paris Agreement 2015 etc.	<p>A series of international agreements setting targets and legally binding agreements for industrialised countries to cut their greenhouse gas emissions. The Paris Agreement is the latest international agreement and its overarching goal is to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels” and pursue efforts “to limit the temperature increase to 1.5°C above pre-industrial levels.”</p> <p>Note is also made of the UK Nationally Determined Contribution that commits to reducing greenhouse gases by 68% by 2030 compared to 1990 levels.</p>	Ensure reduction of greenhouse gas emissions within the AoS framework.

<p>UK-EU TAC Agreement 2021</p>	<p>Following the UK's departure from the EU, the UK is released from the EU Renewable Energy Directive 2009 (2009/28/EC) and EU Energy Efficiency Directive (2012/27/EU). The Trade and Cooperation (TAC) reaffirms a number of the UK and EU ambitions relating to energy, notably:</p> <ul style="list-style-type: none"> • The UK and EU should recognise the mutual benefit in cooperation in areas of shared interest such as nuclear research. • In recognition of the importance of a secure, affordable and sustainable energy system in relation to climate change, subsidies in relation to energy shall be aimed at by the UK and EU. • The UK and EU shall facilitate removal of obstacles to trade and investment relating to energy efficient products and services and renewable energy. 	<p>Ensure an objective considering alternative / renewable technologies for energy production is included within the AoS framework.</p> <p>Ensure an objective relating to the prudent use of natural resources (including energy) is included within the AoS framework.</p>
<p>HERITAGE</p>		
<p>World Heritage Convention 1972</p>	<p>This convention noted that the cultural heritage and the natural heritage are increasingly threatened with destruction not only by the traditional causes of decay, but also by changing social and economic conditions which aggravate the situation with even more formidable phenomena of damage or destruction and considered that deterioration or disappearance of any item of the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all the nations of the world.</p>	<p>Ensure protection of cultural heritage and natural heritage within AoS framework.</p>

Convention on the Protection of Underwater Cultural Heritage 2001	<p>The UNESCO Convention on the Protection of the Underwater Cultural Heritage is intended to enable States to better protect their submerged cultural heritage.</p> <p>The Convention;</p> <ul style="list-style-type: none"> • sets out basic principles for the protection of underwater cultural heritage; • provides a detailed State cooperation system; and • provides widely recognized practical rules for the treatment and research of underwater cultural heritage. 	Ensure protection of underwater cultural heritage within AoS framework.
Convention on the Protection of the Archaeological Heritage (1992) – the ‘Valetta Convention’.	<p>The European Convention for the Protection of the Archaeological Heritage (revised) replaced and updated the original London Convention of 1969. It reflected the change in the nature of threats to the archaeological heritage. It established a body of new basic legal standards for Europe, to be met by national policies for the protection of archaeological assets as sources of scientific and documentary evidence, in line with the principles of integrated conservation. It makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. It is concerned in particular with arrangements to be made for co-operation among archaeologists and town and regional planners in order to ensure optimum conservation of archaeological heritage.</p>	Ensure protection of archaeological heritage within AoS framework.
LANDSCAPE		
European Landscape Convention 2000 – the ‘Florence Convention’	<p>The European Landscape Convention is part of the Council of Europe's work on natural and cultural heritage, spatial planning and the environment.</p> <p>The convention states that:</p>	Ensure protection of landscapes within AoS framework.

	<ul style="list-style-type: none"> the landscape contributes to the formation of local cultures and that it is a basic component of the European natural and cultural heritage, contributing to human well-being and consolidation of the European identity that developments in agriculture, forestry, industrial and mineral production techniques and in regional planning, town planning, transport, infrastructure, tourism and recreation and, at a more general level, changes in the world economy are in many cases accelerating the transformation of landscapes. <p>The aims of this Convention are to promote landscape protection, management and planning, and to organise European co-operation on landscape issues.</p>	
MARINE ENVIRONMENT		
The OSPAR Convention 1992	<p>The Convention for the Protection of the Marine Environment of the North-East Atlantic is the current legislative instrument regulating international cooperation on environmental protection in the North-East Atlantic. This specifically addresses:</p> <ul style="list-style-type: none"> Prevention and elimination of pollution from land-based sources; Prevention and elimination of pollution by dumping or incineration; Prevention and elimination of pollution from offshore sources; Assessment of the quality of the marine environment; <p>On the protection and conservation of the ecosystems and biological diversity of the maritime area.</p>	The AoS should consider protection of the marine environment of the North-East Atlantic.
NOISE		

WHO Guidelines for Community Noise 1999	<p>The World Health Organisation (WHO) publication entitled ‘Guidelines for Community Noise’ (1999), provides guidance with regard to recommended internal and external noise levels for various building uses, outlining the potential health impacts associated with noise.</p> <p>Specifically, the document recommends internal and external noise levels that would provide an acoustic environment that is conducive to uninterrupted speech and sleep.</p>	Ensure potential health impacts associated with noise are considered in the AoS framework.
WHO Night Noise Guidelines for Europe 2009 and 2018 update	<p>The World Health Organisation (WHO) Night Noise Guidelines for Europe (NNG) 2009 are health-based guidelines and are to be considered an extension and update to the WHO Guidelines for Community Noise 1999. These guidelines were updated in 2018. The main purpose of these guidelines is to provide recommendations for protecting human health from exposure to environmental noise originating from various sources: transportation (road traffic, railway and aircraft) noise, wind turbine noise and leisure noise.</p> <p>WHO NNG provides evidence based policy advice to member states in the development of future legislation and policy action in the area of control and surveillance of night noise exposure.</p>	Ensure that night noise is addressed through the AoS framework.
Environmental noise guidelines for the European Region	<p>The WHO Regional Office for Europe has developed these guidelines, based on the growing understanding of the negative health impacts of exposure to environmental noise. The main purpose of these guidelines is to provide recommendations for protecting human health from exposure to environmental noise originating from various sources: transportation (road traffic, railway and aircraft) noise, wind turbine noise and leisure noise. They provide robust public health advice underpinned by evidence, which is essential to drive policy action that will protect communities from the adverse effects of noise. The guidelines are published by the WHO Regional Office for Europe.</p>	Ensure potential health impacts associated with noise are considered in the AoS framework.
HUMAN HEALTH		

<p>WHO Closing the Gap: Social Determinants of Health 2008</p>	<p>The report prepared by the Commission on Social Determinants of Health aims to:</p> <ul style="list-style-type: none"> • Improve daily living conditions. • Tackle inequitable distribution of power, money and resources. • Measure and understand the problem and assess the impact on action. • Recommendations are made to tackle inequalities 	<p>The AoS should consider the improvement of health and equitable distribution of resources equity.</p>
<p>TRANSBOUNDARY EFFECTS</p>		
<p>Espoo Convention on Environmental Impact Assessment in a Transboundary Context 1991</p>	<p>The Convention was adopted in 1991 and entered into force in September 2007. The Convention and Protocol lie in an area of mixed competence (environment). The UK and the EU are parties to the Convention. The EU has implemented the EIA Directive that has been transposed into UK domestic law.</p> <p>The Convention sets out the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligations of Parties to consult each other on all major projects under consideration that are likely to have significant transboundary effects. A revision to the Convention in 2004 indicated that affected Parties should be allowed to participate in scoping as appropriate.</p> <p>The Protocol on SEA (Kiev, 2003) augments the Espoo Convention and requires Parties to assess the environmental effects of their plans and programmes. The protocol also proposes extensive public participation in Government decision-making. The UK has signed but not ratified the Protocol. The EU has ratified, and implements through the SEA Directive, transposed in UK domestic law via the SEA Regulations.</p>	<p>As a matter of course, Espoo Parties will be engaged as part of the new NPS and AoS consultation process.</p> <p>Transboundary Consultation under the Espoo convention will also be undertaken if it is concluded that proposed activities are likely to cause a significant adverse impact in the environment in</p>

		another State of the European Economic Area.
PUBLIC CONSULTATION		
Aarhus Convention 2001	The Aarhus Convention is a multilateral environmental agreement through which the opportunities for citizens to access environmental information are increased and transparent and reliable regulation procedure is secured. It encourages access to information, public participation and access to justice.	The NPS and AoS will be consulted upon and open to scrutiny as per the requirement of the relevant regulations.

Table 2 - Key Policies, Plans and Programmes– National (United Kingdom)

Policy, Plan or Programme	Key Objectives / Targets / Guidance	Implications for the AoS
CROSS - THEMATIC		
Environmental Protection Act 1990	<p>This act brings in a system of integrated pollution control for the disposal of wastes to land, water and air. There are three parts of the Act. These are:</p> <ul style="list-style-type: none"> • Part I- establishes integrated pollution control and gives Local Authorities new powers to control air pollution from a range of prescribed processes; • Part II- improves the rules on waste disposal; and • Part III- covers statutory nuisances and clean air. 	<p>Ensure that prevention and minimisation of pollution to air and water is considered in the AoS framework.</p>
Environment Act 2021	<p>The Environment Act sets out that the Secretary of State may set long-term targets in respect of any matter which relates to (a)the natural environment, or (b)people's enjoyment of the natural environment. A long-term target in respect of at least one matter within each of the four priority areas: (a)air quality; (b)water; (c)biodiversity; (d)resource efficiency and waste reduction.</p> <p>The Act specifically requires the Secretary of State to set by future regulation statutory targets for the recovery of the natural world in two priority areas: air quality (PM2.5 air quality target) and biodiversity (species abundance target) and includes an important new target to reverse the decline in species abundance by the end of 2030. The Secretary of State must also prepare an environmental improvement plan for significantly improving the natural environment for a period no shorter than 15 years.</p> <p>Key relevant provisions:</p>	<p>The AoS needs to consider this far-reaching piece of legislation in terms of four priority areas: air quality, water, biodiversity and resource efficiency and waste.</p>

	<ul style="list-style-type: none"> • Biodiversity Net Gain <p>The Act places a statutory requirement for developments to deliver biodiversity improvements and will require all planning permissions in England (subject to exemptions) to be granted subject to a new general pre-commencement condition that requires approval of a biodiversity gain plan.</p> <p>The planning authority can only approve the biodiversity gain plan if the biodiversity value attributable to a development exceeds the pre-development biodiversity value of the onsite habitat by 10% (known as the ‘biodiversity gain objective’).</p> <p>The biodiversity plan must set out the steps taken to achieve the ‘biodiversity gain objective’, which could be through minimising the adverse effects of the development on habitats, the identification of the pre and post development onsite biodiversity value, details of registered offsite biodiversity value allocated to the development and biodiversity credits purchased, and any other information that may be required by regulations.</p> <p>Both onsite and offsite enhancements must be maintained for at least 30 years after completion of a development (which period may be amended).</p> <ul style="list-style-type: none"> • Waste and resource efficiency <p>The Act gives wide ranging powers to make regulations about who producer obligations should apply to and which products or materials should be covered. These powers are intended to prevent waste/reduce the amount of a product that becomes waste and increase re-use, redistribution, recovery and recycling. Producers can get ahead of these regulations, and minimise any eventual requirements to pay disposal costs, by designing products with these objectives in mind.</p>	
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<p>Environmental Principles Policy Statement 2023</p>	<p>The Environment Act 2021 places a duty on Ministers of the Crown to have due regard to the environmental principles policy statement. The policy statement sets out how policymakers should apply environmental principles to support environmental protection and enhancement. The final version of the strategic policy statement was laid in Parliament on 31 January 2023. The duty will commence on 1 November 2023.</p> <p>The 5 principles in this policy statement are internationally recognised as successful benchmarks for environmental protection and enhancement. When making policy, and where relevant, ministers will need to consider the:</p> <ul style="list-style-type: none"> - Integration principle: look at opportunities to embed environmental protection and/or enhancement - Prevention principle: prevent environmental harm before it occurs or contain existing damage - Rectification at source principle: environmental damage should be addressed at its origin to avoid the need to remedy its effects later - Polluter pays principle: the costs of pollution should be borne by those causing it - Precautionary principle: where there are threats of serious or irreversible environmental damage, a lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation <p>The purpose of these principles is to guide ministers and policymakers towards opportunities to prevent environmental damage and enhance the environment. However, the principles are not rules and they cannot dictate policy decisions by ministers. Policymakers should consider and use the principles iteratively from the outset and during subsequent stages in policy development. They should identify the potential environmental effects (positive or negative) and use the principles to inform and influence the design of the policy. The 5</p>	<p>The assessment approach used in the AoS should enshrine these five international principles, as appropriate, in the various topics of the AoS Framework.</p>
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	<p>principles play an important role to support Environmental Improvement Plans and to delivering on our net zero commitment to tackle climate change.</p> <p>The integration principle is overarching, and simply requires that policymakers should look for opportunities to embed environmental protection into policy. Not all environmental principles are of the same nature or function; they serve different purposes and will focus the policy in different ways. Some of the environmental principles will be appropriate for all relevant policy areas. Other principles will only be relevant in circumstances where there are specific factors for their use. In order for the principles to be most cost-effective and lead to better environmental outcomes, it is preferable for environmental damage to be prevented under the prevention principle. When environmental damage is already occurring, policymakers should consider the timeliness and urgency of policy interventions intended to achieve environmental protection. If it is to be addressed after it has occurred, then the rectification at source and polluter pays principles should be considered to reduce, mitigate or disincentivise damage.</p> <p>This order of consideration is not fixed and may be adjusted if a different order more appropriately addresses a policy's environmental effects. Where a significant adverse effect is likely as a result of a policy, it may be necessary to consider all principles in determining the best policy.</p> <p>Many actions can be taken based on applying the principles, either alone or in combination with others. Possible actions that could be taken as a result of having considered the principles may include:</p> <ul style="list-style-type: none"> - Amending policy options or including an additional policy option in the initial design of a policy, which reflects consideration of the environmental principles. In some cases, considering a principle may introduce a new option as a different solution to the policy problem. For example, one where the polluter may pay. This option would then be subject to the same policy evaluation as the existing options. 	
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	<ul style="list-style-type: none"> - Reframing the policy to accommodate the principles. In some cases, the policy design may need to be amended to ensure that a specific principle is applied. This could include the framing of the problem, the detail of how the policy option may work, or how it may be implemented. - Embedding a principle in law or guidance. If policymakers want the principles to be used in decision-making or the implementation of a policy, this approach may be appropriate. This could be relevant where proposed legislation might include associated powers, duties or obligations that may have a significant effect on the environment. - Postponing a policy until further evidence is gained. If a policymaker is unsure on whether action is appropriate, they should gather further evidence. Applying the precautionary principle may encourage policymakers to explore the potential environmental damage before moving forwards. Or, where the risk is serious, they may amend, postpone or discontinue the policy in rare cases. 	
Clean Growth Strategy 2017	<p>The Clean Growth Strategy deals specifically with the challenge of trying to grow the UKs economy whilst reducing its emissions. This issue is dealt with across multiple strategies, and several sectors have a large role to play. This strategy details the approach of each sector and sets out key policies for each.</p> <p>The guiding principles of the Clean Growth Strategy are to, through nurturing low carbon technologies, processes, and systems:</p> <ul style="list-style-type: none"> • meeting the UK’s domestic commitments at the lowest possible net cost to UK taxpayers, consumers, and businesses; and • maximising the social and economic benefits for the UK from this transition. <p>The key policies to achieve this are sorted into the following categories:</p> <ul style="list-style-type: none"> • accelerating clean growth; 	<p>AoS needs to address the importance of reducing GHG emissions, as well as the full range of air pollutants whilst maximising the social and economic benefit of the transition.</p>

	<ul style="list-style-type: none"> • improving business and industry efficiency (25% of emissions); • improving our homes (13% of emissions); • accelerating the shift to low carbon transport (24% of emissions); • delivering clean, smart, flexible power (21% of emissions); • enhancing the benefits and value of our natural resources (15% of emissions); • leading in the public sector (2% of emissions); and • government leadership in driving clean growth. <p>Regarding nuclear energy, the strategy identifies the “need to reduce the cost of nuclear energy through developing new materials and manufacturing processes, and exploring new fuels and reactor designs”. Further discussion around the need for investment in developing the capability of nuclear regulators who support and assess advanced nuclear technologies.</p>	
UK Sustainable Development Strategy 2005	<p>This strategy has four broad objectives:</p> <ul style="list-style-type: none"> • Sustainable consumption and production – working towards achieving more with less. • Natural resource protection and environmental enhancement • From local to global, building sustainable communities • Climate change and energy <p>Our landscapes and seascapes are inseparable from our culture, bearing the imprints of generations of land use. Our physical and mental health is reliant on the quality of the environment. There must also be access to a variety of well-managed and maintained green spaces for leisure, sport, recreation and general public benefit to help people choose healthy lifestyles, in urban as well as rural areas.</p>	Ensure the AoS considers the full range of sustainability issues.

<p>UK Shared Framework for Sustainable Development; One Future – Different Paths 2005</p>	<p>This framework document sets out the common goals and challenges of the UK Government and devolved administrations of Scotland, Wales and Northern Ireland. Each devolved administration will have its own strategy document but the framework demonstrates the commitment to work together on shared goals and challenges This framework document sets out what those are, and is an affirmation that the whole of the UK will work to common goals without compromising the strengths which our diversity of approach offers.</p>	<p>Ensure the AoS considers the full range of sustainability issues.</p>
<p>The Planning Act 2008</p>	<p>This legislation sets out how the planning system should deal with nationally significant infrastructure projects (NSIP). The legislation created a regime of National Policy Statements (NPS). These NPS give reasons for the policy set out in the statement, and must include an explanation of how the policy takes account of Government policy relating to the mitigation of, and adaptation to, climate change. They include the Government’s objectives for the development of nationally significant infrastructure in a particular sector and state:</p> <ul style="list-style-type: none"> • How this will contribute to sustainable development. • How these objectives have been integrated with other Government policies. • How actual and projected capacity and demand have been taken into account. • Consider relevant issues in relation to safety or technology. • Circumstances where it would be particularly important to address the adverse impacts of development. • Specific locations, where appropriate, in order to provide a clear framework for investment and planning decisions. <p>Each NPS sets out Government policy for the infrastructure it covers and the reasons for that policy. This includes the need for new infrastructure; the relative weight to be given to specified criteria such as the benefits of new infrastructure and the adverse impacts that it might have; and, when action should be taken to mitigate adverse impacts. NPSs can set out criteria to be used in deciding whether a location is suitable for a type of infrastructure.</p>	<p>The AoS should be undertaken in accordance with the requirements of the Act.</p>

	<p>They can also identify specific locations that are or might be suitable or unsuitable for a type of infrastructure.</p> <ul style="list-style-type: none"> • Setting out a clear Government policy in this way establishes clear Ministerial accountability for the policy choices that underlie planning decisions on nationally significant infrastructure schemes. It also: • provides the primary basis for decisions by the Infrastructure Planning Commission on the applications it receives; • reduces the need for discussion at public inquiries about what is or should be Government policy – avoiding a situation in which an attempt is made to determine what the national need is on a case by case basis; and • gives prospective infrastructure providers clarity as to what proposals are or are not in line with Government policy. <p>The Act sets out the scale of development which should be considered a Nationally Significant Infrastructure Project, and therefore have to be determined through the Development Consent Order process.</p> <p>This legislation introduced the independent Infrastructure Planning Commission (IPC), to take decisions on major infrastructure projects (transport, energy, water and waste).</p>	
Environmental Permitting (England and Wales) Regulations 2016	<p>The Environmental Permitting (England and Wales) Regulations 2016 provide an integrated framework for the regulation of activities that could harm the environment or human health. They require operators of “regulated facilities” to obtain a permit or to register some activities, which would otherwise require permits, as “exempt facilities”. They cover six main areas of environmental activity: waste regulation, emissions to the environment from industrial processes (air, water and land), water discharges, radioactive substances, energy efficiency and flood risk activities.</p>	<p>The AoS should consider the protection of the environment from water extraction and waste and pollution discharges to the environment and</p>

	<p>The aim of the regime is to:</p> <ul style="list-style-type: none"> • Protect the environment so that statutory and Government policy environmental targets and outcomes are achieved. • Deliver permitting and compliance with permits and certain environmental targets. • Effectively and efficiently in a way that provides increased clarity and minimises the administrative burden on both the regulator and the operators. • Encourage regulators to promote best practice in the operation of facilities. 	include appropriate objectives if necessary.
The Town and Country Planning and Infrastructure Planning (Environmental Impact Assessment) (Amendment) Regulations 2018	<p>These Regulations amend the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.</p> <p>These new regulations set out the procedures to be followed in relation to environmental impact assessment linked to nationally significant infrastructure projects in England and Wales. The objective is to provide a high level of protection of the environment and to help integrate environmental considerations into the preparation of proposals for development to reduce their impact on the environment.</p>	The AoS framework should consider including objectives to promote environmental impact reduction.
Localism Act 2011	<p>The Act aims to shift power from central government to the hands of individuals, communities and councils.</p> <p>Moreover, the Act aims to push power downwards and outwards to the lowest possible level, including individuals, neighbourhoods, professionals and communities as well as local councils and other local institutions.</p> <p>The Localism Act includes five key measures that underpin the Government's approach to decentralisation:</p>	The AoS should seek to align with the aims of the Act to shift power to individuals, communities and councils.

	<ul style="list-style-type: none"> • Community rights: which ensure that community organisations have a fair chance to bid to take over land and buildings that are important to them. • Neighbourhood planning: new rights will allow local communities to shape new development by coming together to prepare neighbourhood plans. • Housing: councils will get a higher flexibility to manage their housing stock for meeting local demand. • General power of competence: local authorities will have the legal capacity to do anything an individual could do that isn't specifically prohibited. • Empowering cities and other local areas: public functions will be transferred to local authorities in order to improve local accountability or to promote economic growth. 	
Environmental Assessment of Plans and Programmes Regulations 2004	To comply with the Environmental Assessment of Plans and Programmes Regulations 2004, if it is determined that a proposed plan or programme, or a modification to an existing plan or programme, is likely to have a significant environmental effect it will need a Strategic Environment Assessment (SEA).	SEA is an integral part of the NPS AoS and the AoS will ensure compliance with the SEA Regulations.
Planning Practice Guidance – Natural Environment 2019	<p>Explains key issues in implementing policy to protect and enhance the natural environment, including local requirements covering:</p> <ul style="list-style-type: none"> • Agricultural land, soil and brownfield land of environmental value <p>A local planning authority must consult Natural England before granting planning permission for large-scale non-agricultural development on best and most versatile land that is not in accord with the development plan. Natural England has published guidance on development on agricultural land.</p>	To consider as part of identification of issues and opportunities for the NPS

	<ul style="list-style-type: none"> • Green infrastructure <p>Green infrastructure opportunities and requirements need to be considered at the earliest stages of development proposals, as an integral part of development and infrastructure provision, and taking into account existing natural assets and the most suitable locations and types of new provision.</p> <ul style="list-style-type: none"> • Biodiversity, geodiversity and ecosystems <p>Development plans and planning decisions have the potential to affect biodiversity or geodiversity outside as well as inside relevant designated areas.</p> <p>Planning authorities and neighbourhood planning bodies can work collaboratively with other partners, including Local Nature Partnerships, to develop and deliver a strategic approach to protecting and improving the natural environment based on local priorities and evidence. Equally, they need to consider the opportunities that individual development proposals may provide to conserve and enhance biodiversity and geodiversity, and contribute to habitat connectivity in the wider area (including as part of the Nature Recovery Network).</p> <p>As set out in the Government's 25 Year Environment Plan, the Nature Recovery Network is an expanding and increasingly-connected network of wildlife-rich habitat across England. It comprises a core network of designated sites of importance for biodiversity and adjoining areas that function as stepping stones or wildlife corridors, areas identified for new habitat creation and up to 25 nature recovery areas for targeted action. Defra, Natural England and other government bodies are working with national and local partnerships to deliver the Network, which includes support for developing maps and advice to show where actions to improve and restore habitats would be most effective.</p> <p>Local ecological networks can make a significant contribution to developing the Nature Recovery Network.</p>	
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	necessary mitigation measures, such as appropriate design principles and visual screening, where necessary. The cumulative impacts of development on the landscape need to be considered carefully.	
BIODIVERSITY		
Wildlife and Countryside Act 1981	<p>An Act prohibiting and limiting actions involving wild animals, and the primary piece of legislation for wildlife protection in the UK. Prohibitions include taking, injuring, killing and disturbing. It is also an offence to disturb places used for shelter and protection.</p> <p>The Act [inter alia] prohibits certain methods of killing or taking wild animals; amends the law relating to protection of certain mammals; restricts the introduction of certain animals and plants; amends the Endangered Species (Import and Export) Act 1976; amends the law relating to nature conservation, the countryside and National Parks; and amends the law relating to public rights of way.</p>	Ensure that wildlife protection covered within AoS framework.
Countryside and Rights of Way Act 2000 (CROW Act)	<p>This Act contains five Parts and 16 Schedules and provides for public access on foot to certain types of land, amends the law relating to public rights of way, increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONB).</p> <p>The Act is compliant with the provisions of the European Convention on Human Rights, requiring consultation where the rights of the individual may be affected by these measures.</p>	Ensure that public access to the countryside and protection of AONB is considered as part of the AoS framework.
Conservation of Habitats and Species Regulations 2017 as amended by The	The regulations consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994 in respect of England and Wales. The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected	Ensure protection of protected sites

Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019	<p>species', and the adaptation of planning and other controls for the protection of European Sites.</p> <p>This legislation aims to protect and conserve natural habitats and species of European importance in the UK (the legislation relates to England and Wales only). It makes it an offence to deliberately capture, injure, or kill a species or well as to damage or destroy a breeding or resting place in Schedule 2 of the Regulations or deliberately pick, collect, cut uproot or destroy plant species in Schedule 5.</p>	and species in AoS Framework.
The Conservation of Offshore Marine Habitats and Species Regulations 2017	<p>The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2017 implement the species protection requirements of the Habitats and Birds Directives offshore (more than 12 nautical miles from the coast).</p> <p>The Offshore Marine Regulations apply to the offshore marine area, offshore marine installation and certain ships and crafts.</p>	Ensure consideration and protection of all designated offshore sites.
National Pollinator Strategy 2014-2024	<p>It is recognised that Pollinators face many pressures which have led to declines in numbers, and a reduction in the diversity of species to be found in many parts of the country.</p> <p>As a response, DEFRA developed the National Pollinator Strategy, which over the years 2014-2024 aims to build a solid foundation to bring about the best possible conditions for bees and other insects to flourish. This will fulfil the vision of the Strategy which is to see pollinators thrive so that they can carry out their essential service to people of pollinating flowers and crops, while providing other benefits for native plants, the wider environment, food production and all of us.</p>	Ensure the protection of bees and other insects within the AoS.
The Invasive Alien Species (Enforcement	The Invasive Alien Species (Enforcement and Permitting) Order 2019 ensures an enforcement regime is in place to enforce the Principal EU Regulation (1143/2014) in	Ensure AoS considers introduction and

and Permitting) Order 2019	England and Wales, which is designed to prevent, minimise or mitigate the adverse impact of the introduction and spread of invasive alien species.	spread of invasive alien species.
The Great Britain Invasive Non-native Species Strategy 2023	<p>Invasive Non-native Species are one of the top five drivers of biodiversity loss globally. They threaten Great Britain's ability to meet wider environmental targets and respond to climate change.</p> <p>Strategy sets out aims to guide collaboration between government, voluntary organisations, NGOs, researchers, businesses and the public to 2030.</p>	Ensure the AoS considers the potential for the spread of INNS.
National Parks and Access to Countryside Act 1949	<p>The Act established powers to declare National Nature Reserves (NNRs); to notify sites of Sites of Special Scientific Interest (SSSI's) and for local authorities to establish Local Nature Reserves (LNRs).</p> <p>These provisions were strengthened by the Wildlife & Countryside Act 1981. An NNR is an area which is among the best examples of a particular habitat. NNRs are of national importance. They are in many cases owned and managed by the statutory authority, (for example English Nature), but not always. An NNR, unlike an SSSI, has to be managed appropriately to retain its special status.</p>	Ensure protection of sites designated for nature conservation at the national and local level in the AoS framework.
Natural Environment and Rural Communities Act 2006	<p>Section 40 of the Act is amended by the Environment Act 2021 which introduced a strengthened 'biodiversity duty'. Public authorities who operate in England must consider what they can do to conserve and enhance biodiversity in England.</p> <p>This means that, as a public authority, you must:</p> <ol style="list-style-type: none"> 1. Consider what you can do to conserve and enhance biodiversity. 2. Agree policies and specific objectives based on your consideration. 	Ensure biodiversity conservation within AoS framework.

	<p>3. Act to deliver your policies and achieve your objectives</p> <p>You must meet the biodiversity duty if you are a public authority, such as a:</p> <ul style="list-style-type: none"> • government department or public body • local authority or local planning authority • statutory undertaker – a business that has public authority duties for their land and delivers something of public importance 	
<p>The Economics of Biodiversity: The Dasgupta Review, 2021</p>	<p>Headline messages:</p> <p>We have collectively failed to engage with Nature sustainably, to the extent that our demands far exceed its capacity to supply us with the goods and services we all rely on.</p> <p>Our unsustainable engagement with Nature is endangering the prosperity of current and future generations. Biodiversity is declining faster than at any time in human history. Current extinction rates, for example, are around 100 to 1,000 times higher than the baseline rate, and they are increasing. Such declines are undermining Nature’s productivity, resilience and adaptability, and are in turn fuelling extreme risk and uncertainty for our economies and well-being.</p> <p>At the heart of the problem lies deep-rooted, widespread institutional failure. Nature’s worth to society – the true value of the various goods and services it provides – is not reflected in market prices because much of it is open to all at no monetary charge. These pricing distortions have led us to invest relatively more in other assets, such as produced capital, and underinvest in our natural assets. Moreover, aspects of Nature are mobile; some are invisible, such as in the soils; and many are silent. Governments almost everywhere exacerbate the problem by paying people more to exploit Nature than to protect it, and to prioritise unsustainable economic activities.</p>	<p>The AoS should reflect the fact that current demands on Nature far exceed its capacity to supply us with the goods and services we all rely on.</p>

	<p>The solution starts with understanding and accepting a simple truth: our economies are embedded within Nature, not external to it.</p> <p>We need to change how we think, act and measure success. The change required should be geared towards three broad transitions.</p> <ul style="list-style-type: none"> • Ensure that our demands on Nature do not exceed its supply, and that we increase Nature's supply relative to its current level. • Change our measures of economic success to guide us on a more sustainable path. • Transform our institutions and systems – in particular our finance and education systems – to enable these changes and sustain them for future generations. 	
National Forest Inventory	<p>This programme monitors woodland and trees within Great Britain. It includes the most in depth survey carried out on Britain's woodland and trees to date. The NFI provides an extensive and unique record of key information about our forests and woodlands. Woodland surveys and compiled forest inventories have been carried out at 10-15 year intervals since 1924.</p>	The AoS should consider this inventory.
AIR QUALITY		
Air Quality Standards Regulations 2010 as amended by The Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019	<p>These regulations set legally binding limits for concentrations in outdoor air of major air pollutants that impact public health such as particulate matter (PM10 and PM2.5) and nitrogen dioxide (NO2). As well as having direct effects, these pollutants can combine in the atmosphere to form ozone, a harmful air pollutant (and potent greenhouse gas) which can be transported great distances by weather systems. It also incorporates the 4th air quality daughter directive that sets targets for levels in outdoor air of certain toxic heavy metals and polycyclic aromatic hydrocarbons.</p>	Ensure the inclusion of major air pollutants that impact human health within the AoS framework.

<p>Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007</p> <p>Air Quality Strategy: framework for local authority delivery</p>	<p>This Air Quality Strategy sets out air quality objectives and policy options to further improve air quality in the UK from today into the long term. As well as direct benefits to public health, these options are intended to provide important benefits to quality of life and help to protect our environment.</p>	<p>Ensure the inclusion of an air quality objective within the AoS framework.</p>
<p>Clean Air Strategy 2019</p>	<p>The Clean Air Strategy explains how the UK Government will tackle all sources of air pollution, sets out policy direction, and outlines measures that will drive the move to zero emission transport modes. The strategy links into other national level policies, outlining the same targets and strategies across multiple documents.</p> <p>The strategy includes numerous aims and goals, many drawn from other policy documents, that are collated in brief in the executive summary. These are framed in the following topics:</p> <ul style="list-style-type: none"> • shifting to “cleaner” energy sources (e.g. phasing out coal-fired power stations) • protecting the nation’s health; • protecting the environment; • securing clean growth and innovation; • action to reduce emissions from transport; • action to reduce emissions at home; • action to reduce emissions from farming; • action to reduce emissions from industry; and • leadership at all levels. 	<p>Ensure the inclusion of an air quality objective dealing with the topics of cleaner energy sources, protection of health, protection of the environment, reduce emissions from transport, homes and industry within the AoS framework.</p>

	<p>The Clean Air Strategy effectively summarises government policy with an impact on air quality from multiple different areas. Multiple government initiatives are listed where action has been taken by central government. Of particular importance, and reinforced by the Clean Air Strategy, is the adoption of challenging and enforceable local Air Quality Strategies.</p>	
<p>Air Quality Plan for Nitrogen Dioxide in the UK, 2017</p>	<p>Jointly produced by the DfT and DEFRA, this national plan determines an approach for areas with the worst levels of traffic-related air pollution to mitigate the effects. It sets out the framework for Clean Air Zones, allowing for targeted action to improve air quality in the “shortest possible time” as required by legal obligations to meet NO2 concentration thresholds.</p> <p>The document also sets out plans for ending the sale of new, conventional petrol and diesel cars and vans by 2040. The plan argues that NO2 accumulation is a local issue, as the pollutants do not disperse widely like greenhouse gasses. In line with this local approach, the plan sets out support to local authorities, including:</p> <ul style="list-style-type: none"> • setting up a £255 million Implementation Fund; • establishing a Clean Air Fund; and • providing £100m for retrofitting and new low emission buses. <p>The plan outlines the introduction of several new funding streams that local authorities can utilise to finance measures to reduce NO2 emissions.</p>	<p>Ensure the inclusion of meeting NO2 concentration thresholds. within the AoS framework.</p>
<p>Air Pollution: Action in a Changing Climate (Defra, 2010)</p>	<p>The key messages from this document are:</p> <ul style="list-style-type: none"> • There is a link between air pollution and climate change as these originate from similar activities, for example; 	<p>The AoS framework should consider including objectives which seek to limit air pollution and</p>

	<ul style="list-style-type: none"> • transport and electricity generation. These links should be considered when managing policy; • The UK's commitment to build a low carbon economy by 2050 will reduce air pollution but choices made to achieve; • this will impact upon the extent of air quality improvements; • Air quality/climate change co-benefits could be achieved by promoting actions such as low-carbon vehicles; • However, benefits for climate change may have negative impacts on air pollution and vice versa which need to be taken into consideration. <p>Action will be required at international, national, regional and local levels to ensure that policies regarding air pollution and climate change are aligned to maximise co-benefits.</p>	reduce the impacts of air pollution on climate change.
CLIMATE CHANGE		
Climate Change Act 2008 and its 2050 Target Amendment Order, 2019	<p>The Act aims to improve carbon management, helping the transition towards a low-carbon economy in the UK and to demonstrate UK leadership internationally. Key provisions of the Act include:</p> <ul style="list-style-type: none"> • a legally binding target of at least an 80% cut in greenhouse gas emissions by 2050 and a reduction in emissions of at least 34% by 2020 (both against 1990 baseline). Note the 2050 target has now been amended to Net Zero • a carbon budgeting system that caps emissions over five-year periods; • creation of the Committee on Climate Change; • further measures to reduce emissions, including measures on biofuels; 	Ensure that reduction of greenhouse emissions is addressed within the AoS framework through the inclusion of an appropriate objective.

	<ul style="list-style-type: none"> • a requirement for the Government to report at least every five years on the risks to the UK of climate change, and to publish a programme setting out how these will be addressed. <p>The Act also introduces powers for Government to require public bodies and statutory undertakers to carry out their own risk assessment and make plans to address those risks</p>	
UK Net Zero Strategy 2021	<p>The UK's new Net Zero Strategy sets out policies and proposals for decarbonising all sectors of the UK economy to meet the net zero target by 2050. It sets out, how the UK Government plans to deliver its emissions targets of Net Zero in 2050 and a 78% reduction from 1990 to 2035 (-63% relative to 2019). It puts forward an achievable and affordable vision that will bring net benefits to the UK.</p> <p>Government sets out that the exact technology and energy mix in 2050 cannot be known now, and the path to net zero will respond to the innovation and adoption of new technologies over time. It is expected to rely on the following key green technologies and energy carriers, which interact to meet demand across sectors and to remain low carbon:</p> <ul style="list-style-type: none"> • Electricity from low carbon generation and storage technologies meets higher demand for low carbon power in buildings, industry, transport, and agriculture. • Hydrogen can complement the electricity system, especially in harder to electrify areas like parts of industry and heating, and in heavier transport such as aviation and shipping. A range of low carbon production methods could be used. • Carbon capture usage and storage (CCUS) can capture CO2 from power generation, hydrogen production, and industrial processes – storing it underground or using it. This technology also supports negative emissions from engineered greenhouse gas removals – bioenergy with carbon capture and storage (BECCS) and Direct Air Carbon Capture and Storage (DACCS). 	<p>The AoS must be guided by this important overarching strategy to meet the net zero target by 2050.</p>

	<ul style="list-style-type: none"> • Biomass combined with CCUS can remove carbon from the atmosphere and support low carbon electricity and hydrogen generation. Biomass and other wastes can also support low carbon fuels for industry, buildings, and transport. 	
The Road to Zero 2018	<p>The Road to Zero strategy is a broad governmental “next steps” policy that outlines an ambition to decarbonise transport, and to strengthen the UK’s offering in design and manufacturing of zero emission vehicles, and the role of zero emission road vehicles in the government’s Industrial Strategy. The strategy is aligned to other national policies mentioned in this section.</p> <p>The policy sets targets for 50-70% of new car sales, and up to 40% of new van sales to be ultra-low emission by 2030. To support this, emphasis is given to several key policies:</p> <ul style="list-style-type: none"> • reducing emissions from the vehicles already on our roads; • driving the uptake of the cleanest vehicles; • reducing emissions from heavy goods vehicles (HGVs) and road freight; • putting the UK at the forefront of the design and manufacturing of zero emission vehicles; and • supporting the development of one of the best electric vehicle infrastructure networks in the world • supporting local actions. <p>The strategy sets out in detail the challenges brought about by the emissions of road transport, and the specifics of how different types of road transport produce these emissions. The strategy also acknowledges the difficulty in maintaining a required level of road use for vital travel, commerce, and services, whilst restricting vehicle choice. Given the significant consequences of failing to act to reduce emissions, the report strikes a balance to prioritise reductions in emissions and maintain economic growth.</p>	AoS needs to recognise the importance of decarbonising transport.

	<p>Although the strategy refers to changes in travel modes for certain types of journeys, the emphasis of the report lies with maintaining a required level of road travel, with reductions in emissions achieved through encouraging a high proportion of low-emission vehicles on the roads.</p>	
UKCP18	<p>The UK Climate Projections (UKCP) provides the most up-to-date assessment of how the UK climate may change in the future. UKCP18 provides a new set of climate projections and tools to access climate data. The major innovations in UKCP18 include the use of new observations of weather and climate, inclusion of a more recent generation of climate models from around the world and the results from latest Met Office global and regional climate models.</p> <p>The projections can then be used to inform guidance such as the Environment Agency's guidance on flood risk assessment.</p>	<p>The AoS framework should promote an improved resilience to climate change.</p>
Industrial Decarbonisation Strategy 2021	<p>The aim of this strategy is to show how the UK can have a thriving industrial sector aligned with the net zero target, without pushing emissions and business abroad, and how government will act to support this. This strategy is part of a series of publications from government, which combined show how the net zero transition will take place across the whole UK economy.</p> <p>The strategy aims to:</p> <ul style="list-style-type: none"> • show how the UK can have a thriving industrial sector aligned with the net zero target, without pushing emissions and business abroad • show how and when government will act to support this, while sharing the costs and risks fairly between industry, its customers and the taxpayer • start a conversation with industry, its workforce, customers and communities about the future of industry in a net zero world. 	<p>The AoS should consider including objectives that address the reduction of carbon emissions, as well as objectives that promote the transformation to a low carbon industrial sector.</p>

	The strategy identifies that beyond electricity generation, nuclear may also play a role in the provision of process heat to industry.	
National Infrastructure Strategy 2020	<p>The National Infrastructure Strategy sets out the government's plans to transform the UK's infrastructure networks. It is based around three central objectives: economic recovery; levelling up and strengthening the Union; and meeting the UK's net zero emissions target by 2050. This will be enabled by clear support for private investment and through a comprehensive set of reforms to the way infrastructure is delivered.</p> <p>This Strategy sets out early actions that the government will take to build the infrastructure needed to achieve net zero, improve air quality, create a greener urban environment, and minimise the impact of flooding.</p>	The AoS should consider including objectives that address GHG emissions reduction, as well as promote the transformation to an energy-efficient low carbon economy.
National Infrastructure Assessment 2018	The Assessment analyses the UK's long-term economic infrastructure needs, outlining a strategic vision over the next 30 years and setting out recommendations for how identified needs should be met. The Assessment provides a long term strategy for how to adapt the UK's infrastructure to deal with the pressures of climate change.	Ensure that adaptation of infrastructure to climate change is addressed within the AoS framework.
UK Climate Change Risk Assessment 2022, Presented to Parliament pursuant to Section 56 of the	The UK government is required to undertake an assessment of the risks from climate change faced by the UK every five years under the Climate Change Act 2008. The third UK Climate Change Risk Assessment (CCRA3) identifies sixty-one UK-wide climate risks and opportunities that cross-cut multiple sectors of the economy. The potential impact of these risks includes changes to health and productivity, and disruption to households, businesses and public services. Estimated damages caused by climate change could be at least 1% of	Ensure that assessment of risks and opportunities from climate change is addressed within

<p>Climate Change Act 2008</p>	<p>GDP by 2045 and the report highlights that more action is needed in the majority of risk areas to increase resilience and reduce the costs associated with climate change. Decision making, such as for new housing or infrastructure, should consider the effects of climate change to avoid the need for costly remedial actions later and this should include low probability, high impact events, and interdependent or cascading risks</p>	<p>the AoS Framework.</p>
<p>The Third National Adaptation Programme (NAP3) and the Fourth Strategy for Climate Adaptation Reporting 2023, Presented to Parliament pursuant to Section 58 of the Climate Change Act 2008</p>	<p>NAP3</p> <p>Every 5 years, the government produces an assessment of the risks and opportunities from climate change and reports on how we will adapt in the NAP. This approach to climate adaptation is world leading, placing the UK at the forefront of global efforts to manage climate risk.</p> <p>NAP3 explains the government’s plans to adapt to climate change over the next 5 years from 2023 to 2028, including: protecting the natural environment; supporting business in adapting to climate change; adapting infrastructure (for example, our electricity networks and railways); protecting buildings and their surroundings (for example, from hotter temperatures); protecting public health and communities; mitigating international impacts on the UK (for example, on food supplies imported from abroad).</p> <p>The Climate Change Act and the Climate Change (Scotland) Act require Northern Ireland, Wales, and Scotland to have their own plans for climate adaptation. These plans are closely aligned, and Northern Ireland, Wales, and Scotland have contributed to NAP3.</p> <p>Climate Adaptation Reporting</p> <p>The government’s strategy for the fourth round of climate adaptation reporting under the Adaptation Reporting Power (ARP). ARP was introduced under the CCA 2008. It gives the</p>	<p>The AoS should consider how nuclear infrastructure planning aligns with short term plans by UK Government.</p>

	<p>Secretary of State the power to direct organisations with functions of a public nature and statutory undertakers to produce reports detailing:</p> <ul style="list-style-type: none"> • the current and future projected impacts of climate change on their organisation • proposals for adapting to climate change • an assessment of progress towards implementing the policies and proposals set out in previous reports <p>Reporting is usually undertaken in a 5-yearly cycle. Following strong support for the proposals in our consultation, the fourth round of reporting will be undertaken to a different timescale than previous rounds. This will improve the alignment of adaptation reporting with other elements of the statutory framework for climate change adaptation. The closing date for the next round will therefore be brought forward to late 2024 (from 2026). After this, reporting will return to its 5-yearly cycle.</p>	
Climate Change: Second national adaptation programme (2018-2023)	<p>The second National Adaptation Programme (NAP) sets out government's response to the second Climate Change Risk Assessment (CCRA), showing the actions government is, and will be, taking to address the risks and opportunities posed by a changing climate. It sets out the key actions needed in relation to the following six priority areas of climate change risks for the UK;</p> <ul style="list-style-type: none"> • Natural environment; • Reducing pressures from spreading diseases and non-native invasive species; • Infrastructure; • People and the built environment; • Business and industry; and • Local government. 	The AoS should consider objectives which promote resilience to the impacts of climate change.

Planning Practice Guidance – Climate Change 2019	<p>Advises how planning can identify suitable mitigation and adaptation measures in plan-making and the planning application process to address the potential impacts of climate change. The role of planning in supporting the delivery of appropriately sited renewable or low-carbon energy is specifically addressed.</p>	<p>Ensure that climate change resilience is addressed within the AoS framework through the inclusion of an appropriate objective.</p>
<p>Climate, people, places and value</p> <p>Design principles for national infrastructure, National Infrastructure Commission, 2021</p>	<p>The design principles for national infrastructure are:</p> <p>Mitigate greenhouse gas emissions and adapt to climate change: The design of our infrastructure must help set the trajectory for the UK to achieve net zero greenhouse gas emissions by 2050 or sooner.</p> <p>Good infrastructure is designed for the benefit of people and will plan for future changes in demographics and population.</p> <p>Provide a sense of identity and improve our environment: Well-designed infrastructure supports the natural and built environment. Projects should seek to deliver a net biodiversity gain, contributing to the restoration of wildlife on a large scale while protecting irreplaceable natural assets and habitats.</p> <p>Achieve multiple benefits and solve problems well:</p> <p>Good design finds opportunities to add value beyond the main purpose of the infrastructure.</p>	<p>Design principles for national infrastructure are important considerations for the AoS framework</p>
Independent Assessment of UK Climate Risk,	<p>Provides the advice to Government on priorities for the forthcoming national adaptation plans and wider action. It is informed by extensive new evidence gathered for the accompanying Climate Change Risk Assessment (CCRA3) Technical Report. More than 60</p>	<p>The AoS needs to consider relevant areas of climate change risk as set</p>

<p>Committee on Climate Change 2021</p>	<p>risks and opportunities have been identified, fundamental to every aspect of life in the UK covering natural environment, health, homes, infrastructure, and the economy.</p> <p>The Committee identifies eight risk areas that require the most urgent attention in the next two years:</p> <ul style="list-style-type: none"> • 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 • Multiple risks to the UK from climate change impacts overseas <p>Ten principles for good adaptation planning that should form the basis for the next round of national adaptation plans are also recommended. These are intended to bring adaptation into mainstream consideration by government and business.</p>	<p>out in the independent assessment.</p>
<p>HERITAGE</p>		

Historic Buildings and Ancient Monuments Act 1953	This Act provides for the preservation and acquisition of buildings of outstanding historic or architectural interest and their contents and related property, and to amend the law relating to ancient monuments and other objects of archaeological interest.	The AoS should consider risks to historic buildings and ancient monuments
Heritage Protection for the 21st Century 2007	<p>The paper sets out a vision of a unified and simpler heritage protection system, which will have more opportunities for public involvement and community engagement. The proposed system will be more open, accountable and transparent. It will offer all those with an interest in the historic environment a clearer record of what is protected and why; it will enable people who own or manage historic buildings and sites to have a better understanding of what features are important; it will streamline the consent procedures and create a more consultative and collaborative protection system.</p> <p>It is predominantly aimed for England and Wales with some UK wide elements.</p>	Ensure historic environment protection within AoS framework.
Ancient Monuments and Archaeological Areas Act 1979	<p>Under the Act a monument which has been scheduled is protected against any disturbance including unlicensed metal detecting.</p> <p>Permission must be obtained for any work which might affect a monument above or below ground. Historic England gives advice to the Government on each application. In assessing an application, the Secretary of State will try to ensure any works on protected sites are beneficial to the site or are essential for its long-term sustainability.</p>	Ensure protection of ancient monuments and archaeological areas within AoS framework.
Protection of Military Remains Act 1986	The Protection of Military Remains Act 1986 prohibits entering and tampering with wrecked military vessels or aircraft. All military aircraft is automatically protected under this legislation, but vessels need to be designated individually. The Act enabled the government to establish controlled sites around wrecks in UK water or protected places for those in international water. The legislation is administered by the Ministry of Defence.	Ensure protection of wrecked military vessels or aircraft within AoS framework.

National Heritage Act 1983 (as amended 2002)	The 1983 Act established the Historic Buildings and Monuments Commission and delegated the functions of scheduling of ancient monuments and listing of historic buildings. The National Heritage Act 2002 broadened the powers of Historic England in two ways. It allowed Historic England to become involved in underwater archaeology in English territorial water and to trade in overseas countries. These powers have now been transferred to Historic England.	Ensure protection of ancient monuments and historic buildings and underwater archaeology within AoS framework.
The Protection of Wrecks Act 1973	The Protection of Wrecks Act 1973 allows the Government to designate a restricted area around the site of a vessel lying on or in the seabed in UK territorial waters if they are satisfied that, on account of the historical, archaeological or artistic importance of the vessel, or its contents or former contents, the site ought to be protected from unauthorised interference.	Ensure protection of designated wrecks within AoS framework.
Government Heritage Statement 2017	This heritage statement sets out how the government will support the heritage sector and help it to protect and care for our heritage and historic environment in the coming years, in order to maximise the economic and social impact of heritage and to ensure that everyone can enjoy and benefit from it.	Ensure protection of heritage and historic environment within AoS framework.
Planning (Listed Buildings and Conservation Areas) Act 1990	Governs special controls in respect of buildings and areas of special architectural or historic interest. Any alteration, extension or demolition of a listed building in a way that affects its character as a building of special interest requires Listed Building Consent.	Ensure protection of listed buildings within AoS framework.
LANDSCAPE		

National Parks and Access to the Countryside Act 1949	<p>This was an act that made provision for National Parks and the establishment of a National Parks Commission. It was also to confer on the Nature Conservancy and local authorities' powers for the establishment and maintenance of nature reserves, it made further provision for the recording, creation, maintenance and improvement of public paths and for securing access to open country and to amend laws relating to rights of way.</p>	Ensure protection of national parks and improvements of public paths included within the AoS framework.
Norfolk and Suffolk Broads Act 1988 (and subsequent amendments)	<p>This Act set up the Broads Authority to manage the Broads for the purposes of:</p> <ul style="list-style-type: none"> • Conserving and enhancing the natural beauty, wildlife and cultural heritage of the Broads • Promoting opportunities for understanding and enjoyment of the special qualities of the Broads by the public • Protecting the interests of navigation. <p>The Norfolk and Suffolk Broads Act 1988 also documents the Authority's need to regard the needs of agriculture and forestry, and the economic and social interests of those who live or work in the Broads</p>	Although the NPS will be 'non locational' there is a need to ensure protection of areas such as The Broads.
Countryside and Rights of Way Act 2000	<p>The Countryside and Rights of Way Act 2000 (CROW Act) normally gives a public right of access to land mapped as 'open country' (mountain, moor, heath and down) or registered common land. These areas are known as 'open access land'. Activities such as sight seeing are enabled by this Act.</p>	Ensure that the issue of protecting Rights of Way and access to open space is considered in the AoS.
WATER ENVIRONMENT		

Water Resources Act 1991	<p>This Act aims to prevent and minimise pollution of water. The policing of this act is the responsibility of the Environment Agency and Natural Resources Wales. Under the act it is an offence to cause or knowingly permit any poisonous, noxious or polluting material, or any solid waste to enter any controlled water.</p> <p>Silt and soil from eroded areas are included in the definition of polluting material. If eroded soil is found to be polluting a water body or watercourse, the Environment Agency may prevent or clear up the pollution, and recover the damages from the landowner or responsible person</p>	Ensure that water quality protection and enhancement and water availability is included within the AoS framework.
Water Industry Act 1991	This Act sets out the main powers and duties of the water and sewerage companies, thus replacing those set out in the Water Act 1989, and defined the powers of the Director General of Water Services (now the Water Services Regulation Authority (Ofwat)). This Act sets out the duties for water companies in England and Wales including the need for supply licensing, as well as water resources management plans and general supply duties.	Ensure that the issue of water resources is addressed within the AoS.
The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017	Looks at the ecological health of surface water bodies as well as traditional chemical standards. In particular, it will help deal with, amongst others diffuse pollution, habitat, ecology, hydromorphology, barriers to fish movement, water quality, flow and sediment. The core aim of the Water Framework Directive is to protect the UK's water environments by preventing their deterioration and improving their quality. It does this by setting ecological targets and environmental objectives. Successful implementation will help to protect all elements of the water cycle and enhance the quality of our groundwater, rivers, lakes, estuaries and seas.	The AoS should consider objectives of preventing and improvement of the quality of the water environment.
Flood and Water Management Act 2010	This act provides for a better, more comprehensive management of flood risk for people, homes and businesses, helps safeguard community groups from unaffordable rises in surface water drainage charges and protects water supplies to the consumer. The key concepts include:	Ensure that management of flood risk for the benefit of people,

	<ul style="list-style-type: none"> • Flood and Coastal Erosion Risk Management; • Strategies for Natural flood and coastal erosion; • The establishment of regional flood and coastal communities. 	homes and businesses within the AoS framework.
Flood Risk Regulations 2009	<p>The Regulations identify and take action in areas with the most significant flood risks.</p> <p>The purpose of the Regulations is to:</p> <ul style="list-style-type: none"> • Introduce the concept of flood risk management and the framework for the delivery of flood and coastal erosion risk management through national and local strategies; • Provide new definitions, for example “flood”, “surface runoff”, “Risk Management Authorities”, Lead Local Flood Authority”; • Establish the roles and responsibilities of the different risk management authorities. 	Ensure that management of flood and coastal erosion risk is included within the AoS framework.
River Basin Management Plans	<p>These plans set out how organizations, stakeholders and communities will work together to improve the water environment. A RBD covers an entire river system, including river, lake, groundwater, estuarine and coastal water bodies and are designed to protect and improve the quality of the water environment.</p>	Ensure that water quality protection and enhancement is included within the AoS framework.
Shoreline Management Plans & Guidance 2006	<p>Shoreline management plans (SMP) provide a long-term strategic plan which identify approaches for managing the flood and coastal erosion risks at every stretch of coastline. Shoreline management plans are developed and owned by the local councils and coastal protection authorities, with members mainly from local councils, Natural England, the MMO and the Environment Agency. There are 22 SMP’s covering England and Wales. They identify the most sustainable approach to managing the flood and coastal erosion risks to the coastline in the short term (0-20 years), medium term (20-50 years) and long term (50-100</p>	Ensure that flood and coastal erosion risks to the coastline are included as an

	<p>years). They are long term non-statutory plans which set out the agreed high-level objective for coastal flooding and erosion management for each SMP area. There are 20 SMPs which cover the English coast.</p> <p>2006 Guidance</p> <p>Managing the shoreline involves identifying the best ways to manage risks to people and the developed, historic and natural environment, and how to put these into practice. A range of responses is available for managing risks, including:</p> <ul style="list-style-type: none"> • removing risks by avoiding or moving inappropriate development in vulnerable areas (such as through planning how land is used); • reducing the likelihood of damaging events through management work that prevents damage (such as managing beaches, cliffs, dunes, saltmarshes and so on) or using back-up and secondary defence systems (such as for tidal defence); • reducing the consequences of risks by providing early-warning systems (such as flood warning systems operated by the Environment Agency); and • reducing the risks associated with potentially damaging events through flood and coastal defence schemes or altering buildings to reduce the chance of flood damage. <p>The most appropriate measures will depend on the problem, and on technical, environmental, social and economic circumstances. Some of these approaches are not covered by shoreline management. However, in many cases the response will involve a combination of measures including, for example, working with local planning authorities to achieve the same objectives.</p>	<p>objective within the AoS framework.</p>
Flood Risk Management Plans	<p>Flood risk management plans explain the risk of flooding from rivers, the sea, surface water, groundwater and reservoirs. FRMPs set out how risk management authorities will work with communities to manage flood risk between 2021-2027. They must cover areas of the river basin district (RBD) where flood risk is significant. These areas are called flood risk areas</p>	<p>Ensure that risk of flooding from sea, surface water, groundwater and</p>

	<p>(FRAs). The Environment Agency and lead local flood authorities (LLFAs) identify FRAs through preliminary flood risk assessments.</p> <p>FRMPs also meet the aims of the National Flood and Coastal Erosion Strategy for England.</p>	<p>reservoirs is included within the AoS framework.</p>
<p>Flood and Coastal Erosion Risk Management Policy Statement 2020</p>	<p>This Policy Statement forms part of the government’s wider commitment to tackle climate change. It has been informed by the Environment Agency’s consultation exercise on the updated National Flood and Coastal Erosion Risk Management Strategy, the results of the government’s Call for Evidence in 2019 and advice from the National Infrastructure Commission and the Committee on Climate Change.</p> <p>Alongside the Policy Statement, the Environment Agency will publish its National Flood and Coastal Erosion Risk Management Strategy for England. This will provide a framework to guide the activities of those involved in flood and coastal erosion risk management. Taken together, this Policy Statement and the National Strategy will ensure that our country is more resilient to flooding and coastal erosion in the long term.</p> <p>This Policy Statement sets out five policy areas which will drive this ambition. None are mutually exclusive – and all must work together to create a more resilient future.</p> <p>i. Upgrading and expanding our national flood defences and infrastructure: We will continue to build the new flood defences that the nation needs. This means that we will invest in more permanent, demountable and temporary defences – building on the success of our £2.6 billion investment to better protect 300,000 properties since 2015. Over the next six years, government will invest a record £5.2 billion in the flood and coastal defence programme in England. We will better protect a further 336,000 properties and reduce national flood risk by up to 11% by 2027. We will embrace the latest science, technology and innovation to achieve this. We will also ensure that new and existing defences are well maintained so that they continue to be effective in a changing climate.</p>	<p>Ensure that flood and coastal erosion risk is included as an objective within the AoS framework.</p>

	<p>ii. Managing the flow of water more effectively: We will deliver an integrated approach to managing water. This will not only help to better protect communities from flooding but will provide wider benefits for water resource management and the environment. We will increase the number of water management schemes within and across catchments to reduce flood risk and help manage drought risk. This will include looking at further opportunities for any nationally strategic infrastructure. We will promote actions which prevent and better manage the impacts of surface water flood risk including by increasing the provision of sustainable drainage systems.</p> <p>iii. Harnessing the power of nature to reduce flood and coastal erosion risk and achieve multiple benefits: The power of nature will be part of our solution to tackling flood and coastal erosion risks. We will double the number of government funded projects which include nature-based solutions to reduce flood and coastal erosion risk. Nature-based solutions provide wider environmental and social benefits including nature recovery – to protect and restore habitats, species and landscapes – and improved water availability. They can also enhance water quality – helping to deliver our 25 Year Environment Plan commitments for clean and plentiful water. We will continue to strengthen links between natural flood risk management and these benefits and we will explore how we can do more to deliver multiple benefits from a range of interventions working together.</p> <p>iv. Better preparing our communities: We will ensure that all homes currently at high risk of flooding are better protected or better prepared. We will maintain and enhance our planning policies that direct new development away from areas at risk. New properties and infrastructure need to be resilient to flooding and coastal erosion to deliver high quality and affordable homes and thriving communities that the country needs in a changing climate. We will ensure our communities and businesses have the information they need to take ownership of their resilience. We will provide support to communities to increase awareness and understanding of risk, and share advice on steps which can help to better prepare. Key sectors – such as the insurance, development and property industries – will be encouraged to make their products and services more resilient through innovation and greater use of</p>	
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	<p>new technology. Our policies will help to ensure that buildings, important infrastructure sites and key public services are better prepared to manage flood risk. We will work together to support communities, including when flooding happens and in recovery afterwards.</p> <p>v. Enabling more resilient places through a catchment-based approach: We will support every place to thrive in a changing climate by adopting and encouraging a catchment-based approach. This means considering the full range of actions that could be taken in an area, upstream and downstream, by a variety of bodies to improve resilience. To achieve this, we will transform the current approach to local flood and coastal erosion risk planning so that every area of England will have a more strategic and comprehensive plan that drives long-term local action and investment. Local flood and coastal erosion plans will link with wider plans for an area such as water resource plans and local nature recovery strategies to seize opportunities to secure multiple benefits. In areas facing significant coastal erosion and impacts from sea levels rising, we will provide support to local areas to help them to implement long-term plans to manage risk.</p>	
Salmon and Freshwater Fisheries Act 1975	Created to protect particularly salmon and trout from commercial poaching, to protect migration routes, to prevent wilful vandalism and neglect of fishery's and to ensure correct licensing and water authority approval. Part II of the Act deals with obstructions to the passage of fish, including fishing weirs, screens and sluices; dictating when and where they can be used. Part III explains the proper times of fishing, selling and exporting fish.	The AoS should consider protection of salmon and freshwater fish.
Eels (England and Wales) Regulations 2009	These regulations afford powers to the Environment Agency and Natural Resource Wales to implement measures for the recovery of European eel stocks all freshwater and estuarine waters and have important implications for operators of abstractions and discharges.	The AoS should consider protection and enhancement of freshwater and estuarine waters as a habitat for eels.

<p>Fisheries Act 2020</p>	<p>The Fisheries Act will enable the UK to control who fishes in their waters through a new foreign vessel licencing regime and ends the current automatic rights for EU vessels to fish in UK waters.</p> <p>Underpinning the Act is a commitment to sustainability, ensuring that fish and aquaculture activities are environmentally sustainable in the long term. The UK Government and Devolved Administrations are required to develop new fisheries management plans for managing fisheries to benefit the fishing industry and the marine environment.</p>	<p>The AoS should give particular regard to sustainable management of fisheries.</p>
<p>Marine and Coastal Access Act 2009</p>	<p>The Act introduces a new system of marine management. This includes a new marine planning system, which makes provision for a statement of the Government’s general policies, and the general policies of each of the devolved administrations, for the marine environment, and also for marine plans which will set out in more detail what is to happen in the different parts of the areas to which they relate. Welsh Ministers are the marine licensing authority in Wales, and the administration and determination of marine licenses has been delegated to NRW.</p> <p>Key areas of the Act include:</p> <ul style="list-style-type: none"> • sets up a new Marine Management Organisation under which many of the existing, diverse areas of marine regulation would be centralised; • streamlines the existing marine licensing system and provides powers to create a joined-up marine planning policy; • introduces new measures to reform fisheries management; • provides a framework for establishing marine conservation zones; • enables the creation of a walkable route around the English and Welsh coast. 	<p>The AoS should seek to align with the aims of the Act and protect the marine and coastal environment.</p>

<p>The Marine Works (Environmental Impact Assessment) Regulations 2007</p>	<p>The regulations requires that certain types of project with the potential to significantly affect the environment have an environmental impact assessment before a marine licence decision is made.</p>	<p>The AoS should consider where EIAs are required if projects have the potential to significantly affect the environment.</p>
<p>UK Marine Policy Statement 2011</p>	<p>The Marine Policy Statement (MPS) is the framework for preparing Marine Plans and taking decisions affecting the marine environment. The MPS will facilitate and support the formulation of Marine Plans, ensuring that marine resources are used in a sustainable way in line with the high level marine objectives and thereby:</p> <ul style="list-style-type: none"> • Promote sustainable economic development; • Enable the UK's move towards a low-carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapt to their effects; • Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets; and • Contribute to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues. 	<p>The AoS framework should consider sustainable use of the marine environment, in particular relating to water quality and use of the coastal zone.</p>
<p>Marine strategy part one: UK updated assessment and Good Environmental Status, 2019</p>	<p>This strategy provides an updated assessment of our seas and sets objectives, targets and indicators for achieving Good Environmental Status.</p>	<p>The AoS should consider objectives, targets and indicators for achieving Good Environmental Status in the</p>

		marine environment.
Marine Strategy Part 2, 2021	This updated UK Marine Strategy Part Two sets out the monitoring programmes that we propose to use to provide the evidence to support the 2024 assessment of progress towards achieving GES within the UK Marine Strategy area.	The AoS should consider marine monitoring indicators set out on the Marine Strategy.
Marine strategy part three: UK programme of measures	This strategy outlines the measures that contribute towards Good Environmental Status (GES) in UK seas.	The AoS should consider the measures that contribute towards Good Environmental Status in the UK seas.
Urban Wastewater Treatment Regulations 1994	<p>These regulations require Defra to:</p> <ul style="list-style-type: none"> • publish a situation report on the disposal of urban wastewater and sludge • assess compliance with these regulations in each agglomeration (each area where wastewater is collected to be treated or discharged) • publish a report on the level of that compliance, identified reasons for non-compliance, and proposed measures to achieve compliance with these regulations 	The AoS should consider the disposal of urban wastewater.

<p>Storm overflows discharge reduction plan</p>	<p>The Plan sets stringent new targets to protect people and the environment. This will require water companies to deliver the largest infrastructure programme in water company history. Water companies will have to achieve targets set out in the plan:</p> <ul style="list-style-type: none"> • by 2035, water companies will have to improve all storm overflows discharging into or near every designated bathing water; and improve 75% of overflows discharging to high priority nature sites • by 2050, this will apply to all remaining storm overflows covered by our targets, regardless of location 	<p>The AoS should consider storm overflow discharge.</p>
<p>Reservoirs Act 1975</p>	<p>The Act places a duty on the Environment Agency in England and Wales and LAs in Scotland to maintain a register of large raised reservoirs which can contain more than 25,000m³ of water above the natural level of any part of the land adjoining the reservoir. The Secretary of State appoints specialist engineers to panels set up under the Act - hence the engineers are referred to as 'Panel Engineers'.</p>	<p>The AoS should consider provision to prevent escapes of water from large reservoirs or from lakes or lochs artificially created or enlarged.</p>
<p>Water Resources Infrastructure National Policy Statement</p>	<p>The National Policy Statement (NPS) aims to:</p> <ul style="list-style-type: none"> • streamline the planning permission process for nationally-significant water infrastructure projects • enable new water supply infrastructure • provide planning guidance for applicants <p>The NPS will be used as the primary basis for examination by the Examining Authority. It will be used by the Secretary of State to consider development consent applications for nationally-significant water resource infrastructure projects.</p>	<p>The AoS should consider the need for planning permission for water infrastructure.</p>

NOISE		
Environmental Noise Regulations 2006	Environmental noise is implemented in England by the Environmental Noise (England) Regulations 2006. Noise is a devolved matter so implemented in Wales by the Environmental Noise (Wales) Regulations 2006 and in Scotland by the Environmental Noise (Scotland) Regulations 2006. The Regulations seeks to manage the impact of environmental noise through strategic noise mapping and the preparation and implementation of Noise Action Plans on a 5 yearly cycle. Under these regulations, the third round of strategic noise mapping has been undertaken and updated Noise Action Plans have been prepared. Note that consultation is due to commence in Autumn 2023 on the next iteration.	Ensure the impact of environmental noise is addressed through the AoS framework.
JNCC guidelines for minimising the risk of injury to marine mammals from geophysical surveys (seismic survey guidelines) 2017	These guidelines outline measures to minimise potential injury to marine mammals (cetaceans and seals) from geophysical surveys (e.g. seismic air-guns, sub-bottom profiling equipment).	Ensure the impact on marine mammals is addressed through the AoS framework.
JNCC Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise 2010	Jointly produced by JNCC, Natural England and Natural Resources Wales, these guidelines outline measures to minimise potential injury from pile driving during offshore wind farm construction and other industries that use piling (e.g. oil and gas, harbour construction).	Ensure the impact on marine mammals is addressed through the AoS framework.
TRANSPORT		

<p>Decarbonising Transport: A Better, Greener Britain 2021</p>	<p>Sets out the vision that “clean transport is better transport”. Provides a detailed plan of commitments, actions and timings for decarbonisation of the UK transport network, which are framed around the strategic priorities of:</p> <ul style="list-style-type: none"> • Accelerating modal shift to public and active transport; • Decarbonising road transport; • Decarbonising goods freight; • UK as a hub for green transport technology and innovation; • Place-based solutions to emissions reduction; • Reducing carbon in a global economy. 	<p>Ensure that decarbonisation of the transport sector, with a particular emphasis on road and goods freight transport is included within the AoS framework.</p>
<p>ENERGY</p>		
<p>The Energy White Paper 2020</p>	<p>The White Paper builds on the Ten Point Plan for a Green Industrial Revolution to outline the Government’s strategy for delivering net zero greenhouse gas emissions by 2050 through:</p> <ul style="list-style-type: none"> • Shifting from fossil fuels and towards new low-carbon power and renewables, for example by investing £385 million in the Advanced Nuclear Fund; • Maintaining the affordability of energy for consumers; • Increasing energy efficiency of households, buildings and the energy system as a whole; and • Creating up to 250,000 ‘green’ jobs by 2030 in a ‘Green Industrial Revolution’. <p>The Paper sets out the aim to bring at least one further large-scale nuclear project to the point of Final Investment Decision by the end of this Parliament (i.e. expected to be by May 2024).</p>	<p>The AoS should consider including objectives that address the reduction of greenhouse gas emissions, as well as objectives that promote the transformation to an energy-efficient low carbon economy.</p>

<p>A White Paper on Nuclear Power 2008</p>	<p>This White Paper sets out the decision Department for Business, Enterprise and Regulatory Reform have taken in response to the consultation on nuclear power. It also examines the key concerns that emerged through the different strands of their consultation. Key issues raised include the need to combat climate change and ensure secure energy supplies, and the adequacy of protection in the areas of safety, environmental release of radioactivity and security. The management of radioactive waste, particularly the need to make progress towards a long-term solution was raised by many respondents.</p>	<p>The AoS should consider the White Paper and previous concerns raised.</p>
<p>The Ten Point Plan for a Green Industrial Revolution 2020</p>	<p>Lays the foundation for the UK's "Green Industrial Revolution" and how this relates to reaching Net Zero greenhouse gas emissions by 2050. The cumulative effect of the Plan will be to reduce UK emissions by 180 Mt CO₂e between 2023 and 2032. Key components of the Plan are:</p> <ul style="list-style-type: none"> • Investment in renewables such as offshore wind and hydrogen; • Investment in new and advanced nuclear power; • Carbon removal through investment in CCUS and wildlife protection; • Demand reduction through shifts in transport and improving the efficiency of buildings; • Protecting our natural environment; and • Accelerating green finance and innovation. 	<p>The AoS should consider including objectives that address the reduction of greenhouse gas emissions, as well as objectives that promote the transformation to an energy-efficient low carbon economy.</p>
<p>British Energy Security Strategy 2022</p>	<p>Builds on the 'Ten point plan for a green industrial revolution', and the 'Net zero strategy'.</p> <p>This plan comes in light of rising global energy prices, provoked by surging demand after the pandemic as well as Russia's invasion of Ukraine. This will be central to weaning Britain off expensive fossil fuels, which are subject to volatile gas prices set by international markets</p>	<p>The AoS must be guided by this important overarching strategy.</p>

	<p>we are unable to control, and boosting our diverse sources of homegrown energy for greater energy security in the long-term.</p> <p>With regard to nuclear, the Strategy outlines the target that by 2050 up to a quarter of electricity consumed in Great Britain will be from nuclear (up to 24 GW by 2050). Nuclear may also have a part to play in production of hydrogen.</p>	
Nuclear Energy in the UK 2022	<p>Parliamentary note reviewing the ways in which nuclear may contribute to UK emissions reduction targets.</p> <p>Notes the Government ambition of up to 24 GW of new nuclear by 2050. Outlines potential phases of new nuclear:</p> <ul style="list-style-type: none"> • Third generation (Gen III) reactor, current: similar to earlier reactors but with enhanced safety features and a more standardised design. Typically, 1-1.4 GW reactors for electricity generation. Gen III+ have incremental design improvements from previous versions. • Advanced nuclear technologies (ANT): the next generation of nuclear designs. Split broadly into: <ul style="list-style-type: none"> • Small Modular Reactors (expected generation from 2030s). Typically, water-cooled designs akin to Gen III but with smaller electricity generation capacities. • Gen IV Advanced Modular Reactors (expected from 2040s). Use novel coolants or fuels and may be used for electricity generation, hydrogen production or heating applications. • Fusion expected from 2050s (excluded from scope of AoS). 	<p>The AoS should recognise that there are several possible phases of new nuclear, each with distinct features and uses.</p>

<p>Energy Innovation Programme (EIP) (2015-2021)</p>	<p>Aimed to accelerate the commercialisation of innovative “clean” energy technologies and processes into the 2020s and 2030s. The Programme budget of £505M consisted of 6 themes:</p> <ul style="list-style-type: none"> • £70M in smart systems • £90M in the built environment (energy efficiency and heating) • £100M in industrial decarbonisation and CCUS • £180M in nuclear innovation • £15M in renewables innovation • £50M in support for energy entrepreneurs and green financing <p>The Programme was replaced by the Net Zero Innovation Portfolio.</p>	<p>The AoS must acknowledge the Government’s efforts to accelerate nuclear innovation.</p>
<p>Net Zero Innovation Portfolio and Advanced Nuclear Fund (2021-2025)</p>	<p>Net Zero Innovation Portfolio is a £1B fund, announced in the 2020 Ten Point Plan for a Green Industrial Revolution. It aims to accelerate commercialisation of low-carbon technologies and decrease the costs of decarbonisation. The 10 priority areas are:</p> <ul style="list-style-type: none"> • Future offshore wind • Nuclear advanced modular reactors (supported through the aligned £385M Advanced Nuclear Fund) • Energy storage and flexibility • Bioenergy • Hydrogen • Homes • Direct air capture and greenhouse gas removal • Advanced CCUS 	<p>The AoS must acknowledge the Government’s efforts to accelerate nuclear innovation.</p>

	<ul style="list-style-type: none"> • Industrial fuel switching • Disruptive technologies 	
Powering up Britain: The Net Zero Growth Plan 2023	<p>The Plan identifies progress and commitments made towards decarbonising the energy sector. Regarding nuclear these include:</p> <ul style="list-style-type: none"> • Reaffirmed the aim to deliver up to 24 GW nuclear capacity by 2050 • Setting up Great British Nuclear • Developing the new Nuclear NPS • Planned publication of the Low Carbon Fuels Strategy • Continued support through the £385M Advanced Nuclear Fund • Establishment of revenue models such as the Nuclear Regulated Asset Base (RAB) model <p>Committing to provide £1.7B of direct government funding to take one nuclear project to Final Investment Decision this parliament. The aim is for two projects in the next parliament (including SMRs)</p>	The AoS must acknowledge the Government's commitment to deliver nuclear capacity.
RADIOACTIVE WASTE		
Implementing Geological Disposal – Working with communities 2018	<p>The Government has decided geological disposal is the most appropriate solution for managing higher activity radioactive waste and a suitable location for a Geological Disposal Facility (GDF) will be identified through a consent-based process with Government and its agencies working in partnership with communities.</p> <p>The UK Government's policy position is that before development consents for new nuclear power stations are granted, the Government will need to be satisfied that effective arrangements exist or will exist to manage and dispose of the waste they will produce. In</p>	The AoS must acknowledge the UK Government's position that before development consents for new nuclear power stations are

	<p>2011, the Government set out in the National Policy Statement for Nuclear Power Generation, the reasons why it was satisfied that such arrangements will exist.</p> <p>Radioactive waste management is devolved. Therefore, the Welsh Government, Northern Ireland Executive and Scottish Government each have responsibility for this issue in respect of their countries.</p>	<p>granted, the Government will need to be satisfied that effective arrangements exist or will exist to manage and dispose of the waste they will produce.</p>
<p>Closed Consultation: Managing Radioactive Substances and Nuclear Decommissioning</p>	<p>The current strategy in England, Wales and Northern Ireland is for all Intermediate and High Level radioactive wastes (and a small amount of low level waste not suitable for disposal in other facilities) to be ultimately disposed of at a geological disposal facility. These wastes are collectively referred to as Higher Activity Wastes. Low Level Wastes are disposed of to the LLWR or LLWF.</p> <p>A key proposal covered in the consultation is to adopt a risk informed approach to the management of solid Higher Activity Wastes. This approach would require all the properties of waste (radiological, chemical, physical) and the risk it poses to people and the environment to be taken into consideration. This in combination with a new policy framework could allow for near surface disposal of less hazardous intermediate level waste in England and Wales. This would be more akin to the Scottish approach.</p> <p>Another key proposal would involve amendment of policy around management of Low Level Waste, to promote on-site disposal on nuclear and former nuclear sites where it is safe to do so.</p>	<p>The AoS must acknowledge the current strategy for radioactive waste disposal and the proposal for a risk informed approach to the management of solid Higher Activity Wastes in England and Wales.</p>

	<p>The other key proposal would involve extending the application of the waste management hierarchy from Low Level Wastes to all solid radioactive wastes. This is currently in place in Scotland, but would be extended to the whole of the UK.</p>	
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Table 3 - Key Policies, Plans and Programmes– Regional (England, Wales, Northern Ireland & Scotland)

Policy, Plan or Programme		Key Objectives / Targets / Guidance	Implications for the AoS
England			
CROSS - THEMATIC			
Environmental Improvement Plan 2023	<p>This document represents the first such review of the 25YEP published in 2018. It reinforces the intent of the 25YEP. Where the 25YEP set out the framework and vision, this document sets out the plan to deliver.</p> <p>The apex goal is improving nature and halting the decline in biodiversity.</p> <p>This is a large task but we have already started: we have created or restored wildlife habitats the size of Dorset, we are investing more than £750 million in tree-planting and peatland restoration through our Nature for Climate Fund, and we have established a network of marine protected areas across 35,000 square miles of English waters.</p> <p>We have also driven action on the global stage, reflecting that restoring nature is not just a national endeavour but also international: at UN Nature Summit COP15, we agreed a new Global Biodiversity Framework, with 23 global targets, including 30% of global land and 30% of global ocean to be protected by 2030. And our goals and targets at home will support progress towards the UN's Sustainable Development Goals internationally.</p> <p>To make further progress, we will:</p> <ul style="list-style-type: none"> • launch the Species Survival Fund to create, enhance and restore habitats 		The AoS must recognise that the apex goal is improving nature and halting decline in biodiversity.

	<ul style="list-style-type: none"> • create, restore, and extend around 70 areas for wildlife through projects including new National Nature Reserves, and the next rounds of the Landscape Recovery Projects • protect 30% of our land and sea for nature through the Nature Recovery Network and enhanced protections for our marine protected areas. We intend to designate the first Highly Protected Marine Areas this year • implement the Environment Act 2021, including rolling out Local Nature Recovery Strategies to identify areas to create and restore habitat, and Biodiversity Net Gain to enhance the built environment • support a transformation in the management of 70% of our countryside by incentivising farmers to adopt nature friendly farming practices • publish an updated Green Finance Strategy, setting out the steps we are putting in place to leverage in private finance to deliver against these goals. We have a goal to raise at least £500 million per year of private finance into nature’s recovery by 2027 and more than £1 billion by 2030 <p>This goal is at the apex of our plan: all the other goals will help us to achieve it.</p>	
25 Year Environment Plan 2018	<p>The Government’s 25-Year Environment Plan sets out the Government’s position on environmental improvements, focussed on delivering cleaner air and water across the country, protecting at-risk wildlife, and improving natural habitats.</p> <p>The plan sets the following key actions:</p> <ul style="list-style-type: none"> • Using and managing land sustainably, including embedding an “environmental net gain” principle into development. • Recovering nature and enhancing the beauty of landscapes. • Connecting people to the environment to improve health and wellbeing. 	<p>The AoS will need to consider implications of key actions and key targets for delivering clean air and water, protecting at-risk wildlife and improving natural</p>

	<ul style="list-style-type: none"> • Increase resource efficiency and reducing pollution. • Securing clean, healthy and productive and biologically diverse seas and oceans. • Protecting and improving the global environment. <p>The following targets are set out in the 25 Year Plan:</p> <p>Clean air:</p> <ul style="list-style-type: none"> • meeting legally binding targets to reduce emissions of five damaging air pollutants; this should halve the effects of air pollution on health by 2030 • maintaining the continuous improvement in industrial emissions by building on existing good practice and the successful regulatory framework <p>Clean and plentiful water:</p> <ul style="list-style-type: none"> • clean and plentiful water by improving at least three quarters of our waters to be close to their natural state as soon as is practicable by: • reducing the damaging abstraction of water from rivers and groundwater, ensuring that by 2021 the proportion of water bodies with enough water to support environmental standards increases from 82% to 90% for surface water bodies and from 72% to 77% for groundwater bodies • reaching or exceeding objectives for rivers, lakes, coastal and ground waters that are specially protected, whether for biodiversity or drinking water as per our River Basin Management Plans <p>Thriving plants and wildlife:</p> <ul style="list-style-type: none"> • At sea: reversing the loss of marine biodiversity and, where practicable, restoring it; increasing the proportion of protected and well-managed seas, and better managing existing protected sites; making sure populations of key species are 	habitats set out in the 25YP.
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	<p>sustainable with appropriate age structures; ensuring seafloor habitats are productive and sufficiently extensive to support healthy, sustainable ecosystems</p> <ul style="list-style-type: none"> • On land and in freshwaters: restoring 75% of our one million hectares of terrestrial and freshwater protected sites to favourable condition, securing their wildlife value for the long term; creating or restoring 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits; taking action to recover threatened, iconic or economically important species of animals, plants and fungi, and where possible to prevent human induced extinction or loss of known threatened species in England and the Overseas Territories; increasing woodland in England in line with our aspiration of 12% cover by 2060: this would involve planting 180,000 hectares by end of 2042 <p>Reducing the risks of harm from environmental hazards:</p> <ul style="list-style-type: none"> • Reduce the risk of harm to people, the environment and the economy from natural hazards including flooding, drought and coastal erosion by: • making sure everyone is able to access the information they need to assess any risks to their lives and livelihoods, health and prosperity posed by flooding and coastal erosion • bringing the public, private and third sectors together to work with communities and individuals to reduce the risk of harm • making sure that decisions on land use, including development, reflect the level of current and future flood risk • ensuring interruptions to water supplies are minimised during prolonged dry weather and drought • boosting the long-term resilience of our homes, businesses and infrastructure 	
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	<p>Using resources from nature more sustainably and efficiently:</p> <ul style="list-style-type: none"> • ensure that resources from nature, such as food, fish and timber, are used more sustainably and efficiently. We will do this by: • maximising the value and benefits we get from our resources, doubling resource productivity by 2050 • improving our approach to soil management: by 2030 we want all of England's soils to be managed sustainably, and we will use natural capital thinking to develop appropriate soil metrics and management approaches • increasing timber supplies • ensuring that all fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield • ensuring that food is produced sustainably and profitably <p>Enhancing beauty, heritage and engagement with the natural environment:</p> <ul style="list-style-type: none"> • Conserve and enhance the beauty of our natural environment, and make sure it can be enjoyed, used by and cared for by everyone. We will do this by: • safeguarding and enhancing the beauty of our natural scenery and improving its environmental value while being sensitive to considerations of its heritage. • making sure that there are high quality, accessible, natural spaces close to where people live and work, particularly in urban areas, and encouraging more people to spend time in them to benefit their health and wellbeing • focusing on increasing action to improve the environment from all sectors of society <p>Mitigating and adapting to climate change:</p>	
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	<ul style="list-style-type: none"> • Take all possible action to mitigate climate change, while adapting to reduce its impact. We will do this by: • continuing to cut greenhouse gas emissions including from land use, land use change, the agriculture and waste sectors and the use of fluorinated gases • making sure that all policies, programmes and investment decisions take into account the possible extent of climate change this century • implementing a sustainable and effective second National Adaptation Programme <p>Minimising waste:</p> <ul style="list-style-type: none"> • Minimise waste, reuse materials as much as we can and manage materials at the end of their life to minimise the impact on the environment. We will do this by: • working towards our ambition of zero avoidable waste by 2050 • working to a target of eliminating avoidable plastic waste by end of 2042 • meeting all existing waste targets – including those on landfill, reuse and recycling – and developing ambitious new future targets and milestones • significantly reducing and where possible preventing all kinds of marine plastic pollution – in particular material that came originally from land <p>The Plan introduces and references a number of external targets. Importantly it notes that 40% of the UK's final energy consumption is the responsibility of the transport sector. The plan includes:</p> <ul style="list-style-type: none"> • meeting legally binding targets to reduce emissions of five damaging air pollutants (intended to halve the effects of air pollution on health by 2030); • ending the sale of new conventional petrol and diesel cars and vans by 2040; 	
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	<ul style="list-style-type: none"> • continuing to cut greenhouse gas emissions including from land use, land use change, the agriculture and waste sectors and the use of fluorinated gases; and • making sure that all policies, programmes and investment decisions take into account the possible extent of climate change this century. <p>The 25 Year Environment Plan has a specific soil health target of ‘improving our approach to soil management: by 2030 we want all of England’s soils to be managed sustainably, and we will use natural capital thinking to develop appropriate soil metrics and management approaches’. There are other actions in the Plan which will need to recognise the synergies and dependencies on soil health such as use of natural flood management solutions, SUDS, climate change mitigation and adaptation, though these do not always recognise the key role of healthy soils in the successful achievement of these aims.</p> <p>Similarly, the aim that development is in the right places, avoiding our best agricultural land and in embedding the ‘environmental net gain’ principle reflects a natural capital approach in spatial planning which aims to minimise the impact of development on finite land and soil resources.</p>	
National Planning Policy Framework 2021	<p>Sets out the Government’s planning policies for England and was revised in July 2021. The most relevant changes in the context of the Energy NPS are as follows:</p> <p>Chapter 2: Achieving Sustainable Development now acknowledges that members of the UN have agreed to pursue the 17 Global Goals for Sustainable Development in the period to 2030. Minor edits have been made to phrasing, setting out clearly that the environmental objective is now to protect and enhance, and to improve biodiversity, where before the requirement was simply to contribute to these matters.</p> <p>The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of</p>	<p>The AoS will need to consider full range of sustainability issues set out in the NPPF. This is a core document and area of consideration.</p>

	<p>future generations to meet their own needs. At a similarly high level, members of the United Nations – including the United Kingdom – have agreed to pursue the 17 Global Goals for Sustainable Development in the period to 2030. These address social progress, economic well-being and environmental protection.</p> <p>Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):</p> <p>a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;</p> <p>b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities’ health, social and cultural well-being; and</p> <p>c) an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.</p> <p>These objectives should be delivered through the preparation and implementation of plans and the application of the policies in this Framework; they are not criteria against which every decision can or should be judged. Planning policies and decisions should play an active role in guiding development towards sustainable solutions, but in doing so</p>	
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	<p>should take local circumstances into account, to reflect the character, needs and opportunities of each area.</p> <p>The NNPF is accompanied by relevant Planning Practice Guidance as follows:</p> <ul style="list-style-type: none"> • Air quality (2016): Provides guidance on how planning can take account of the impact of new development on air quality; • Appropriate assessment (2019): Guidance on the use of Habitats Regulations Assessment • Climate change (2019): Advises how to identify suitable mitigation and adaptation measures in the planning process to address the impacts of climate change. • Environmental Impact Assessment (2020): Explains requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. • Flood risk and coastal change (2022): Advises how to take account of and address the risks associated with flooding and coastal change in the planning process. • Green Belt (2019): Advice on the role of the Green Belt in the planning system • Hazardous substances (2019): Explains planning controls relating to the storage of hazardous substances in England and how to handle development proposals around hazardous establishments. • Healthy and safe communities (2022): Guidance on promoting healthy and safe communities. • Historic environment (2019): Advises on enhancing and conserving the historic environment. • Land affected by contamination (2019): Provides guiding principles on how planning can deal with land affected by contamination. 	
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	<ul style="list-style-type: none"> • Light pollution (2019): Advises on how to consider light within the planning system. • Natural environment (2019): Explains key issues in implementing policy to protect and enhance the natural environment, including local requirements. • Noise (2019): Advises on how planning can manage potential noise impacts in new development. • Open space, sports and recreation facilities, public rights of way and local green space (2014): Gives key advice on open space, sports and recreation facilities, public rights of way and the new Local Green Space designation. • Tree Preservation Orders and trees in conservation areas (2014): Explains the legislation governing Tree Preservation Orders and tree protection in conservation areas • Renewable and low carbon energy (2023): Guidance to help local councils in developing policies for renewable and low carbon energy and identifies the planning considerations. • Waste (2015): Provides further information in support of the implementation of waste planning policy. • Water supply, wastewater and water quality (2019): Advises on how planning can ensure water quality and the delivery of adequate water and wastewater infrastructure. 	
Environmental Damage (Prevention and Remediation) (England) Regulations 2015 as amended by The Environmental Damage	These regulations impose obligations on operators of certain activities requiring them to prevent or remediate environmental damage. They apply to damage to protected species, natural habitats, sites of special scientific interest (SSSIs), water and land.	Ensure that the issue of protection and enhancement of biodiversity and designated sites

(Prevention and Remediation) (England) (Amendment) Regulations 2019		is addressed through an Objective in the AoS framework.
Planning for the Future White Paper 2020	<p>The Planning for the Future white paper sets out the Government's proposals for "once in a generation" reform of England's planning system. It proposes significant change to the current planning system in England to increase housing delivery, speed up and streamline both the plan-making and decision-making processes and better promote 'beautiful' design are supported.</p> <p>The three pillars of the white paper are;</p> <ul style="list-style-type: none"> • Planning for development; • Planning for beautiful and sustainable places; and • Planning for infrastructure and connected places. 	Noted – the NPS forms part of the wider planning system.
BIODIVERSITY		
Biodiversity 2020: A strategy for England's wildlife and ecosystem services	<p>This is a new biodiversity strategy for England which builds on the Natural Environment White Paper and provides a comprehensive picture of how the government are implementing international and EU commitments.</p> <p>It sets out the strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea. It builds on the successful work that has gone before, but also seeks to deliver a real step change.</p>	Ensure the protection and enhancement of biodiversity is included as an objective within the AoS.

<p>The Town and Country Planning (Trees Preservation) (England) Regulations 2012</p>	<p>The regulations are made under the powers conferred on the Secretary of State by sections 202A to 202G, 206(1)(b), 212, 213(1)(b), 316(1), 323 and 333(1) of the Town and Country Planning Act 1990.</p> <p>The Regulations require an application to be made for cutting down, topping, lopping or uprooting of any tree with a tree preservation order. This application must:</p> <ul style="list-style-type: none"> • be made in writing to the authority • include all of the information specified on the form • be accompanied by: • a plan which identifies the tree or trees to which the application relates; • information specifying the work to be undertaken; • a statement of the applicant’s reasons for making the application; and • appropriate evidence describing any structural damage to property or in relation to tree health or safety, as applicable. 	<p>The AoS will need to consider potential impacts on important trees.</p>
<p>The Environmental Targets (Biodiversity) (England) Regulations 2022</p>	<p>These Regulations set long-term targets in respect of three matters within the priority area of biodiversity under section 1 of the Environment Act 2021. Regulations 4, 7 and 14 specify targets for the purposes of the Secretary of State’s duty in section 1 of the 2021 Act to set a long-term target in respect of biodiversity. Regulation 11 specifies a target for the purposes of the Secretary of State’s duty in section 3 of the 2021 Act to set a target in respect of a matter relating to the abundance of species.</p> <p>Long-term biodiversity target: species’ extinction risk target: The long-term biodiversity target for species’ extinction risk is to reduce the risk of species’ extinction by 2042, when compared to the risk of species’ extinction in 2022.</p> <p>Measurement of species’ extinction risk target: The target is met by 31st December 2042 if the extinction risk value for 2042 calculated in accordance with paragraph (2)</p>	<p>The AoS will need to consider the risk of species’ extinction 2042 target.</p>

	<p>has a greater value than the baseline value, with the extinction risk value for 2042 and the baseline value being expressed as values in a range from 1 to 0 where—</p> <p>(a) a value of 1 would indicate that all baseline species were of Least Concern; and</p> <p>(b) a value of 0 would indicate that all baseline species were Regionally Extinct.</p> <p>(2) The Secretary of State must ensure that an extinction risk value for 2042 is calculated in 2042 using the same methodology that was used to calculate the baseline value(3), to indicate the aggregate risk of extinction for all baseline species at the time of its calculation.</p> <p>(3) In this regulation— “baseline species” means a species listed in the 2022 Red List Index for England; “the baseline value” means the value of 0.9070, being the value set out in the 2022 Red List Index for England to indicate the aggregate risk of extinction for all baseline species.</p> <p>(4) In this regulation— (a) a species is considered to be of Least Concern when it is classified as such for the purposes of calculating the 2022 Red List Index for England;</p> <p>(b) a species is Regionally Extinct when it is classified as such for the purposes of calculating the 2022 Red List Index for England.</p> <p>Reporting date for the species’ extinction risk target: For the purposes of section 6(1) of the 2021 Act (environmental targets: reporting duties), the reporting date for the target in regulation 4 is 1st July 2043.</p>	
<p>The Environmental Targets (Woodland and Trees Outside Woodland) (England) Regulations 2022</p>	<p>2050 Target</p> <p>This regulation specifies a long-term target in accordance with section 1(1) of the 2021 Act in respect of the percentage of land in England covered by woodland and trees</p>	<p>The AoS will need to consider the 2050 woodland target</p>

	<p>outside woodland. The target is that by the end of 31st December 2050 at least 16.5% of all land in England is covered by woodland and trees outside woodland.</p> <p>Measurement</p> <p>To determine whether the target in regulation 3 is met, the area of land covered by woodland and trees outside woodland is to be calculated by the Forestry Commission.</p>	
England Trees Action Plan 2021-2024	<p>Building on ambitions outlined in the 25 Year Environment Plan, Government will focus on:</p> <p>Nature Recovery: The government will continue to improve the condition and increase the extent of most precious woodland habitats, such as protected sites and irreplaceable ancient woodlands.</p> <p>Levelling up through a thriving forest economy:.. The government will encourage demand for UK grown timber which can reduce the carbon footprint from imports and reduce emissions by replacing carbon-intensive materials and encourage innovative green finance for trees and woodlands.</p> <p>Trees and woodlands for water and soil: The right trees and woodland in the right places along and near rivers and within water catchments present opportunities for improving water quality, for flood alleviation and nature recovery. Soil is critical to supporting trees and woodland and the government will improve the understanding of appropriate soil management to sequester carbon and protect this precious resource from degradation and inappropriate tree establishment.</p> <p>Trees and woodlands for people in town and country: Trees and woodlands can cool the settlements, improve air quality and contribute to community cohesion and sense of place. The government will take steps to improve public access to trees and woodlands</p>	The AoS must recognise the multi benefits trees and woodlands can provide.

	<p>in a responsible way, encourage community-led tree planting and invest in partnerships with communities and local government.</p> <p>Heritage and Landscape: Trees and woodlands are important features in the landscapes. The government will encourage greater landscape scale planning which will enhance and transform landscape character, while protecting and conserving heritage assets from inappropriate tree planting and during woodland management.</p> <p>Trees outside woodlands: Trees throughout the environment such as wood pastures, ancient and veteran trees, scrub, scattered and hedgerow trees contribute to England's natural beauty and are important spaces for nature. The government must continue to protect and enhance these features.</p> <p>Healthy, resilient trees and woodlands: The government will act now to help the trees and woodlands adapt, to enhance their resilience to stresses by reducing risks and encouraging greater diversity.</p>	
Government Forestry and Woodlands Policy Statement 2013	<p>The Policy Statement is designed to enable the forestry sector to protect, improve and expand forestry assets so that these benefits can be maximised now and maintained for the future.</p> <p>The policy aims to ensure a forestry sector and woodland resource that keeps growing and providing benefits, despite threats such as pests and diseases and climate change, without requiring more government intervention.</p> <p>To achieve this the Policy Statement sites key objectives (in priority order):</p> <ul style="list-style-type: none"> • Protecting the nation's trees, woodlands and forests from increasing threats such as pests, diseases and climate change. 	It is important for the AoS to consider the protection of important trees, woods and forests.

	<ul style="list-style-type: none"> • Improving their resilience to these threats and their contribution to economic growth, people's lives and nature. • Expanding them to further increase their value. 	
£200m Government funding for Flood and Coast Resilience Innovation Programme	<p>In the 2020 Budget, the government announced a £200 million innovation fund to help meet the aims set out in the Government's policy statement on flooding and coastal erosion and Environment Agency's National Flood and Coastal Erosion Risk Management Strategy for England.</p> <p>Between 2021 and 2027, the flood and coastal resilience innovation fund, managed by the Environment Agency, will allocate:</p> <p>£150 million to the flood and coastal resilience innovation programme where 25 local areas will demonstrate how practical innovative actions can work to improve resilience to flooding and coastal erosion</p> <p>up to £36m to the coastal transition accelerator programme which has commenced with projects in East Riding of Yorkshire, North Norfolk and may include other locations in the future, to explore and support communities and businesses to adapt to a changing coast</p> <p>£8 million to the adaptation pathways programme for work on long term planning for climate adaptation in the Thames and Humber estuaries, the Severn Valley and Yorkshire.</p> <p>The remaining funds will be used to support the projects and the evaluation of the programmes.</p>	It is important for the AoS to consider the need for coastal protection and recognise the importance of shoreline management and natural coastal processes.
30x30 Government Commitment 2020	The Prime Minister has committed in September 2020 to protect 30% of the UK's land by 2030.	The AoS must consider the 30% land protection

	<p>Existing National Parks, Areas of Outstanding Natural Beauty and other protected areas already comprise approximately 26% of land in England. An additional 4% – over 400,000 hectares, the size of the Lake District and South Downs national parks combined – will be protected to support the recovery of nature.</p> <p>The government will work with the Devolved Administrations to agree an approach across the UK, and with landowners and civil society to explore how best to increase the size and value of our protected land.</p> <p>The government has committed significant new investment to support environmental enhancement and protection in England through the Nature for Climate Fund and the new Environmental Land Management (ELM) scheme.</p>	target to support the recovery of nature.
Nature Recovery Network, Defra and Natural England 2020	<p>The Nature Recovery Network (NRN) is a major commitment in the government's 25 Year Environment Plan. By bringing together partners, legislation and funding, we can restore and enhance the natural environment.</p> <p>The NRN will help us deal with 3 of the biggest challenges we face: biodiversity loss, climate change and wellbeing.</p> <p>Establishing the NRN will:</p> <ol style="list-style-type: none"> 1. enhance sites designated for nature conservation and other wildlife-rich places - newly created and restored wildlife-rich habitats, corridors and stepping stones will help wildlife populations to grow and move 2. improve the landscape's resilience to climate change, providing natural solutions to reduce carbon and manage flood risk, and sustaining vital ecosystems such as improved soil, clean water and clean air 3. reinforce the natural and cultural diversity of our landscapes, and protect our historic natural environment 	The AoS should advocate the establishment of the NRN.

	<p>4. enable us to enjoy and connect with nature where we live, work and play - benefiting our health and wellbeing</p> <p>Through our work to create the NRN, by 2042 we will:</p> <ul style="list-style-type: none"> • restore 75% of protected sites on land (including freshwaters) to favourable condition so nature can thrive • create or restore 500,000 hectares of additional wildlife-rich habitat outside of protected sites • recover threatened and iconic animal and plant species by providing more, diverse and better connected habitats • support work to increase woodland cover • achieve a range of environmental, economic and social benefits, such as carbon capture, flood management, clean water, pollination and recreation. 	
Nature for Climate Fund	<p>The Nature For Climate Peatland Grant Scheme (NCPGS), administered by Natural England, has awarded Restoration Grant funding to five successful applicants. Over the next four years they will each receive a share of £16 million from the Nature for Climate Fund, to restore peatland. This is Natural England's first round of NCPGS Restoration Grants, with more rounds planned for the next two years.</p> <p>Peatlands are Earth's largest terrestrial carbon store, holding more than twice the amount of carbon in all the world's forests. They cover 10.9% of England's land area. Unfortunately, 87% of our peatlands are degraded. In this state, they do not capture and store carbon but emit an estimated 10 million tonnes of carbon dioxide equivalent every year.</p> <p>The NCPGS aims to capture this carbon by setting 35,000 ha of degraded peatland on a path to restoration by 2025. This will help deliver the UK's Net Zero target. It will</p>	<p>The AoS must consider the restoration of peatland to support the recovery of nature.</p>

	contribute to the Nature Recovery Network with wider benefits to biodiversity, water quality and natural flood management	
The Green Book, Central government guidance on appraisal and evaluation 2022	<p>The Green Book is guidance issued by HM Treasury on how to appraise policies, programmes and projects. It also provides guidance on the design and use of monitoring and evaluation before, during and after implementation.</p> <p>The key specialisms involved in public policy creation and delivery, from policy at a strategic level to analysis, commercial strategy, procurement, finance, and implementation must work together from the outset to deliver best public value. The Treasury's five case model is the means of developing proposals in a holistic way that optimises the social / public value produced by the use of public resources.</p> <p>Aspects of particular interests to the AoS:</p> <p>Greenhouse gas emissions and energy efficiency values - the creation of GHGs has a social cost based on its contribution to climate change. To estimate the social cost of an intervention it is necessary to include the costs of emitting GHGs. Energy efficiency has a direct social value, in addition to the value of a reduction in GHGs, as the energy saved itself has a direct benefit to society (similarly, activities that create extra demand for energy have a direct energy cost).</p> <p>Assessing and valuing effects on the natural environment - Understanding natural capital provides a framework for improved appraisal of a range of environmental effects alongside potentially harmful externalities such as air pollution, noise, waste and GHGs. Natural capital stock levels should be systematically measured and monitored for the social costs and benefits of their use to be understood and controlled (see report to the Natural Capital Committee). A focus solely on the marginal valuation of a loss in services may overlook the potential for large reductions in stocks. This could then lead to dramatic reductions in present or future services. Similarly, the cumulative effects of multiple decisions on natural capital stocks need to be considered. Where appropriate</p>	The AoS should advocate accounting for social cost of GHG and effects on natural environment and use of Climate Change Risk Assessment (CCRA to consider current and potential future climate risks and vulnerability to risks of energy projects.

	<p>therefore, and particularly for major impacts, assessments should consider whether affected natural assets are being used sustainably.</p> <p>Vulnerability to climate change - The Climate Change Risk Assessment (CCRA) should be used to consider current and potential future climate risks and vulnerability to risks of an intervention. The CCRA provides a framework that quantifies interactions with climate risk. It enables a consideration of the role of climate in altering the scale and distribution of costs and benefits over the lifetime of the proposal. Supplementary guidance, Accounting for the effects of Climate Change provides steps to determine whether climate risks are relevant in relation to the appraisal of an intervention.</p>	
<p>Introduction to the Green Infrastructure Framework - Principles and Standards for England, Natural England 2021</p>	<p>Good quality Green Infrastructure (GI) has an important role to play in our urban and rural environments for improving health and wellbeing, air quality, nature recovery and resilience to and mitigation of climate change, along with addressing issues of social inequality and environmental decline.</p> <p>The Green Infrastructure Framework is a commitment in the Government's 25 Year Environment Plan. It supports the greening of our towns and cities and connections with the surrounding landscape. Networks of green and blue spaces and other natural features can bring big benefits for nature and climate, health and prosperity. At present access to green and blue spaces varies considerably across the country, and there are opportunities for these important assets to be better managed for the environment and to deliver a wider range of multifunctional benefits.</p> <p>The GI Framework will help local planning authorities and developers meet requirements in the National Planning Policy Framework to consider GI in local plans and in new development. It can support better planning for good quality GI, and help to target the creation or improvement of GI, particularly where existing provision is poorest.</p>	<p>AoS should promote the important role of good quality Green Infrastructure.</p>

<p>Natural England's Green Infrastructure Standards for England 2023</p>	<p>The Green Infrastructure Standards are a key component of the Green Infrastructure Framework. The Standards aim to provide clarity on the quality and quantity of green infrastructure needed to deliver climate change adaptation, net zero and well being benefits. They define what good green infrastructure “looks like”. The five headline Standards are:</p> <ol style="list-style-type: none"> 1. Green Infrastructure Strategy Standard 2. Accessible Greenspace Standard 3. Urban Nature Recovery Standard 4. Urban Greening Factor Standard 5. Urban Tree Canopy Cover Standard <p>The Headline Green Infrastructure Standards distinguish the recommended levels of achievement for major new developments and for area wide application.</p>	<p>AoS should promote the important role of good quality Green Infrastructure.</p>
<p>Natural England's climate change risk assessment and adaptation plan 2021 (published 2022)</p> <p>Climate change adaptation reporting: third round</p>	<p>This is the third adaptation report Natural England has produced to report under the Adaptation Reporting Power (ARP) of the Climate Change Act 2008. The report outlines the following themes in developing response to the biodiversity and climate crises in an integrated way:</p> <ul style="list-style-type: none"> • planning climate change adaptation with the aim of restoring ecological process at a landscape scale as part of nature recovery to enhance resilience and accommodate inevitable change. • working on adaptation can deliver multiple benefits, including integrating climate change mitigation, biodiversity and enhancing the quality of life for people. • recognising the benefits of local level adaptation and delivering adaptation in a place-based way. 	<p>AoS should consider risks and opportunities to biodiversity of climate change adaptation.</p>

	<ul style="list-style-type: none"> • using a natural capital and ecosystem approach to account for the multiple benefits that nature provides to society • developing adaptive management that takes account of change in the natural world both in the policy advice and delivery space. • ensuring different work programmes have a joined-up approach to adaptation. • developing the evidence base to support practical adaptation, including monitoring and evaluation of adaptation actions. • developing a joined-up approach to Nature-based Solutions which deliver mitigation and adaptation with measurable benefits for nature and people. <p>Key overarching risks and opportunities:</p> <ol style="list-style-type: none"> 1. Risks to the viability of the Nature Recovery Network and the recovery of threatened species and habitats 2. Risks to the status of protected sites for biodiversity and geodiversity 3. Risks to the ability of the SSSI network, Marine Protected Area (MPAs), NNRs and protected landscapes to adapt to climate change. 4. Risks to natural capital and its contribution to agriculture, fisheries and sustainable development including farm advice and net gain. 5. Risks to the viability of natural areas for people to access and connect with nature. 6. Risks and Opportunities for different species and habitats under changing climatic conditions. 7. Opportunities for landscape scale measures to tackle climate change that enhance the natural environment. 	
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	<p>8. Opportunities for nature recovery and nature-based solutions to help nature and society adapt to climate change.</p> <p>9. Opportunities for nature-based solutions to provide additional space for people to connect with nature and cope with climate change.</p>	
<p>Nature Networks Evidence Handbook (NERR081) Natural England 2020</p>	<p>The handbook aims to help the designers of nature networks by identifying the principles of network design and describing the evidence that underpins the desirable features of nature networks. It builds on the Making Space for Nature report of Lawton et al. 2010), outlining some of the practical aspects of implementing a nature network plan, as well as describing the tools that are available to help in decision making.</p> <p>To make a nature network, in contrast to an ecological network, we need to involve people from the earliest stages in planning and design, to create an overarching vision for the network, taking into account their needs and the services that a landscape provides to society.</p> <p>When developing a more detailed plan for a nature network, it is important to consider the constraints and opportunities provided by the landscape, geology and ecosystems within the landscape, and the need to build resilience to climate change.</p> <p>A suite of ecological rules of thumb to aid practitioners are provided, including a hierarchy of priority actions: (a) improve core wildlife sites; (b) increase the size of core sites; (c) increase the number of core sites; (d) improve the ‘permeability’ of the surrounding landscape for the movement of wildlife; and (e) create corridors of connecting habitat. In addition, there is a need to develop a number of Large Nature Areas (c. 5-12,000 ha) within a country that will provide centres from which wildlife will brim over into the countryside.</p>	<p>The AoS will need to consider the implementation of nature networks.</p>

<p>The Environmental Benefits from Nature Tool - Beta Test Version, Natural England 2021</p>	<p>The Environmental Benefits from Nature tool is designed to work alongside Biodiversity metric 3.0 and provide developers, planners and other interested parties with a means of enabling wider benefits for people and nature from biodiversity net gain. The tool uses a habitat-based approach to provide a common and consistent means of considering the direct impact of land use change across 18 ecosystem service services.</p> <p>It has been developed by Natural England and the University of Oxford in partnership with Defra, the Forestry Commission and the Environment Agency to support Government's 25 Year Environment Plan commitment to expand net gain approaches to include wider Natural Capital benefits such as flood protection, recreation and improved water and air quality.</p>	<p>The AoS should advocate the use of this tool.</p>
<p>The Biodiversity Metric 4.0, Natural England 2022</p>	<p>Biodiversity Metric 4.0 can be used or specified by any development project, consenting body or landowner that needs to calculate biodiversity losses and gains for terrestrial and/or intertidal habitats. It will be this metric that underpins the Environment Bill's provisions for mandatory biodiversity net gain in England, subject to any necessary adjustments for application to major infrastructure projects.</p>	<p>The AoS should advocate the use of this tool.</p>
<p>Carbon Storage and Sequestration by Habitat, Natural England 2021</p>	<p>Achieving 'net zero' greenhouse gas (GHG) emissions by 2050 is a statutory requirement for the UK and England. It will require major changes in the way we manage the land, coast, and sea, alongside decarbonisation of the energy, transport and other sectors. The natural environment can play a vital role in tackling the climate crisis as healthy ecosystems take up and store a significant amount of carbon in soils, sediments and vegetation. Alongside many other negative impacts, the destruction and degradation of natural habitats has resulted in the direct loss of carbon stored within them. Restoring natural systems can start to reverse this damage at the same time as supporting and enhancing biodiversity, alongside delivering co-benefits for climate change adaptation, soil health, water management and society.</p>	<p>The AoS should advocate the protection and restoration of natural habitats as they deliver carbon storage benefits alongside many other benefits.</p>

<p>Climate Change Adaptation Manual: Evidence to support nature conservation in a changing climate, RSPB, Natural England, 2020</p>	<p>The need for climate change adaptation has become widely recognised in the last 20 years. The environmental sector was one of the first to identify the need and to start developing approaches to adaptation. Initially much of the focus was on identifying general principles. This was an essential first step, but adaptation needs to be embedded into decision-making in specific places and circumstances. There can be a big gap between general principles and specific applications. Effective adaptation requires local knowledge and experience, combined with relevant scientific information and an understanding of practical options. It will be assisted by sharing good practice and evidence of what techniques have worked in particular places and situations.</p> <p>Utilise the concept of sustainable adaptation to look at the prerequisites for a long-term, integrated approach to adaptation, including the synergies and trade-offs associated with cross-sectoral adaptation. Four key principles:</p> <ul style="list-style-type: none"> • Adaptation should aim to maintain or enhance the environmental, social and economic benefits provided by a system, while accepting and accommodating inevitable changes to it. • Adaptation should not solve one problem while creating or worsening others. Action that has multiple benefits and avoids creating negative effects for other people, places and sectors should be prioritised. • Adaptation should seek to increase resilience to a wide range of future risks and address all aspects of vulnerability, rather than focusing solely on specific projected climate impacts. • Approaches to adaptation should be flexible and not limit future action <p>Adaptation often needs to be developed with less knowledge and more uncertainty than is usual when making management decisions. Accepting uncertainty and adopting approaches such as adaptive management to deal with it is widely advocated.</p>	<p>The AoS should embed sustainable climate change adaptation on energy infrastructure decision-making processes</p>
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LANDSCAPE		
National Character Areas (England), Natural England 2023	<p>A National Character Area (NCA) is a natural subdivision of England based on a combination of landscape, biodiversity, geodiversity and economic activity. There are 159 Character Areas, each of which is distinctive with a unique 'sense of place'. These broad divisions of landscape form the basic units of cohesive countryside character, on which strategies for both ecological and landscape issues can be based. The Character Area framework is used to describe and shape objectives for the countryside, its planning and management.</p>	The AoS needs to consider national character areas.
English National Parks and Broads UK Government Vision and Circular 2010	<p>This circular is relevant to those bodies with appropriate statutory functions and will be of interest to all those who have a key role in contributing to the success of the Parks, including landowners and land managers, private companies and voluntary bodies. In relation to the Parks, it sets out:</p> <ul style="list-style-type: none"> • A vision for the English National Parks and the Broads for 2030 • The key outcomes the Government is seeking over the next five years to ensure early progress towards the vision and suggested actions for achieving those outcomes; • The key statutory duties of the National Park authorities (NPAs) and the Broads Authority (together 'the Authorities') and how they should be taken forward • Policy on governance of the Authorities • The contributions needed from others. 	The AoS should include objectives specific to the protection of landscape features and designated areas including National Parks and Broads UK.
WATER ENVIRONMENT		

<p>National Flood and Coastal Erosion Risk Management Strategy for England 2020</p>	<p>This Strategy describes what needs to be done by all risk management authorities involved in flood and coastal erosion risk management for the benefit of people and places.</p> <p>The Strategy has three core ambitions concerning future risk and investment needs:</p> <ol style="list-style-type: none"> 1. Climate resilient places: working with partners to bolster resilience to flooding and coastal change across the nation, both now and in the face of climate change. 2. Today's growth and infrastructure resilient in tomorrow's climate: Making the right investment and planning decisions to secure sustainable growth and environmental improvements, as well as resilient infrastructure. 3. A nation ready to respond and adapt to flooding and coastal change: Ensuring local people understand their risk to flooding and coastal change, and know their responsibilities and how to take action. 	<p>Ensure that flood and coastal erosion risk is considered within the AoS framework.</p>
<p>The National Flood and Coastal Erosion Risk Management Strategy for England (FCERM) 2021</p>	<p>The Flood and Water Management Act 2010 places a statutory duty on the Environment Agency to develop a National Flood and Coastal Erosion Risk Management Strategy for England. This strategy describes what needs to be done by all risk management authorities (RMAs) involved in flood and coastal erosion risk management for the benefit of people and places.</p> <p>RMAs must exercise their flood and coastal erosion risk management (FCERM) activities, including plans and strategies, consistently with the strategy. Through its 'strategic overview' role the Environment Agency exercises its strategic leadership for all sources of flooding and coastal change. This strategy seeks to better manage the risks and consequences of flooding from rivers, the sea, groundwater, reservoirs, ordinary watercourses, surface water, sewers and coastal erosion.</p>	<p>The AoS must consider flood and coastal erosion risk management for the benefit of people and places.</p>

	<p>The strategy provides a framework for guiding the operational activities and decision making of practitioners. It supports the direction set by government policy which includes its FCERM policy statement (Defra, 2020e). The strategy sets out the long-term delivery objectives the nation should take over the next 10 to 30 years. It also includes shorter term, practical measures RMAs should take working with partners and communities.</p>	
<p>The Environmental Targets (Marine Protected Areas) Regulations 2022</p>	<p>The regulations create a legally binding target that requires at least 70% of protected features in MPAs to be in a favourable condition by 31 December 2042, with the remaining features to be in a recovering condition. This target will set, for the first time, a time-bound target for the recovery of protected features.</p>	<p>The AoS framework should consider protection and enhancement of MPAs</p>
<p>Plan for Water: our integrated plan for delivering clean and plentiful water</p>	<p>The Department for Environment, Food and Rural Affairs (Defra) Plan for Water sets out the actions we will take to:</p> <ul style="list-style-type: none"> • transform management of the water system • clean up the water environment • create a sustainable supply of water for people, businesses and nature <p>The plan covers both the water environment, how clean it is, and water resources, how much of it we have. It brings together the significant action already taken, along with more investment, stronger regulation and tougher enforcement on those who pollute.</p>	<p>The AoS framework should consider protection and enhancement of the water environment</p>
<p>HUMAN HEALTH</p>		

Public Health England – Strategy (2020-2025)	This strategy outlines the focus of Public Health England to help protect people and help people to live longer in good health. It notes that the most important contributors to a life in good health, including mental health, are to have a job that provides a sufficient income, a decent and safe home and a support network. Among a range of issues the strategy also sets out the need for cleaner air	AoS needs to consider the need for improving air quality, as well as the need to consider effects on vulnerable groups as well as the wider population.
Contaminated Land (England) Regulations 2006 as amended by the Contaminated Land (England) (Amendment) Regulations 2012	Outlines the regulations on contaminated land in order to prevent new land becoming contaminated by polluting substances whilst also tackling historic contamination of sites as it poses risks to human health and the environment.	Ensure that the issue of contamination is addressed through an Objective in the AoS framework.
AIR QUALITY		
The Environmental Targets (Fine Particulate Matter) (England) Regulations 2022	<p>These Regulations set an annual mean concentration target. The target is that by the end of 31st December 2040 the annual mean level of PM2.5 in ambient air must be equal to or less than 10 µg/m³ (“the target level”).</p> <p>The annual mean concentration target is met by 31st December 2040 if, at every relevant monitoring station, the annual mean level of PM2.5 in ambient air, calculated in accordance with regulation 15 and rounded to the nearest whole number of µg/m³, is equal to or less than the target level in the year 2040.</p>	The AoS will need to consider the PM2.5 annual level target

	<p>Reporting date</p> <ul style="list-style-type: none"> For the purposes of section 6(1) of the 2021 Act the reporting date for the annual mean concentration target is 15th July 2041. 	
SOILS		
Safeguarding our Soils: a strategy for England 2009	<p>The purpose of this strategy is to highlight the areas in which soil will be prioritised and to focus attention on tackling degradation threats. The vision of this paper is to try and ensure that by 2030, all England's soils will be managed sustainably and depredation threats tackled successfully and that this will improve the quality of England's soils and safeguard their ability to provide essential services for future generations. Key topics include:</p> <ul style="list-style-type: none"> Better protection for agricultural soils Protecting and enhancing stores of soil carbon Building the resilience of soils to a changing climate Preventing soil pollution Future research and monitoring. 	Ensure that protection of soil resources is included as an objective within the AoS framework.
WASTE		
Waste (England and Wales) Regulations 2011 as amended by The Waste (England and Wales) (Amendment) Regulations 2014	<p>These regulations implement the revised EU Waste Framework Directive 2008/98 which sets requirements for the collection, transport, recovery and disposal of waste. It outlines that it is a requirement for businesses to confirm that they have applied the waste management hierarchy when transferring waste and include a declaration to this effect on their waste transfer note or consignment note. The regulations apply to businesses that:</p>	Ensure that waste minimisation and resource efficiency are included as an

	<ul style="list-style-type: none"> • Produce waste • Import or export waste • Carry or transport waste • Keep or store waste • Treat waste • Dispose of waste • Operate as waste brokers or dealers 	Objective within the AoS.
National Review of Waste Policy in England 2011	<p>This document is a review of waste policy in England and is guided by a waste hierarchy which is a guide to sustainable waste management and a legal requirement. Key objectives are the use of more sustainable approaches to the use of materials and to improve the service to householders and businesses in order to deliver environmental benefits and support economic growth. This review covers a range of topics including:</p> <ul style="list-style-type: none"> • Sustainable use of materials and waste prevention • Regulations and enforcement • Food waste • Energy recovery • Infrastructure and planning • Next steps in waste policy. 	Ensure that waste minimisation and resource efficiency are included as an Objective within the AoS.
Waste Management Plan for England 2021	<p>The Waste Management Plan for England is an analysis of the current waste management situation in England. The plan does not introduce new policies or change how waste is managed in England. Its aim is to bring current waste management policies together under one national plan.</p>	No implications. Informative only.

	The Plan does not apply to certain wastes covered by other legislation (e.g. radioactive waste).	
Waste Prevention Programme for England 2023	This Programme sets out the government's view of the key roles and actions which should be taken to move towards a more resource efficient economy. As well as describing the actions the government is taking to support this move, it also highlights actions businesses, the wider public sector, the civil society and consumers can take to benefit from preventing waste.	Ensure that waste minimisation and resource efficiency are included as an Objective within the AoS.
Resources and Waste Strategy for England, DEFRA and Environment Agency 2018	<p>This strategy sets out how material resources will be preserved by minimising waste, promoting resource efficiency and moving towards a circular economy in England. It combines actions we will take now with firm commitments for the coming years and gives a clear longer-term policy direction in line with our 25 Year Environment Plan.</p> <p>It sets out to double resource productivity and eliminate avoidable waste of all kinds (including plastic waste) by 2050, minimise the damage caused to our natural environment by reducing and managing waste safely and carefully and deal with waste crime.</p> <p>A more circular economy (re-use, remanufacture, repair, recycle) will keep resources in use for as long as possible. It will allow us to extract maximum value from them, then recover and regenerate products and materials at the end of their lifespan.</p>	The AoS should embed waste minimisation, resource efficiency and circular economy in energy infrastructure decision making processes
National Planning Policy for Waste 2014	This document sets out detailed waste planning policies. It should be read in conjunction with the National Planning Policy Framework and National Policy Statements for Waste Water and Hazardous Waste.	The AoS should consider including objectives to

	The policy provides guidance to local planning authorities in planning for future facilities and determining planning applications.	recommend that waste generated following new energy development is dealt with in a sustainable manner, consistent with the waste hierarchy.
The Environmental Targets (Residual Waste) (England) Regulations 2022	The Regulations specify the standard to be achieved in respect of the target and the date by which it must be achieved. Regulation 2 makes provision in respect of a long-term target to ensure that the total mass of residual waste per head of population in England does not exceed 287 kilograms by 31st December 2042.	The AoS must consider residual waste per head of population target
NOISE		
Noise Policy Statement for England 2010	<p>The objectives of the Noise Policy Statement for England (NPSE) sets out three noise levels to be defined by the noise assessor: These are as follows:</p> <ul style="list-style-type: none"> • NOEL – No Observed Effect Level. This is the level below which no effect can be detected. Below this level there is no detectable effect on health and quality of life due to noise. • LOAEL – Lowest Observed Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected. 	Ensure that the health and well-being of people is addressed through an objective in the AoS framework and that noise

	<ul style="list-style-type: none"> • SOAEL – Significant Observed Adverse Effect Level – This is the level above which significant adverse effects on health and quality of life can occur. <p>The NPSE considers that the noise levels above the SOAEL would be seen to have, by definition, significant adverse effects and would be considered unacceptable. Where the assessed noise levels fall between the LOAEL and the SOAEL noise levels the policy statement requires that:</p> <p>“all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development. This does not mean that such adverse effects cannot occur but that efforts should be focused on minimising such effects”</p> <p>Where noise levels are below the LOAEL it is considered there will be no adverse effect. Once the noise levels are below the NOEL there will be no observable change.</p>	issues are considered.
Environmental Noise (England) Regulations (2006) as amended by The Environmental Noise (England) Amendment Regulations 2018	<p>The Environmental Noise (England) Regulations 2006 (as amended) transpose the Environmental Noise Directive into domestic law for England. These Regulations apply to environmental noise, mainly from transport. The regulations require regular noise mapping and action planning for road, rail and aviation noise and noise in large urban areas (agglomerations).</p> <p>They also require us to produce Noise Action Plans based on the maps for road and rail noise and noise in agglomerations. The Action Plans identify Important Areas (areas exposed to the highest levels of noise) and suggests ways the relevant authorities can reduce these. Major airports and those which affect agglomerations are also required to produce and publish their own Noise Action Plans separately.</p>	Ensure that AoS ensures environmental noise is addressed.

Wales		
CROSS-THEMATIC		
Environmental Damage (Prevention and Remediation) (Wales) Regulations 2009, updated with Amendment Regulations 2015	These regulations impose obligations on operators of certain activities requiring them to prevent or remediate environmental damage. They apply to damage to protected species, natural habitats, sites of special scientific interest (SSSIs), water and land.	Ensure that the issue of protection and enhancement of biodiversity and designated sites is addressed through the AoS framework.
Future Wales – The National Plan 2040	<p>The Planning (Wales) Act 2015 (the 2015 Act) requires the Welsh Government to develop a National Development Framework (NDF). Wales's first NDF, Future Wales: the National Plan 2040 (Future Wales), was published in February 2021.</p> <p>Future Wales sets out the direction for development in Wales to 2040. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities.</p> <p>Future Wales sets out a 20 year land use framework and must be reviewed at least every five years. It is a material consideration in planning decisions and all Strategic Development Plans (SDPs) and Local Development Plans (LDPs) must be in conformity with it.</p>	The AoS should consider objectives which promote resilience to the impacts of climate change.

	<p>The purpose of Future Wales is to:</p> <ul style="list-style-type: none"> • set out where nationally important growth and infrastructure is needed and how the planning system can deliver it; • provide direction for SDPs and LDPs; • support the determination of applications under the Developments of National Significance (DNS) regime; • sit alongside PPW, which provides the context for land use planning; and • support national economic, transport, environmental, housing, energy and cultural strategies and ensure they can be delivered through the planning system. The Plan recognises the role that nuclear (GW-scale, SMRs and AMRs) could play in providing low carbon energy and bringing economic benefits to the North-West of Wales. 	
Environment (Wales) Act 2016	<p>Legislation introduced by the National Assembly for Wales enabling the planning and management of the natural resources of Wales in a more sustainable, pro-active and joined-up way than was previously possible. The Act has seven main parts:</p> <ul style="list-style-type: none"> • Sustainable management of natural resources • Climate change • Charges for carrier bags • Collection and disposal of waste • Fisheries for shellfish • Marine licensing • Flood and coastal erosion committee 	<p>The AoS should give particular regard to sustainable management of natural resources, climate change, fisheries and marine licencing and flood and coastal erosion.</p>

<p>Wellbeing of Future Generations (Wales) Act 2015</p>	<p>The act explains what is meant by ‘sustainable development’ and requires public bodies to carry out sustainable development. It requires bodies to set well-being objectives that are to contribute to the achievement of well-being goals and to take steps to meet those objectives, and further requires indicators that measure progress towards achieving the well-being goals.</p> <p>In addition, Well Being Plans, prepared by Public Service Boards under the Wellbeing of Future Generations (Wales) Act assess the state of well being in that area and set local objectives accordingly.</p>	<p>The AoS should include objectives that measure sustainability, and be considerate of well-being objectives/goals.</p>
<p>State of Natural Resources Report (SoNaRR) for Wales 2020</p>	<p>This is Wales’ second assessment of sustainable management of natural resources, including Wales’ impact globally. It assesses the extent to which natural resources in Wales are being sustainably managed, and recommends a proactive approach to building resilience. The report links the resilience of Welsh natural resources to the well-being of the people of Wales.</p>	<p>The AoS should include objectives reflective of natural resource uptake, sustainable management and reliance.</p>
<p>Natural Resources Policy (Welsh Government) 2017</p>	<p>The focus of the Natural Resources Policy is the sustainable management of Wales’ natural resources, to maximise their contribution to achieving goals within the Well-being of Future Generations Act. The policy sets out three National Priorities:</p> <ul style="list-style-type: none"> • Delivering nature-based solutions, • Increasing renewable energy and resource efficiency, • Taking a place-based approach 	<p>The AoS should consider the uptake of natural resources during construction and ensure resource efficiency is integrated in development design through objectives</p>

	<p>The Policy sets the context for Area Statements, ensuring that the national priorities for delivering sustainable management of natural resources inform the approach to local delivery.</p> <p>Key policy areas were identified as being important to deliver Natural Resources Policy. One such policy area is energy, including nuclear energy – which can drive sustainable growth.</p>	<p>specific to sustainable and efficient resource use.</p>
<p>Planning Policy Wales (Edition 11, 2021)</p>	<p>Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs, stated below).</p> <p>There are a number of goals and objectives in relation to the following topics:</p> <ul style="list-style-type: none"> • People and Places: Achieving Well-being Through Placemaking • Strategic and Spatial Choices • Active and Social Places • Productive and Enterprising Places • Distinctive and Natural Places <p>The document offers advice and guidance, for example, how local planning authorities should plan, manage and write Local Development Plans.</p> <p>PPW and Future Wales are supported by a range of other policy and guidance documents, including Technical Advice Notes (TANs) which contain detailed guidance in specific areas.</p> <p>Technical Advice Notes (TANs):</p> <ul style="list-style-type: none"> • TAN 2: Planning and Affordable Housing (2006) 	<p>The AoS objectives should address environmental protection including protecting biodiversity, conserving landscapes, preserving the historic environment, protecting water resources and the coastal environment, protecting land quality and air quality. It should also include objectives which</p>

	<ul style="list-style-type: none"> • TAN 3: Simplified Planning Zones (1996) • TAN 4: Retail and Commercial Development (2016) • TAN 5: Nature Conservation and Planning (2009) • TAN 6: Planning for Sustainable Rural Communities (2010) • TAN 7: Outdoor Advertisement Control (1996) • TAN 10: Tree Preservation Orders (1997) • TAN 11: Noise (1997) • TAN 12: Design (2016) • TAN 13: Tourism (1997) • TAN 15: Development, Flood Risk and Coastal Erosion • TAN 16: Sport, Recreation and Open Space (2009) • TAN 18: Transport (2007) • TAN 19: Telecommunications (2002) • TAN 20: Planning and the Welsh Language (2017) • TAN 21: Waste (2017) • TAN 23: Economic Development (2014) • TAN 24: The Historic Environment (2017) 	support economic development, adapting to climate change and reducing greenhouse gas emissions.
One Wales: One Planet – the Sustainable Development Scheme for Wales (2009)	<p>The document sets out the steps and actions necessary to achieve sustainable development in Wales, for example, an indicative route map of the journey Wales will need to take to use only its fair share of the earth's resources.</p> <p>The vision for a Sustainable Wales is as follows:</p>	The AoS should consider objectives which support the reduction of greenhouse gas

	<ul style="list-style-type: none"> • Lives within its environmental limits, using only its fair share of the earth's resources so that our ecological footprint is reduced to the global average availability of resources, and we are resilient to the impacts of climate change. • Healthy, biologically diverse and productive ecosystems that are managed sustainably. • A resilient and sustainable economy that is able to develop whilst stabilising, then reducing, its use of natural resources and reducing its contribution to climate change. • Communities which are safe, sustainable and attractive places for people to live and work, where people have access to services, and enjoy good health. • A fair, just and bilingual nation in which citizens of all ages and backgrounds are empowered to determine their own lives, shape their communities and achieve their full potential. 	emissions alongside other economic, social and environmental effects of new energy development.
Welsh Government Rural Communities - Rural Development Programme (2014-2020)	<p>This Rural Development Programme is a 7-year investment programme supporting a wide range of activities to achieve its three main objectives:</p> <ul style="list-style-type: none"> • Fostering the competitiveness of agriculture. • Ensuring the sustainable management of natural resources, and climate action. • Achieving a balanced territorial development of rural economies and communities including the creation and maintenance of employment. <p>All projects funded by the Programme must align with one or more of the six European Rural Development Priorities.</p> <p>Note the RDP was extended to 2023.</p>	The AoS framework should consider including objectives which encourage sustainable management of agriculture and the environment.

<p>TAN 5: Nature Conservation and Planning 2009</p>	<p>This Technical Advice Note provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation.</p> <p>Some key principles which the town and country planning system in Wales should seek to achieve include:</p> <ul style="list-style-type: none"> • Development which provides a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally. • Helping to ensure that development does not damage, or restrict access to, or the study of, geological sites and features or impede the evolution of natural processes and systems especially on rivers and the coast. • Planning to accommodate and reduce the effects of climate change by encouraging development that will reduce damaging emissions and energy consumption and that help habitats and species to respond to climate change. <p>Local authorities have an important role in delivering biodiversity objectives at a local level. Local Biodiversity Action Plans and Local Agenda 21 Plans can inform development plan preparation and development plan policies may help to maintain or enhance biodiversity.</p>	<p>The AoS should contain objectives relating to the protection of biodiversity and geological resources..</p>
<p>TAN 6: Planning for Sustainable Rural Communities 2010</p>	<p>This Technical Advice Note provides guidance on how the planning system can contribute to:</p> <ul style="list-style-type: none"> • Sustainable rural economies. • Sustainable rural housing. • Sustainable rural services. • Sustainable agriculture. <p>It advises planning authorities to produce development plans which set out the spatial vision for rural communities. This should be based on a sound understanding of the</p>	<p>The AoS should consider objectives relating to the protection and sustainable development of rural areas.</p>

	<p>functional linkages within the area and the potential for improving the sustainability of the existing settlement pattern.</p> <p>Development plans should also clearly define local need by taking into account the social, economic and environmental characteristics of the area.</p>	
TAN 11: Noise 1997	<p>This note provides advice on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business. It outlines some of the main considerations which local planning authorities should take into account when drawing-up development plans, policies and when determining planning applications for development which will either generate noise or be exposed to existing noise sources.</p>	<p>The AoS framework should consider an objective that will enable the assessment of such effects on human health.</p> <p>Noise and vibration should also be considered when assessing effects on other environmental receptors.</p>
TAN 13: Tourism 1997	<p>The Wales Tourist Board has responsibility for promoting and developing tourism in Wales. It has a duty to advise the</p> <p>Government and other public bodies, including local authorities, on matters affecting tourism. While ‘tourism’ cannot be regarded as a single or distinct category of land use, the issues it raises should be addressed in preparing or revising development plans and</p>	<p>The AoS framework should consider a number of objectives addressing</p>

	may feature in development control decisions. Development plans may provide guidance on opportunities for larger scale or innovative projects, appropriate facilities for the countryside or designated areas and the provision of facilities in historic towns and seaside resorts.	environmental protection which indirectly positively impact on tourism.
TAN 15: Development, Flooding and Coastal Erosion 2021	This TAN provides technical guidance that supplements Planning Policy Wales (PPW) in relation to flooding and coastal erosion. It provides a framework within which the flood risks arising from rivers, the sea and surface water, and the risk of coastal erosion can be assessed. It also provides advice on the consequences of the risks and adapting to and living with flood risk.	<p>The AoS needs to include objectives relating to flood risk and the need to manage runoff effectively.</p> <p>As the siting of energy infrastructure in a flood risk area could generate significant adverse consequences, appropriate criteria in relation to flood risk need to be considered as part of the process of</p>

		developing the new NPS.
TAN 16: Sport, Recreation and Open Space (2009)	<p>This Technical Advice Note advises on the role of the planning system in making provision for sport and recreational facilities and informal open spaces, as well as protecting existing facilities and open spaces in urban and rural areas in Wales.</p> <p>Topics discussed include preparation of Open Space Assessments, keeping of existing facilities, provision of new facilities and planning for allotments and spaces for children's and young people's play. It also considers how planning agreements can help to ensure the provision and maintenance of facilities.</p>	The AoS should consider objectives which seek to protect areas of open space and areas used for sport and recreation.
TAN 18: Transport 2007	<p>At the heart of this TAN is the need for an efficient and safe transport system. It acknowledges the significant impact that transport can have upon human health and the environment.</p> <p>Planning Policy Wales and the Wales Transport Strategy aim to secure the provision of transport infrastructure that improves access, builds a stronger economy, improves road safety and fosters more sustainable communities.</p>	<p>The AoS should consider objectives that do not adversely affect the efficiency of the transport system and seek to reduce greenhouse gas emissions from transportation sources.</p> <p>The preparation of the new NPS should consider the principles of</p>

		sustainable transport. There will be a need for safe, efficient transport connections to enable the delivery of raw materials and the siting of new energy infrastructure should not adversely affect the strategic transport infrastructure.
TAN 21: Waste 2014	<p>This Technical Advice Note, in conjuncture with Planning Policy Wales, sets a framework for facilitating the delivery of sustainable waste management infrastructure throughout the planning process.</p> <p>The TAN encourages local planning authorities to create a partnership approach with Natural Resources Wales, others in local and central government, the waste management industry, the voluntary sector and the general public is encouraged. This is because the developing legal environmental and technological circumstances influencing waste resource management will require changes of priorities and solutions that the land use planning system is unable to deliver on its own.</p>	<p>The development and operation of the facilities would generate waste throughout the project lifecycle.</p> <p>The AoS should consider the management of wastes</p>

		associated with the development, operation and decommissioning of new energy infrastructure.
Clean Air Plan for Wales: Healthy Air, Healthy Wales (2020)	<p>The aim of the Clean Air Plan for Wales is to improve air quality and reduce the impacts of air pollution on human health, biodiversity, the natural environment and our economy.</p> <p>The Plan is structured around four core themes, with actions to enable collaborative approaches to reducing air pollution.</p> <ul style="list-style-type: none"> • People: Protecting the health and well-being of current and future generations • Environment: Taking action to support our natural environment, ecosystems and biodiversity • Prosperity: Working with industry to reduce emissions, supporting a cleaner and more prosperous Wales • Place: Creating sustainable places through better planning, infrastructure and transport. 	The AoS should consider objectives which support the improvement of air quality.
CLIMATE CHANGE		
The Climate Change Strategy for Wales (2010)	The strategy confirms the Assembly Government's commitment to climate change and the areas where it will act and work with relevant partners, to reduce greenhouse gas (GHG) emissions and enable effective climate change adaptation in Wales.	The AoS should consider objectives which support the reduction of greenhouse gas

	<p>The strategy supports the vision for 2050 as set out in the One Wales: One Planet – the Sustainable Development Scheme for Wales (2009).</p> <p>Climate change adaptation is discussed with respect to the transport, business, residential, agriculture and land use, public and waste sectors.</p>	<p>emissions where possible.</p> <p>The AoS should consider objectives which improve the resilience of energy infrastructure to changing climatic conditions throughout the project's lifecycle. Note that the emissions targets contained in the Climate Change Strategy for Wales will be superseded by those set under this Act for successive five-year carbon budgets, starting from 2016-2040.</p>
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<p>Net Zero Wales: Carbon Budget 2 (2021 – 2025)</p>	<p>This Plan sets out how Wales aims to meet the second carbon budget (2021-2025) and associated target. The Plan sets out 123 policies and proposals, alongside commitments and actions across Wales.</p> <p>The sector pathway chapters in the Plan are: electricity and heat generation, transport, residential buildings, industry and business, agriculture, land use, waste management and public sector.</p> <p>The Plan includes the vision for a decarbonised energy system which provides wider economic and social benefits for Wales than the system currently in place.</p>	<p>The AoS should consider including objectives that address the reduction of carbon emissions and decarbonisation of the energy system</p>
<p>Policy Statement on Local ownership of energy generation in Wales – benefitting Wales today and for future generations</p>	<p>The intent of this policy is to retain social and economic benefit from future energy developments located in Wales. It expects all new energy projects in Wales to include at least an element of local ownership, in order to retain wealth within Wales and provide real benefit to communities across Wales. It defines ‘community ownership’ of a renewable energy project as a renewable energy or renewable storage development located in Wales, which is wholly owned by a social enterprise whose assets and profits are committed to the delivery of social and/or environmental objectives. It sets out that the Welsh Government supports renewable and low carbon energy projects developed by communities, or benefit the host community or Wales as a whole.</p>	<p>The AoS must consider the implications of this local ownership policy statement in the context of nuclear NSIPs.</p>
<p>Prosperity for All: A Climate Conscious Wales (2019)</p>	<p>Prosperity for All: A Climate Conscious Wales is our climate change adaptation plan for Wales. The Plan shows how Wales are taking action, over the next five years, to address the areas of greatest risk. The Plan aims to achieve this by:</p> <ul style="list-style-type: none"> • protecting people, communities, buildings and infrastructure from flooding, • protecting water supplies from drought and low river flows, 	<p>Ensure Climate Change adaptation is considered as an objective within the AoS</p>

	<ul style="list-style-type: none"> tackling land management practices that exacerbate climate risks, managing risks to ecosystems and agricultural businesses. 	
Adapting to Climate Change: Guidance for Flood and Coastal Erosion Risk Management Authorities in Wales 2022	This guidance aims to inform the design and resilience of flood and coastal risk management schemes, which should consider credible and reasonable climate change impacts.	Ensure climate change adaptation is considered as an objective within the AoS
WASTE		
The Waste (Miscellaneous Provisions) (Wales) Regulations 2012	<p>The regulations are designated for the purposes of section 2(2) of the European Communities Act 1972 in relation to the prevention, reduction and management of waste.</p> <p>They amend the Waste (England and Wales) Regulations 2011 by replacing regulation 13. They state that from 1 January 2015, waste collection authorities must collect waste paper, metal, plastic and glass separately. They also impose a duty on waste collection authorities, from that date, when making arrangements for the collection of such waste, to ensure that those arrangements are by way of separate collection. The duties apply to waste classified as waste from households and waste that is classified as commercial or industrial waste.</p>	The AoS should consider including objectives that promote the reduction of waste sent for disposal and encourage re-use, recycling and recovery of waste.
Welsh Government Policy on the Management and	The Welsh Government participated in the Managing Radioactive Waste Safely (MRWS) programme from 2001 and their current policy on implementing geological disposal is set out in two documents: Management and Disposal of Higher Activity	The AoS must acknowledge the Welsh Government's

<p>Disposal of Higher Activity Waste</p>	<p>Waste7 and Geological Disposal of Higher Activity Radioactive Waste: Community Engagement and Siting Processes.</p> <p>The Welsh Government consulted on ‘Geological Disposal of Radioactive Waste: Working with Communities’ between 25 January and 20 April 2018. There will be a separate Welsh Government policy on the arrangements for community engagement in Wales that will reflect specific Welsh circumstances whilst being compatible with the key elements of the UK Government’s geological disposal programme.</p>	<p>position that before development consents for new nuclear power stations are granted, the Government will need to be satisfied that effective arrangements exist or will exist to manage and dispose of the waste they will produce.</p>
<p>BIODIVERSITY</p>		
<p>The Town and Country Planning (Trees) (Amendment) (Wales) Regulations 2017</p>	<p>The regulations are made under the powers conferred on the Secretary of State by sections 198(8) and 333(1) of the Town and Country Planning Act 1990. They aim to ensure the protection of trees.</p> <p>The Regulations require an application to be made for cutting down, topping, lopping or uprooting of any tree with a tree preservation order. This application must:</p> <ul style="list-style-type: none"> • be made in writing to the authority • include all of the information specified on the form be accompanied by: 	<p>The AoS will need to consider potential impacts on important trees.</p>

	<ul style="list-style-type: none"> • a plan which identifies the tree or trees to which the application relates; • information specifying the work to be undertaken; • a statement of the applicant's reasons for making the application; and • appropriate evidence describing any structural damage to property or in relation to tree health or safety, as applicable. 	
The Town and Country Planning (Development Management Procedure) (Wales) Order 2012 as amended by The Town and Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2017	<p>The central aim of the Regulation is to protect the environment, including species and habitats, from developments. They consolidate with modification the provisions of the Town and Country Planning (General Development Procedure) Order 1995.</p> <p>This Order provides for procedures connected with planning applications, consultations in relation to planning applications, the determination of planning applications, appeals, local development orders, certificates of lawful use or development, the maintenance of registers of planning applications and related matters.</p>	The AoS must consider objectives which seek to protect the environment from the harmful impacts of development.
Woodlands for Wales 2018	<p>This document details Welsh Government's fifty-year strategy for woodlands and trees in Wales. It recognises Wales's trees as an important asset in delivering the Government's key priorities of driving green growth, resilience and safety and tackling poverty.</p> <p>The vision of the strategy is as follows:</p> <p>"Wales will be known for its high-quality woodlands that enhance the landscape, are appropriate to local conditions and have a diverse mixture of species and habitats".</p> <p>It is envisaged that real local and national social and community benefits, thriving woodland-based industries and a better-quality environment throughout Wales can be achieved through delivery of the strategy.</p>	The AoS framework should include objectives which address the protection of woodland.

CONTAMINATED LAND		
The Contaminated Land (Wales) Regulations 2006 as amended by the Contaminated Land (Wales) (Amendment) Regulations 2012	These regulations make provision, in relation to Wales, for the identification and remediation of contaminated land under Part 2A of the Environmental Protection Act 1990. It sets out the regime to deal with contaminated land and provides a system to identify and remediate sites where contamination is causing unacceptable risk to human health and/or the wider environment.	The AoS framework should address the potential of land contamination and appropriate consideration should be given to potential impacts and how they can be addressed.
HERITAGE		
Historic Environment Act (Wales) 2016	<p>The Historic Environment (Wales) Act 2016 and its associated measures are intended to provide a robust structure for protecting and managing the historic environment. Part 2 makes amendments to the Ancient Monuments and Archaeological Areas Act 1979 primarily in relation to ancient monuments in Wales. It also makes provision for the Welsh Ministers to compile and maintain a register of historic parks and gardens. Part 3 makes amendments to the Planning (Listed Buildings and Conservation Areas) Act 1990 in relation to buildings in Wales that are of special architectural or historic interest ("listed buildings"). Part 4 makes other provision about the historic environment in Wales, including provision;</p> <ul style="list-style-type: none"> • for the compilation of a list of historic place names in Wales; 	Ensure historic environment objective within AoS framework.

	<ul style="list-style-type: none"> • for the compilation of a historic environment record for each local authority area in Wales; and • for the establishment, constitution and functions of the Advisory Panel for the Welsh Historic Environment. <p>Note 2023 update to the Act is due to be published.</p>	
The Welsh Historic Environment Strategic Statement: Action Plan 2010	The Action Plan clearly lists objectives with respect to heritage assets and the historic environment and the associated practical action required to achieve these objectives. A timeframe of 2009-2011 and beyond how put allocated to each objective. The lead and supporting bodies for each objective are also stated.	The AoS should consider including objectives which aim to protect heritage assets and the historic environment.
WATER ENVIRONMENT		
Water Strategy for Wales 2015	<p>The strategy sets out the strategic direction for water policy in Wales over the next 20 years and beyond.</p> <p>The vision for the strategy is to “ensure that Wales continues to have thriving water environment which is sustainably managed to support healthy communities, flourishing businesses and the environment. We want the people of Wales to receive first class, value for money water services with water used efficiently, safely and respectfully by all”.</p>	The AoS should consider objectives which contribute to the sustainable use of water resources.

Flood and Water Management Act 2010	An Act to make provision about water, including provision about the management of risks in connection with flooding and coastal erosion.	The AoS should consider objectives concerning the the management of risks in connection with flooding and coastal erosion.
National Strategy for Flood and Coastal Erosion Risk Management in Wales 2020	<p>This Strategy sets out Welsh policies on flood and coastal erosion risk management. It establishes a delivery framework that meets the needs of Wales, and sets out four overarching objectives for managing flood and coastal erosion risk in Wales:</p> <ul style="list-style-type: none"> • Reducing the consequences for individuals, communities, businesses and the environment from flooding and coastal erosion • Raising awareness of and engaging people on flood and coastal erosion risk • Providing an effective and sustained response to flood and coastal erosion events • Prioritising investment in the most at risk communities. 	The AoS should include objectives specific to coastal erosion risk management. Development near the coast has the potential to lead to coastal erosion through changing-coastal processes.
Welsh National Marine Plan (Welsh Government 2019)	<p>The Welsh National Marine Plan is the first marine plan for Wales and represents the start of a process of shaping seas to support economic, social, cultural and environmental objectives. Marine planning will guide the sustainable development of our marine area by setting out how proposals will be considered by decision makers.</p> <p>It sets out the vision for the Welsh inshore and offshore marine plan regions as:</p>	The AoS should establish objectives which align with the aims of the Plan and protect the

	<ul style="list-style-type: none"> • Welsh seas are clean, healthy, safe, productive and biologically diverse: • Through an ecosystem approach, natural resources are sustainably managed and our seas are healthy and resilient, supporting a sustainable and thriving economy; • Through access to, understanding of and enjoyment of the marine environment and maritime cultural heritage, health and well-being are improving; • Through Blue Growth more jobs and wealth are being created and are helping coastal communities become more resilient, prosperous and equitable with a vibrant culture; and • Through the responsible deployment of low carbon technologies, the Welsh marine area is making a strong contribution to energy security and climate change emissions targets. 	marine and coastal environment.
Flood Consequence Assessments: climate Change Allowances 2021	When considering new development proposals, Technical Advice Note 15: Development and Flood Risk (TAN15, now superseded) states that it is necessary to take account of the potential impact of climate change over the lifetime of development. The Flood Consequence Assessment guidance document sets out the climate change allowances that should be used in flood consequence assessments submitted in support of relevant planning applications, and to inform development plan allocations.	The AoS must take into account this guidance document.
Shoreline Management Plans applicable in Wales	<p>A Shoreline Management Plan policy describes how a stretch of shoreline is most likely to be managed to address flood and/or erosion – although this is subject to conditions. Stretches of coast are divided into ‘management units’, and for each of these one of four different management policies are agreed, as follows:</p> <ul style="list-style-type: none"> • No active intervention – there is no planned investment in defending against flooding or erosion, whether or not an artificial defence has existed previously 	The AoS should establish objectives which align with the aims of the Plan and protect the shoreline environment and

	<ul style="list-style-type: none"> • Hold the (existing defence) line – an aspiration to build or maintain artificial defences so that the position of the shoreline remains. • Sometimes, the type or method of defence may change to achieve this result <p>Managed realignment – allowing the shoreline to move naturally, but managing the process to direct it in certain areas. This is usually done in low-lying areas, but may occasionally apply to cliffs.</p>	prevent flooding and/or erosion.
LANDSCAPE		
Valued and Resilient: The Welsh Government's Priorities for Areas of Outstanding Natural Beauty and National Parks (July 2018)	<p>Designated Landscapes: Valued and Resilient outlines key priority areas following consideration of the outcomes from the Review of Designated Landscapes, Future Landscapes Wales Programme and responses to the Taking forward Wales' sustainable management of natural resources consultation. It provides clarity of purpose for the National Parks and AONBs in the context of the UK's exit from the European Union and at the close of a period of review.</p> <p>It calls on the designated landscapes managing bodies to deliver on a number of Welsh Government priorities, including the Nature Recovery Plan, a refreshed woodland strategy, the decarbonisation agenda, and Cymraeg 2050. Its 10 cross-cutting themes aim to improve resilience and realise the full value of Wales' landscapes:</p> <ul style="list-style-type: none"> • Landscapes for everyone • Exemplars of the sustainable management of natural resources • Halting the loss of biodiversity • Green energy and decarbonisation • Realising the economic potential of landscape • Growing tourism and outdoor recreation 	Ensure that the need to improve resilience of National Parks and AONBs designated landscapes is considered in the AoS.

	<ul style="list-style-type: none"> • Thriving Welsh language • All landscapes matter • Delivering through collaboration • Innovation in resourcing 	
ENERGY		
Nuclear Energy in Wales (Third Report of Session 2022-2023)	<p>Based on the context that there are two historic nuclear sites in Wales (at Wylfa on Ynys Mon and Trawsfynydd in Gwynedd), the inquiry looked at the likelihood of new nuclear in Wales.</p> <p>It was considered that nuclear energy is needed as part of a mix of low carbon energy sources and that if the UK is serious about new nuclear energy, it needs to pursue new GW-scale reactors alongside SMRs.</p> <p>Inquiry acknowledges both the funding challenges associated with new nuclear, and the potential benefits new nuclear could bring to regional economies in Wales.</p>	AoS needs to acknowledge that nuclear energy may bring potential benefits to regional economies in Wales.
Natural Resources Wales Technical Guidance	<p>NRW has produced technical guidance which is relevant to the energy technologies covered by the AoS. These provide information on:</p> <ul style="list-style-type: none"> • Marine aggregate extraction • Offshore wind developments • Marine renewable energy developments • Using adaptive management for marine developments • Scoping an Environmental Impact Assessment for marine developments 	The AoS should consider guidance provided by NRW Technical Notes.

	<ul style="list-style-type: none"> • Marine ecology datasets for marine developments - guidance for developers on the datasets NRW holds that is useful in scoping assessments. • Marine vertebrate conservation legislation in Wales • Benthic habitat assessments for marine developments • Marine physical processes and Environmental Impact Assessment (EIA) <p>NRW has further relevant guidance under development which will be added to their website as soon as it is available.</p>	
TRANSPORT		
Llwybr Newydd: the Wales Transport Strategy 2021	<p>The Wales Transport Strategy sets out the vision for an accessible, sustainable and efficient transport system. The Strategy sets out three priorities over the next 5 years:</p> <ul style="list-style-type: none"> • Priority 1: Bring services to people in order to reduce the need to travel • Priority 2: Allow people and goods to move easily from door to door by accessible, sustainable and efficient transport services and infrastructure • Priority 3: Encourage people to make the change to more sustainable transport 	The AoS should consider objectives which support the use of sustainable transport.
Scotland		
CROSS-THEMATIC		

<p>Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017</p>	<p>Environmental Impact Assessment (EIA) is a means of drawing together, in a systematic way, an assessment of the likely significant environmental effects arising from a proposed development.</p>	<p>Energy infrastructure has the potential to fall under Schedule 1 and 2 developments in the EIA 2011 regulations and therefore would be subject to an Environmental Impact Assessment.</p>
<p>The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013</p>	<p>This Order provides for procedures connected with Pre-application consultation, applications for planning permission, the planning authority, consultations, local development orders, certificates of lawful use or development and the maintenance of registers of planning applications.</p>	<p>AoS Objectives which seek to protect the environment as a result of development should be considered.</p>
<p>National Planning Framework 4 (2023)</p>	<p>Sets out Scotland's spatial principles, regional priorities, national developments and national planning policy.</p> <p>Part 1 – A National Spatial Strategy for Scotland 2045</p>	<p>The AoS needs to include a comprehensive set of objectives that promote</p>

	<ul style="list-style-type: none"> • Sets out 6 overarching spatial principles which play a key role in delivering UN SDGs and Scottish national outcomes: • Just transition • Conserving and recycling assets • Local living • Compact urban growth • Rebalanced development • Rural revitalisation <p>Part 2 – National Planning Policy</p> <p>Sets out 33 policies on topics including: tackling the climate and nature crises, climate mitigation and action, and biodiversity.</p>	environmental protection.
Planning Advice Note (PAN) 3/2010 Community Engagement	Sets out effective community engagement in the planning process.	The AoS process should consider objectives which include effective community engagement in the planning process.
PAN 33 Development of Contaminated Land (Revised Oct 2000)	<p>Sets out the role of the planning system in addressing historical contamination. It considers:</p> <ul style="list-style-type: none"> • The implications of the new contaminated land regime for the planning system; 	The AoS should consider objectives which address the assessment and

	<ul style="list-style-type: none"> • the development of contaminated land; • the approach to contaminated land in development plans; • the determination of planning applications when the site is or may be contaminated, and; • where further information and advice can be found. 	<p>use of contaminated land sites.</p> <p>Contaminated land sites may be suitable for the development of energy infrastructure if appropriate management measures are implemented.</p>
PAN 51 Planning, Environmental Protection and Regulation (Revised 2006)	Supports the existing policy role of the planning system in relation to the environmental protection regimes.	The AoS should consider a comprehensive set of objectives that promote environmental protection such that they complement environmental targets and positively work towards their achievement.

PAN 2/2011 Planning and Archaeology	This PAN is intended to inform the day-to-day work of a range of local authority advisory services and other organisations that have a role in the handling of archaeological matters within the planning process.	The AoS should consider archaeology through the inclusion of an objective relating to the historic environment.
PAN 71 Conservation Area Management	This PAN complements existing national policy and provides further advice on the management of conservation areas. It identifies good practice for managing change, sets out a checklist for appraising conservation areas and provides advice on funding and implementation.	The AoS should take into account the potential impact of development in Conservation Areas.
PAN 60 Planning for Natural Heritage	This PAN provides advice on how development and the planning system can contribute to the conservation, enhancement, enjoyment and understanding of Scotland's natural environment and encourages developers and planning authorities to be positive and creative in addressing natural heritage issues.	Natural heritage should be considered in the AoS and the framework should include objectives to conserve and safeguard native species, wildlife habitats, ecosystems, geology and

		natural beauty and amenity of the countryside.
PAN 1/2011 Planning and Noise	This PAN provides advice on the role of the planning system in helping to prevent and limit the adverse effects of noise.	The AoS should consider objectives which address noise impacts during construction, operation and decommissioning.
PAN 61 Waste Management Planning (2001)	<p>The purpose of this PAN is to:</p> <ul style="list-style-type: none"> • Provide advice on a sustainable approach and change of emphasis from waste disposal to integrated waste management; • Assist planning authorities in ensuring that development plans reflect the land use requirements for the delivery of an integrated network of waste management facilities; • Provide a basis for more informed consideration of development proposals for waste management facilities; • Enable planning authorities to implement the emerging and future Area Waste Plans; and • Provide developers seeking planning permission for waste management facilities with advice on the issues taken into consideration when determining applications. 	The AoS must address development and operation of energy facilities would generate waste and potentially increase the amount of waste needing long-term disposal.

BIODIVERSITY		
The Nature Conservation (Scotland) Act 2004 (Authorised Operations) Order 2011	<p>This Order describes the types of operations undertaken which affect a site of special scientific interest (SSSI) but which do not require the consent of Scottish Natural Heritage under sections 13 (operations by public bodies etc.) and 16 (operations by owners or occupiers of sites of special scientific interest) of the Nature Conservation (Scotland) Act 2004.</p> <p>The Regulations are of relevance to environmental planning projects as well as remediation projects. Their overall aim is to protect and conserve species in the UK.</p>	The AoS should take into account impacts upon habitats and species, and should consider provision for the preservation and protection of biodiversity and the environment.
Scottish Biodiversity Strategy to 2045 (2022)	<p>Sets out the framework for addressing the twin crises of biodiversity loss and climate change.</p> <p>The strategy identifies the vision of a future where Scotland's natural environment is restored and supports thriving communities and wildlife. The strategy proposes outcomes and key actions that will enable this vision to be achieved.</p>	Ensure the protection and enhancement of biodiversity is included as an objective within the AoS.
Wildlife and Natural Environment (Scotland) Act 2011 (as amended)	<p>The Act affected game-shooting, species protection, and introduced new wildlife offences into Scotland such as vicarious liability. Amongst other things it:</p> <ul style="list-style-type: none"> • abolished the designation of areas of special protection for wild birds; • increased regulation of snaring practices; • introduced a closed season for the killing of mountain hares; 	Ensure the protection and enhancement of biodiversity is included as an

	<ul style="list-style-type: none"> • introduced a new regime for controlling invasive non-native species; • changed arrangements for deer management and deer stalking; • strengthened badger protection; • required Scottish Ministers to present an annual report to Parliament of offences relating to wildlife crime; • changed the legislation relating to the burning of moorland (muirburn), previously prescribed in the Hill Farming Act 1946; • made operational changes to how Sites of Special Scientific Interest are managed; • required three-yearly reports to be published by public bodies on compliance with the Biodiversity Duty. 	objective within the AoS.
Scotland's Forestry Strategy 2019-2029	<p>This Strategy provides an overview of contemporary Scottish forestry, presents a 50-year vision for Scotland's forests and woodlands, and sets out a 10-year framework for action.</p> <p>Objectives</p> <ul style="list-style-type: none"> • Increase the contribution of forests and woodlands to Scotland's sustainable and inclusive economic growth • Improve the resilience of Scotland's forests and woodlands and increase their contribution to a healthy and high quality environment • Increase the use of Scotland's forest and woodland resources to enable more people to improve their health, well-being and life chances <p>Priorities</p> <ul style="list-style-type: none"> • Ensuring forests and woodlands are sustainably managed 	The AoS framework should consider objectives which focus upon environmental protection and the avoidance of loss of forests.

	<ul style="list-style-type: none"> • Expanding the area of forests and woodlands, recognising wider land-use objectives • Improving efficiency and productivity, and developing markets • Increasing the adaptability and resilience of forests and woodlands • Enhancing the environmental benefits provided by forests and woodlands • Engaging more people, communities and businesses in the creation, management and use of forests and woodlands 	
Forestry and Land Management (Scotland) Act 2018	<p>The Forestry and Land Management (Scotland) Act 2018 makes new provisions regarding Scottish Ministers' functions in relation to forestry.</p> <p>The Act sets out the following, among other things;</p> <ul style="list-style-type: none"> • a duty to prepare a forestry strategy; • a duty to promote sustainable forest management; and • permissions and rules regarding felling. 	The AoS framework should consider objectives which focus upon avoidance of loss of forests.
Forestry (Felling) (Scotland) Regulations 2019	The Regulations set out the process for applications for felling permission, directions for restocking, directions for felling and rules surrounding appeals and compensation.	The AoS should consider the potential impacts of tree felling.
Control of Woodland Removal 2012	At a national scale Scotland is continuing to expand its woodland resource, to counteract historic deforestation. The Scottish Government has developed a policy on the control of woodland removal to provide direction for decisions on woodland removal in Scotland.	The AoS will need to consider control of woodland removal.

<p>The Town and Country Planning (Tree Preservation Order and Trees in Conservation Areas) (Scotland) Regulations 2010</p>	<p>The regulations are made under the powers conferred on the Secretary of State by sections 160(8), 161(3) and (4), 173 and 275 of the Town and Country Planning (Scotland) Act.</p> <p>The Regulations require an application to be made for cutting down, topping, lopping or uprooting of any tree with a tree preservation order or within a Conservation Area. This application must:</p> <ul style="list-style-type: none"> • specify the operations for which consent is sought; • give reasons for carrying out such operations; • identify the protected tree or trees which would be affected by such operations; and • The protected tree or trees must be identified by means of a map or plan of a size and scale sufficient for the purpose. 	<p>The AoS needs to recognise the importance of trees, including those which may be isolated, or of particular age (veteran trees) and which may be of importance in a local context.</p>
<p>AIR QUALITY</p>		
<p>The Air Quality Standards (Scotland) Regulations (2010)</p>	<p>Regulations made under powers conferred by section 2(2) of the European Communities Act.</p> <p>It details the limit or target values for several pollutants considered of concern for human health for the purpose of Air Quality Management.</p>	<p>The AoS should seek objectives to avoid air quality impacts. New power stations have the potential to result in emissions to air throughout the project lifecycle.</p>

<p>The Air Quality (Scotland) Amendments Regulations 2016</p>	<p>The regulations set out the objectives adopted in Scotland for the purpose of Local Air Quality Management.</p> <p>The achievement or likely achievement of an air quality objective prescribed by the regulations shall be determined by reference to the quality of air at locations;</p> <ul style="list-style-type: none"> • which are situated outside of buildings or other natural or man-made structures; and • where members of the public are regularly present. 	<p>The AoS should seek objectives to avoid air quality impacts. New power stations have the potential to result in emissions to air throughout the project lifecycle.</p>
<p>Cleaner Air for Scotland – the Road to a healthier future (the Scottish Government 2015)</p>	<p>The purpose of Cleaner Air for Scotland – The Road to a Healthier Future (CAFS) is to provide a national framework which sets out how the Scottish Government and its partner organisations propose to achieve further reductions in air pollution and fulfil legal responsibilities as soon as possible.</p>	<p>The AoS should seek objectives to avoid air quality impacts. New power stations have the potential to result in emissions to air throughout the project lifecycle.</p>
<p>CONTAMINATED LAND</p>		
<p>Contaminated Land (Scotland) Regulations (2000 and 2005)</p>	<p>Regulations made to ensure the proper management and remediation of contaminated land which is causing or has the potential to cause significant harm or significant pollution of the water environment.</p>	<p>Land contamination and potential impacts and how they can be</p>

	These have been produced by Scottish Ministers in exercise of powers under the Environmental Protection Act (1990). Topics covered include pollution of controlled waters, remediation notices and appeals to Scottish Ministers.	addressed should be considered in the AoS.
NOISE		
Environmental Noise (Scotland) Regulations (2006) as amended by The Environmental Noise (Scotland) Amendment Regulations 2018	<p>The Environmental Noise (Scotland) Regulations 2006 introduced strategic noise mapping and noise action planning for areas such as large urban areas and major transport corridors.</p> <p>It is stated that Scottish Ministers must prepare Strategic Noise Maps and Noise Action Plans which identify Quiet Areas and areas where management of noise is required- identified as Noise Management Areas (NMAs). The Noise Action Plans must include measures to manage noise.</p>	Noise and vibration impacts to local population should be considered in the AoS.
CLIMATE CHANGE		
Climate Change (Scotland) Act 2009	An Act of the Scottish Parliament to set a target for the year 2050, an interim target for the year 2020, and to provide for annual targets, for the reduction of greenhouse gas emissions; to provide about the giving of advice to the Scottish Ministers relating to climate change; to confer power on Ministers to impose climate change duties on public bodies; to make further provision about mitigation of and adaptation to climate change; to make provision about energy efficiency, including provision enabling council tax discounts; to make provision about the reduction and recycling of waste; and for connected purposes.	AoS objectives should seek to reduce greenhouse gas emissions during other stages of energy infrastructure development, for example, the transportation of

		<p>raw materials and waste.</p> <p>The AoS should consider objectives which improve the resilience of energy infrastructure to changing climatic conditions throughout the project's lifecycle.</p>
Climate Change (Emissions Reduction Targets) (Scotland) Act 2019	<p>The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, which amends the Climate Change (Scotland) Act 2009, sets targets to reduce Scotland's emissions of all greenhouse gases to net-zero by 2045 at the latest, with interim targets for reductions of at least 56% by 2020, 75% by 2030, 90% by 2040.</p> <p>The Act embeds the principles of a Just Transition, which means reducing emissions in a way which tackles inequality and promotes fair work, at the heart of Scotland's approach to reaching net-zero.</p>	<p>The AoS should consider objectives to reduce GHG emissions throughout the project's lifecycle.</p>
Securing a Green Recovery on a Path to Net Zero: climate change plan 2018–2032 - update	<p>This update to Scotland's 2018-2032 Climate Change Plan sets out the Scottish Government's pathway to the new and ambitious targets set by the Climate Change Act 2019. It is a key strategic document on the green recovery from COVID-19. The Government have committed to reduce emissions by 75% by 2030 (compared with 1990) and to net zero by 2045</p>	<p>AoS objectives should seek to ensure that development is resilient and adaptable to the</p>

	<p>Part 1 of the Update sets out the progress that is being made in delivering the commitments and the further actions to be taken to secure a green recovery from the COVID-19 pandemic. Part 2 of the update is dedicated to the 'Coordinated Approach' to meeting the emissions reduction targets. This section looks at how to take a cross-cutting, systems based approach that harnesses opportunities for inclusive jobs, growth and well-being.</p>	<p>impacts of climate change, throughout the project lifecycle.</p>
<p>Climate Ready Scotland Scottish Climate Change Adaptation Programme (2019-2024)</p>	<p>The second Scottish Climate Change Adaptation Programme sets out policies and proposals to prepare Scotland for the challenges that will be faced as our climate continues to change in the decades ahead. The Programme is a requirement of the Climate Change (Scotland) Act 2009 and addresses the risks set out in the UK Climate Change Risk Assessment (UK CCRA) 2017, published under section 56 of the UK Climate Change Act 2008.</p> <p>The Programme takes an outcomes-based approach, derived from both the UN Sustainable Development Goals and Scotland's National Performance Framework. There are seven outcomes in the programme:</p> <ul style="list-style-type: none"> • Outcome 1: Our communities are inclusive, empowered, resilient and safe in response to the changing climate • Outcome 2: The people in Scotland who are most vulnerable to climate change are able to adapt and climate justice is embedded in climate change adaptation policy • Outcome 3: Our inclusive and sustainable economy is flexible, adaptable and responsive to the changing climate. • Outcome 4: Our society's supporting systems are resilient to climate change • Outcome 5: Our natural environment is valued, enjoyed, protected and enhanced and has increased resilience to climate change 	<p>AoS objectives should seek to ensure that development is resilient and adaptable to the impacts of climate change, throughout the project lifecycle.</p>

	<ul style="list-style-type: none"> • Outcome 6: Our coastal and marine environment is valued, enjoyed, protected and enhanced and has increased resilience to climate change • Outcome 7: Our international networks are adaptable to climate change. 	
WATER ENVIRONMENT		
The Water Environment (Controlled Activities) (Scotland) Regulations 2011	<p>The Regulations– more commonly known as the Controlled Activity Regulations (CAR) – and their further amendments apply regulatory controls over activities which may affect Scotland’s water environment. This includes:</p> <ul style="list-style-type: none"> • groundwater, • wetlands (directly associated with surface and groundwater bodies); • rivers; • lochs; • transitional waters (estuaries and saline lagoons); and • coastal waters (3nm from territorial baseline). <p>The controlled activities include:</p> <ul style="list-style-type: none"> • abstractions from surface and groundwater; • impoundments of rivers, lochs, wetlands and transitional waters; • groundwater recharge; • engineering in rivers, lochs and wetlands; • engineering activities in the vicinity of rivers, lochs and wetland which are likely • to have a significant adverse impact upon the water environment; • activities liable to cause pollution; 	The AoS should consider objectives which focus on the protection of all aspects of the water environment.

	<ul style="list-style-type: none"> • direct or indirect discharge of List I substances to groundwater; • any other activities which directly or indirectly is liable to cause a significant • adverse impact upon the water environment. <p>In order to ensure proportionate controls over activities, the Regulations provide for three levels of control: General Binding Rules (GBR), Registrations and Water Use Licences. SEPA can move activities between registration and licences and from GBR to registration or licences as it considers necessary in order to protect the water environment.</p>	
Flood Risk Management Act (Scotland) 2009	<p>The Flood Risk Management (Scotland) Act 2009 introduced a more sustainable and modern approach to flood risk management. It designated all local authorities, SEPA, Scottish Water and Scottish Ministers, as 'Responsible Authorities', and laid the duty upon them to work to reduce flood risk. It placed a great deal of emphasis on the importance of partnership working and co-operation among authorities to help achieve the goal of reducing flood risk.</p>	Ensure that flood risk management is included as an objective within the AoS framework.
The Marine (Scotland) Act 2010	<p>The Marine (Scotland) Act provides a framework which will help balance competing demands on Scotland's seas. It introduces a duty to protect and enhance the marine environment and includes measures to help boost economic investment and growth in areas such as marine renewables.</p> <p>The main measures include:</p> <ul style="list-style-type: none"> • Marine planning: a new statutory marine planning system to sustainably manage the increasing, and often conflicting, demands on our seas • Marine licensing: a simpler licensing system, minimising the number of licences required for development in the marine environment to cut bureaucracy and encourage economic investment 	Ensure that AoS framework addresses competing demands on seas

	<ul style="list-style-type: none"> • Marine conservation: improved marine nature and historic conservation with new powers to protect and manage areas of importance for marine wildlife, habitats and historic monuments • Seal conservation: much improved protection for seals and a new comprehensive licence system to ensure appropriate management when necessary • Enforcement: a range of enhanced powers of marine conservation and licensing 	
The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017	The regulations requires that certain types of project with the potential to significantly affect the environment have an environmental impact assessment before a marine licence decision is made.	The AoS should consider where EIAs are required if projects have the potential to significantly affect the environment.
Scotland's National Marine Plan 2015	<p>This plan covers the management of both Scottish inshore waters (out to 12 nautical miles) and offshore waters (12 to 200 nautical miles). The plans vision for the marine environment is:</p> <p>‘Clean, healthy, safe, productive and diverse seas; managed to meet the long term needs of nature and people.’</p>	The AoS should consider objectives which focus on the protection of the water environment.
WASTE		
Scotland's Zero Waste Plan (2010)	The plan sets the strategic direction for waste policy for Scotland, informed by improved understanding of the environmental consequences of how we use and dispose of resources, and by the requirements of European legislation. The Zero Waste Plan is	The AoS should consider waste recycling from the

	<p>underpinned by a determination to achieve the best overall outcomes for Scotland's environment, by making best practical use of the approach in the waste management hierarchy: waste prevention, reuse, recycling and recovery.</p> <p>This Zero Waste Plan is deliberately concise and strategic in its approach. It looks to set the goals Scotland needs to achieve in the future, and focuses on the key areas of activity with the potential to make the greatest contribution to deliver those goals. At the heart of the Zero Waste Plan is a change of mindset, a need for every one of us to start viewing waste as a potential resource and to think about how to use that resource most efficiently.</p>	<p>construction and operation of energy infrastructure.</p>
<p>The Waste (Scotland) Regulations 2012</p>	<p>These regulations outline and expand on the duty of care responsibilities of businesses with respect to waste they produce.</p> <p>The main compliance actions are as follows:</p> <ul style="list-style-type: none"> • Segregate, store and transport your waste appropriately and securely • Check that your waste is transported and handled by people or businesses that are authorised to do so • Complete waste transfer notes to document all waste you transfer, and keep them as a record for at least two years. • Take all reasonable steps to apply the waste management hierarchy before disposing of waste <p>From 1 January 2014, ensure glass, metal, plastic, paper and card is separated for collection. Take steps to avoid cross contamination of these materials</p>	<p>The AoS should promote the reduction of waste sent for disposal and encourage re-use, recycling and recovery of waste should be considered.</p> <p>The AoS should also take account of the fact that radioactive waste will be created which will have to be managed.</p>

Management and Disposal of Higher Activity Waste	<p>The Scottish Government is not a sponsor of the geological disposal programme, but does remain committed to dealing responsibly with radioactive waste arising in Scotland. In January 2011, the Scottish Government published its Higher Activity Waste Policy¹⁰. Scottish Government policy is that the long-term management of higher activity radioactive waste should be in near-surface facilities. Facilities should be located as near to the sites where the waste is produced as possible. While the Scottish Government does not support deep geological disposal for Scotland, it continues, along with the UK Government and other devolved administrations, to support a robust programme of interim storage and an ongoing programme of research and development. In December 2016, the Scottish Government published an implementation strategy, which includes dates of key phases of work, milestones and key actions, for the effective implementation of the 2011 policy.</p>	<p>The AoS must acknowledge the Scottish Government's position that before development consents for new nuclear power stations are granted, the Government will need to be satisfied that effective arrangements exist or will exist to manage and dispose of the waste they will produce.</p>
ENERGY		
Scottish Energy Strategy: The Future of Energy in Scotland 2017	<p>The Strategy sets out the Scottish energy strategy for the period until 2050 and includes 2030 'whole-system' energy targets relating to renewables and energy efficiency. The Strategy is consistent with the Scottish Climate Change Act. The 2050 vision of the Scottish Energy Strategy priorities:</p>	<p>For information – particular note made of Scotland's opposition to</p>

	<ul style="list-style-type: none"> • Energy efficiency; • Renewable and low carbon solutions; • Consumer engagement and protection; • System security and flexibility; • Innovative local energy systems; and • Strengthening the oil and gas industries. <p>National opposition to new nuclear power is confirmed in the strategy, but it is acknowledged that there is increasing interest in the development of new nuclear technologies. The Strategy is duty bound to assess new technologies and low carbon energy solutions.</p> <p>Note: a draft of the Energy Strategy and Just Transition Plan was published in 2023, formal issue not yet available. The draft reiterates Scotland's firm opposition to building new nuclear power plants using current technologies.</p>	building new nuclear plants using current technologies.
<i>Northern Ireland</i>		
CROSS-THEMATIC		
Environment Strategy for Northern Ireland 2023	The Environment Strategy sets out Northern Ireland's environmental priorities for the coming decades and forms part of the Executive's Green Growth agenda. As such it includes a mix of both existing and new environmental targets / objectives for the Department of Agriculture, Environment and Rural Affairs (DAERA) and all Northern Ireland Departments with a role in improving the environment.	The AoS should acknowledge that Northern Ireland has this new Environment Strategy.

MARINE ENVIRONMENT		
Marine Plan for Northern Ireland 2022	<p>The Marine Plan provides a framework of policies to be considered by public authorities taking decisions which affect or might affect the marine area through decision making processes. It is a material consideration in this regard. The Marine Plan (when adopted) will be used by Public Authorities in taking decisions which affect or might affect the marine area, including:</p> <ul style="list-style-type: none"> • Authorisation or enforcement decisions • Decisions that relate to the exercise of any function capable of affecting the marine area. <p>It is a single document made up of two plans, one for the inshore region and one for the offshore region. The inshore region extends from the Mean High Water Spring Tide mark out to, at most, 12 nautical miles (nm) and includes tidal rivers and sea loughs. The offshore region is the area that extends south-eastwardly from the 12nm territorial limit to the outer boundary of the Northern Ireland marine area (31nm at the farthest point).</p>	Development of certain new energy infrastructure may result in transboundary effects in Northern Ireland's marine environment which will need to be considered by the AoS.
CLIMATE CHANGE		
The Path to Net Zero Energy: Secure, Affordable, Clean 2021	<p>The aim of the strategy is to ensure that energy in Northern Ireland is secure, affordable and clean now and in future. The strategy sets the following three targets:</p> <ol style="list-style-type: none"> 1. Deliver energy efficiency savings of 25% from buildings and industry by 2030. 2. Meet at least 70% of electricity consumption from a diverse mix of renewable sources by 2030. 3. Double the size of Northern Ireland's low carbon and renewable energy economy to a turnover of more than £2B by 2030. 	The AoS should note that Northern Ireland is on a path to clean energy now and in the future which excludes generation of nuclear energy

	<p>The strategy centres around five key principles:</p> <ol style="list-style-type: none"> 1. Placing people at the heart of energy future 2. Grow the green economy 3. Do more with less 4. Replace fossil fuels with renewable energy 5. Create a flexible, resilient and integrated energy system <p>The strategy does not include consideration of nuclear power.</p>	within its boundaries.
Climate Change Act (Northern Ireland) 2022	<p>Sets targets for the years 2030, 2040 and 2050 for the reduction of greenhouse gas emissions. Provides a system for carbon budgeting and reporting against targets and budgets.</p> <p>Does not include consideration of nuclear power.</p>	AoS objectives should seek to ensure that development is resilient and adaptable to the impacts of climate change, throughout the project lifecycle.
WASTE		
Management and Disposal of Higher Activity Waste	<p>The 2014 White Paper Implementing Geological Disposal was issued jointly by the UK Government and the Northern Ireland Executive. The recent 'Working with Communities' consultation was published jointly by the Department for Business, Energy and Industrial Strategy (BEIS) and the Department of Agriculture, Environment and Rural Affairs in Northern Ireland. Future policy decisions in relation to geological</p>	The AoS must acknowledge the Northern Ireland Government's position that

	<p>disposal in Northern Ireland would be a matter for the Northern Ireland Executive, which is currently suspended. Accordingly, in the continued absence of the Executive, no further policy commitments can be given at this time.</p>	<p>before development consents for new nuclear power stations are granted, the Government will need to be satisfied that effective arrangements exist or will exist to manage and dispose of the waste they will produce.</p>
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Appendix B. Baseline data and contextual information

B.1. Biodiversity and Ecosystems

Introduction to the baseline information and overview of interaction with the NPS

Biodiversity is the variety of life in all its forms and encompasses all species of plants and animals, the genetic diversity they contain and the complex ecosystems of which they are a part. The scope and scale of the development enabled by the Nuclear NPS has the potential for a range of impacts on the natural environment and biodiversity including loss of habitat and species, disturbance, pollution, habitat fragmentation / severance / isolation, obstructions, changes to terrestrial microclimates and changes to coastal and marine processes due to construction, operation and decommissioning activities associated with nuclear energy infrastructure.

The most important areas of biodiversity are protected for their intrinsic ecological value, at international, national and local levels. At the very highest international level, protection is provided across a network of sites designated as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar sites and those areas which are candidates for designation as such.

Nationally, sites can be designated as Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) or Marine Conservation Zones (MCZs), with Marine Protected Areas (MPAs) being a term used to describe the network of Habitat Regulation Assessment (HRA) sites, SSSIs and MCZs in the English and Welsh marine environment. At a local level, there are notably a great many areas designated as Local Nature Reserves (LNRs) by Local Authorities, or further areas designated on a local basis such as Key Wildlife Sites and Local Wildlife Sites. Since January 2020 following the final withdrawal of the UK from the European Union (EU), the UK continues to keep these national sites as designated areas of protection to ensure continued protection of the most important natural environment areas.

Outside of those designated areas, there are also wider ecological and nature recovery networks, areas of Ancient Woodland as well as individual features that can be important in their own right, such as; Veteran Trees, ponds, riparian habitat, peatlands, native woodlands, saltmarsh and sea grass meadows, plus traditionally managed habitats such as hedgerows, hay meadows, heathlands, orchards and so on. Even areas not immediately important to biodiversity such as brownfield sites, can become unexpected high value habitats. All of these features provide habitats for a multitude of species and can be irreplaceable in their own right.

Of course, biodiversity does not exist in isolation – it provides wider benefits to society which is increasingly recognised through the concept of Natural Capital, with people and communities benefitting for example through access to green space and nature. There is also increasing recognition of the need to not just halt biodiversity loss, but to reverse this through Biodiversity Net Gain (BNG), and indeed there is a legal requirement for new developments to do so, aiming for a target of at least 10% net gain, with an overall UK goal of reversing the decline in species abundance by the end of 2030 to align with the Environment Act (2021) targets.

Table 1: Biodiversity and Ecosystems

Sustainability Topic / Baseline	England	Wales	Scotland	Northern Ireland
Biodiversity & Ecosystems: Special Protection Areas (SPAs)	<p>SPAs are protected areas for birds in the UK classified under:</p> <ul style="list-style-type: none"> the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales (including the adjacent territorial sea) and to a limited extent in Scotland (reserved matters) and Northern Ireland (excepted matters); The Conservation (Natural Habitats &c.) Regulations 1994 (as amended) in Scotland; the Conservation (Natural Habitats &c.) (Northern Ireland) Regulations 1995 (as amended) in Northern Ireland; and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) in the UK offshore area.¹ <p>SPAs are of national and international conservation importance.</p> <p>As the second update following the UK's exit from the EU in 2020, April 2023 saw no updates to the network.²</p>			
	The Joint Nature Conservation Committee records total	The Joint Nature Conservation Committee records total counts of	The Joint Nature Conservation Committee records total	The Joint Nature Conservation Committee records

¹ Joint Nature Conservation Committee (2023) Classified Special Protection Areas (SPAs) in the UK. Available: [Special Protection Areas | JNCC - Adviser to Government on Nature Conservation](#)

² Joint Nature Conservation Committee (2023) Classified Special Protection Areas (SPAs) in the UK. Available: [Special Protection Areas | JNCC - Adviser to Government on Nature Conservation](#)

	<p>counts of SPAs across the UK. A check of the JNCC register (July 2023) finds a second update to the register has been made in April 2023 recording 82 SPAs in England, covering an area of 972,335 ha. There is one SPA site crossing the England / Scotland border (135,750 ha). There are also two SPA sites across the England / Wales border (38,811 ha), two sites classified as England / offshore (747,933 ha), and one site classified as England / Wales / Offshore (251,709 ha)³. SPAs in England are</p>	<p>SPAs across the UK. A check of the JNCC register (July 2023) finds a second update to the register has been made in April 2023 recording 17 SPAs in Wales, covering an area of 342,141 ha. There are also two sites crossing the England / Wales border (38,811 ha), one classified as England / Wales / Offshore (251,709 ha) and one classified as Wales / Offshore (166,747 ha)⁴ SPAs are located in coastal and estuarine areas of Wales, with several situated in the central and northern highlands. Currently,</p>	<p>counts of SPAs across the UK. A check of the JNCC register (July 2023) finds a second update to the register has been made in April 2023 recording 160 SPAs in Scotland, covering an area of 1,707,241 ha. There is also one site crossing the England / Scotland border (135,750 ha)⁵ and three classified as Scotland / Offshore (1,012,805 ha). SPAs are distributed widely throughout Scotland, with large concentrations in coastal and estuarine</p>	<p>total counts of SPAs across the UK. A check of the JNCC register (July 2023) finds a second update to the register has been made in April 2023 recording 16 SPAs in Northern Ireland, covering an area of 113,982 ha⁶. SPAs in Northern Ireland are primarily located in coastal and estuarine areas.</p>
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³ Joint Nature Conservation Committee (2023) Classified Special Protection Areas (SPAs) in the UK. Available: [Special Protection Areas | JNCC - Adviser to Government on Nature Conservation](#)

⁴ Joint Nature Conservation Committee (2023) Classified Special Protection Areas (SPAs) in the UK. Available: [Special Protection Areas | JNCC - Adviser to Government on Nature Conservation](#)

⁵ Joint Nature Conservation Committee (2023) Classified Special Protection Areas (SPAs) in the UK. Available: [Special Protection Areas | JNCC - Adviser to Government on Nature Conservation](#)

⁶ Joint Nature Conservation Committee (2023) Classified Special Protection Areas (SPAs) in the UK. Available: [Special Protection Areas | JNCC - Adviser to Government on Nature Conservation](#)

	<p>predominantly located in coastal and estuarine areas, with various sites distributed inland. Currently, there are 46 SPAs with marine components designated partly or wholly within English waters. A total of 3 SPAs with marine components are located within both English and Welsh waters.</p>	<p>there are 10 SPAs with marine components designated partly or wholly within Welsh waters.</p>	<p>areas, islands and uplands.</p>	
	<p>Supporting trend data:</p> <p>In the UK, the first SPAs were identified and classified in the early to mid-1980s. Classification has since progressed, with regular updating of both the number of classified SPAs and those that are in process of being classified (pSPA).</p> <p>With respect to Article 10, the UKs 11th Article 12 UK Birds Directive Report (2019)⁷ Work has continued to consolidate and improve surveillance of birds in the UK (both terrestrial and marine environments), co-funded monitoring schemes made possible through government and non-government sectors working in partnership. Particular emphasis has been given to maintaining levels of surveillance in times of economic constraint which is essential to maintain basic levels of data collection of value for both bird conservation and the wider environmental monitoring needs.</p> <p>Future monitoring programmes for marine birds have now been recommended and if approved it will be implemented during 2019-2025 reporting period. Considerable emphasis has been given to the</p>			

⁷ Joint Nature Conservation Committee (2023) Special protection Areas. Available: [Article 12 UK Birds Directive Report \(2019\) Annex A- General Report](#)

	<p>development and implementation of agri-environment schemes (AES) to address declines of formerly-common farmland birds. Implementation of plans under the UK Biodiversity Action Planning⁸ process have helped reverse the formerly negative national trends for several species and continues to through the Action for Birds in England programme.</p>
<p>Biodiversity & Ecosystems: Special Areas of Conservation (SAC)</p>	<p>SACs are now part of the newly formed national site network along with SPAs. Prior to the UK's exit from the EU at the end of 2020, SPAs and SACs were part of the Natura 2000 network. Following Brexit, JNCC continue to periodically update the datasets⁹.</p> <p>SACs are protected areas in the UK designated under:</p> <ul style="list-style-type: none"> • the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales (including the adjacent territorial sea) and to a limited extent in Scotland (reserved matters) and Northern Ireland (excepted matters), • the Conservation (Natural Habitats &c.) Regulations 1994 (as amended) in Scotland, • the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland, and • the Conservation of Offshore Marine Habitats and Species Regulations 2017 in the UK offshore area¹⁰. <p>SACs are of national and international conservation importance.</p> <p>As the second update following the UK's exit from the EU in 2020, April 2023 saw an update covering three sites and including amendments to three existing SACs in Scotland, including Hascosay, Insh Marshes and Inverpolly SACs.</p>

⁸ Joint Nature Conservation Committee (2023) UK Biodiversity Action Plan. Available: [UK BAP | JNCC - Adviser to Government on Nature Conservation](#)

⁹ Joint Nature Conservation Committee (2023) Changes to the UK network of SACs. Available: [UK SAC changes | JNCC - Adviser to Government on Nature Conservation](#)

¹⁰ Joint Nature Conservation Committee (2023) Changes to the UK network of SACs. Available: [UK SAC changes | JNCC - Adviser to Government on Nature Conservation](#)

	<p>The Joint Nature Conservation Committee records total counts of SPAs across the UK. A check of the JNCC register (July 2023) finds a second update to the register has been made in April 2023 recording 242 SACs, covering an area of 1,068,558 ha. There are three SACs crossing the England / Scotland border (112,770 ha) and seven across the England / Wales border (95,182 ha)¹¹. Additionally, there are three SACs which are classified as England /</p>	<p>The Joint Nature Conservation Committee records total counts of SPAs across the UK. A check of the JNCC register (July 2023) finds a second update to the register has been made in April 2023 recording 85 SACs in Wales, covering an area of 590,915 ha. There are seven across the England / Wales border (95,182 ha), one classified as England / Wales / Offshore (584,989 ha) and one classified as Wales / Offshore (1,062,562 ha)¹². SACs are widely</p>	<p>The Joint Nature Conservation Committee records total counts of SPAs across the UK. A check of the JNCC register (July 2023) finds a second update to the register has been made in April 2023 recording 238 SACs in Scotland, covering an area of 2,288,674 ha. There are three SACs crossing the England / Scotland border (112,770 ha) and two classified as Scotland / Offshore (182,232 ha). SACs in Scotland are widely and densely distributed</p>	<p>The Joint Nature Conservation Committee records total counts of SPAs across the UK. A check of the JNCC register (July 2023) finds a second update to the register has been made in April 2023 recording 57 SACs in Northern Ireland, covering an area of 85,871 ha. There is also one SAC classified as Northern Ireland / Offshore (160,367 ha)¹³. SACs are widely distributed throughout Northern Ireland, with the largest</p>

¹¹ Joint Nature Conservation Committee (2023) Special Areas of Conservation (SAC). Available: [Special Areas of Conservation | JNCC - Adviser to Government on Nature Conservation](#)

¹² Joint Nature Conservation Committee (2023) Special Areas of Conservation (SAC). Available: [Special Areas of Conservation | JNCC - Adviser to Government on Nature Conservation](#)

¹³ Joint Nature Conservation Committee (2023) Special Areas of Conservation (SAC). Available: [Special Areas of Conservation | JNCC - Adviser to Government on Nature Conservation](#)

	<p>Offshore (3,795,179 ha) and one classified as England / Wales / Offshore (584,989 ha). SACs are widely distributed throughout England; however the highest concentrations correspond with the more remote rural and upland locations. There are also currently 37 SACs with marine components designated partly or wholly within English waters. A further 3 SACs with marine components are located within both English and Welsh waters.</p>	<p>distributed throughout Wales. There are also currently 12 SACs with marine components designated partly or wholly within Welsh waters.</p>	<p>throughout the country. Large concentrations are found in coastal and highland areas.</p>	<p>being situated around the coast and border with the Republic of Ireland.</p>
	<p>Supporting trend data:</p> <p>Member States of the European Union are required to report every six years on the conservation status of habitats and species listed on the annexes of the Habitats Directive. Although the UK has now withdrawn from the European Union, monitoring still takes place to provide key data for a report every six years.</p>			

	<p>In general, the status of UK habitats of European importance declined over the reporting period 2007 – 2013 and were identified to have improved in the most recent assessment in 2019. In 2007, 26% of UK habitats listed in Annex I of the EU Habitats Directive were in favourable conservation status, this figure increased to 39% in 2013, before decreasing to 35% in 2019. The conservation status of 18% of the habitats was unfavourable-improving in 2007, it decreased to 10% in 2013 and 5% in 2019. The conservation status of 14% of the habitats was unfavourable-declining in 2007, this decreased to 15% in 2013 and 17% in 2019¹⁴.</p>			
Biodiversity & Ecosystems: Ramsar Sites	<p>Ramsar Sites are wetlands of international importance that have been designated under the criteria of the Ramsar Convention on Wetlands for containing representative, rare or unique wetland types or for their importance in conserving biological diversity¹⁵.</p> <p>Ramsar sites are of national and international importance. In the UK, the first Ramsar Sites were designated in 1976. Since then, many more have been designated. Compared to many countries, the UK has a relatively large number of Ramsar Sites, but they tend to be smaller in size¹⁶. As a party to the Ramsar Convention, the UK are required to submit a report to the Ramsar Secretariat every three years.</p>			
	<p>The Joint Nature Conservation Committee records total counts of Ramsar Sites across the UK. A check</p>	<p>The Joint Nature Conservation Committee records total counts of Ramsar Sites across the UK. A check of the</p>	<p>The Joint Nature Conservation Committee records total counts of Ramsar Sites across the UK. A check</p>	<p>The Joint Nature Conservation Committee records total counts of Ramsar Sites across the UK. A</p>

¹⁴ Joint Nature Conservation Committee (2023) Special Areas of Conservation (SAC). Available: [UKBI - C3b. European species | JNCC - Adviser to Government on Nature Conservation](#)

¹⁵ Joint Nature Conservation Committee (2023) Ramsar convention. Available: [Ramsar Convention | JNCC - Adviser to Government on Nature Conservation](#)

¹⁶ Joint Nature Conservation Committee (2023) UK Ramsar sites. Available: [Ramsar Sites | JNCC - Adviser to Government on Nature Conservation](#)

	<p>of the JNCC register (July 2023) finds this was last updated in January 2022. It records 68 Ramsar sites in England, totalling an area of 327,025 ha. There are three sites crossing the England / Wales border (40,553 ha total) and one site crossing the England / Scotland border (43,637 ha)¹⁷. Ramsar sites in England are predominantly located in coastal and estuarine areas, however there are smaller sites distributed inland throughout the country.</p>	<p>JNCC register (July 2023) finds this was last updated in January 2022. It records 7 Ramsar sites in Wales, totalling an area of 11,366 ha. There were three sites crossing the England / Wales border, totalling 40,553 ha¹⁸. Ramsar sites are located in coastal and estuarine areas of Wales, with several situated in the central and northern highlands.</p>	<p>of the JNCC register (July 2023) finds this was last updated in January 2022. It records 50 Ramsar sites in Scotland, totalling an area of 326,720 ha. There is one site crossing the England / Scotland border (43,637 ha)¹⁹. Ramsar sites in Scotland are primarily located in coastal and estuarine areas, with various lochs being designated, particularly in the far north off the country.</p>	<p>check of the JNCC register (July 2023) finds this was last updated in January 2022. It records 20 Ramsar sites in Northern Ireland, totalling an area of 88,392 ha²⁰. Ramsar sites in Northern Ireland are primarily located in coastal and estuarine areas.</p> <p>There are 3 sites in Northern Ireland which have been proposed:²¹</p> <p>Teal Lough (198.22 ha)</p> <p>Derryleckagh (42.41 ha)</p> <p>Dundrum Bay (N/A ha)</p>
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¹⁷ Joint Nature Conservation Committee (2023) UK Ramsar sites. Available: [Ramsar Sites | JNCC - Adviser to Government on Nature Conservation](#)

¹⁸ Joint Nature Conservation Committee (2023) UK Ramsar sites. Available: [Ramsar Sites | JNCC - Adviser to Government on Nature Conservation](#)

¹⁹ Joint Nature Conservation Committee (2023) UK Ramsar sites. Available: [Ramsar Sites | JNCC - Adviser to Government on Nature Conservation](#)

²⁰ Joint Nature Conservation Committee (2023) UK Ramsar sites. Available: [Ramsar Sites | JNCC - Adviser to Government on Nature Conservation](#)

²¹ Joint Nature Conservation Committee (2023) UK Ramsar sites. Available: [Ramsar Sites | JNCC - Adviser to Government on Nature Conservation](#)

	<i>Supporting trend data is not available.</i>			
Biodiversity & Ecosystems: National Nature Reserves (NNRs) and Local Nature Reserves (LNRs)	<p>NNRs contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in the UK. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them. In addition, they may be managed to provide public recreation that is compatible with their natural heritage interests.</p> <p>NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981. In Northern Ireland, Nature Reserves are designated under the Nature Conservation and Amenity Lands Act (Northern Ireland) 1985. In Scotland, whilst Scottish Natural Heritage (SNH) remains the statutory designating authority, decisions to declare new NNR are shared with a Partnership Group of interested organisations²².</p> <p>NNRs are of national conservation importance.</p> <p>Local Nature Reserves (LNRs) are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by principal local authorities²³. Parish and Town Councils can also declare LNRs, but they must have the powers to do so delegated to them by a principal local authority. In Northern Ireland, LNRs are known as statutory nature reserves (NR) as declared under the Amenity Lands Act (NI) 1965. LNRs are places with wildlife or geological features that are of special interest locally. They offer people opportunities to study or learn about nature or simply to enjoy it. They range from windswept coastal headlands, ancient woodlands and flower-rich meadows to former inner-city railways, long abandoned landfill sites and industrial areas now re-colonised by wildlife.</p>			
	Natural England records total counts of Ramsar	Natural Resources Wales records total	There are 43 NNRs in Scotland, totalling an	There are 12 NNRs in Northern Ireland,

²² NatureScot (2023). National Nature Reserves in Scotland. Available: [National Nature Reserves | NatureScot](#)

²³ Greenspace Information for Greater London (GiGL) (2023) Statutory Designations. Available: [Statutory Designations - GiGL](#)

	<p>Sites across England. A check of the register (July 2023) finds this was last updated in May 2023. It records 221 NNRs, totalling an area of over 105,000 ha²⁴. The largest is The Wash covering almost 8,800 hectares, while Dorset's Horn Park Quarry is the smallest at 0.32 ha²⁵. NNRs are widely distributed throughout England.</p> <p>As of November 2021, there are 1,680 LNRs in England.</p>	<p>counts of Ramsar Sites across Wales. A check of the register (July 2023) finds this was last updated in June 2023. It records 76 NNRs in Wales. These cover a wide range of habitats from high mountains, peat bogs and woodlands, to sand dunes, mud flats and remote off-shore islands²⁶.</p> <p>There are approximately 74 LNRs in Wales, designated by the Countryside Council for Wales²⁷</p>	<p>area of 154,250 ha²⁸. The largest is Mar Lodge Estate at 29,324, and the smallest at less than 7 ha is Corrieshalloch Gorge. NNRs within Scotland cover a wide variety of Scotland's habitats and species from pine forest to blanket bog, from seabird colonies to mountain plants. NNRs are distributed throughout Scotland, with larger concentrations within the north of the country.</p> <p>There are 75 LNRs in Scotland, usually close to towns and cities. The most recent LNR</p>	<p>totalling an area of 1,800 ha. These are concentrated in the east and north east of the country. They contain a wide range of species, communities and geology²⁹.</p> <p>There are 37 statutory nature reserves (the equivalent of a LNR) in Northern Ireland covering 3,300 ha.</p>
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²⁴ Joint Nature Conservation Committee (2023) National Nature Reserves in England. Available: [National Nature Reserves in England - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/collections/national-nature-reserves-in-england)

²⁵ Natural England (2023) National Nature Reserves in England. Available: <https://www.gov.uk/government/collections/national-nature-reserves-in-england>. =

²⁶ Natural Resources Wales (2023) National Nature Reserves. Available: <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/national-nature-reserves/?lang=en>

²⁷ [Local Nature Reserves in Wales \(2023\) - a Freedom of Information request to Countryside Council for Wales - WhatDoTheyKnow](#)

²⁸ Scotland's National Nature Reserves (2021) What are National Nature Reserves?. Available: <https://www.nnr.scot/About>

²⁹ Northern Ireland Environment Agency (2017) NIEA Policy position statement on National Nature Reserves. Available: <https://www.daera-ni.gov.uk/publications/niea-policy-position-statement-statutory-nature-reserves>.

			designation was the extension to Stevenston Beach LNR in North Ayrshire in June 2019.	
	<i>Supporting trend data not available.</i>			
Biodiversity & Ecosystems: Sites of Special Scientific Interest (SSSI) (England, Scotland and Wales) and Areas of Special Scientific Interest (ASSI) (Northern Ireland)	<p>SSSIs are designated in accordance with the duties in law placed upon each of the country nature conservation bodies (CNCBs) to notify as a SSSI any area of land which, in its opinion, is of special interest by reason of any of its flora, fauna, geological, geomorphological or physiographical features³⁰. SSSIs were originally notified under the National Parks and Access to the Countryside Act 1949, and then were re-notified under the Wildlife and Countryside Act 1981. The guidelines set out to primarily help CNCB staff in the selection of biological SSSIs, but also as a public statement of the selection principles for all interested parties. Part 1 of the guidelines sets out general principles from which the evaluation and selection procedures and have been developed, as well as explaining background issues and concepts. Part 2 presents the detailed and specific guidance for each of the main habitat types and species groups.</p> <p>In Northern Ireland, Areas of Special Scientific Interest (ASSIs) are also protected areas representing the best of their wildlife and geological sites that make a considerable contribution to the conservation of our most valuable natural places.³¹</p> <p>SSSIs / ASSIs are of national conservation importance.</p>			

³⁰ Joint Nature Conservation Committee (2023) SSSI Guidelines. Available: [Guidelines for selection of SSSIs | JNCC - Adviser to Government on Nature Conservation](#)

³¹ Department of Agriculture, Environment and Rural Affairs (2016) Areas of Special Scientific Interest. Available: [Areas of Special Scientific Interest | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](#)

	<p>As of February 2023, there are 4,127 SSSIs in England, with approximately 13,000 features of interest which identify a diversity of habitats, geology and wildlife³². Some of these sites correspond with other designations, such as SACs, SPAs and NNRs. SSSIs are widespread throughout the whole of England, and cover a wide variety of habitats and geological features.</p>	<p>There are more than 1,000 SSSIs in Wales, covering about 12% of the country's surface area³³. Some of these sites correspond with other designations, such as SACs, SPAs and NNRs. SSSIs are widespread throughout the whole of Wales, and cover a wide variety of habitats and geological features. (NRW 2016)</p>	<p>As of August 2020, there were 1,422 SSSIs in Scotland covering about 13% of the country's surface area³⁴. Some of these sites correspond with other designations, such as SACs, SPAs and NNRs. SSSIs are widespread throughout the whole of Scotland, and cover a wide variety of habitats and geological features.</p>	<p>There are 394 ASSIs in Northern Ireland³⁵. ASSIs are widespread throughout the whole of Northern Ireland and cover a wide variety of habitats and geological features.</p>
	<p>Supporting Trend Data:</p> <p>The four country nature conservation bodies (Natural England, Natural Resources Scotland, Scottish Natural Heritage and the Department of Agriculture, Environment and Rural Affairs, Northern Ireland) produced a revised Common Standards Monitoring Statement in October 2019 (further updated in</p>			

³² Natural England (2016) Designated Sites View. Available: [Designated Sites View \(naturalengland.org.uk\)](https://naturalengland.org.uk/designated-sites-view)

³³ Natural Resources Wales (2023) Site of Special Scientific Interest (SSSIs). Available: [Natural Resources Wales / Types of protected areas of land and sea](https://naturalresources.wales/types-of-protected-areas-of-land-and-sea)

³⁴ NatureScot (2020) Sites of Special Scientific Interest (SSSIs) . Available: <https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/national-designations/sites-special-scientific-interest-sssis>

³⁵ Department of Agriculture, Environment and Rural Affairs (2016) Areas of Special Scientific Interest. Available: [Areas of Special Scientific Interest | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](https://daera-ni.gov.uk/areas-of-special-scientific-interest)

	<p>2022). This revised statement aims to address site monitoring priorities to incorporate the large amount of information available through new monitoring methods such as satellite imagery and eDNA. These techniques will work alongside traditional field-based monitoring and the Common Standards Monitoring guidance to provide more options for monitoring the UK's protected sites.³⁶</p> <p>Condition of English SSSIs across each habitat is discussed in National Statistics (except bracken). Apart from mountain heath and willow scrub sub-habitat, each sub-habitat has seen an increase in the unfavourable condition of their SSSIs, between 2012 and 2018³⁷.</p> <p>Based on data assembled from April 1998 to March 2005, blanket bogs have the greatest percentage of SSSI and ASSI sites in favourable condition and the lowest percentage in unfavourable condition, at 58% and 27% respectively. No SSSI data for Wales were reported therefore percentages were unknown³⁸.</p>
<p>Biodiversity & Ecosystems: Marine Conservation Zones (MCZs)</p>	<p>MCZs are a type of marine protected area that can be designated in English, Welsh and Northern Irish territorial and offshore waters.³⁹ They are established under the Marine and Coastal Access Act (2009). In Northern Ireland, MCZs are designated under the Marine Act (Northern Ireland) (2013)⁴⁰.</p> <p>MCZs are of national conservation importance.</p>

³⁶ Joint Nature Conservation Committee (2023) Common Standards Monitoring Statement. Available: [Common Standards Monitoring | JNCC - Adviser to Government on Nature Conservation](#)

³⁷ UK Natural Capital: mountains, moorland and heath accounts (2023) Table 3. Available: [UK natural capital - Office for National Statistics \(ons.gov.uk\)](#)

³⁸ UK Natural Capital: mountains, moorland and heath accounts (2023) Table 3. Available: [UK natural capital - Office for National Statistics \(ons.gov.uk\)](#)

³⁹ Joint Nature Conservation Committee (2019) Marine Conservation Zones. Available: [Marine Conservation Zones | JNCC - Adviser to Government on Nature Conservation](#)

⁴⁰ Joint Nature Conservation Committee (2019) Marine Conservation Zones. Available: [Marine Conservation Zones | JNCC - Adviser to Government on Nature Conservation](#)

	<p>There are 89 MCZs within English waters. These are located in coastal and offshore locations and are designated for a range of habitats, wildlife conservation and geological features⁴¹.</p>	<p>There is one MCZ in Welsh waters, Skomer, covering 130.2 ha. Skomer MCZ is situated around the island of Skomer and the Marloes Peninsula in Pembrokeshire, south west Wales. Skomer MCZ has species and habitats of national and international importance. These include grey seal, pink seafan, sponge communities, eelgrass and algal communities⁴²</p> <p>In addition, the Welsh Government, with support from NRW and JNCC and other stakeholders are currently working to identify a small number of possible Marine Conservation Zones</p>	<p>This designation is not applicable to Scotland, see NCMPAs.</p>	<p>There are five MCZs in Northern Irish waters⁴³:</p> <p>Strangford Lough;</p> <p>Carlingford Lough (NB this area is adjacent to the border with the Republic of Ireland);</p> <p>Outer Belfast Lough;</p> <p>Waterfoot; and</p> <p>Rathlin.</p>
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⁴¹ Joint Nature Conservation Committee (2021) Marine Conservation Zones. Available: <https://jncc.gov.uk/our-work/marine-conservation-zones/>

⁴² Natural Resources Wales (2016) Skomer Marine Conservation Zone. Available: [Natural Resources Wales / Skomer Marine Conservation Zone](#)

⁴³ Department of Agriculture, Environment and Rural Affairs. Marine Conservation Zones. Available: [Marine Conservation Zones | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](#)

		thus fulfilling a 2017 Ministerial commitment to meet national and international obligations to complete the network of Marine Protected Areas, informed by the 2016 Welsh MPA network assessment.		
	<p>Supporting Trend Data:</p> <p>Grey seal pups saw a slight increase in 2022 compared to the previous year in Skomer MCZ. Average Scallop density has had a 12.4-fold density increase since 2000⁴⁴. No available trend data found for England, Scotland, or Northern Ireland.</p>			
<p>Biodiversity & Ecosystems: Nature Conservation Biodiversity & Ecosystems: Marine Protected Areas (NCMPAs) / Marine Protected Areas (MPAs)</p>	<p>NCMPAs are designated by Scottish Natural Heritage through the Marine (Scotland) Act (2010) and the Marine and Coastal Access Act (2009). NCMPAs have been formally adopted as OSPAR MPAs, which contribute to the network of sites across the North-east Atlantic Ocean. The same is true of existing marine Natura sites – marine SACs and marine SPAs.⁴⁵</p> <p>NCMPAs are of national conservation importance.</p> <p>The purpose of an MPA is to protect and recover rare, threatened and important habitats and species from damage caused by human activities. In England and Wales, MPAs are designated to protect</p>			

⁴⁴ Natural Resources Wales (2023) Skomer Marine Conservation Zone. Available: [Skomer Marine Conservation Zone Annual Report 2022/23 \(cyfoethnaturiol.cymru\)](https://www.naturalresources.wales/cyfoethnaturiol.cymru)

⁴⁵ NatureScot (2023) OSPAR and the Scottish MPA Project. Available: [OSPAR Marine Protected Areas | NatureScot](https://www.naturescot.gov.uk/ospar-marine-protected-areas)

	specific habitats or species (also known as ‘features’) and have conservation objectives which state what conservation outcomes the MPA is designed to achieve.			
	There are 178 MPAs in English waters, covering 51% of inshore and 37% of offshore waters.	Wales has 139 MPAs covering 69% of inshore waters (up to 12 nautical miles).	A total of 35 NCMPAs have been designated in Scotland’s seas and give much-needed spatial protection to a wide range of marine wildlife, habitats and geology not previously covered by the network. ⁴⁶	In Northern Ireland, MPAs are covered through by designations SAC, SPA, Coastal ASSI, MCZ and Ramsar sites.
	<i>Supporting trend data not available.</i>			
Biodiversity & Ecosystems: Highly Protected Marine Areas (HPMAs)	<p>Highly Protected Marine Areas (HPMAs) are areas of the sea designated for the protection and recovery of marine ecosystems. They prohibit extractive, destructive, and depositional uses, allowing only non-damaging levels of other activities to the extent permitted by international law.</p> <p>By setting aside some areas of sea with high levels of protection, HPMAs will allow nature to recover to a more natural state, allowing ecosystems to thrive. Their key purpose is biodiversity recovery. Government responded to the recommendations of the Benyon Review and committed to designate a number of pilot HPMAs in English waters. Government will use powers under the Marine and Coastal Access Act (2009) to bring forward pilot HPMAs. Three candidate pilot HPMAs, two in offshore waters and one in inshore waters, were designated by Defra as HPMAs in June 2023. HPMAs in offshore</p>			

⁴⁶ NatureScot (2023) Scotland’s Marine Protected Area Network. Available: [Scotland’s Marine Protected Area network | NatureScot](#)

	<p>waters: Dolphin Head HPMAs and North East of Farnes Deep HPMAs; HPMAs in inshore waters: Allonby Bay</p> <p>The Scottish Government will choose the HPMAs in 2026, and expects them to cover about ten per cent of Scottish waters.</p> <p>HPMAs do not exist in Wales and Northern Ireland.</p>			
<p>Biodiversity & Ecosystems: Ancient Woodland</p>	<p>Ancient Woodland is land that has had continuous woodland cover since at least 1600AD (England and Wales) and 1750AD (Scotland) and is identified within the Ancient Woodland Inventory. As Ancient Woodlands have developed over such long timescales, they have unique features such as relatively undisturbed soils and communities of plants and animals that depend on the stable conditions that Ancient Woodland provides. These are often rare and vulnerable species.</p> <p>There are two types of Ancient Woodland classification in England, Wales and Scotland; Ancient semi-natural woods and plantations on Ancient Woodland sites. Ancient semi-natural woods are woods that have developed naturally and may have existed since woodland first colonised the UK after the last glaciation. Plantations on Ancient Woodland sites are ancient woods that were felled and planted with non-native trees.⁴⁷</p>			
	<p>The Ancient Woodland Inventory for England identifies 215, 156 ha of ancient semi-natural woodland and 149,733 ha of plantations on ancient woodland</p>	<p>The Ancient Woodland Inventory 2011 indicates that there are around 95,000ha of Ancient Woodland in Wales⁴⁹.</p>	<p>Native woodlands occur in most of mainland Scotland and on several islands. Over 8,000 woods are identified as native woods of ancient origin in the Scottish</p>	<p>The Inventory of Ancient and Long-Established Woodland⁵⁰ for Northern Ireland identifies 2,374 sites, totalling 9,964ha. Of</p>

⁴⁷ Woodland Trust (2023) Ancient Woodland – British Habitats. Available: [Ancient Woodland - British Habitats - Woodland Trust](#)

⁴⁹ Natural Resources Wales (2023) Ancient Woodland Inventory. Available: [Natural Resources Wales / Ancient Woodland Inventory](#)

⁵⁰ Woodland Trust (2023) Ancient Tree Inventory. Available: [Back on the Map - Ancient Tree Inventory \(woodlandtrust.org.uk\)](#)

	<p>sites⁴⁸. Ancient Woodland sites are scattered throughout England, with the densest concentrations being in the southeast. Over 70% of the total number of ancient woodlands are less than 5 ha in size.</p>		<p>Natural Heritage (SNH) Woodland Inventory, but most are very small. Altogether this woodland covers only a tiny portion (1%) of the land, only one fifth is currently protected as nature reserves or SSSIs.</p>	<p>this, only 151ha is classified as Ancient Woodland (present since 1600AD) with 5,662ha classified as Long-Established Woodland, 3,269ha as Possibly Ancient Woodland, 882ha of Probably Ancient Woodland.</p>
	<p>Huge areas of ancient woodland remain in critical or threatened condition with restoration progress being slow through plantation on ancient woodlands sites (PAWS) being on private land. Only 7.2% (21,547 ha) of these have had the Woodland Trust assess their condition.⁵¹</p> <p>Since 2010, over 27,000 ha of plantations on ancient woodland sites in England have been brought into restoration improving their ecological condition. Although progress has been made on protection and habitat loss, there is still much more to do.⁵²</p>			
	<p>UK BAP (Biodiversity Action Plan) priority habitats cover a wide range of semi-natural habitat types and were those that were identified as being the most threatened and requiring conservation action due to</p>			

⁴⁸ DEFRA (2022) Keepers of time: Ancient and native woodland and trees policy in England. Available: Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)

⁵¹ Woodland Trust (2021) State of UK's Woods and Trees 2021. Available: State of the UK's Woods and Trees 2021 (woodlandtrust.org.uk)

⁵² DEFRA (2022) Keepers of time: Ancient and native woodland and trees policy in England. Available: Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)

Biodiversity & Ecosystems: Priority Habitats	their decline, rarity and importance. The list contains 65 priority habitats, which span terrestrial, freshwater, and marine environments. ⁵³			
	There are 56 habitats recognised as being of ‘principal importance’ for the conservation of biological diversity in England under section 41 of the Natural Environment and Rural Communities Act 2006. ⁵⁴	There are 55 priority habitats identified in Wales under the Environment (Wales) Act 2016. ⁵⁵	The Scottish Biodiversity List identifies 41 priority habitats. ⁵⁶	There are 51 priority habitats identified in Northern Ireland. ⁵⁷
	The UK BAP describes current and potential threats to each of the 65 priority habitats. Habitat Action Plans provide a framework for action to protect the habitats and conserve biodiversity.			
Biodiversity & Ecosystems: Chalk Rivers	A chalk stream is broadly defined as one that derives most of its flow from chalk-fed groundwater, and it exhibits – in varying degrees depending on the particular geology of a given valley – the ‘classic’ chalk stream characteristics of alkaline, crystal-clear water, flowing consistently and equably over clean gravel beds.			

⁵³ Joint Nature Conservation Committee (2011) *UK Biodiversity Action Plan Priority Habitat Descriptions*. Available: [UK Biodiversity Action Plan: Priority Habitat Descriptions \(Updated December 2011\) \(jncc.gov.uk\)](https://jncc.gov.uk/uk-biodiversity-action-plan-priority-habitat-descriptions-updated-december-2011)

⁵⁴ Department for Environment, Food & Rural Affairs (2012) *England Biodiversity Indicators 2a Extent and condition of priority habitats*. Available: [2a Extent and condition of priority habitats.pdf \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/101112/2a_Extent_and_condition_of_priority_habitats.pdf)

⁵⁵ Welsh Government (2016) *Environment (Wales) Act 2016 Section 7*. Available: [masterss7habitatslistmay2016.pdf](https://www.welsh.gov.uk/media/101112/masterss7habitatslistmay2016.pdf)

⁵⁶ NatureScot (2022) *The Scottish Biodiversity List*. Available: [Scottish Biodiversity List.xls \(live.com\)](https://www.naturescot.gov.uk/scottish-biodiversity-list)

⁵⁷ DAERA (2017) *Priority Habitats: Advice for planning officers and applicants seeking planning permission for land which may impact on priority habitats*. Available: [standing_advice_13_priority_habitats_final_2017.pdf \(qub.ac.uk\)](https://www.daera.gov.uk/priority-habitats)

	There are approximately 35 chalk rivers and major tributaries ranging from 20 to 90 kilometres in length. They are located in south and east England. 224 chalk streams have been identified.	N/A	N/A	N/A
	Only 12 out of England's 224 chalk streams are protected and of these only 15% (by length) are classed as adequately protected and meeting conservation objectives; half are classed as unlikely to meet conservation targets without changes to management or external pressures. More than three-quarters – 77% – are failing to meet the required Good status. The key pressures causing failure are: physical modification(e.g. for historic land drainage and industry), over abstraction (particularly for public water supply), pollution from sewage works, septic tanks and agriculture. With growing pressure from climate change, population growth and new and expanding populations of invasive non-native species, ensuring no further deterioration from the current meagre baseline will be challenging without a step change in management. ⁵⁸			
Biodiversity & Ecosystems: Biosphere Reserves	Biosphere reserves are 'learning places for sustainable development'. They are sites for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity. They are places that provide local solutions to global challenges. Biosphere reserves include terrestrial, marine and coastal ecosystems ⁵⁹ . The United Nations Educational, Scientific and Cultural Organisation (UNESCO) Man and the Biosphere (MAB) programme comprises a World Network of Biosphere Reserves .			

⁵⁸ WWF (2014) The State of England's Chalk Streams. Available: [wwf_chalkstreamreport_final_lr.pdf](#)

⁵⁹ UNESCO 2023) What are Biosphere Reserves? Available: [What are Biosphere Reserves? \(unesco.org\)](#)

<p>Biosphere Reserves are comprised of three interrelated zones:</p> <ol style="list-style-type: none"> 1. The Core Area (protected: the ‘natural’ state of the region’s ecosystems). 2. The Buffer Zone (conserves the core area, and can accommodate positive human engagement, including research, education, training, tourism, extensive agriculture, or sustainable forestry). 3. The Transition Area (where most of the region’s people live and work, using the natural resources in a sustainable manner). <p>Biosphere Reserves are non-statutory.</p> <p>The locations of Biosphere Reserves are shown in Figure 1.</p>				
There are two Biosphere Reserves in England.	There is one Biosphere Reserve in Wales, Biosffer Dyfi.	There are two Biosphere Reserves in Scotland.	There are no Biosphere Reserves in Northern Ireland.	
The Brighton and Lewes Downs Biosphere reserve covers almost 400km ² of land and sea between the River Adur and the River Ouse, bringing together the three environments of countryside, coast, and city & towns under one united approach ⁶⁰ .	The area around the River Dyfi (West Wales) is a special place for its people, It measures 840 square km ² . It hosts some of the finest and most inspiring landscapes and wildlife areas in Europe, as well as a passionate community that care strongly about their	Galloway and Southern Ayrshire covering 526,888 ha, which was granted Biosphere status in recognition of the special natural qualities that characterise the area. It is home to 95,000 people who work together to improve life		

⁶⁰ Brighton and Lewes Downs Biosphere (2017) Brighton and Lewes Downs Biosphere. Available: <http://biospherehere.org.uk/>

	<p>The North Devon Biosphere Reserve covers 3,300km² of land and sea. The reserve extends from the catchments of the Rivers Taw and Torridge and out to the island of Lundy, with its core at Braunton Burrows sand dune system.</p>	<p>magnificent surroundings⁶¹.</p>	<p>whilst caring for the natural environment⁶².</p> <p>The newly designated area of Wester Ross extends 529,904 ha from the tip of Knoydart northwards to Achiltibuie and the Summer Isles, including population centres in Kyle of Lochalsh, Lochcarron, Gairloch and Ullapool. The new designation replaces an earlier one for Beinn Eighe – a much smaller area that was managed solely for nature conservation, research and education⁶³.</p>	
	<p><i>Supporting trend data is not available.</i></p>			

⁶¹ UNESCO (2023) Dyfi Biosphere. Available: UNESCO Dyfi Biosphere, Mid wales

⁶² UNESCO (2020) Galloway and Southern Ayrshire Biosphere Reserve Available: Galloway and Southern Ayrshire Biosphere Reserve, United Kingdom (unesco.org)

⁶³ UNESCO (2020) Wester Ross Biosphere Reserve. Available: Galloway and Southern Ayrshire Biosphere Reserve, United Kingdom (unesco.org)

<p>Biodiversity & Ecosystems: Biodiversity status</p>	<p>Biodiversity is the variety of all life on Earth: genes, species and ecosystems. It includes all species of animals and plants, and the natural systems that support them. The UK biodiversity indicators have been developed in a co-operative fashion, with input from government, statutory agencies and public bodies, non-governmental organisations, and academic institutes⁶⁴.</p> <p>Supporting Trend Data:</p> <p>Between 1970 and 2019, populations of breeding farmland and woodland birds decreased 45% and 25% respectively and the population index for breeding water and wetland birds was 14% lower than in 1975⁶⁵. The population of breeding seabirds is also in long-term decline, being 24% lower in 2019 than in 1986⁶⁶. By 2021, the index of relative abundance of priority species in the UK had declined to 37% of its base-line value in 1970, a statistically significant decrease⁶⁷.</p> <p>Long-term data is not available, however in 2007, 5% of UK habitats listed on Annex I of the Habitats Directive were in favourable conservation status, decreasing to 3% in 2013, before increasing again to 8% in 2019. The number of habitats classified as unfavourable improving decreased to 31% in 2013 and 20% in 2019 from 48% in 2007⁶⁸. Improvement was seen in the number of habitats assessed as unfavourable declining, with a 17% decrease between 2007 and 2019. 48% of UK habitats of European importance are assessed as being unfavourable stable⁶⁹.</p>
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⁶⁴ Joint Nature Conservation Committee (2023) UK Biodiversity Indicators. Available: UK Biodiversity Indicators | JNCC - Adviser to Government on Nature Conservation

⁶⁵ Joint Nature Conservation Committee (2022) C5. Birds of the wider countryside and at sea. Available: UKBI - C5. Birds of the wider countryside and at sea | JNCC - Adviser to Government on Nature Conservation

⁶⁶ Joint Nature Conservation Committee (2022) C5. Birds of the wider countryside and at sea. Available: UKBI - C5. Birds of the wider countryside and at sea | JNCC - Adviser to Government on Nature Conservation

⁶⁷ Joint Nature Conservation Committee (2022) C4 Species Abundance. Available: UKBI - C4a. Species - abundance | JNCC - Adviser to Government on Nature Conservation

⁶⁸ Joint Nature Conservation Committee (2020) C3 European Habitats. Available: UKBI - C3a. European habitats | JNCC - Adviser to Government on Nature Conservation

⁶⁹ Joint Nature Conservation Committee (2020) C3 European Habitats. Available: UKBI - C3a. European habitats | JNCC - Adviser to Government on Nature Conservation

	<p>Some aspects do show improvement. The area of land in higher-level or targeted agri-environment schemes was 3.6 million hectares in 2020, an increase of 3.3 million hectares since 1992⁷⁰.</p> <p>There has also been a positive trend towards a greater proportion of fish stocks being sustainably harvested in both the long and short-term, however substantial further improvement in stock status are needed to ensure all UK fish stocks are fished sustainably and attain biomass levels that maintain full reproductive capacity⁷¹.</p> <p>Habitat areas at risk from acid and nitrogen deposition have declined over the longer term (2010 to 2019), however reduction below critical loads does not mean immediate ecosystem recovery due to a time-lag before the chemical environment, and flora and fauna recover⁷².</p> <p>Biodiversity is under pressure from development and increasing population, in addition to climate change. Overall climate change could lead to:</p> <ul style="list-style-type: none"> • Changes in phenology (including changes in the timings of seasonal events causing loss of synchronicity and increased competitive advantage for some species at the expense of others); • Shifts in suitable climate conditions for individual species leading to change in species distribution, abundance and range; • Changes in the community structure and ecosystem function of habitats which species occupy; • Changes to the composition and structure of plant and animal communities (including arrival of non-natives, loss of native species and increase in pest species); • Changes to habitats and ecosystems, such as altered water regimes, increased rates of decomposition in bogs and higher growth rates in forests; and
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⁷⁰ Joint Nature Conservation Committee (2021) B1 Agri-environment schemes. Available: UKBI - B1a. Agri-environment schemes | JNCC - Adviser to Government on Nature Conservation

⁷¹ Joint Nature Conservation Committee (2021) B2 Sustainable Fisheries. Available: [UKBI - B2. Sustainable fisheries | JNCC - Adviser to Government on Nature Conservation](#)

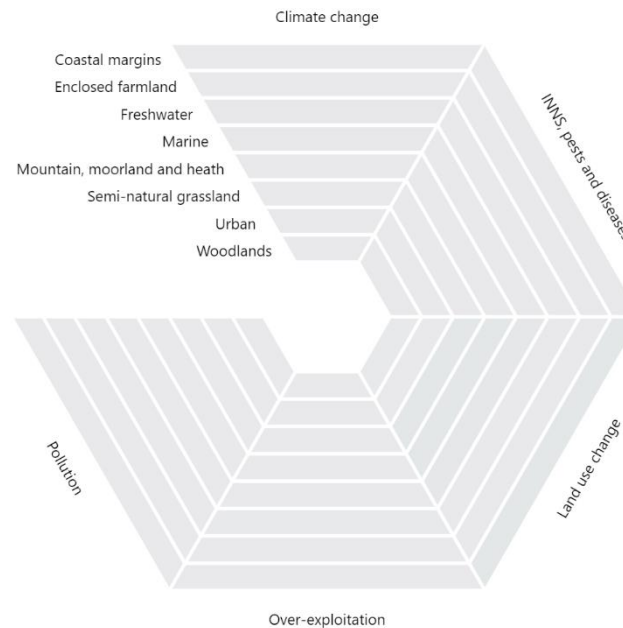
⁷² <https://jncc.gov.uk/our-work/ukbi-b5a-air-pollution/>

- Loss of physical space due to sea level rise and increased storminess⁷³.

It is also worth noting the following infographics which detail opportunities for action and key pressures and impacts that exist. The State of Natural Resources Report (SoNaRR)⁷⁴ for Wales has identified the following impacts and pressures:

Key impacts and pressures:

①



KEY PRESSURES
ON THE NATURAL RESOURCES OF WALES

- Accelerated succession
- Agricultural intensification
- Air pollution
- Built development and infrastructure
- Changing weather patterns
- Competing land use
- Drainage
- Herbivore pressure
- Historic inappropriate afforestation
- INNS
- Increased water temperature
- Insufficient management
- Lack of fisheries evidence
- Land pollution
- Noise pollution
- Ocean acidification
- Pests and diseases
- Physical modifications
- Sea level rise
- Unmanaged access, sport and recreational activity
- Water demand
- Water pollution

⁷³ Joint Nature Conservation Committee (2010) Biodiversity and Climate Change. Available: [Biodiversity and Climate Change - a summary of impacts in the UK \(jncc.gov.uk\)](https://jncc.gov.uk/biodiversity-and-climate-change-a-summary-of-impacts-in-the-uk)

⁷⁴ Natural Resources Wales (2020) SoNARR2020. Available: [Natural Resources Wales / SoNaRR2020: Natural resource registers](https://naturalresources.wales/so-narr-2020-natural-resource-registers)

Opportunities
for action:

①



The State of Nature 2019⁷⁵ report presents an overview of how the nation's wildlife is faring, looking back over 50 years of monitoring to see how nature has changed in the UK. As well as this long-term view, the report focuses on what has happened in the past decade, and whether things are getting better or worse for nature. In addition, we have assessed the pressures that are acting upon nature, and the responses being made, collectively, to counter these pressures.

The State of Nature 2019 report uses data collected by tens of thousands of expert volunteers, analysed using rigorous statistical methods to report on the state of nature across the UK and in the UK's Crown Dependencies and Overseas Territories and at the scale of the UK's constituent nations.

⁷⁵ https://www.rspb.org.uk/globalassets/images/campaigning-and-positions/let-nature-sing/birdsong-takeover/pdf/sonr/rspb_state-of-nature_summary-report_uk.pdf

Further information on the state of nature in the UK, including details of the data and analyses underpinning findings, can be found in the UK State of Nature 2019 report⁷⁶.

UK

The indicator for 696 terrestrial and freshwater species shows a significant decline of 13% in average abundance since 1970, and has fallen by 6% over the past 10 years. Within this indicator, more species have decreased than increased. Since 1970, 41% of species have decreased and 26% have increased in abundance, with the remaining 33% showing little change. Over the past 10 years, 44% of species have decreased and 36% have increased in abundance, with 20% showing little change.

The UK's wildlife is undergoing rapid changes in abundance; the proportion of species defined as showing strong changes in abundance – either increases or decreases – rose from 33% over the long term to 53% over the past 10 years.

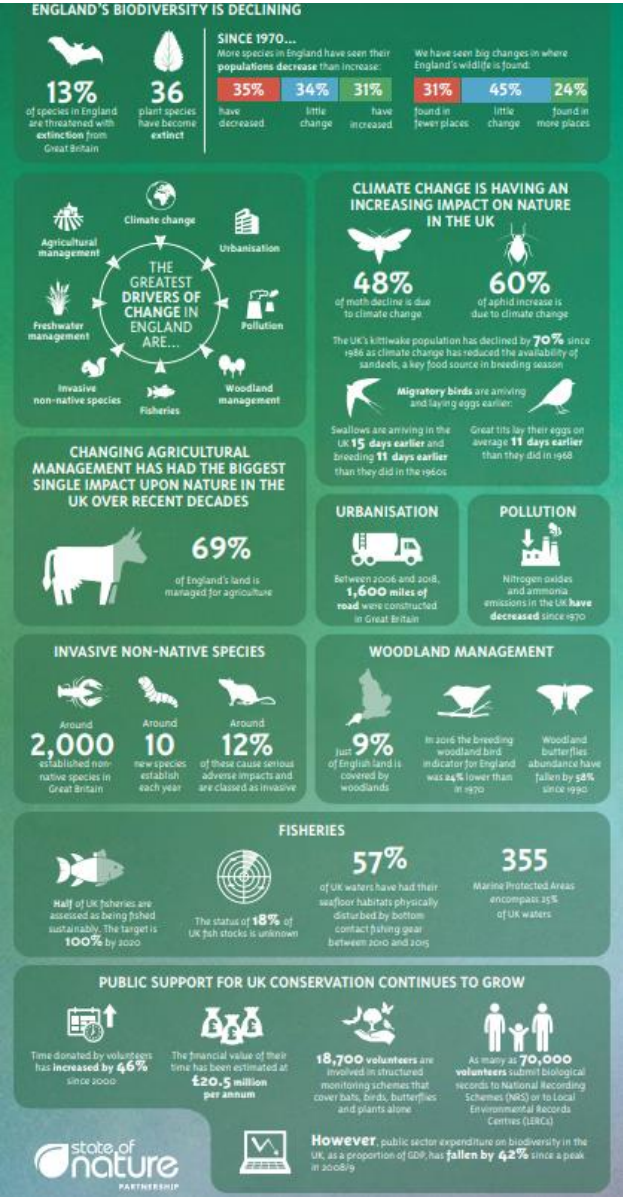
Long-term decreases in average abundance in butterflies since 1976 (16%) and moths since 1970 (25%) have not slowed. The mammal indicator shows little change since 1994; while an increase of 43% in the bird indicator has been driven by recovery of some species from very low numbers, conservation successes and colonising species, as well as increasing numbers of wintering waterbirds. These increases mask abundance declines in common and widespread breeding species; the total number of breeding birds in the UK fell by 44 million between 1967 and 2009.

Our indicator of average species' distribution, covering 6,654 terrestrial and freshwater species over a broad range of taxonomic groups, has fallen by 5% since 1970. Because species tend to decline in abundance before they disappear from a site, this change could reflect more severe underlying abundance declines that we are currently unable to quantify. Within this indicator, more species have decreased than increased. Since 1970, 27% of species have decreased and 21% have increased in distribution, with 52% showing little change. Over the past 10 years, 37% of species have decreased and 30% have increased in distribution, with 33% showing little change.

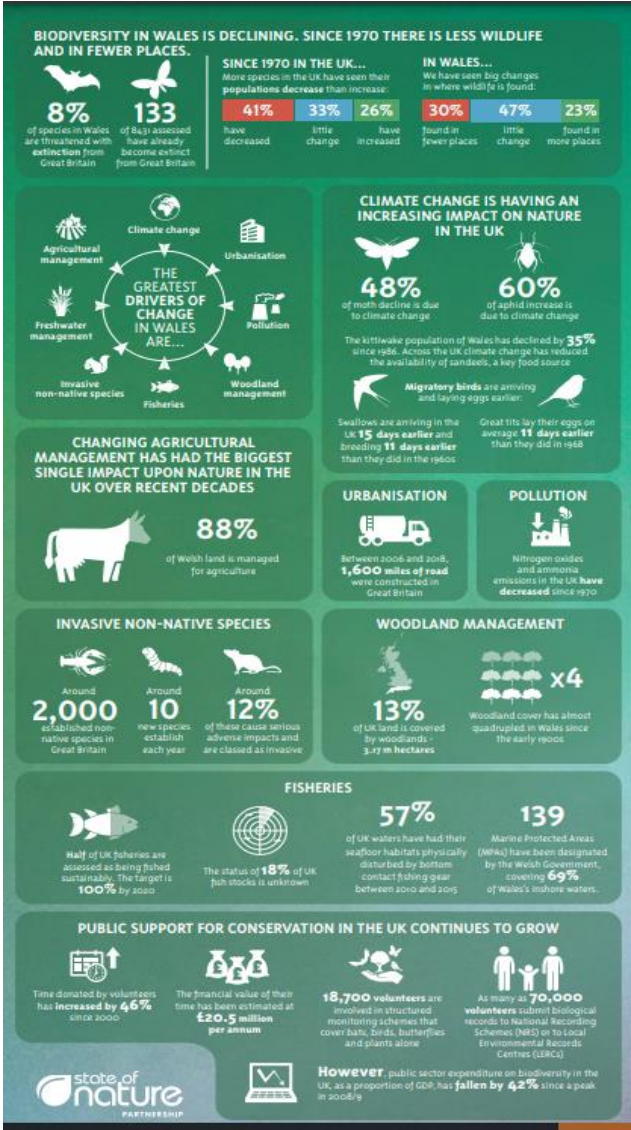
⁷⁶ www.nbn.org.uk/stateofnature2019

	<p>The UK’s wildlife is undergoing rapid changes in distribution; the proportion of species defined as showing strong changes in distribution – either increases or decreases – rose from 17% over the long term to 39% over the past 10 years. Of the 8,431 species that have been assessed using the IUCN Regional Red List criteria, and for which sufficient data were available, 1,188 (15%) are currently threatened with extinction from Great Britain and 2% are already extinct.</p> <p>In all four nations, biodiversity is declining as shown below.</p>
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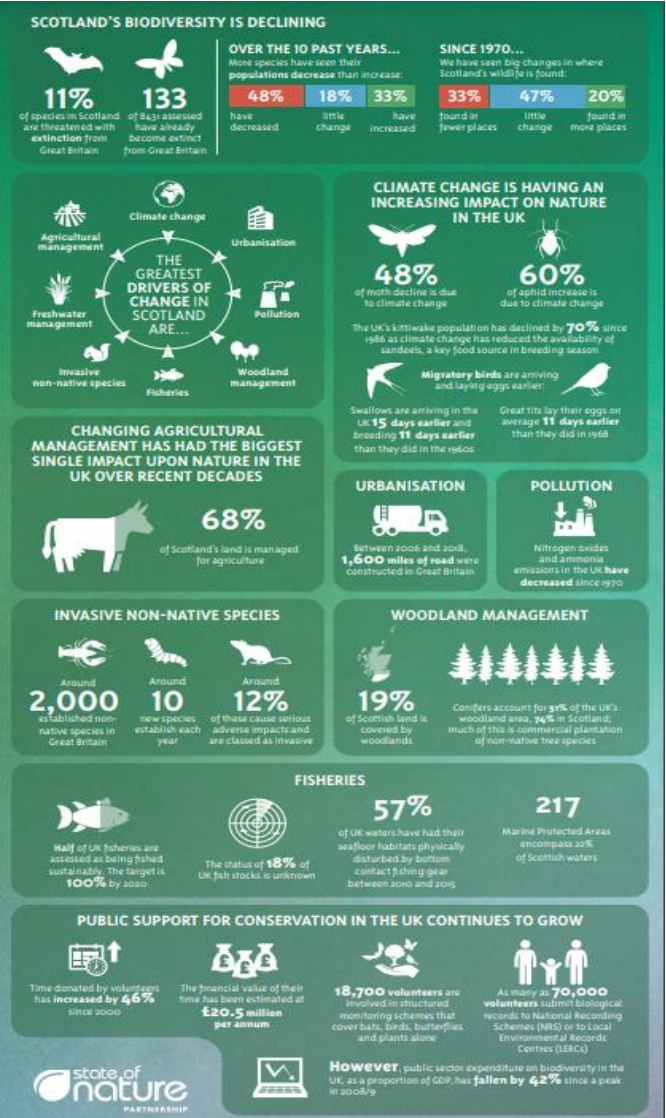
England



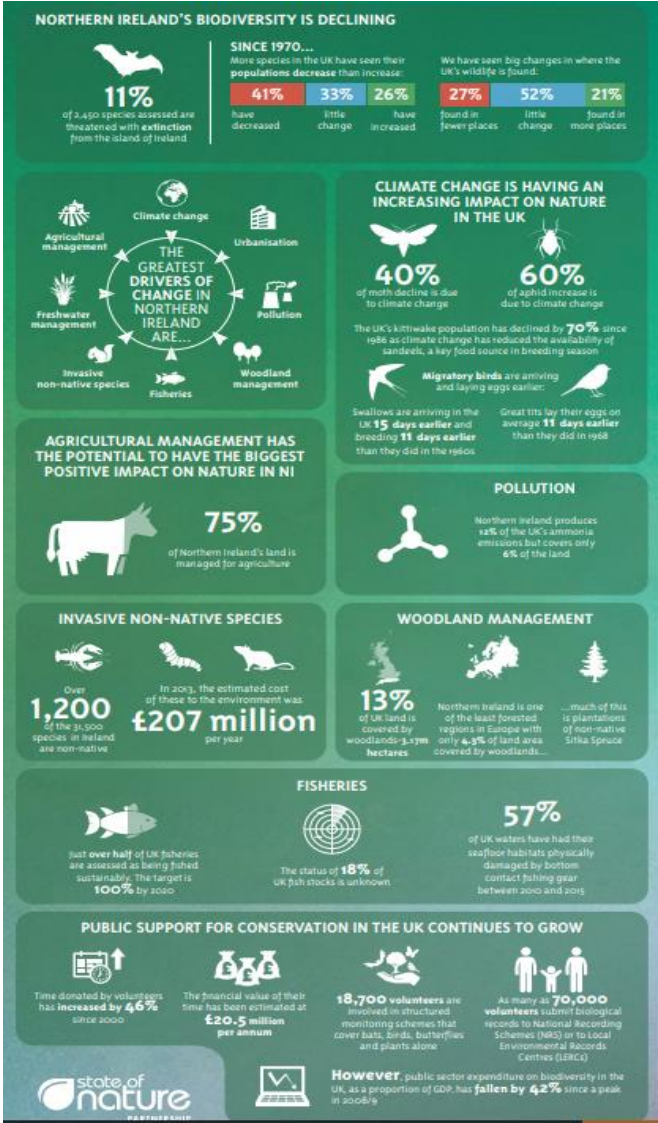
Wales



Scotland



Northern Ireland



Biodiversity & Ecosystems: Protected species	<p>Many species of plants and animals in England and often their supporting features and habitats are protected and assessments must be undertaken to establish whether a planning application would harm or disturb a protected species.</p> <p>European protected species are those protected by the Habitats Directive (as implemented under the relevant regulations in the UK). Article 12 of the Directive sets out the protection that member states should afford to protected animal species and Article 13 does the same but for plants. European protected species include some widespread and familiar UK species such as otters, great crested newts and all species of bat.</p> <p>For most other protected species, the most important legislation in England, Wales and Scotland is the Wildlife and Countryside Act 1981, as amended. In Northern Ireland, similar protection is provided by The Wildlife (Northern Ireland) Order 1985 and in Ireland by Wildlife Act 1976.</p> <p>Protected species are likely to be present at the habitats set out in Table below⁷⁷.</p>
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⁷⁷ <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

Table 1. Likely habitat for protected species.

Habitat, building or land	Species to look for
Ancient or veteran trees or those with significant decay features	Bats, breeding birds, dormice
Cellars, ice houses, old mines and caves	Bats
Buildings with features suitable for bats , or large gardens in suburban and rural areas	Bats, breeding birds, badgers, reptiles and great crested newts
Traditional timber-framed building (such as a barn or oast house)	Bats, breeding birds including barn owls
Lakes, rivers and streams (on the land or nearby)	Breeding birds, fish, otters, water voles and white-clawed crayfish
Heathland on, nearby or linked to the site (by similar habitat)	Breeding birds, badgers, dormice, reptiles, invertebrates, natterjack toads and protected plants
Meadows, grassland, parkland and pasture on the land or linked to the site (by similar habitat)	Bats, badgers, breeding birds, great crested newts, invertebrates, reptiles and protected plants
Ponds or slow-flowing water bodies (like ditches) on the site, or within 500m and linked by semi-natural habitat such as parks or heaths	Breeding birds, fish, great crested newts, water voles, invertebrates and white-clawed crayfish
Rough grassland and previously developed land (brownfield sites), on or next to the site	Breeding bird, reptiles, invertebrate and protected plants
Woodland, scrub and hedgerows on, or next to the site	Bats, breeding birds, badgers, dormice, invertebrates, great crested newts, reptiles and protected plants
Coastal habitats	Breeding birds, fish, natterjack toads, otters and invertebrates

<p>Biodiversity & Ecosystems: Marine Mammals</p>	<p>Most recent data available on the populations of marine mammals in the OSPAR region III Celtic Seas (OSPAR 2016) indicates that generally populations of cetaceans and seals have been increasing, however some populations have remained stable, including species such as bottlenose dolphins and harbour porpoise. Within this region, dolphins, porpoises and grey seals are impacted through fisheries by-catch. Across the Celtic Seas region, grey seals and harbour seals are generally counted every five years (the minimum to assess their status), though in some regions such as the Moray Firth and the East Coast of Scotland they are counted annually. Other marine mammals have little systematic recording and are infrequently assessed through combined aerial and ship surveys. The most recent of these aerial and ship surveys, the SCANS-III in 2016, yielded population abundance estimates for harbour porpoise, common dolphin, striped dolphin, white-beaked dolphin, bottlenose dolphin, fin whale, minke whale, pilot whale, sperm whale and beaked whales. However, Irish waters were not covered by the SCANS III survey. The latest report (June 2021) provides new estimates of abundance which will be integral to cetacean assessments undertaken for the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) quality status report and for the UK Marine Strategy assessments of Good Environmental Status. The latest report (June 2021) provides new estimates of abundance which will be integral to cetacean assessments undertaken for the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) quality status report and for the UK Marine Strategy assessments of Good Environmental Status (GES). Marine mammals may become entangled in ropes and nets from fishing practices in coastal waters to the west of Scotland and in the Minches there is concern about entanglement of minke whales, which are important to the local economy, through marine wildlife watching.</p>
<p>Biodiversity & Ecosystems: Seabed habitats</p>	<p>Significant damage has occurred to shallow sediment and seafloor habitats as a result of bottom-contacting fishing practices, especially beam trawling (OSPAR 2017). Around the UK, coastal and offshore seabed sediment habitats such as sands and muds are impacted by a range of activities, however the spatial extent of damage generated by bottom trawling activity, which may damage ecosystem functioning, is considered to be the main source of pressure on benthic environments with an appropriate indicator developed for the updated assessment of GES (Defra 2022). In 2018, the levels of</p>

	<p>physical damage to soft sediment habitats were consistent with the achievement of GES in UK waters to the West of the Celtic Seas, but not in the Celtic Seas or in the Greater North Sea.</p>
<p>Biodiversity & Ecosystems: Seabirds</p>	<p>Along the eastern coast of the UK, some seabirds have continued to decline in numbers, and experience poor or failed breeding, possibly due to the combined effects of climate change and fishing on key species (e.g. sandeels). Fish discards from trawling may have contributed to elevated population sizes in some species. However, the implementation of the discard ban (UK Technical Conservation and Landing Obligation (discard ban) Regulations 2021), is expected to impact those seabird species that exploit this resource, e.g. herring gull, lesser black-backed gull, great black-backed gull, great skua, northern gannet, northern fulmar and black-legged kittiwake (JNCC 2020). While the wider seabird population trends for 2000-2018 still show an increase for some species, e.g. northern gannet, black-headed gull and razorbill, there is still a general decline in several recorded species, most notably Arctic skua, black-legged kittiwake, northern fulmar, little tern and European shag. In some cases, this decline may be slowing and populations may be stabilising, albeit at numbers lower than that seen from the last census; the publication of final results from the Seabirds Count census (2015-2022) later in 2023⁷⁸ will provide a clearer understanding of seabird populations around the UK and Ireland.</p> <p>Declines in seabird breeding numbers have also been observed to the West of Scotland associated with predation by introduced mammals and food supply shortages, the latter of which may be due in part to climate change, although eradication programmes of introduced predators on some islands is providing respite for seabirds vulnerable to predation. While insufficient data makes it difficult to produce population trends for some species from Northern Ireland, a pattern of decline for some species e.g. northern fulmar, is evident, with (severe) weather, predation and food shortages cited as reasons for poor breeding or breeding failures. However, relative to overall UK trends, populations of some species, notably blacklegged kittiwake, are stable (British Trust for Ornithology, 2020).</p> <p>Populations of some waterbird species continue to decline, with numbers reduced at principal sites (those supporting more than 75,000 birds) on both the east and west coasts of the UK. Climate change</p>

⁷⁸ [Seabirds Count | JNCC - Adviser to Government on Nature Conservation](#)

	<p>is thought to be one of the biggest drivers of broad scale changes in wintering numbers and distributions; milder weather around the Baltic is likely shortening time many species spend in the UK, low numbers and poorer breeding success could be the result of adverse weather at breeding locations in Russia, while climate change is also thought to be leading to short-stopping in migration journeys of some species (e.g. European white fronted goose and goldeneye) and influencing colonisation by egrets. At a site-specific level, pressures such as coastal human disturbance and development at estuaries can affect numbers (Frost et al. 2020).</p>
<p>Biodiversity & Ecosystems: Fish Stocks</p>	<p>The latest updated assessment towards achieving good environmental status was produced in 2019 (DEFRA) and reported that demersal fish communities were recovering from over-exploitation in the past, but GES had not yet been achieved in either the Greater North Sea or the Celtic Seas, nor would be achieved for all fish communities by 2020. A partial assessment of pelagic shelf fish did not provide a clear result. ICES advise that several North Sea stocks are harvested unsustainably (e.g. cod, whiting, haddock, mackerel, and blue whiting). However, in both regions, recent trends in the number of sensitive species increasing in abundance suggest an improving situation and further decline in the population abundance of sensitive fish species has been halted (OSPAR Intermediate Assessment, 2017⁷⁹).</p>
<p>Biodiversity & Ecosystems: Nature Recovery Network</p>	<p>The Nature Recovery Network (NRN) will be a national network of wildlife-rich places. The NRN is a major commitment in the government's 25 Year Environment Plan, the Environment Act 2021, and part of the forthcoming Nature Strategy.</p> <p>Establishing the NRN will:</p> <ul style="list-style-type: none"> • Enhance sites designated for nature conservation and other wildlife-rich places - newly created and restored wildlife-rich habitats, corridors and stepping stones will help wildlife populations to grow and move

⁷⁹ <https://oap.ospar.org/en/ospar-assessments/intermediate-assessment-2017/biodiversity-status/fish-and-food-webs/recovery-sensitive-fish/>

	<ul style="list-style-type: none"> • Improve the landscape’s resilience to climate change, providing natural solutions to reduce carbon and manage flood risk, and sustaining vital ecosystems such as improved soil, clean water and clean air • Reinforce the natural and cultural diversity of our landscapes, and protect our historic natural environment • Enable us to enjoy and connect with nature where we live, work and play - benefiting our health and wellbeing. <p>The aim is to use maps and data to identify priorities for nature’s recovery. Locally developed strategies, LNRS, will be introduced to help plan, prioritise and target action and investment in nature at a regional level across England. These Recovery Strategies will include a map of existing areas important for nature and identify areas the opportunity areas for nature.</p> <p>As described below the legislative and mapped picture remains incomplete across the UK, however progress is evident across a number of areas. See the Wildlife Trusts⁸⁰, the West of England Nature Partnership⁸¹ the Wildlife Trust for Beds, Cambs and Northants⁸² and WildOxfordshire⁸³ as examples of draft and published outputs that begin to take shape.</p>			
	<p>In England, the Westminster Government’s 25 Year Environment Plan (2018), and the Environment Act (2021) both promote and support the</p>	<p>The Welsh Government’s Nature Recovery Action Plan for Wales has as one of its five themes, “Maintaining and Enhancing Resilient Ecological Networks”.</p>	<p>RSPB Scotland, the Scottish Wildlife Trust and WWF Scotland launched in 2020 the Nature Recovery Plan which sets out 11 transformative actions for nature’s recovery in</p>	<p>In partnership with the Northern Ireland Environment Agency (NIEA), RSPB NI, National Trust and Woodland Trust, the Ulster Wildlife Trust is creating the first set of</p>

⁸⁰ <https://www.wildlifetrusts.org/nature-recovery-map>

⁸¹ <https://wenp.org.uk/nature-recovery-network/>

⁸² <https://www.wildlifebcn.org/nature-recovery-network-maps>

⁸³ <https://www.wildoxfordshire.org.uk/biodiversity/draft-map-of-oxfordshires-nature-recovery-network/>

	development of a Nature Recovery Network for England, and there will be a legal requirement to create Local Nature Recovery Strategies. The strategies are a new system of maps and proposed actions for nature's recovery, and each strategy will include a set of agreed local priorities for helping nature and improving the wider environment.	The plan identifies a broad range of initiatives, including mapping opportunities for the restoration of habitat.	Scotland. This includes linking up wild places by delivering a Scottish Nature Network.	habitat network maps for Northern Ireland to better understand the current habitat cover, its level of connectivity and to identify where there is potential to make more space for nature. The mapping will also explore what 30 by 30 could look like for Northern Ireland, and how this could create the backbone of Nature Recovery Networks
Biodiversity & Ecosystems: Climate change adaptation risks and opportunities for biodiversity	<p>Supporting Trend Data:</p> <p>Overall scoring of the current risks and opportunities to overall aims and objectives of Natural England⁸⁴. This includes the Impact (I) and Likelihood (L) ratings and assessment of medium- and long-term risks using two horizons of 2030 and 2050. To follow CCC advice of assessing risks to 4°C and planning adaptation to 2°C; UKCP18 projections considering RCP 2.6 as a low emissions scenario and RCP8.5 as a high emissions scenario. This overall risk assessment demonstrates the significant impacts we expect in the medium term, on a pathway for stabilising global warming below 2°C by 2100. Our adaptation plan actions outlined in the next section are designed to be the first step to dealing with these risks over the next five years. However, the plan will require regular reappraisal in response to</p>			

⁸⁴ Natural England (2021). Climate change risk assessment and adaptation plan. Available: <https://nepubprod.appspot.com/publication/4891702237331456/>

the developing risks and impacts of climate change on our work. Many of these risks are interrelated due to the nature of climate change impacts on the natural environment. Addressing these risks and opportunities in an integrated way is also reflected in our adaptation actions.

If international efforts to limit global temperatures rises are not successful and we continue on a pathway to 4°C global warming at the end of century we are likely to experience severe impacts to our aims in both the medium and long term. Adapting to these impacts is beyond the scope of this adaptation plan, which would require more urgent and significant action.

Risks	Medium term risk		Long term risk	
	RCP 2.6	RCP 8.5	RCP 2.6	RCP8.5
Risks to the viability of the Nature Recovery Network and the recovery of threatened species and habitats	9 moderate I – moderate L – possible	12 major I – major L – possible	16 major I - major L - likely	20 severe I – major L – almost certain
Risks to the status of protected sites for biodiversity and geodiversity	12 major I - moderate L - likely	16 major I - major L - likely	16 major I - major L - likely	20 severe I – major L – almost certain
Risks to the ability of the SSSI network, MPAs, NNRs and protected landscapes to adapt to climate change	12 major I - moderate L - likely	16 major I - major L - likely	16 major I - major L - likely	20 severe I – major L – almost certain

Risks to natural capital and its contribution to agriculture, fisheries and sustainable development including farm advice and net gain	12 major I - moderate L - likely	16 major I - major L - likely	16 major I - major L - likely	20 severe I – major L – almost certain
Risks to the viability of natural areas for people to access and connect with nature	3 minor I - minimal L - possible	6 moderate I - minor L - possible	12 major I - moderate L - likely	16 major I - major L - likely
Risks and opportunities for Natural England's role as a leader in nature recovery and climate change.	3 minor I - minimal L - possible	6 moderate I - minor L - possible	12 major I - moderate L - likely	16 major I - major L - likely
Risks and opportunities for different species and habitats under changing climatic conditions.	10 major I – minor L – almost certain	15 major I – moderate L – almost certain	15 major I – moderate L – almost certain	20 severe I – major L – almost certain

B.2. Water Quality and Resources

Introduction to the baseline information and overview of interaction with the NPS

The UK Centre for Ecology and Hydrology notes that water is a resource on which all life depends and that efficient management of water is critical to addressing the competing demands of industry, agriculture and energy production while sustaining flows and quality for natural ecosystems. This is particularly pressing as demand is further compounded by population growth, land-use and climate change. Development enabled by the Nuclear NPS has the potential to increase pressures on the water environment through abstraction, discharges and pollution.

For the purposes of taking a holistic approach to management of water resources and to address the pressures on the water environment, under the Water Framework Directive (WFD), the UK has been divided into a series of River Basin Districts (RBD). As with most water bodies, there are a range of significant water management issues manifested across RBD, with pollution from infrastructure being of note.

The mechanisms protecting the quality or quantity of water under the WFD also protect surface and groundwater bodies from which raw water for drinking water supplies is abstracted.

The number of waterbodies assessed each year varies and has decreased from 10,761 in 2009 to 9,300 in 2018. There was a small decrease in the overall number of water bodies awarded high or good surface water status between 2009 and 2018. In 2018, 35% of surface water bodies assessed under the WFD in the UK were in high or good status. This reflects very little change from 36% of surface water bodies assessed in 2009 and 37% in 2013. It is anticipated that overall water quality will improve as the UK aims to ensure that the objectives of the WFD (all aquatic ecosystems and terrestrial ecosystems and wetlands to reach good chemical and ecological status by 2027).

The UK also has over 600 designated Bathing Waters designated under the Bathing Water Regulations 2013.

Under the WFD, there is a requirement for measures to promote use of water efficiently and in a way that can sustain future supplies.

Climate change and a growing population will increase pressure on water resources and strategic approaches to managing such issues will need to be developed.

Table 2: Water Quality and Resources

Sustainability Topic / Baseline	England	Wales	Scotland	Northern Ireland
Water Quality and Resources: Protection of waterbodies	<p>The EU WFD is transposed into UK law through the following regulations: The Water Environment (WFD) (England and Wales) Regulations 2017 for England and Wales; the Water Environment and Water Services (Scotland) Act 2003 (WEWS Act) and The Water Environment (WFD) Regulations (Northern Ireland) 2017) for Northern Ireland. Since leaving the EU, these regulations remain in place.</p> <p>The purpose of the Directive is to establish a framework for the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters and groundwater. Groundwater is an important natural resource that supports river flows as well as ecological diversity in rivers, lakes and wetlands. It is also available for use, across the United Kingdom, for water supply by abstraction from boreholes, wells and springs.</p> <p>All EU member states, and the UK, aim to ensure that all aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands reach ‘good’ chemical and ecological status by 2027.</p> <p>The WFD specifies the quality elements that can be used to assess the surface water status of a water body. Quality elements can be biological (e.g. fish, invertebrates, plants), chemical (e.g. heavy metals, pesticides, nutrients) or indicators of the condition of the habitats and water flows and levels (e.g. presence of barriers to fish migration, modelled lake level data) (JNCC 2021⁸⁵).</p>			
	The latest data available (2020) finds that, in England, the quality status	The latest data available (2020) finds that, in Wales, the quality status of water	The latest data available (2020) finds that, in Scotland, the quality status	The latest data available (2020) finds that, in Northern Ireland, the quality status of water

⁸⁵ Joint Nature Conservation Committee (2021) B7. Surface water status. Available: [UKBI - B7. Surface water status | JNCC - Adviser to Government on Nature Conservation](#)

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	of water bodies assessed under the WFD were ⁸⁶ :	bodies assessed under the WFD were ⁸⁸ :	of water bodies assessed under the WFD were ⁹⁰ :	bodies assessed under the WFD were ⁹² :
	Lakes:	Lakes:	Lakes:	Lakes:
	High – 0%	High – 1%	High – 31%	High – 0%
	Good – 14%	Good – 19%	Good – 38%	Good – 24%
	Moderate – 74%	Moderate – 67%	Moderate – 20%	Moderate – 29%
	Poor – 11%	Poor – 13%	Poor – 10%	Poor – 33%
	Bad – 1%	Bad – 0%	Bad – 1%	Bad – 14%
	Rivers and Canals:	Rivers and Canals:	Rivers and Canals:	Rivers and Canals:
	High – 0%	High – 0%	High – 8%	High – 0%
	Good – 16%	Good – 44%	Good – 47%	Good – 31%
	Moderate – 62%	Moderate – 47%	Moderate – 28%	Moderate – 57%

⁸⁶ Joint Nature Conservation Committee (2021) B7. Surface water status. Available: [UKBI - B7. Surface water status | JNCC - Adviser to Government on Nature Conservation](#)

⁸⁸ Joint Nature Conservation Committee (2021) B7. Surface water status. Available: [UKBI - B7. Surface water status | JNCC - Adviser to Government on Nature Conservation](#)

⁹⁰ Joint Nature Conservation Committee (2021) B7. Surface water status. Available: [UKBI - B7. Surface water status | JNCC - Adviser to Government on Nature Conservation](#)

⁹² Joint Nature Conservation Committee (2021) B7. Surface water status. Available: [UKBI - B7. Surface water status | JNCC - Adviser to Government on Nature Conservation](#)

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	Poor – 19%	Poor – 8%	Poor – 15%	Poor – 9%
	Bad – 3%	Bad – 1%	Bad – 3%	Bad – 2%
	Estuaries and Coastal:	Estuaries and Coastal:	Estuaries and Coastal:	Estuaries and Coastal:
	High – 0%	High – 2%	High – 30%	High – 0%
	Good – 29%	Good – 22%	Good – 68%	Good – 40%
	Moderate – 65%	Moderate – 75%	Moderate – 1%	Moderate – 56%
	Poor – 3%	Poor – 2%	Poor – 0%	Poor – 4%
	Bad – 3%	Bad – 0%	Bad – 0%	Bad – 0%
	As of 2015, in England, the quality status of groundwater bodies assessed under the WFD were ⁸⁷ :	As of 2015, in Wales, the quality status of groundwater bodies assessed under the WFD were ⁸⁹ :	As of 2020, in Scotland, the quality status of groundwater bodies assessed under the WFD were ⁹¹ :	As of 2020, in Northern Ireland, the quality status of groundwater bodies assessed under the WFD were ⁹³ :

⁸⁷ Environment Agency (2015) Update to the river basin management plans in England. Available:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/514944/National_evidence_and_data_report.pdf

⁸⁹ Natural Resources Wales (2015) River Basin Planning Progress Report for Wales. Available: <https://cdn.cyfoethnaturiol.cymru/media/676155/progress-report-for-wales-2009-2015-english.pdf?mode=pad&rnd=131596369400000000>

⁹¹ Scottish Environment Protection Agency (2021) Current Condition. Available: [RBMP3 \(sepa.org.uk\)](https://sepa.org.uk/RBMP3)

⁹³ Department of Agriculture, Environment and Rural Affairs (2021) Northern Ireland Water Framework Directive Groundwater Status Update 2020 – Statistics Report. Available: <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Northern%20Ireland%20Water%20Framework%20Directive%20Groundwater%20Update%202020.pdf>

	<p>Quantitative Status:</p> <p>Good - 69%</p> <p>Poor – 31%</p> <p>Chemical Status:</p> <p>Good – 53%</p> <p>Poor – 47%</p>	<p>Quantitative Status:</p> <p>Good - 100%</p> <p>Poor – 0%</p> <p>Chemical Status:</p> <p>Good – 58%</p> <p>Poor – 42%</p>	<p>Overall Status:</p> <p>Good – 84.12%</p> <p>Poor – 15.88%</p>	<p>Overall Status:</p> <p>Good - 63%</p> <p>Poor – 12%</p>
	<p>Supporting Trend Data:</p> <p>The number of waterbodies assessed each year varies and has decreased from 10,835 in 2009 to 9,300 in 2020. There was a small decrease in the overall number of water bodies awarded high or good surface water status between 2009 and 2020. In 2020, 35.7% of surface water bodies assessed under the WFD in the UK were in high or good status. This reflects very little change from 36% of surface water bodies assessed in 2009 and 36.5% in 2013⁹⁴.</p>			
Water Quality and Resources:	<p>River basin management plans (RBMPs) set out how organisations, stakeholders and communities will work together to improve the water environment. A RBD covers an entire river system, including river, lake, groundwater, estuarine and coastal water bodies. RBD RBMPs are designed to protect and improve the quality of the water</p>			

⁹⁴ Joint Nature Conservation Committee (2022) Surface Water Status – Datasheet. Available: [UK Biodiversity Indicators 2022. Indicator B7: Surface water status | JNCC Resource Hub](#)

River Basin Management Plans	environment. Good quality water is essential for wildlife, agriculture and businesses to thrive. It boosts regeneration (both structural and economic), recreation and tourism.			
	As of 2021, in England there are eight river basin district RBMPs covering the Anglian, Humber, Northumbria, North West, Severn, South East, South West and Thames river basin districts. The Environment Agency must review and update RBMPs every six years, and consultation on revised draft RBMPs concluded April 2022. Implementation of these plans is purported to enhance nature and the natural water assets of the river basin districts that are the foundation of everyone's wealth, health and wellbeing, and the things people value,	In Wales RBMPs are updated on a six yearly cycle and are prepared in consultation with a wide range of organisations and individuals. The Western Wales and River Dee 2021-2027 RBMPs were published in July 2022 noting that the River Dee is a cross-border Plan ⁹⁵ .	In December 2021 SEPA published the final River Basin Management Plan for Scotland 2021-2027 and the River Basin Management Plan for the Solway Tweed River Basin District 2021-2027. These plans set out a range of actions to address significant problems affecting water quality, physical condition, water resources and the migration of wild fish. It focuses on reducing resource use, eliminating waste and restoration of natural capital.	In 2009 the first set of River Basin Management Plans (RBMP) as required by the regulations were published for each River Basin District within Northern Ireland. The Plans identified where the water environment is in good or excellent condition and set out objectives for improvement or prevention of deterioration. In 2015 the second set of RBMPs were published which outlined the changes and progress made since the previous cycle. These cover the North Eastern, North Western and Neagh Bann river basin districts. Note the 2021-2027

⁹⁵ Natural Resources Wales (2022) Dee and Western Wales river basin management plans 2021-2027. Available: [Natural Resources Wales / Dee and Western Wales river basin management plans 2021-2027](#)

	including culture and wildlife.			RBMPs are not yet available.
Water Quality and Resources: Eutrophication of marine waters	The UK has mostly achieved its aim of Good Environmental Status for eutrophication. The majority of UK waters do not experience significant eutrophication – the eutrophication problems are restricted to a small number of areas in coastal waters, primarily estuaries and embayments with restricted water circulation. In a limited number of areas on the north east and southern coasts of the UK and on the south-west coasts of England and Wales and in Northern Ireland, inputs of nutrients of anthropogenic origin (notably nitrate and phosphate from agriculture and urban waste water sources) have resulted in nutrient enrichment in some small estuaries and bays. In general, changes in nitrogen and phosphorus inputs, concentrations of contaminants, chlorophyll concentrations and oxygen levels show improvements. Where measures have been taken to reduce nutrient inputs, it may take a long time to result in the desired outcome due to time lags between taking measures and change in the large reservoirs of nitrogen that have built up in soils and ground-waters in previous decades. However, the existing programmes for assessing the eutrophication status for coastal and marine waters developed under the WFD and the OSPAR Convention have to a large extent already been applied successfully with the UK largely achieving GES in the latest 2018 assessment ⁹⁶ .			
Water Quality and Resources: Hazardous substances in marine waters	The UK has largely achieved its aim of GES for contaminants. The updated assessment of achieving GES with respect to descriptor 8 (Defra 2019) indicates that concentrations of hazardous substances in the Celtic Seas and the Greater North Sea and their biological effects are generally meeting agreed target thresholds which means they are at levels that should not cause harm to sea life (89% for contaminant concentrations and 96% for biological effects) ⁹⁷ . Highly persistent legacy chemicals are the cause of the few failures, mainly in coastal waters close to polluted sources. Heavy metals (mercury, cadmium, and lead), polycyclic aromatic hydrocarbons (PAHs), organotins and synthetic substances such as polychlorinated biphenyls (PCBs) and polybrominated diphenyl ethers (PBDEs) are			

⁹⁶ United Kingdom Marine Monitoring and Assessment Strategy (2018) Eutrophication. Available: <https://moat.cefas.co.uk/pressures-from-human-activities/eutrophication/>

⁹⁷ Department for Environment, Food and Rural Affairs (2019) Marine Strategy Part One: UK updated assessment and Good Environmental Status. Available: [Marine Strategy Part One: UK updated assessment and Good Environmental Status \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/814441/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status.pdf)

	<p>routinely measured for OSPAR. Measurements focus on marine sediments and on organisms in which these contaminants tend to accumulate or through which they biomagnify up the food chain. Contaminant concentrations have continued to decrease in the majority of areas assessed within the OSPAR area. Although concentrations are generally below levels likely to harm marine species, they mostly have not yet reduced to background levels. Concerns remain in some localised areas with respect to high levels of mercury, lead, and certain PCB compounds and locally increasing concentrations of PAHs and cadmium in open waters⁹⁸.</p>			
<p>Water Quality and Resources:</p> <p>Bathing Water Quality</p>	<p>The Bathing Water Directive (76/160/EEC) is to protect public health and the environment. The Directive sets a number of microbiological and physico-chemical standards that bathing waters must either comply with ('mandatory' standards) or endeavour to meet ('guideline' standards). The Bathing Water Directive is transposed into law in all of the United Kingdom's devolved nations and is administered in England by the Department of Environment, Food and Rural Affairs, in Scotland by the Scottish Government, in Wales by Natural Resources Wales and in Northern Ireland by the Department of Agriculture, Environment and Rural Affairs. Although the UK has left the EU, the Bathing Water Regulations still apply.</p> <p>Water quality at designated bathing water sites in England is assessed by the Environment Agency, to ensure that the Bathing Water Regulations 2013 are complied with⁹⁹. From May to September, weekly assessments measure current water quality, and at a number of sites daily pollution risk forecasts are issued. Annual ratings classify each site as excellent, good, sufficient or poor based on measurements taken over a period of up to four years.</p>			
	In England, the quality status of bathing water areas assessed under the Bathing Water Regulations	In Wales, 106 designated bathing waters were sampled and classified during the 2022 bathing season. The quality status of bathing water areas	As of 2022 there were 87 designated bathing waters in Scotland. The quality status of bathing water areas assessed under the	In Northern Ireland, there are 26 bathing water sites. As of 2022, the quality status of bathing water areas assessed against The Quality of Bathing

⁹⁸ OSPAR Assessment Portal (2017) Contaminant concentrations are decreasing, but concerns remain. Available: <https://oap.ospar.org/en/ospar-assessments/intermediate-assessment-2017/key-messages-and-highlights/contaminant-concentrations-are-decreasing-concerns-remain/>

⁹⁹ Department for Environment, Food & Rural Affairs (2023) Bathing Waters. Available: [Bathing waters - GOV.UK \(www.gov.uk\)](https://www.gov.uk/bathing-waters)

	<p>during the 2022 bathing season were¹⁰⁰:</p> <p>Excellent – 302</p> <p>Good – 86</p> <p>Sufficient – 18</p> <p>Poor – 12</p> <p>Closed - 2</p> <p>It is worth noting that as if 2020, inland waters have also been designated as bathing waters.</p>	<p>assessed under the Welsh Bathing Waters Regulations were¹⁰¹:</p> <p>Excellent – 85</p> <p>Good – 16</p> <p>Sufficient – 4</p> <p>Poor - 1</p> <p>In 2022, 105 of the 106 designated bathing waters met the minimum water quality standards set by the Bathing Water Regulations. 1 bathing water did not achieve the standard and was classified as Poor.</p>	<p>Bathing Waters (Scotland) Regulations 2008 were¹⁰²:</p> <p>Excellent – 38 (44%)</p> <p>Good – 35 (40%)</p> <p>Sufficient – 12 (14%)</p> <p>Poor – 2 (2%)</p>	<p>Water Regulations (Northern Ireland) 2008 were¹⁰³:</p> <p>Excellent – 21</p> <p>Good – 3</p> <p>Poor – 1</p> <p>Sufficient – 1</p>
<p>Supporting Trend Data:</p> <p>2015 was the first year of implementing the new classification system for bathing water quality. The results of these are not directly comparable to years prior to this. In general, there has been significant improvements in bathing water quality since recording began in 1988. During the 2022 bathing season, 72.1% of beaches and inland waters</p>				

¹⁰⁰ The Environment Agency (2023) Bathing Water Data. Available: <http://environment.data.gov.uk/bwq/profiles/data.html?country=England>

¹⁰¹ Natural Resources Wales (2022) Wales Bathing Water Report 2022. Available: [Wales bathing water report 2022 \(cyfoethnaturiol.cymru\)](https://www2.sepa.org.uk/bathingwaters/Classifications.aspx)

¹⁰² Scottish Environment Protection Agency (2023) Current Classifications. Available: <https://www2.sepa.org.uk/bathingwaters/Classifications.aspx>

¹⁰³ Department of Agriculture, Environment and Rural Affairs (2023) Bathing Water Quality. Available: [About bathing water quality | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](https://daera-ni.gov.uk/about-bathing-water-quality/)

	<p>in England met the ‘Excellent’ standard, the highest since the introduction of more stringent standards in 2015. However, 97.1% of bathing waters passed the water quality standards in 2022, which compares to a 99% passing rate in 2021¹⁰⁴.</p> <p>In Wales, results of the 2022 bathing season remain similar to the 2021 season¹⁰⁵. As of 2022, in Scotland, bathing water quality has significantly improved since 2015, with the number of ‘Poor’ classifications reducing from 18% to 2%, and the number sites reaching ‘Excellent’ status has increased from 21% to 44%¹⁰⁶. As of 2022, bathing Water quality in Northern Ireland has improved overall when compared to the previous year, and the highest ever number has met the ‘Excellent’ standard¹⁰⁷.</p>
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¹⁰⁴ The Environment Agency (2022) 97% of English bathing waters meet required water quality standards. Available: [97% of English bathing waters meet required water quality standards - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/97-of-english-bathing-waters-meet-required-water-quality-standards)

¹⁰⁵ Natural Resources Wales (2022) Wales Bathing Water Report 2022. Available: [Wales bathing water report 2022 \(cyfoethnaturiol.cymru\)](https://cyfoethnaturiol.cymru/)

¹⁰⁶ Scottish Environment Protection Agency (2023) Current Classifications. Available: <https://www2.sepa.org.uk/bathingwaters/Classifications.aspx>

¹⁰⁷ Department of Agriculture, Environment and Rural Affairs (2022) Northern Ireland’s Bathing Waters show overall improvement in 2022. Available: [Northern Ireland’s Bathing Waters show overall improvement in 2022 | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](https://daera-ni.gov.uk/news/northern-irelands-bathing-waters-show-overall-improvement-in-2022)

B.3. Adaptation to climate change

Introduction to the baseline information and overview of interaction with the NPS

The UK Met Office notes that climate change is already having visible effects through warming, changing rainfall patterns and raising sea levels and predicts warmer and wetter winters, hotter and drier summers and more frequent and intense weather extremes. By 2070 the Met Office projects winters of between 1 and 4.5 degrees Celsius warmer and up to 30% wetter. In respect of summers, these are projected to be up to 6 degrees Celsius warmer and up to 60% drier. Heavy rainfall is also more likely, noting that since 1998 the UK has seen six of the ten wettest years on record.¹⁰⁸

Flood risk and coastal change are intrinsically linked with climate change and the UK Climate Change Risk Assessment (CCRA) notes that climate change will increase sea level and associated coastal flooding and erosion, as well as altering rainfall patterns leading to changes in river, surface water and groundwater flooding.

Flooding poses a significant risk to people, communities and the built environment with approximately 1.9 million people across the UK currently living in areas at significant risk from either river, coastal or surface water flooding. The CCRA highlights that the number of people at risk could double as early as the 2050s.

Infrastructure services are increasingly at risk from river, surface water and groundwater flooding, and despite progress in installing flood defences, these alone will not keep the risk from flooding at today's level into the future and will require further government intervention. Development enabled by the Nuclear NPS must therefore be mindful of increasing flood risk and coastal changes, accelerated by climate change.

In respect of coastal environments, these naturally adapt to sea level rise by retreating landwards. Mudflats, wetlands, beaches and sand dunes provide natural protection against flooding, whilst also being some of Britain's most important natural habitats. The Committee on Climate Change notes¹⁰⁹ however that much of the UK's shorelines the coast's natural protective mechanisms are being squeezed between rising sea levels and human development. In respect of planning, the Committee highlights the need to re-emphasise the value of these environments and ensure they play a larger part in the adaptation plans for the future.

The CCC note it is almost certain that England will have to adapt to at least 1m of sea level rise at some point in the future. Some model projections indicate that this will happen over the next 80 years. Coastal structures being built today need to be ready to cope with these rates of sea level rise and it is imperative that development enabled by the Nuclear NPS is tested against these demands.

¹⁰⁸ <https://www.metoffice.gov.uk/weather/climate-change/effects-of-climate-change>

¹⁰⁹ <https://www.theccc.org.uk/publication/managing-the-coast-in-a-changing-climate/>

Table 3: Adaptation to Climate Change

Sustainability Topic / Baseline	England	Wales	Scotland	Northern Ireland
Adaptation to climate change: Climate Projections	<p>The UK Climate Projections (UKCP18) and the State of the UK Climate reports (published annually) identify the following observed trends which are attributed to climate change¹¹⁰:</p> <ul style="list-style-type: none"> • The temperature in the UK in the most recent decade (2008-2017) has been on average 0.3 °C higher than the 1981-2010 average and 0.8 °C higher than the 1961-1990, with all of the top 10 warmest years occurring since 1990¹¹¹. • The sea surface temperature around the UK coast for the most recent decade, 2008-2017, is 0.6 °C higher¹¹² than the 1961-1990 average. • Over the last 250 years in England and Wales, there has also been a slight trend for increased rainfall in winter and decreased rainfall in summer. • All regions of the UK have experienced an increase in the amount of winter rain that falls in heavy downpours. • Sea levels around the UK have risen by about 1.4mm/year over the 20th century, although recent rates are slightly higher than this. Note that sea level rise will not be at a constant rate around the coast – local geomorphological conditions will dictate precise levels. 			

¹¹⁰ Lowe, J. A., et al. (2018): UK Climate Projections 18 Science Overview Report, Met Office, Exeter, UK. Available:

<https://www.metoffice.gov.uk/pub/data/weather/uk/ukcp18/science-reports/UKCP18-Overview-report.pdf>

¹¹¹ Murphy, J.M., et al. (2018): UK Climate Projections 18 Land Projections: Science Report, Met Office, Exeter, UK. Available:

<https://www.metoffice.gov.uk/pub/data/weather/uk/ukcp18/science-reports/UKCP18-Land-report.pdf>

¹¹² Kendon, M., McCarthy, M., Jevrejeva, S., Matthews, A., and Legg, T. (2018): State of the UK Climate 2018, International Journal of Climatology, 38(S2).

Available: <https://rmets.onlinelibrary.wiley.com/toc/10970088/2018/38/S2>

The UKCP18 projects the following changes within the UK by the 2080-2099 decades, relative to a 1981-2000 baseline, with a medium emissions scenario¹¹³:

- Average summer temperatures across the UK will increase by 1.2 – 4.5 °C ;
- Average summer rainfall will likely decrease, with projections ranging between -46 – +2%;
- Average winter rainfall will likely increase, with projections ranging between -9 – +38%, and;
- Sea levels in London will rise by 60 cm.

To provide context of how climate change may be manifested in individual regions, taking the north west region as an example, significant impacts across a range of sectors including health, infrastructure, economy and biodiversity are anticipated as a result of future changes in climate. Specifically, cold related illnesses and mortality are likely to decrease due to milder winter however, the number of incidents of food poisoning, heat stress and heat related deaths may increase in summer. Domestic energy use may decrease in winter due to higher temperatures however it may increase during summer months as refrigeration and air conditioning demand increases. Wetter winters and more intense rainfall events throughout the year may result in a higher risk of flooding from rivers.

National key findings for temperature, precipitation and sea level rise for the different emissions scenarios are also detailed within UKCP18 as follows:

¹¹³ Palmer, M., et al. (2018): UK Climate Projections 18 Marine Report, Met Office, Exeter, UK. Available: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-marine-report-updated.pdf> **Wrong source. Cited doc makes no reference to average summer or winter temperatures or rainfall. Cannot find 60cm figure (maybe wouldn't be found in 'Marine Projections')**

Variable	Annual Temperature Change (°C)					Winter precipitation change (%)					Summer precipitation change (%)				
Percentile	5 th	10 th	50 th	90 th	95 th	5 th	10 th	50 th	90 th	95 th	5 th	10 th	50 th	90 th	95 th
High emissions	0.7	0.9	1.8	2.7	3.0	-5	-5	7	21	25	-35	-31	-15	0	3
Medium emissions	0.5	0.7	1.4	2.3	2.5	-10	-7	4	17	21	-30	-26	-13	2	6
Low emissions	0.3	0.5	1.2	2.0	2.3	-8	-5	5	16	19	-28	-24	-11	1	5

	5 th	Central	95 th
High emissions	53	84	115
Medium emissions	37	60	83
Low emissions	29	49	70

UKCP18 absolute time mean sea level change (cm) projections over the 21st century in London under 3 different scenarios, with 5th and 95th percentile confidence intervals. The changes are given for the year 2100 relative to the 1981-2000 average.

Adaptation to climate change:

The latest Climate Change projections from the UK Met Office forecast a rise in sea level, increased winter precipitation and an increase in the frequency and intensity of extreme rainfall events, which will further increase flood risk in the UK¹¹⁴.

¹¹⁴ Met Office (2022) UK Climate Projections: Headline Findings. Available: ukcp18_headline_findings_v4_aug22.pdf (metoffice.gov.uk)

Flood Risk	<p>In 2022, the UK Climate Change Risk Independent Assessment (CCRA3) Summary for England¹¹⁵ estimated that there were 2.5 million properties at risk of flooding from rivers and the sea, 3.2 million at risk of surface water flooding and 660,000 properties at risk of all three in England (1 in 1000-year return period). This equates to 1,554,000 people at significant risk of flooding in England.</p> <p>Assuming no population growth and a continuation of current levels of adaptation, by the 2050s the projected number of people at 1:75 or</p>	<p>In 2022, the UK CCRA3 Summary for Wales¹¹⁹ estimated that there were 148,000 people at significant risk of flooding in Wales (1 in 1000-year return period, 46,000 of these from fluvial, 10,000 from coastal and 91,000 from surface water flooding¹²⁰.</p> <p>Assuming no population growth and a continuation of current levels of adaptation, by the 2080s, the projections from the CCRA suggest 142,000 people under a 2 degree scenario and 209,000 people under a 4 degree scenario would be</p>	<p>In 2022, the UK Climate Change Risk Independent Assessment (CCRA3) Summary for Scotland¹²⁴ estimated that there were 284,000 properties at risk of flooding in Scotland (1:200-year return period). This equates to 1,554,000 people at significant risk of flooding in Scotland, 46,000 of these from fluvial, 13,000 from coastal and 95,000 from surface water flooding¹²⁵.</p> <p>Assuming no population growth and a continuation of current levels of adaptation, by the 2050s the projected number of</p>	<p>In 2022, the UK Climate Change Risk Independent Assessment (CCRA3) Summary for Northern Ireland¹²⁹ estimated that there were 45,000 properties at risk of significant flooding in Northern Ireland (1 in 100-year return period for fluvial and 1 in 200-year return period for coastal and surface water). This equates to 33,000 people at significant risk of flooding, 10,000 of these from fluvial, 1,000 from coastal and 22,000 from surface water flooding.</p>
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¹¹⁵ Sustainability West Midlands (2022) Evidence for the third UK Climate Risk Assessment (CCRA3): Summary for England. Available at:

<https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-England-Summary-Final.pdf>

¹¹⁹ Dr. Alan Netherwood. Netherwood Sustainable Futures (2022) Evidence for the third UK Climate Risk Assessment (CCRA3): Summary for Wales. Available at:

<https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

¹²⁰ Sari Kovats & Rachel Brisley (2022) UK Climate Risk Independent Assessment (CCRA3) Technical Report. Chapter 5: Health, Communities and the Built Environment. Available at: <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA3-Chapter-5-FINAL.pdf>

¹²⁴ Sniffer (2022) Evidence for the third UK Climate Risk Assessment (CCRA3): Summary for Scotland. Available at: <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Scotland-Summary-Final-1.pdf>

¹²⁵ Sari Kovats & Rachel Brisley (2022) UK Climate Risk Independent Assessment (CCRA3) Technical Report. Chapter 5: Health, Communities and the Built Environment. Available at: <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA3-Chapter-5-FINAL.pdf>

¹²⁹ Climate Northern Ireland (2022) Evidence for the third UK Climate Risk Assessment (CCRA3): Summary for Northern Ireland. Available at: <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Northern-Ireland-Summary-Final.pdf>

<p>greater risk rises to around 1.7 million under a 2 degree scenario and 2.2 million for a 4 degree scenario.¹¹⁶</p> <p>Considerable advances have been made regarding the strategic management of flood risk at national and local levels since CCRA2 and whilst flood events have occurred, a larger number of properties have been protected than affected. Despite this, the number of assets and length of existing infrastructure networks located in areas exposed to a high risk of coastal, river, and surface water flooding is projected to increase with climate</p>	<p>living in areas of Wales at a 1-in-75 or greater chance of flooding in any given year.¹²¹</p> <p>Considerable advances have been made regarding the strategic management of flood risk at national and local levels since CCRA2 and whilst flood events have occurred, a larger number of properties have been protected than affected. Despite this, the number of assets and length of existing infrastructure networks located in areas exposed to a high risk of river or surface water flooding is projected to increase with climate</p>	<p>people at 1:75 or greater risk in Scotland rises by 10% to 220,000 under a 2 degree scenario and by 21% to 242,000 for a 4 degree scenario.¹²⁶</p> <p>Assets and networks across infrastructure sectors are already exposed to a high likelihood of river and surface water flooding. The risk of river and surface water flooding is expected to rise, as patterns of rainfall become more intense. Western areas of Scotland in particular could be subject to significant increases in heavy winter rainfall. Scotland has significant infrastructure assets located in coastal</p>	<p>By the 2050s the projected number of people at 1:75 or greater risk rises to 67,000 under a 2 degree scenario and 76,000 for a 4 degree scenario, assuming a continuation of the current level of adaptation and not including population growth.¹³⁰</p> <p>Assets and networks across all infrastructure sectors are already exposed to river and surface water flooding, with some located in areas that are exposed to a significant level of risk (defined as a 1 in 75 or greater annual chance).</p>
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¹¹⁶ Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017 Evidence Report: Summary for England*. Available: [UK-CCRA-2017-England-National-Summary-1.pdf \(theccc.org.uk\)](#)

¹²¹ Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Wales*. Available: [UK-CCRA-2017-Wales-National-Summary.pdf \(theccc.org.uk\)](#)

¹²⁶ Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Scotland*. Available: [UK-CCRA-2017-Scotland-National-Summary.pdf \(theccc.org.uk\)](#)

¹³⁰ Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Northern Ireland*. Available: [UK-CCRA-2017-Northern-Ireland-National-Summary.pdf \(theccc.org.uk\)](#)

	<p>change, including in areas previously not at risk.¹¹⁷</p> <p>Global average sea level rose by 15cm over the 20th century, with levels around the English coastline on average broadly mirroring the global picture. Relative sea levels have risen more in the south than the north of the UK, due to the added influence of post-glacial rebound. Between 50cm and 1 meter of sea level rise is expected over the course of the rest of the century, increasing the likelihood of a severe 1-in-100 year coastal flood to between a</p>	<p>change, including in areas previously not at risk.¹²²</p> <p>Between 50cm and 1 meter of sea level rise is expected over the course of the rest of the century, increasing the likelihood of a severe 1-in-100 year coastal flood in west Wales to between a 1-in-10 and 1-in-20 annual chance. The number of assets and length of existing infrastructure networks located in areas exposed to a high risk of flooding from the sea is projected to significantly increase with climate change.¹²³</p>	<p>areas and so potentially exposed to flooding from the sea. The number of assets and length of existing infrastructure networks located in areas exposed to a high risk of coastal, river or surface water flooding is projected to significantly increase with climate change.¹²⁷</p> <p>By the 2080s, in Scotland, between 20cm and 60cm of sea level rise is expected, increasing the likelihood of a severe 1-in-100 year coastal flood to between a</p>	<p>The risk of river and surface water flooding is expected to rise, as patterns of rainfall become more intense.¹³¹</p> <p>This century, in Northern Ireland, between 20cm and less than 40cm of sea level rise is expected. The number of assets and length of existing infrastructure networks located in areas exposed to a high risk of flooding from the sea is projected to increase with climate change.¹³²</p>
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¹¹⁷ Sustainability West Midlands (2022) *Evidence for the third UK Climate Risk Assessment (CCRA3): Summary for England*. Available at:

<https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-England-Summary-Final.pdf>

¹²² Dr. Alan Netherwood. Netherwood Sustainable Futures (2022) *Evidence for the third UK Climate Risk Assessment (CCRA3): Summary for Wales*. Available at:

<https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

¹²³ Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Wales*. Available: [UK-CCRA-2017-Wales-National-Summary.pdf \(theccc.org.uk\)](https://www.theccc.org.uk/publications/uk-climate-change-risk-assessment-2017-evidence-report-summary-for-wales/)

¹²⁷ Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Scotland*. Available: [UK-CCRA-2017-Scotland-National-Summary.pdf \(theccc.org.uk\)](https://www.theccc.org.uk/publications/uk-climate-change-risk-assessment-2017-evidence-report-summary-for-scotland/)

¹³¹ Climate Northern Ireland (2022) *Evidence for the third UK Climate Risk Assessment (CCRA3): Summary for Northern Ireland*. Available at:

<https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Northern-Ireland-Summary-Final.pdf>

¹³² Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Northern Ireland*. Available: [UK-CCRA-2017-Northern-Ireland-National-Summary.pdf \(theccc.org.uk\)](https://www.theccc.org.uk/publications/uk-climate-change-risk-assessment-2017-evidence-report-summary-for-northern-ireland/)

	1-in-10 and 1-in-20 annual chance. ¹¹⁸		1-in-20 and 1-in-60 annual chance. ¹²⁸	
	<p>Flood Risk Management Strategies have been developed for England, Scotland, Wales and NI. These strategic plans explain the objectives and the measures needed to manage flood risk at a national and local level¹³³. The UK Climate Change Risk Assessment 2017 states that more ambitious approaches to adaptation could offset increases in expected annual flood damage if global warming is limited to 2°C. However, within this national projection local impacts will vary considerably. Improving protection for some communities will be possible whilst others will face the prospect of significantly increased risks. This will affect property values, business revenues and in extreme cases the viability of communities. Risks to communities and local economies are closely linked to the resilience of local infrastructure, in particular energy, transportation and communications systems. Warming of 4°C or more implies inevitable increases in flood risk across all UK regions even in the most ambitious adaptation scenarios considered.¹³⁴</p>			
Adaptation to climate change: Location of	<p>In England and Wales, flood risk is assessed under the National Planning Policy Framework (NPPF)¹³⁵. Flood risk from rivers and seas is categorised into three zones¹³⁶ for planning purposes (noting that the NPPF further subdivides Flood Zone 3 into 3a and Functional Floodplain 3b (land where water has to flow or be stored in times of flood)):</p>			

¹¹⁸ Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017 Evidence Report: Summary for England*. Available: [UK-CCRA-2017-England-National-Summary-1.pdf \(theccc.org.uk\)](https://www.theccc.org.uk/publication/uk-climate-change-risk-assessment-2017-evidence-report-summary-for-england/)

¹²⁸ Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Scotland*. Available: [UK-CCRA-2017-Scotland-National-Summary.pdf \(theccc.org.uk\)](https://www.theccc.org.uk/publication/uk-climate-change-risk-assessment-2017-evidence-report-summary-for-scotland/)

¹³³ Environment Agency (2022) *Flood risk management plans 2021 to 2027*. Available: [Flood risk management plans 2021 to 2027 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/flood-risk-management-plans-2021-to-2027)

¹³⁴ Committee on Climate Change (2016) *UK Climate Change Risk Assessment 2017*. Available: [Committee on Climate Change - UK Climate Change Risk Assessment 2017 Synthesis Report - July 2016 \(theccc.org.uk\)](https://www.theccc.org.uk/publication/uk-climate-change-risk-assessment-2017-synthesis-report-july-2016/)

¹³⁵ National Planning Policy Framework <https://www.gov.uk/guidance/national-planning-policy-framework/14-meeting-the-challenge-of-climate-change-flooding-and-coastal-change>

¹³⁶ Scottish Government (2020) *Scottish Planning Policy, A Natural, Resilient Place*. Available: <https://www.gov.scot/publications/scottish-planning-policy/pages/7/>

<p>Fluvial and Tidal Floodplains & Shoreline Management Plans</p>	<ul style="list-style-type: none"> • Flood Zone 1 – Land with a less than 0.1% chance of flooding each year. • Flood Zone 2 – Land with between a 1% and 0.1% chance of flooding from rivers and between a 0.5% and 0.1% chance of flooding from the sea each year. • Flood Zone 3 – Land with a 1% or more chance of flooding from rivers, or a 0.5% or more chance of flooding from the sea. <p>The risk of surface water flooding also needs to be considered¹³⁷:</p> <ul style="list-style-type: none"> • Very low risk area (less than 0.1% (1:1000)) chance of flooding. • Low risk area (0.1% to 1% (1:1000 – 1:100)) chance of flooding. • Medium risk area (1% to 3.3% (1:100 – 1:30)) chance of flooding. • High risk area (3.3% (1:30)) or greater chance of flooding. <p>In Scotland, flood risk (river, tidal and surface water sources) is categorised into three areas¹³⁸:</p> <ul style="list-style-type: none"> • Little or no risk area (less than 0.1% (1:1000)) chance of flooding. • Low to medium risk area (0.1% to 0.5% (1:1000 – 1:200)) chance of flooding. • Medium to high risk area (0.5% (1:200)) or greater chance of flooding.
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¹³⁷ Environment Agency (2019) Flood Maps for Planning. Available: <https://flood-map-for-planning.service.gov.uk/location>

¹³⁸ Scottish Government (2020) Scottish Planning Policy, A Natural, Resilient Place. Available: <https://www.gov.scot/publications/scottish-planning-policy/pages/7/>

The Northern Ireland Flood Risk Assessment Plan (NIFRA) 2018, identified a total of 45 flood risk areas. Out of these, 12 have been identified as Areas of Potential Significant Flood Risk (APSFR) and a further 9 determined Transitional Areas of Potential Significant Flood Risk (TAPSFR)¹³⁹.

Estimates of flood risk from different sources across the UK vary, but it is known that the level of risk is substantial – for example in Wales, over 155,000 properties are at risk of flooding from rivers and sea, with approximately 130,000 properties in Wales at risk of surface water flooding (in addition to potentially other flood risks)¹⁴⁰. Scotland has an estimated 284,000 properties at risk of flooding¹⁴¹, England has approximately 5.2 million at risk¹⁴², while in Northern Ireland, just over 25,000 or approximately 3% of the 861,000 properties in Northern Ireland are located within the 1 in 100yr fluvial floodplain or 1 in 200yr coastal floodplain. In addition, the surface water flood map indicates that around 24,500 or 3% of the properties in Northern Ireland are sited in areas shown to be at risk of flooding from a 1 in 200yr pluvial event with a depth greater than 300mm. Overall, approximately 45,000 or 5% of the properties in Northern Ireland are located within either the 1% AEP fluvial floodplain or the 0.5% AEP coastal floodplain or are sited in areas at risk of flooding from a 0.5% AEP pluvial event with a flood depth greater than 300mm¹⁴³.

Shoreline Management Plans have been developed across England and Wales by Coastal Groups made up of members from local councils and the Environment Agency¹⁴⁴. The purpose of these plans is to identify the most sustainable approach to managing the flood and coastal erosion risks to the coastline in the¹⁴⁵:

- Short term (0 to 20 years in England and 2005-2025 in Wales)
- Medium term (20 to 50 years in England and 2025-2050 in Wales)

¹³⁹ Department for Infrastructure (2018) Northern Ireland Flood Risk Assessment (NIFRA) 2018. Available: <https://www.infrastructure-ni.gov.uk/sites/default/files/publications/infrastructure/northern-ireland-flood-risk-assessment-report-2018-updated-may2019.pdf>

¹⁴⁰ Welsh Government (2019) Properties at Risk of Flooding in Wales. Available: <https://statswales.gov.wales/Catalogue/Environment-and-Countryside/Flooding>

¹⁴¹ Scottish Environment Protection Agency (2018) Flood Risk Management in Scotland. Available: [Microsoft Word - NFRA FAQ \(sepa.org.uk\)](https://www.sepa.org.uk/microsoft-word-nfra-faq)

¹⁴² Environment Agency (2020) National Flood and Coastal Erosion Risk Management Strategy for England. Available: [Environment Agency – National Flood and Coastal Erosion Risk Management Strategy for England \(publishing.service.gov.uk\)](https://www.environment-agency.gov.uk/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england)

¹⁴³ Department for Infrastructure (2018) Northern Ireland Flood Risk Assessment (NIFRA) 2018. Available: [Northern Ireland Flood Risk Assessment \(NIFRA\) 2018 - Revised May 2019 \(infrastructure-ni.gov.uk\)](https://www.infrastructure-ni.gov.uk/sites/default/files/publications/infrastructure/northern-ireland-flood-risk-assessment-report-2018-updated-may2019.pdf)

¹⁴⁴ The Environment Agency (2009) Shoreline Management Plans. Available: [Shoreline management plans \(SMPs\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/292422/shoreline_management_plans_smps.pdf)

¹⁴⁵ Natural Resources Wales (2022) Shoreline Management Plans. Available: [Natural Resources Wales / Shoreline Management Plans](https://www.naturalresources.wales/shoreline-management-plans)

- Long term (50 to 100 years in England and 2055-2105 in Wales)

A total of 22 plans have been developed for England and Wales as follows¹⁴⁶:

- SMP 1 – Scottish Border to River Tyne
- SMP 2 – The Tyne to Flamborough Head
- SMP 3 – Flamborough Head to Gibraltar Point
- SMP 4 – Gibraltar Point to Huntstanton
- SMP 5 – Hunstanton to Kelling hard
- SMP 6 – Kelling Hard to Lowestoft
- SMP 7 – Lowestoft to Felixstowe
- SMP 8 – Essex and South Suffolk
- SMP 9 – River Medway and Swale Estuary
- SMP 10 – Isle of Grain to South Foreland
- SMP 11 – South Foreland to Beachy Head
- SMP 12 – Beachy Head to Selsey Bill
- SMP 13 – Selsey Bill to Hurst Spit
- SMP 14 – Isle of Wight
- SMP 15 – Hurst Spit to Durlston Head
- SMP 16 – Durlston Head to Rame Head
- SMP 17 – Rame Head to Hartland Point

¹⁴⁶ Environment Agency (2009) Shoreline Management Plans (SMPs). Available: <https://www.gov.uk/government/publications/shoreline-management-plans-smpls>

	<ul style="list-style-type: none">• SMP 18 – Hartland Point to Anchor Head• SMP 19 – Anchor Head to Lavernock Point• SMP 20 – Lavernock Head to Saint Ann’s Head• SMP 21 – St. Ann’s Head to Great Ormes Head• SMP 22 – Great Ormes Head to Scotland <p>The Shoreline Management Plans propose four different management policies:</p> <ul style="list-style-type: none">• No active intervention• Hold the (existing defence) line• Managed realignment• Advance the line <p>There is not the same comprehensive approach to Shoreline Management in Scotland, with only a small number of local authorities publishing Shoreline Management Plans, though there is a growing recognition of the need for a more joined up approach to this issue, particularly in light of a changing climate and recent work has informed this process¹⁴⁷. Northern Ireland also does not have a strategic approach to shoreline management¹⁴⁸.</p>		
The National Flood and Coastal Erosion Risk Management Strategy for England identifies that over 5.2 million homes and businesses in	Flood zones 2 and 3 are located across the whole of Wales. The largest and most extensive of these areas exist in lowland and estuarine regions, such as	Scotland has an estimated 284,000 properties at risk of any type of flooding ¹⁵² . This is more than twice the number identified in the 2015 Flood Risk	There are Significant Flood Risk Areas throughout Northern Ireland, for which detailed mapping is available. The largest of these are located around centres of

¹⁴⁷ Centre of Expertise for Waters (n.d.). Scotland's Coastal Change Assessment. Available: <http://www.dynamiccoast.com/outputs.html>

¹⁴⁸ Northern Ireland Assembly (2015) Shoreline management planning in Northern Ireland. Available: http://www.niassembly.gov.uk/globalassets/documents/raise/knowledge_exchange/briefing_papers/series4/2015-04-15-kess-shoreline-management-planning-in-northern-ireland1.pdf

¹⁵² Scottish Environment Protection Agency (2018) Flood Risk Management in Scotland. Available: [Microsoft Word - NFRA FAQ \(sepa.org.uk\)](https://www.sepa.org.uk/microsites/nfra/faq)

	<p>England are at risk from flooding and coastal erosion, and over two-thirds of properties in England are served by infrastructure sites and networks located in, or dependent on others located in, areas at risk of flooding¹⁴⁹. Flood Zones 2 and 3 are located across the whole of England associated with river and coastal areas. Lowland areas are of particular risk as a consequence of floodplains being associated with the lower reaches of rivers¹⁵⁰.</p>	<p>the River Dee and Severn estuary. Mid Wales and the highland regions, such as Snowdonia and the Brecon Beacons, have less risk of flooding¹⁵¹.</p>	<p>Management Strategies as there have been major advances in the identification of properties at risk.</p>	<p>population, such as Belfast in the east and Londonderry in the west.</p> <p>NB: Other areas of Northern Ireland are likely to be at risk of flooding, although these are not as extensively mapped/assessed due to Significant Flood Risk Areas being allocated on the basis of population density¹⁵³.</p>
<p>Supporting Trend Data:</p> <p>As a consequence of climate change (which could lead to increased rainfall, river flows, and higher coastal storm surges), and development pressures, it is likely that flood risk will increase in the future, with potentially the most significant changes likely to happen in the latter half of the century. In England it is estimated that over the next 50</p>				

¹⁴⁹ Environment Agency (2020) National Flood and Coastal Erosion Risk Management Strategy for England. Available: [Environment Agency – National Flood and Coastal Erosion Risk Management Strategy for England \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874442/Environment_Agency_-_National_Flood_and_Coastal_Erosion_Risk_Management_Strategy_for_England.pdf)

¹⁵⁰ Environment Agency (2023) Flood Map for Planning. Available: [Flood map for planning - GOV.UK \(flood-map-for-planning.service.gov.uk\)](https://flood-map-for-planning.service.gov.uk/)

¹⁵¹ Natural Resources Wales (2023) Flood risk map. Available: <https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en>

¹⁵³ Department for Infrastructure (2020) Flood Maps NI. Available: <https://www.infrastructure-ni.gov.uk/topics/rivers-and-flooding/flood-maps-ni>

	years, without investment in flood defences, the number of properties experiencing a 1% annual likelihood of flooding from rivers and sea would increase from 748,000 to 1.29 million. Similar increases are likely to occur within Scotland, Wales and Northern Ireland ¹⁵⁴ .
Adaptation to climate change: Marine Spatial Plans	<p>Marine planning in the UK has been taking place across different timescales. The first marine plans to be adopted in the UK were the East Inshore and Offshore Marine Plans in 2014 and the Scottish National Marine Plan in 2015, followed by the South Inshore and Offshore Marine Plans in 2018 and the Welsh National Marine Plan (WNMP) in 2019. As of 2023, the government has adopted and published the North East, North West, South East and South West Marine Plans, meaning that all of England's seas are covered by Marine Plans¹⁵⁵. The Department of Agriculture, Environment and Rural Affairs (DAERA) continue to develop the remaining plans for the waters of Northern Ireland. In England, all Marine Plans have been adopted and published. The consultation on the Marine Plan for Northern Ireland took place in 2018, but a final plan is yet to be adopted. The remaining plans, like those already adopted, are consistent with the Marine Policy Statement, and have taken a similar approach, presentation (comprising a vision, objectives and general and sectoral policies) and in the approach to policy wording. Marine plans in the UK have, to date, been written at a strategic level which largely consolidates and clarifies existing legal and policy arrangements, albeit with a regional focus, and in most instances do not attempt to be spatially explicit, for example by indicating defined zones for development or where development would be precluded. The plans rather identify potential resource and constraint (including through mapping), with policies that seek to balance environment, economic and social considerations in decision making and consent application. This includes the promotion of certain activities such as offshore wind, or the safeguarding of strategic resources. As these are the first iteration of marine plans, subsequent revisions may be expected to be more explicit¹⁵⁶.</p>

¹⁵⁴ Environment Agency (2014) Flood and coastal erosion risk management. Long-term investment scenarios (LTISA) 2014. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/381939/FCRM_Long_term_investment_scenarios.pdf

¹⁵⁵ Marine Management Organisation (2021) Adoption of Marine Plans marks big step forward for England's seas. Available: [Adoption of Marine Plans marks big step forward for England's seas - GOV.UK \(www.gov.uk\)](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974180/OESEA4_Scoping_Document.pdf)

¹⁵⁶ Department for Business, Energy and Industrial Strategy (2021) UK Offshore Energy Strategic Environmental Assessment. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974180/OESEA4_Scoping_Document.pdf

B.4. Greenhouse Gas Emissions

Introduction to the baseline information and overview of interaction with the NPS

Climate change refers to long-term shifts in temperatures and weather patterns. Such shifts can be natural, due to changes in the sun’s activity or large volcanic eruptions. However, since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas. Burning fossil fuels generates greenhouse gas (GHG) emissions that act like a blanket wrapped around the Earth, trapping the sun’s heat and raising temperatures.

To support international efforts, the UK Climate Change Act (2008) set a legal GHG reduction target of 80% against 1990 levels by 2050. In response to the ambitions of the Paris Agreement, in June 2019 the Climate Change Act was amended to set the overall reduction target by 2050 to at least a 100% reduction in net emissions against 1990 levels, i.e. ‘net zero’. ‘Net Zero’ emissions mean that following all efforts to reduce emissions, the total of active removals of GHGs from the atmosphere offsets any remaining emissions from the rest of the economy. The removals are expected to be important given the difficulty in entirely eliminating emissions from some sectors.

The UK has in place carbon budgets for five-year periods up to 2037 (see Table below). The UK is currently in the fourth carbon budgetary period (2023-2027), the budget for which is 1,950 MtCO₂e. The UK cannot legally emit more GHGs than this within the budgetary period. The fifth budget is 1,725 MtCO₂e (2028-32), and the sixth carbon budget is 965 MtCO₂e (2033-37). The sixth carbon budget was the first one to be set under the UK’s net zero target, so it shows a marked reduction in comparison to the 5th budget. Whilst budgets are not set beyond this, there is a legal requirement for the UK to reach ‘net zero’ emissions by 2050.

The UK Government’s carbon budgets (a cap on the amount of GHGs emitted in the UK over a five-year period) up to 2037 are shown below. The UK has so far outperformed its first three budgets. But progress is slowing, and the country is not on track to meet its future budgets or the overall reduction target, according to the 2023 Progress Report to Parliament by the Committee on Climate Change.

Budgetary Period	Carbon Budget (MtCO ₂ e)
1st carbon budget (2008 to 2012)	3,018
2nd carbon budget (2013 to 2017)	2,782
3rd carbon budget (2018 to 2022)	2,544

4th carbon budget (2023 to 2027)	1,950
5th carbon budget (2028 to 2032)	1,725
6th carbon budget (2033 to 2037)	965

Table 4: Greenhouse Gas Emissions

Sustainability Topic / Baseline	England	Wales	Scotland	Northern Ireland
Greenhouse gas emissions:	As of 2021, UK total net GHG emissions= 426.51 MtCO ₂ e ¹⁵⁷ .			
Distribution of greenhouse gas emissions	As of 2021, England net GHG emissions were 315.32 MtCO ₂ e and had approximately 73.9% share of total net GHG emissions.	As of 2021, Wales net GHG emissions were 35.98 MtCO ₂ e and had approximately 8.4% share of total net GHG emissions.	As of 2021, Scotland net GHG emissions were 40.91 MtCO ₂ e and had approximately 9.6% share of total net GHG emissions.	As of 2021, Northern Ireland net GHG emissions were 22.46 MtCO ₂ e and had approximately 5.3% share of total net GHG emissions.
	Supporting Trend Data: UK GHG emissions decreased overall from 1990 to 2021 driven largely by a switch from using coal and heavy-emitting fuels in the energy supply and manufacturing industries to lower emission fuels such as natural gas and, more recently, renewable sources. Household emissions that come from heating homes and travelling, for commuting, social, domestic or leisure purposes, have been the largest contributor since 2015 as the emissions from energy supply decreased ¹⁵⁸ .			

¹⁵⁷ National Atmospheric Emissions Inventory (2021) Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2021. Available: https://naei.beis.gov.uk/reports/reports?report_id=1110

¹⁵⁸ <https://climate-change.data.gov.uk/dashboards/emissions>

In 2019, net territorial emissions in the UK of the basket of seven greenhouse gases covered by the Kyoto Protocol were estimated to be 454.8 million tonnes carbon dioxide equivalent (MtCO₂e), a decrease of 2.8% compared to the 2018 figure of 468.1 million tonnes and 43.8% lower than they were in 1990¹⁵⁹.

In 2020, net territorial greenhouse gas emissions in the UK were estimated to be 405.5 million tonnes carbon dioxide equivalent (MtCO₂e), a decrease of 9.5% compared to the 2019 figure of 447.9 million tonnes and 49.7% lower than they were in 1990. The coronavirus (COVID-19) pandemic and the resulting restrictions introduced in 2020 across the UK had major impacts on various aspects of society and the economy, which led to a significant decrease in GHG emissions¹⁶⁰.

In 2021, net territorial GHG emissions in the UK were estimated to be 426.5 million tonnes carbon dioxide equivalent (MtCO₂e), an increase of 5.0% from the 2020 figure of 406.3 million tonnes, but still 5.3% lower than in 2019, the most recent pre-pandemic year¹⁶¹.

Provisional figures for 2022 show that despite rises in some emissions as the UK continued to recover from the COVID-19 pandemic, 2022 saw another fall in GHG emissions, largely due to a reduction in fuel use to heat buildings. This will largely be because 2022 was considerably warmer than 2021 and higher energy prices may also have been a factor, particularly towards the end of the year. Total GHG emissions are estimated to have decreased by 2.2% to 417.1 million tonnes carbon dioxide equivalent (MtCO₂e) compared to 2021. Compared to 2019, the most recent pre-pandemic year, 2022 CO₂ emissions are down 7.5% and total GHG emissions are down 7.4%. Total GHG emissions were 48.7% lower than they were in 1990¹⁶².

Emissions of CO₂ are by far the largest component of total UK GHG emissions, of which the largest sources are power generation and road transport. Emissions have reduced from 1990 due to fuel switching, structural change,

¹⁵⁹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/957887/2019_Final_greenhouse_gas_emissions_statistical_release.pdf

¹⁶⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1051408/2020-final-greenhouse-gas-emissions-statistical-release.pdf

¹⁶¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1134664/greenhouse-gas-emissions-statistical-release-2021.pdf

¹⁶² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147372/2022_Provisional_emissions_statistics_report.pdf

	<p>and improvements in end-use efficiency. The strong link between power generation and CO₂ emissions means that short term trends can be dominated by UK temperatures. In cold years like 1996 and 2010 there was an increase in demand for power for heating and in warm years like 2011 and 2014 there was a decrease. The second most important source of greenhouse gases is methane (CH₄). Annual emissions of CH₄ have reduced by over half since 1990. The main sources of CH₄ are agriculture, waste disposal, leakage from the gas distribution system and coal mining. Reductions in CH₄ emissions in the UK are driven by the increased utilisation of methane from landfills, a large decline in UK coal mining, investment in improvements to the natural gas supply infrastructure to reduce leakage and a reduction in livestock numbers. Emissions of nitrous oxide (N₂O) have also reduced by over half since 1990. Most N₂O emissions are generated from the agriculture sector, Agriculture sector N₂O emissions have decreased primarily due to reduced emissions from synthetic fertiliser application. N₂O is also released during the production of nitric and adipic acid, a significant source in 1990 contributing to approximately half of all N₂O emissions. Due to a decline in production together with the installation of abatement equipment, the Industrial Processes and Other Product Use (IPPU) sector now only contribute around 4% of N₂O emissions. The smallest percentage reduction in emissions across the time series is for the F gases: HFCs, PFCs, NF₃ and SF₆. F-gas emissions have decreased since 1995, due mainly to the fall in F gas manufacture in the UK and the installation of abatement equipment at two of the three UK manufacturers. These emission reductions have been to some extent offset by the increases in the use of HFCs as substitutes for ozone depleting substances, particularly in refrigeration and air conditioning¹⁶³.</p>
<p>Greenhouse gas emissions:</p> <p>Contribution of sectors to</p>	<p>As of 2021, the UK total net GHG emissions per sector in England were¹⁶⁴:</p> <p>Agriculture: 47,906.21 ktCO₂e</p> <p>Business: 73,317.19 kt CO₂e</p>

¹⁶³ [UK Greenhouse Gas Inventory, 1990 to 2021 \(defra.gov.uk\)](https://www.defra.gov.uk/greenhouse-gas-inventory/)

¹⁶⁴ National Atmospheric Emissions Inventory (2021) Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2021. Available: https://naei.beis.gov.uk/reports/reports?report_id=1110

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greenhouse gas emissions	<p>Energy supply: 86,883.19 ktCO₂e</p> <p>Industrial processes: 10,299.85 ktCO₂e</p> <p>Public: 7,515.38 ktCO₂e</p> <p>Residential: 69,398.95 ktCO₂e</p> <p>Transport: 109,452.95 ktCO₂e</p> <p>Waste: 18,662.14 ktCO₂e</p> <p>Land Use, Land Use Change and Forestry (LULUCF): 1083.15 ktCO₂e</p>			
	<p>As of 2021, the total net GHG emissions per sector in England were:</p> <p>Agriculture: 28,145.42 ktCO₂e</p> <p>Business: 55,627.84 kt CO₂e</p> <p>Energy supply: 57,790.03 ktCO₂e</p> <p>Industrial processes: 7,358.50 ktCO₂e</p>	<p>As of 2021, the total net GHG emissions per sector in Wales were:</p> <p>Agriculture: 5,736.96 ktCO₂e</p> <p>Business: 8,808.41 ktCO₂e</p> <p>Energy Supply: 9,323.49 ktCO₂e</p> <p>Industrial processes: 2,272.75 ktCO₂e</p>	<p>As of 2021, the total net GHG emissions per sector in Scotland were:</p> <p>Agriculture: 7,825.66 ktCO₂e</p> <p>Business: 7,730.34 ktCO₂e</p> <p>Energy Supply: 4,850.48 ktCO₂e</p>	<p>As of 2021, the total net GHG emissions per sector in Northern Ireland were¹⁶⁵:</p> <p>Agriculture: 6,198.17 ktCO₂e</p> <p>Business: 3,150.58 ktCO₂e</p> <p>Energy Supply: 3,084.06 ktCO₂e</p>

¹⁶⁵ National Atmospheric Emissions Inventory (2021) Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 – 2021. Available: https://naei.beis.gov.uk/reports/reports?report_id=1110

	<p>Public: 6,124.00 ktCO₂e</p> <p>Residential: 56,575.14 ktCO₂e</p> <p>Transport: 89,324.20 ktCO₂e</p> <p>Waste: 15,220.85 ktCO₂e</p> <p>LULUCF: - 848.91 ktCO₂e</p>	<p>Public: 334.75 ktCO₂e</p> <p>Residential: 3,728.63 ktCO₂e</p> <p>Transport: 5,420.60 ktCO₂e</p> <p>Waste: 1,104.33 ktCO₂e</p> <p>LULUCF: - 752.04 ktCO₂e</p>	<p>Industrial: 440.00 ktCO₂e</p> <p>Public: 917.88 ktCO₂e</p> <p>Residential: 6298.90 ktCO₂e</p> <p>Transport: 10,948.73 ktCO₂e</p> <p>Waste: 1,545.09 ktCO₂e</p> <p>LULUCF: 358.17 ktCO₂e</p>	<p>Industrial: 228.60 ktCO₂e</p> <p>Public: 138.76 ktCO₂e</p> <p>Residential: 2,787.27 ktCO₂e</p> <p>Transport: 3,754.35 ktCO₂e</p> <p>Waste: 791.87 ktCO₂e</p> <p>LULUCF: 2,325.92 ktCO₂e</p>
	<p>Supporting Trend Data:</p> <p>As of 2021, emissions in the agricultural sector accounted for 11% of UK total net GHG emissions and have declined from 54 MtCO₂e in 1990 to 48 MtCO₂e in 2021 (-16%).</p> <p>As of 2021, emissions in the business sector accounted for 17% of UK total net GHG emissions and have declined from 113 MtCO₂e in 1990 to 74 MtCO₂e in 2021 (-35%).</p> <p>As of 2021, emissions in the energy supply sector accounted for 20% of UK total net GHG emissions and have declined from 284 MtCO₂e in 1990 to 87 MtCO₂e in 2021 (-69%).</p>			

As of 2021, emissions in the industrial processes sector accounted for 2.5% of UK total net GHG emissions and have declined from 56 MtCO₂e in 1990 to 10 MtCO₂e in 2021 (-82%).

As of 2021, emissions in the public sector accounted for 1.8% of UK total net GHG emissions and have declined from 16 MtCO₂e in 1990 to 7.5 MtCO₂e in 2020 (-53%).

As of 2021, emissions in the residential sector accounted for 16% of UK total net GHG emissions and have declined from 80 MtCO₂e in 1990 to 67 MtCO₂e in 2021 (-16%).

As of 2021, emissions in the transport sector accounted for 26% of UK total net GHG emissions and have declined from 128 MtCO₂e in 1990 to 110 MtCO₂e in 2021 (-14%).

As of 2021, emissions in the waste sector accounted for 4.5% of UK total net GHG emissions and have declined from 72 MtCO₂e in 1990 to 18 MtCO₂e in 2021 (-75%).

As of 2021, emissions in the LULUCF sector accounted for 0.25% of UK total net GHG emissions and have declined from 11 MtCO₂e in 1990 to 1 MtCO₂e in 2021 (-90%).

B.5. Air Quality and Noise

Introduction to the baseline information and overview of interaction with the NPS

Poor air quality is considered by the UK Government to be ‘the largest environmental risk to public health in the UK’. As well as human health, air pollution also has implications for the natural environment and the economy. Poor air quality can be caused by different pollutants from a variety of sources. Legal limits are placed on pollutants including sulphur dioxide, nitrogen oxides, particulate matter and ozone. The sources of these and other pollutants are a range of natural and anthropogenic, including the combustion of fossil fuels for industrial and domestic processes, incineration of waste, emissions from traffic, chemical and photochemical reactions. The Clean Air Strategy was published in 2019 and raised concerns about those living in deprived communities being most likely to suffer adverse health effects from poor air quality.

Long-term exposure to air pollution reduces life expectancy, mainly due to cardiovascular and respiratory diseases and lung cancer. Short-term exposure can also cause effects on lung function, exacerbation of asthma, increases in respiratory and cardiovascular hospital admissions and mortality¹⁶⁶. In respect of the environment, air pollution contributes to acidification and eutrophication of soil and watercourses, which impacts on animal and plant life and biodiversity. It also contributes to local ozone production which has public health impacts and damages agricultural crops, forests and plants.

While sound can be important to our daily lives, noise which can be defined as unwanted sound is not always essential. It can be a source of irritation and stress for many people and can damage hearing if it is loud enough. Environmental Protection UK note many people are exposed to stressful levels of noise at home and at work¹⁶⁷. Road transport is described as the most significant contributor to environmental noise pollution, and the European Environment Agency finds that at least one in five people are exposed to long-term noise levels considered harmful to their health¹⁶⁸. In many cities, more than half of the population is exposed to road noise levels above the World Health Organisation guidelines for the day-evening-night period.

Given noise’s negative impacts on a large portion of the population, environmental noise alongside air pollution have become significant concern for citizens and policymakers. Development enabled by the Nuclear NPS may give rise to noise and air quality impacts, particularly through the construction phase.

¹⁶⁶ <https://researchbriefings.files.parliament.uk/documents/CBP-9600/CBP-9600.pdf>

¹⁶⁷ <https://www.environmental-protection.org.uk/wp-content/uploads/2021/02/noise-pollution.pdf>

¹⁶⁸ <https://www.eea.europa.eu/en/topics/indepth/noise#:~:text=Living%20close%20to%20a%20road,and%20cardiovascular%20and%20metabolic%20issues.>

Table 5: Air Quality and Noise

Air Quality and Noise: Location of Air Quality Management Areas (AQMA) Air Pollution Information System	<p>Since December 1997 each local authority in the UK must review and assess air quality in their area to determine performance against national air quality objectives. Where air quality objectives are not likely to be achieved an AQMA must be declared. AQMAs are typically associated with vehicle emissions, principally oxides of nitrogen (NO_x), oxides of sulphur (SO₂), particulates (PM₁₀) and Benzene (C₆H₆). As such, AQMAs are predominantly associated with urban areas and the road network¹⁶⁹.</p> <p>The Air Pollution Information System provides a searchable database and information on pollutants and their impacts on habitats and species. The APIS provides pollution impact records for a variety of habitats, ecosystems and species. Each record contains information on key impacts including any critical loads or levels and a full reference list.</p>			
	<p>As of 2022, there were 526 AQMAs in England¹⁷⁰. AQMAs are distributed throughout England, although they are principally located in areas of high population. The largest AQMAs are within major cities, including London, Birmingham, Manchester, Liverpool, Sheffield and Bristol. A</p>	<p>As of June 2023, there were 44 AQMAs in Wales¹⁷¹. These are all located in the south of the country. The largest AQMAs are within Swansea and Port Talbot, on the south coast. Smaller AQMAs are within Cardiff, Newport and the smaller towns within the valleys between the M4 corridor</p>	<p>As of June 2023, there were 34 AQMAs in Scotland¹⁷². The majority of these are located in the south of the country and are associated with the larger cities of Glasgow, Edinburgh, Falkirk, Perth and Dundee. Outside of these areas, Aberdeen and Inverness, on the east coast, have designated</p>	<p>As of June 2023, there were 19 AQMAs in Northern Ireland¹⁷³. These are located in the east, west south and central regions. The urban areas of Belfast in the east, Newry in the south and Strabane in the west have the largest AQMAs. Smaller AQMAs, associated with congestion</p>

¹⁶⁹ Department for Environment and Rural Affairs (2016) Current AQMAs by Source. Available: <https://uk-air.defra.gov.uk/aqma/summary>

¹⁷⁰ Department for Environment and Rural Affairs (2022) AQMAs interactive map and AQMA Summary Data. Available: <https://uk-air.defra.gov.uk/aqma/maps>

¹⁷¹ Welsh Government (2021) Air Quality Management Areas. Available: <https://airquality.gov.wales/laqm/air-quality-management-areas>

¹⁷² Scottish Air Quality (2021) Air Quality Management Areas. Available: <http://www.scottishairquality.scot/laqm/aqma>

¹⁷³ Department of Agriculture, Environment and Rural Affairs (2021) Northern Ireland Air, Air Quality Management Areas. Available: <https://www.airqualityni.co.uk/laqm/aqma>

	<p>significant amount of AQMAs are designated along major trunk roads and are generally associated with areas of high congestion.</p>	<p>and the Brecon Beacons. These small AQMAs are associated with congestion within the town centres.</p>	<p>AQMAs. The north, highlands and west coast do not have any AQMAs.</p>	<p>in town centres, are located throughout east, west and south Northern Ireland.</p> <p>As the NPS applies to England & Wales only, it is anticipated that there are no implications for the air quality of Northern Ireland in terms of AQMA as these have been declared for the most part in relation to the impact of emissions from road traffic.</p>
	<p>Supporting Trend Data:</p> <p>The quality of our air in the UK has improved considerably over the last decade. Road transport is a key source of many air pollutants, particularly in urban areas. There are two main trends in the transport sector working in opposite directions: new vehicles are becoming individually cleaner in response to European emission standards legislation, but total vehicle kilometres are increasing. Overall emissions of key air pollutants from road transport have fallen by about 50% over the last decade, despite increases in traffic, and are expected to reduce by a further 25% over the next decade. This is mainly a result of progressively tighter vehicle emission and fuel standards agreed at European level and set in UK regulations¹⁷⁴.</p>			

¹⁷⁴ Department for Environment and Rural Affairs (2011) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland - Volume 1. Available: <https://www.gov.uk/government/publications/the-air-quality-strategy-for-england-scotland-wales-and-northern-ireland-volume-1>

<p>Air Quality and Noise:</p> <p>Noise Action Planning Important Areas (NIA)</p>	<p>Noise is an inevitable consequence of a mature and vibrant society, but it can have a negative effect on people's quality of life, affecting their health and wellbeing¹⁷⁵. Noise action plans provide a framework to manage environmental noise and its effects. They also aim to protect quiet areas in agglomerations (large urban areas) where the noise quality is good. The Environmental Noise Directive covers noise from roads, rail, aviation and industry. It requires Member States to carry out noise mapping of environmental noise sources every 5 years. The Action Plans identify Important Areas (areas exposed to the highest levels of noise) and suggests ways the relevant authorities can reduce these.</p>			
	<p>The Noise Action Plans (Round 3) for England, undertaken in 2017, covers 65 Environmental Noise Directive agglomerations, major roads and railways. The number of people exposed to noise levels from roads in agglomerations above 55dB for Lden (24-hour period) was 8,071,000 and from railways 1,099,000 people.¹⁷⁶</p>	<p>The Noise and Soundscape Action Plan 2018-2023 was produced for three agglomerations in Wales. The number of people whose homes are exposed to noise levels above 55 Db for Lden (24-hour period) from major roads, railways and industry, in the Cardiff and Penarth agglomeration was 46,100 people, in the Newport agglomeration 36,100 people, and in the Swansea and Neath Port</p>	<p>Round 3 Noise Maps for Scotland were produced in 2016 for major roads, railways, airports and agglomerations. Consolidated noise maps for Edinburgh estimated 253,400 people were exposed to noise levels above 55Db for Lden (24-hour period), 661,500 in Glasgow, 108,400 in Aberdeen and 53,400 in Dundee.¹⁷⁸</p> <p>The Noise and Soundscape Action Plan</p>	<p>Round 3 Noise Maps were produced in 2016 for major roads, railways, airports and agglomerations. Consolidated noise maps for the Belfast agglomeration boundary, including noise levels for roads, railways, industry and Belfast City airport estimated 287,558 people were exposed to noise levels above 50Db for LAeq,16h (07:00-23:00)¹⁸⁰.</p>

¹⁷⁵ Department for Environment, Food & Rural Affairs (2022) Noise management. Available: [Noise management - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/noise-management)

¹⁷⁶ Department for Environment, Food and Rural Affairs (2019) *Noise action plan: agglomerations (urban areas)*. Available: [Noise Action Plan \(2019\): Agglomerations \(Urban Areas\) \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/publications/noise-action-plan-2019)

¹⁷⁸ Scotland's Noise (2018) Noise statistics. Available: [Noise statistics | Scotland's noise \(environment.gov.scot\)](https://www.environment.gov.scot/noise-statistics)

¹⁸⁰ Department of Agriculture, Environment and Rural Affairs (2018) *Noise mapping and action planning contract round 3 2016/2017 summary report – final*. Available: [Round 3 Noise Mapping Technical Report - Industry.PDF \(daera-ni.gov.uk\)](https://daera-ni.gov.uk/publications/round-3-noise-mapping-technical-report-industry-pdf)

		Talbot agglomeration 46,800. ¹⁷⁷	2018-2023 was produced for three agglomerations in Wales. The number of people whose homes are exposed to noise levels above 55 Db for Lden (24-hour period) from major roads, railways and industry, in the Cardiff and Penarth agglomeration was 46,100 people, in the Newport agglomeration 36,100 people, and in the Swansea and Neath Port Talbot agglomeration 46,800. ¹⁷⁹	
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¹⁷⁷ Noise and soundscape action plan (2018-2023)
<https://www.gov.wales/sites/default/files/publications/2019-04/noise-and-soundscape-action-plan.pdf>

¹⁷⁹ Noise and soundscape action plan (2018-2023)
<https://www.gov.wales/sites/default/files/publications/2019-04/noise-and-soundscape-action-plan.pdf>

B.6. Soils, Geology, Landuse and Contaminated Land

Introduction to the baseline information and overview of interaction with the NPS

Soil is an important natural capital resource, providing many essential services. The Natural Capital Committee highlights the role of soil in food production, climate regulation, flood risk reduction and water purification. Soils also provide support for buildings, landscapes, and heritage as well as opportunities for engagement with the natural environment.¹⁸¹ The UK has many different types of soil due to variations in geology, climate, plant and animal ecology and land use. Most soils contain sand, silt, clay, organic matter, water, and air. However, soils are being degraded globally resulting in external costs equivalent to 17% of global GDP, with an estimated cost between £0.9 billion and £1.4 billion per year for England and Wales. The main pressures affecting soils include agriculture, climate change, population growth, and emerging pollutants. The government's 25 Year Environment Plan states that England's soils must be managed sustainably by 2030, and steps must be taken towards restoring the UK's soils.¹⁸²

Nuclear energy use enabled by the Nuclear NPS could potentially have a negative impact on soil quality. The most significant impact is the potential release of radioactive materials into the soil. If these materials are not properly contained, they can leach into the soil and contaminate it. In addition, the large amounts of water required for cooling could lead to soil moisture depletion in the surrounding area. This can result in soil erosion, compaction, and degradation of soil structure.

Contaminated land includes land where substances are causing or could cause significant harm to people, property, or protected species; significant pollution of surface waters or groundwater; or harm to people as a result of radioactivity¹⁸³. Many areas of land in the UK have been contaminated by past industrial and other human activities, including former factories, mines, steel mines, refineries, or landfills. Land at these sites could be contaminated by harmful substances such as oils and tars, heavy metals, asbestos, and chemicals. Land contamination may also be caused by current operations or accidental releases of substances to the environment.¹⁸⁴

The UK contains a diverse range of geological landscapes. UNESCO's Global Geoparks are areas with internationally important rocks and landscapes, all of which are managed responsibly for conservation, education, and sustainable development¹⁸⁵.

Land and its many uses provide the bedrock of the UK and the foundation for the population's wellbeing, prosperity, and national identity. Factors driving land use change include population

¹⁸¹ Natural Capital Committee (2019) *Advice on soil management*. Available: [Advice on soil management \(publishing.service.gov.uk\)](https://www.naturalcapitalcommittee.org/publications/advice-on-soil-management)

¹⁸² Environment Agency (2019) *The state of the environment: soil*. Available: [The state of the environment soil \(publishing.service.gov.uk\)](https://www.environmental.gov.uk/publications/the-state-of-the-environment-soil)

¹⁸³ UK Government (2021) *Contaminated land*. Available: [Contaminated land: Overview - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/contaminated-land-overview)

¹⁸⁴ NetRegs Contaminated land (Accessed 31/07/2023) Available: [Contaminated land | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland](https://www.netregs.gov.uk/contaminated-land)

¹⁸⁵ British Geological Survey (2023) *Geoparks*. Available: [Geoparks - British Geological Survey \(bgs.ac.uk\)](https://www.bgs.ac.uk/geoparks)

and income growth, climate change, and new technologies. Approximately 72% of the UK's land area is used for agriculture¹⁸⁶. In England and Wales, the quality of agricultural land is graded using the Agricultural Land Classification System. This enables informed decisions over future land use. Sustainable land management has a vital role to play in tackling climate change and adapting to its impacts.

¹⁸⁶ The Royal Society (2019) Climate change and land: opportunities and challenges for the UK. Available: [Climate change and land: opportunities and challenges for the UK \(royalsociety.org\)](https://royalsociety.org/Policy-and-Analysis/Policy-Reports/Climate-change-and-land/)

Table 6: Soils, Geology, Landuse and Contaminated Land

<p>Soils, Geology, Landuse and Contaminated Land:</p> <p>Location of Geological SSSIs / ASSIs</p>	<p><i>Geological SSSIs / ASSIs are included within the SSSI / ASSI information provided in Biodiversity and Ecology.</i></p>			
<p>Soils, Geology, Landuse and Contaminated Land:</p> <p>National Soil Maps</p>	<p>Maps delineating soil types across respective regions have been published and draw from survey work and GIS techniques. In respect of the England and Wales resource the maps include soils, developed from the more detailed national soil map and a series of thematic soil properties including carbon, metal binding capacity and native woodland models.</p> <p>The maps are developed with the purpose of effectively communicating a general understanding of the variations that occur between soil types and how soils affect the environment.</p>			
	<p>NATMAP (National Soil Map) is derived from the National Soil Map for England and Wales and is the product of sixty years of soil survey work in England and Wales.¹⁸⁷ The World Reference Base map for England and Wales is derived</p>	<p>NATMAP (National Soil Map) is derived from the National Soil Map for England and Wales and is the product of sixty years of soil survey work in England and Wales.¹⁸⁹</p>	<p>National coverage of the main soil types across Scotland mapped originally at 1:250,000 scale. This is an inventory of the soils of Scotland and was intended for use by planners. National Soil Map of</p>	<p>The World Reference Base map shows the locations of the nine reference soil groups recognised in Northern Ireland. It is derived from the general soil map of Northern Ireland at</p>

¹⁸⁷ [NATMAP - National Soil Map - data.gov.uk](https://data.gov.uk) Lasted updated on 03 October 2013

¹⁸⁹ [NATMAP - National Soil Map - data.gov.uk](https://data.gov.uk) Lasted updated on 03 October 2013

	from the national soil map at 1:250 000 scale for England and Wales, showing the locations of 13 distinct reference soil groups recognised in England and Wales. ¹⁸⁸		Scotland is based on data collected between 1947 and 1984. ¹⁹⁰	1:250 000 scale, held by the Agri-Food and Biosciences Institute (AFBI). ¹⁹¹
Soils, Geology, Landuse and Contaminated Land: Contaminated Land	<p>Of particular note across England and Wales are the numerous contaminated sites that are a legacy of current or past industrial activities. Typically, contaminated land would be found in urban areas and along major transport links, though many sites are also found in rural or coastal areas. While many sites are known, it is the case that many contaminated sites (their location and the nature of contamination) remain unknown. In England, arsenic, lead and benzo(a)pyrene are the most common substances causing contamination of land identified under Part 2A of the Environmental Protection Act 1990¹⁹².</p> <p>Across the United Kingdom, land is legally defined as ‘contaminated land’ where substances are causing or could cause¹⁹³:</p> <ul style="list-style-type: none"> • Significant harm to people, property or protected species • Significant pollution of surface waters or groundwater • Harm to people as a result of radioactivity <p>Some types of contaminated land are classed as ‘special sites’. This includes land that:</p>			

¹⁸⁸ [World reference base | UK Soil Observatory | UK Research and Innovation](#)

¹⁹⁰ [National Soil Map of Scotland - data.gov.uk](#) Lasted updated on 24 March 2022

¹⁹¹ [World reference base | UK Soil Observatory | UK Research and Innovation](#)

¹⁹² Environment Agency (2016) Dealing with contaminated land in England. Available:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/513158/State_of_contaminated_land_report.pdf

¹⁹³ UK Government (2021) Contaminated Land. Available: <https://www.gov.uk/contaminated-land>

	<ul style="list-style-type: none"> • seriously affects drinking waters, surface waters or important groundwater sources • has been, or is being, used for certain industrial activities, such as oil refining or making explosives • is being or has been regulated using a permit issued under the integrated pollution control or pollution prevention and control regimes • has been used to get rid of waste acid tars • is owned or occupied by the Ministry of Defence • is contaminated by radioactivity • is a nuclear site <p>Determination of contaminated land is made in the UK by a local council or the relevant environment agency and is best identified on a local or regional basis. It is however important to note that there will be lots of brownfield sites which are contaminated and require remediation but have not been formally designated. They will have not been assessed for designation or don't meet the threshold for designation but still pose a risk of pollution and harm.</p> <p>Local authorities maintain the Public Registers for the ordinary contaminated land in their area.</p>			
	<p>In 2005, less than 2% of the land area of England was likely to have been affected by industrial activities of a type that could have caused contamination. A total of 197, out of 326 local councils who responded to this part of the survey reported that they had determined a total of 511 contaminated land sites. Currently 54 determined sites</p>	<p>In 2005, estimate of around 300,000 hectares of land affected by industrial activity in England and Wales which may be contaminated. A total of 781 sites had been determined as contaminated land under Part 2A in England (659) and Wales (122) by the end of March 2007. Of</p>	<p>A total of 807 sites (equivalent to 1,864 hectares) of land that was affected by contamination have been remediated via the planning system or through voluntary remediation. An estimated 27,000 inspections of land with the potential to be contaminated have already been or are in the process</p>	<p>Note that in Northern Ireland similar provisions have been made relating to the rest of the UK but as of July 2023 are not yet enacted. Once enacted site inspections will take place to identify and remediate land where contamination is causing unacceptable</p>

	are regulated by the Environment Agency as designated special sites. These contaminated land sites were posing unacceptable risks to human health. Arsenic, lead and benzo(a)pyrene are the most common substances causing contamination.	these, 35 were designated special sites (33 for England and two for Wales). Metal and metalloids plus organic compounds were the most common pollutants identified in the significant pollutant linkages of contaminated land sites. ¹⁹⁴	of being undertaken. The planning system has been identified as the predominant mechanism for dealing with land contamination. ¹⁹⁵	risk to health or the environment ¹⁹⁶ .
	<i>Supporting trend data is not available.</i>			
Soils, Geology, Landuse and Contaminated Land: Geoparks	<p>Geoparks are endorsed by UNESCO and are not designated under legislation. They are locally led partnerships within areas of internationally significant geology that work to support sustainable economic development of the area, primarily through geological and eco-tourism¹⁹⁷.</p> <p><i>NB: No mapping data on Geoparks is available.</i></p>			

¹⁹⁴ Environment Agency (2009) Dealing with contaminated land in England and Wales. Available:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/313964/geho0109bpha-e-e.pdf

¹⁹⁵ Environment Agency (2009) Dealing with contaminated land in England and Wales. Available:

<https://www.sepa.org.uk/media/28314/dealing-with-land-contamination-in-scotland.pdf>

¹⁹⁶ Contaminated land | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk)

¹⁹⁷ United Kingdom National Commission for UNESCO (2021) Global Geoparks. Available:

<http://www.unesco.org.uk/designation/geoparks/>

	There are currently three Geoparks in England, the English Riviera, located in the south of Devon in the south west, the North Pennines, between Cumbria and Northumberland in the north, and the Black Country located in the Midlands ¹⁹⁸ .	There are currently two Geoparks in Wales, Fforest Fawr, located in the Brecon Beacons in the south, and GeoMon, which encompasses the island of Anglesey in the north west ¹⁹⁹ .	There are currently two Geoparks in Scotland, the North West Highlands, located in the north, and Geopark Shetland, within the Shetland Islands ²⁰⁰ .	There is currently two Geoparks in Northern Ireland, Cuilcagh Lakeland/Marble Arch Caves, in the south west of the country ²⁰¹ and Mourne Gullion Strangford in the south east ²⁰² .
	<i>Supporting trend data is not available.</i>			
Soils, Geology, Landuse and Contaminated Land:	Agricultural Land Classification classifies land into categories according to versatility and suitability for growing crops. For planning applications involving agricultural land in all parts of the UK there are statutory requirements to minimise the loss of the best quality agricultural land, and supporting evidence on land quality may have to be produced with an application.			
Agricultural Land Classification	Provisional ALC maps grade land according to the severity of environmental constraints on agricultural production, taking into account such factors as soil, gradient, rainfall and altitude. There are five grades,	The Welsh ALC system is the same as England's. Agricultural land is graded using the Agricultural Land Classification (ALC) system. This system classifies land into five	Scotland's agri land classification system is termed the Land Capability for Agriculture. It recognises seven Classes of land, of which four are subdivided to create a total	There are no published ALC maps for Northern Ireland apart from a very generalised, small scale map within Soil and Environment: Northern Ireland. The ALC system

¹⁹⁸ United Kingdom National Commission for UNESCO (2021) Global Geoparks. Available: <http://www.unesco.org.uk/designation/geoparks/>

¹⁹⁹ United Kingdom National Commission for UNESCO (2021) Global Geoparks. Available: <http://www.unesco.org.uk/designation/geoparks/>

²⁰⁰ United Kingdom National Commission for UNESCO (2021) Global Geoparks. Available: <http://www.unesco.org.uk/designation/geoparks/>

²⁰¹ Marble Arch Caves Global Geopark (2021) Our Geopark. Available: <http://www.marblearchcavesgeopark.com/our-global-geopark/>

²⁰² Northern Ireland's newest UNESCO Geopark! - Visit Mourne Mountains

	<p>the best being Grade 1, which is land with only very minor limitations, typified by Lincolnshire silt-land. Grade 5 land, with very severe limitations, includes, for example, moorland rough grazing in the south west of England. Land in Grades 1, 2 and Subgrade 3a are classed as Best and Most Versatile (BMV).</p> <p>A Green Future: Our 25 Year Plan to improve the Environment 2018 sets out the government's 25-year plan to improve the health of the environment by using natural resources more sustainably and efficiently, including plans to protect the best agricultural land²⁰³.</p>	<p>grades according to the extent to which physical or chemical characteristics impose long term limitations on the agricultural use of a site for food production²⁰⁴.</p>	<p>of 13 Classes and Divisions. Class 1 identifies land with the highest potential flexibility of use and Class 7 is land of very limited agricultural value. The Scottish Government's National Planning Policy provides continuing protection for agricultural land, as well as other important soil resources, such as peat²⁰⁵.</p>	<p>is basically the same as that of England and Wales, subdividing Grades 3 into A and B, with Grades 1, 2 and 3A being classed as BMV.</p>
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²⁰³ Department for Environment, Food & Rural Affairs and The Rt Hon Michael Gove MP (2018) 25 Year Environment Plan. Available: [25 Year Environment Plan - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/722222/25-Year-Environment-Plan.pdf)

²⁰⁴ Natural England (2021) *Guide to assessing development proposals on agricultural land*. Available: [Guide to assessing development proposals on agricultural land - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/922222/Guide-to-assessing-development-proposals-on-agricultural-land.pdf)

²⁰⁵ Scotland's Soils (2017) *National scale land capability for agriculture*. Available: [National scale land capability for agriculture | Scotland's soils \(environment.gov.scot\)](https://www.environment.gov.scot/national-scale-land-capability-for-agriculture)

B.7. Historic Environment

Introduction to the baseline information and overview of interaction with the NPS

Historic environments refer to surviving physical remains of interactions between people and places through time, such as places of worship, former industrial assets, and battlefields. If these environments hold value for future generations, they are referred to as "heritage assets". Historic environments can be onshore or offshore, visible, buried or submerged.

Should the Nuclear NPS enable development of new nuclear energy infrastructure, there is the potential for this infrastructure to cause direct disturbance or loss of heritage assets. Furthermore, new infrastructure could have visual, noise or pollution impacts on the landscapes surrounding heritage assets.

Heritage sites that have globally important cultural or natural interest are designated as World Heritage Sites. There are 28 World Heritage Sites across the UK, which all require appropriate management and protection measures.

There are a multitude of other designations for historic environments in the UK. For buildings and monuments these designations include Scheduled Monuments, Listed Buildings and Conservation Areas, and Areas of Architectural Importance. The designations for parks and landscapes include Historic Parks, Registered Parks and Gardens, and Registered Historic Landscapes. In seascapes, Protected Wrecks designation is given to sites identified as being likely to contain the remains of an important vessel or its contents.

There are also wider frameworks such as Historic Landscape Characterisation and the register of Heritage at Risk. The former of which provides a method for identification of Historic Landscape Types. The latter identifies assets that have been assessed and found to be at risk.

The aim of all of these designations is to protect the varied nature of historic environments across the UK.

Table 7: Historic Environment

Sustainability Topic / Baseline	England	Wales	Scotland	Northern Ireland
Historic Environment:	World Heritage Sites are designated to meet the UK’s commitments under the World Heritage Convention and the sites are designated for their globally important cultural or natural interest and require appropriate management and protection measures ²⁰⁶ .			
World Heritage Sites	<p>There are 18 World Heritage Sites in England²⁰⁷:</p> <ul style="list-style-type: none"> • Blenheim Palace • Canterbury Cathedral, St Augustine's Abbey, and St Martin's Church • City of Bath (also included under “The 	<p>There are four World Heritage Sites in Wales²⁰⁸:</p> <ul style="list-style-type: none"> • Blaenavon Industrial Landscape • Castles and Town Walls of King Edward in Gwynedd • Pontcysyllte Aqueduct and Canal • The Slate Landscape of Northwest Wales 	<p>There are five World Heritage Sites in Scotland²⁰⁹:</p> <ul style="list-style-type: none"> • Heart of Neolithic Orkney • New Lanark • Old and New Towns of Edinburgh • St. Kilda • The Forth Bridge 	<p>There is one World Heritage Site in Northern Ireland²¹⁰:</p> <ul style="list-style-type: none"> • Giant's Causeway and Causeway Coast

²⁰⁶ UNESCO (2023) World Heritage Convention - United Kingdom of Great Britain and Northern Ireland. Available: <http://whc.unesco.org/en/statesparties/gb>

²⁰⁷ UNESCO (2023) World Heritage Convention - United Kingdom of Great Britain and Northern Ireland. Available: <http://whc.unesco.org/en/statesparties/gb>

²⁰⁸ UNESCO (2023) World Heritage Convention - United Kingdom of Great Britain and Northern Ireland. Available: <http://whc.unesco.org/en/statesparties/gb>

²⁰⁹ UNESCO (2023) World Heritage Convention - United Kingdom of Great Britain and Northern Ireland. Available: <http://whc.unesco.org/en/statesparties/gb>

²¹⁰ UNESCO (2023) World Heritage Convention - United Kingdom of Great Britain and Northern Ireland. Available: <http://whc.unesco.org/en/statesparties/gb>

	<p>Great Spa Towns of Europe”)</p> <ul style="list-style-type: none"> • Cornwall and West Devon Mining Landscape • Derwent Valley Mills • Dorset and East Devon Coast • Durham Castle and Cathedral • Frontiers of the Roman Empire • Ironbridge Gorge • Jodrell Bank Observatory • Maritime Greenwich • Palace of Westminster and Westminster Abbey, including Saint Margaret’s Church • Royal Botanic Gardens, Kew • Saltaire 			
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	<ul style="list-style-type: none"> • Stonehenge, Avebury and Associated Sites • Studley Royal Park including the Ruins of Fountains Abbey • The English Lake District • Tower of London 			
Historic Environment: Scheduled Monuments	<p>Supporting Trend Data:</p> <p>The first World Heritage Sites within the UK were designated in 1986. Sites can continue to be nominated, with the last site on the UK mainland being The Slate Landscape of Northwest Wales, designated in 2021. Of all the sites in the UK, none are placed on the List of World Heritage in Danger. The list presently comprises 56 sites in total worldwide. These are sites at which conditions are present to threaten the characteristics for which a site was placed on the World Heritage List²¹¹.</p> <p>Scheduling is the selection of nationally important archaeological sites which are legally protected. The monitoring and identification of sites is undertaken by Historic England. Scheduled Monuments cover the whole range of archaeological sites and are not always visible or above ground sites.</p> <p>The condition of Scheduled Monuments is monitored as part of Historic England’s ‘Heritage at Risk’ programme. Local government archaeological services, plus independent national and local heritage organisations and community groups can also play important roles in their curation, plus that of non-scheduled but nationally important monuments.</p>			

²¹¹ UNESCO (2023) World Heritage Convention – List of World Heritage in Danger. Available: <https://whc.unesco.org/en/danger/>

	It is to be noted that a monument not designated as a Scheduled Monument does not necessarily imply that it is not of national importance.			
	As of 2023, there are almost 20,000 Scheduled Monuments located throughout England ²¹² .	As of 2023, there are over 4,000 Scheduled Monuments located throughout Wales ²¹³ .	As of 2023, there are approximately 8,000 Scheduled Monuments located throughout Scotland ²¹⁴ .	As of 2023, there are over 1,900 Scheduled Monuments located throughout Northern Ireland ²¹⁵ .
	<p>Supporting Trend Data:</p> <p>Applications for sites to be Scheduled can be made at any time and is an ongoing process. Since 2007 the number of Scheduled Monuments has increased by approximately 2,000 in England, 400 in Wales and 163 in Northern Ireland. Wales has an ongoing planned policy of enhancing the number of sites on the Schedule.</p>			
Historic Environment:	Conservation Areas are designated for their special architectural and historic interest. They were first designated in 1967 with now around 10,000 in England ²¹⁶ , over 600 in Scotland ²¹⁷ , approximately 60 in Northern Ireland ²¹⁸ and over 500 in Wales ²¹⁹ . There are many different types including:			

²¹² Historic England (2023) Scheduled Monuments. Available: <https://www.historicengland.org.uk/listing/what-is-designation/scheduled-monuments/>

²¹³ Welsh Government (2023) DataMapWales: Scheduled Monuments. Available: https://datamap.gov.wales/layers/inspire-wg:Cadw_SAM

²¹⁴ Historic Environment Scotland (2020) Designations 2020 Onwards. Available: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=e8d84fb0-7b16-49cc-a87a-abce00884e10>

²¹⁵ Department for Communities (2023) Historic Monuments. Available: <https://www.communities-ni.gov.uk/articles/scheduled-monuments>

²¹⁶ Historic England (2023) What is a Conservation Area? Available: <https://historicengland.org.uk/listing/what-is-designation/local/conservation-areas/>

²¹⁷ Historic Environment Scotland (2023) Living in a conservation area. Available: <https://www.historicenvironment.scot/advice-and-support/your-property/owning-a-traditional-property/living-in-a-conservation-area/>

²¹⁸ Department for Infrastructure (2023) Conservation Areas Guides (A-Z list). Available: <https://www.infrastructure-ni.gov.uk/articles/conservation-area-guides-z-list>

²¹⁹ Welsh Government (2023) Conservation Areas. Available: <https://cadw.gov.wales/advice-support/placemaking/legislation-and-guidance/conservation-areas>

<p>Listed Buildings and Conservation Areas</p>	<ul style="list-style-type: none"> • the centres of our historic towns and cities • fishing and mining villages • 18th and 19th-century suburbs • model housing estates • country houses set in their historic parks • historic transport links and their environs, such as stretches of canal <p>Most Conservation Areas are designated by the local planning authority and as such are best identified on a local basis.</p> <p>Listing of buildings is concerned with recognising buildings' special architectural and historic interest, with a view to protecting buildings, under the planning system for future generations to enjoy. All buildings built before 1700 which survive in anything like their original condition are listed, as are most of those built between 1700 and 1840. Particularly careful selection is required for buildings from the period after 1945. Usually, a building has to be over 30 years old to be eligible for listing²²⁰.</p> <p>There are three categories of listed building:</p> <ul style="list-style-type: none"> • Grade I buildings are of exceptional interest, only 2.5% of listed buildings are Grade I • Grade II* buildings are particularly important buildings of more than special interest; 5.8% of listed buildings are Grade II* • Grade II buildings are of special interest; 91.7% of all listed buildings are in this class and it is the most likely grade of listing for a home-owner.
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²²⁰ Historic England (2021) Listed Buildings. Available: <https://historicengland.org.uk/listing/what-is-designation/listed-buildings/>

	As noted by Historic England, the total number of listed buildings is unknown, but is estimated to be around 400,000 in England ²²¹ . There are over 30,000 in Wales ²²² , about 47,000 in Scotland ²²³ and over 8,900 in Northern Ireland ²²⁴ . Due to the numbers, listed buildings are best identified on a local basis.			
Historic Environment: Historic Battlefields	The purpose of the Register of Historic Battlefields in England is to offer protection through the planning system and to promote a better understanding of their significance and public enjoyment. If the site of a battle is to merit registration it has to have been an engagement of national significance, and to be capable of close definition on the ground. In Scotland, Historic Battlefields are listed in the Inventory of Historic Battlefields. The Inventory of Historic Battlefields in Wales is a non-statutory Inventory which means there is no primary legislation enacted to protect entire battlefields.			
	As of 2023, there are 47 Registered Battlefields within England ²²⁵ .	As of 2023, there are over 700 sites on the Inventory of Historic Battlefields in Wales ²²⁶ .	As of 2020, there are around 40 Historic Battlefields in Scotland ²²⁷ .	There is no formal register of Historic Battlefields in Northern Ireland.
	Supporting Trend Data: Public consultation demonstrated strong public support for the recognition of the importance of Historic Battlefields in Wales and the inventory was only recently created following legislation introduced in 2016.			

²²¹ Historic England (2023) Listed Buildings Identification and Extent. Available: <https://historicengland.org.uk/advice/hpg/has/listed-buildings/#:~:text=There%20are%20around%20400%2C000%20listed,list%20buildings%20are%20Grade%20I>

²²² Welsh Government (2023) DataMapWales: Listed Buildings. Available: https://datamap.gov.wales/layers/inspire-wg:Cadw_ListedBuildings

²²³ Historic Environment Scotland (2023) What is Listing? Available: https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/listed-buildings/what-is-listing/#listing-exclusions_tab

²²⁴ Department for Communities (2023) Listed Buildings – An Introduction. Available: <https://www.communities-ni.gov.uk/articles/listed-buildings>

²²⁵ Historic England (2023) Registered Battlefields. Available: <https://www.historicengland.org.uk/listing/what-is-designation/registered-battlefields/>

²²⁶ Cadw (2023) Historic Battlefields in Wales. Available: <https://cadw.gov.wales/advice-support/historic-assets/other-historic-assets/historic-battlefields-wales>

²²⁷ Historic Environment Scotland (2020) Designations 2020 Onwards. Available: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=e8d84fb0-7b16-49cc-a87a-abce00884e10>

Historic Environment: Registered Parks and Gardens	<p>The purpose of Registers of Historic Parks and Gardens in England is to encourage the protection of gardens, grounds and other open spaces which are of historic importance.</p> <p>Historic Environment Scotland maintains the Inventory of Gardens and Designed Landscapes which identifies historic grounds and designed landscapes intentionally laid out for artistic effect.</p> <p>In Wales, Cadw maintains the Register of Parks and Gardens of Special Historic Interest.</p> <p>In Northern Ireland, the Department for Communities maintains the Register of Historic Parks, Gardens and Demesnes.</p> <p>NB: No mapping data is available for Wales or Northern Ireland.</p>			
	As of 2023, there are over 1,600 Registered Historic Parks and Gardens within England ²²⁸ .	As of 2023, there are nearly 400 sites on the Register of Parks and Gardens of Special Historic Interest in Wales ²²⁹ .	As of 2019, there are over 300 sites on the Inventory of Gardens and Designed Landscapes within Scotland ²³⁰ .	As of 2023, there are around 154 sites on the register of Historic Parks, Gardens and Demesnes in Northern Ireland. Additionally, a further 150 sites have been identified as having a high level of interest and are included as an appendix to the main

²²⁸ Historic England (2023) Registered Parks & Gardens. Available: <https://www.historicengland.org.uk/listing/what-is-designation/registered-parks-and-gardens/>

²²⁹ Cadw (2023) Registered Historic Parks and Gardens. Available: <https://cadw.gov.wales/advice-support/placemaking/legislation-guidance/registered-historic-parks-and-gardens>

²³⁰ Historic Environment Scotland (2019) Scotland's Inventory of Gardens and Designed Landscapes. Available: <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=7c365ace-e62d-46d2-8a10-a5f700a788f3>

				Register as designated 'Supplementary' sites ²³¹ .
	<i>Supporting trend data is not available.</i>			
Historic Environment: Historic Landscape Characterisation	Historic landscape characterisation (HLC) can be used to help secure good quality, well designed and sustainable places. It is a method of identification and interpretation of the varying historic character within an area that looks beyond individual heritage assets as it bridges understanding of the whole landscape and townscape into repeating HLC Types ²³² . HLCs are typically held by the relevant local Historic Environment Record in England ²³³ .			
Historic Environment: Areas of Archaeological Importance	The Ancient Monuments and Archaeological Areas Act 1979 allows the Government to designate as an area of archaeological importance any area which appears to merit treatment as such. In England there are five areas designated as areas of archaeological importance under the Ancient Monuments and Archaeological Areas Act 1979: the historic city centres of Canterbury, Chester, Exeter, Hereford and York ²³⁴ .			

²³¹ Department for Communities (2023) Historic Parks, Gardens and Demesnes. Available: <https://www.communities-ni.gov.uk/articles/historic-parks-gardens-and-demesnes>

²³² Historic England (2023) Historic Landscape Characterisation. Available: <https://historicengland.org.uk/research/methods/characterisation/historic-landscape-characterisation/#Section4Text>

²³³ Archaeology Data Service (2018) Historic Landscape Characterisation Available: <https://archaeologydataservice.ac.uk/archives/view/HLC/index.cfm>

²³⁴ Historic England (2023) Areas of Archaeological Importance. Available: <https://historicengland.org.uk/advice/hpg/has/archaeologicalimportance/>

Historic Environment: Protected Wrecks	The Protection of Wrecks Act (1973) ²³⁵ allows the Government to designate a wreck to prevent uncontrolled interference. Designated sites are identified as being likely to contain the remains of a vessel, or its contents, which are of historical, artistic or archaeological importance ²³⁶ . NB: No mapping data is available for Scotland, Wales or Northern Ireland.			
	There are 57 Protected Wreck sites in English waters as of 2023. The majority of these are located along the south coast ²³⁷ .	There are six Wrecks of Wales. These are primarily located around the north west and north coast, with one being located off Pembrokeshire in the south west ²³⁸ .	There are 18 Designated Wreck sites in Scottish waters. These are primarily located on coastal areas in the north west ²³⁹ .	There is 1 Protected Wreck in Northern Irish waters, La Girona, which is located on the North Antrim coast ²⁴⁰ .
	<i>Supporting trend data is not available.</i>			
Historic Environment:	The Heritage at Risk Register includes buildings, places of worship, monuments, parks and gardens, conservation areas, battlefields and wreck sites that are listed and have been assessed and found to be at risk in England ²⁴¹ .			

²³⁵ UK Government (1973) *Protection of Wrecks Act 1973*. Available: <https://www.legislation.gov.uk/ukpga/1973/33>

²³⁶ Historic England (2023) Protected Wreck Sites. Available: <https://www.historicengland.org.uk/advice/planning/consents/protected-wreck-sites/>

²³⁷ Historic England (2023) Protected Wreck Sites. Available: <https://www.historicengland.org.uk/advice/planning/consents/protected-wreck-sites/>

²³⁸ Cadw (2023) Marine historic environment. Available: <https://cadw.gov.wales/advice-support/placemaking/legislation-and-guidance/marine-historic-environment>

²³⁹ Marine Scotland Information (2023) Wrecks (HES). Available: <https://marinescotland.atkinsgeospatial.com/nmpi/default.aspx?layers=1469>

²⁴⁰ Department for Communities (2023) Shipwrecks. Available: <https://www.communities-ni.gov.uk/articles/shipwrecks-0>

²⁴¹ Historic England (2023) Search the Heritage at Risk Register. Available: <https://historicengland.org.uk/advice/heritage-at-risk/search-register/>

Heritage at Risk				
Historic Environment: Registered Historic Landscapes	To recognise the value of historic landscapes and to raise awareness of their importance, Cadw has compiled a register of landscapes of historic interest in Wales. Cadw have identified 58 landscapes of outstanding or special historic interest, which are considered to be the best examples of different types of historic landscapes in Wales ²⁴² .			
Historic Environment: Historic Coast	Historic England have developed a series of Historic Seascape Characterisation maps to help describe those historic cultural influences which shape present seascape perceptions across all of England's marine and coastal land. The character assessment and its supporting detail are mapped using a Geographical Information System (GIS) and documented in accompanying texts, using non-specialist language to assist communication ²⁴³ .			
Historic Environment: Roman Roads	Roman Roads are roads built by the ancient Romans, typically paved and following a predominantly straight route. Following the Roman invasion of Britain in AD 43, the Roman army constructed about 2,000 miles of Roman roads in Britain ²⁴⁴ .			
	Roman Roads survive in long stretches of the following roads: <ul style="list-style-type: none"> A68 – Dere Street 	Major Roman Roads evident in Wales include: <ul style="list-style-type: none"> Sarn Helen across the Brecon Beacons 	Major Roman Roads evident in Scotland include: <ul style="list-style-type: none"> A road between Carlisle and Abington 	N/A

²⁴² Cadw (2023) Registered Historic Landscapes. Available: <https://cadw.gov.wales/advice-support/historic-assets/conservation-areas-and-other-historic-assets/other-historic-assets-0>

²⁴³ [Historic Seascapes: Understanding Whole Areas of Marine Heritage | Historic England](#)

²⁴⁴ English Heritage *Roads in Roman Britain*. (Accessed 17/07/2023) Available: [Roads in Roman Britain | English Heritage \(english-heritage.org.uk\)](#)

	<ul style="list-style-type: none"> • A5 – Watling Street • “old line” of A417 and A419 – Ermin Street²⁴⁵. 	<ul style="list-style-type: none"> • A road between Llandovery and Trecastle²⁴⁶. 	<ul style="list-style-type: none"> • Dere Street • A road over Craik Muir • A road between the southern escarpment of the Pentlands and west of Biggar²⁴⁷. 	
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²⁴⁵ Odyssey Traveller (2019) Roman roads in Britain: the definitive guide. Available: [Roman Roads in Britain | Definitive Guide - Odyssey Traveller](#)

²⁴⁶ Cadw (2023) *The Romans in Wales*. Available: [Roman | Cadw \(gov.wales\)](#)

²⁴⁷ ScotWays (2022) *Roman Roads*. Available: [Roman Roads | ScotWays](#)

B.8. Landscape

Introduction to the baseline information and overview of interaction with the NPS

Landscapes can encompass any combination of cultural heritage, geological, wildlife and scenic features. The preservation of the high value landscapes ensures that the social and health benefits they offer are maintained for future generations.

The Nuclear NPS may enable development of new nuclear energy infrastructure. This new infrastructure would have a variety of impacts on the landscape in which it is built, predominantly visual impacts of new buildings/infrastructure and operational outputs such as visible steam plumes. Visual impacts would be present through construction, operation and decommissioning activities.

There are a variety of methods by which high value landscapes are preserved in the UK. Across England, Wales and Scotland there are 15 National Parks. The purpose of these parks is to conserve and enhance some of the most important landscapes within the countryside, while promoting public enjoyment of them.

The Areas of Outstanding Natural Beauty (AONBs) designation is primarily aimed at conserving natural beauty. Across England, Wales and Northern Ireland there are 46 AONBs. In Scotland, there are 40 National Scenic Areas. This designation is broadly equivalent to AONB and is awarded by Scottish Ministers to landscapes deserving of special protection in the nation's interest.

For coasts in England and Wales there is a further possible designation of Heritage Coast, which seeks to aid local authorities in planning and managing their coastlines. In England and Wales there are 46 Heritage Coasts.

Beyond these designations, there are several National Character Area, National Seascape Character Area or Landscape Character Area assessments and profiles across the UK as well as Local Landscape Character Assessments and Local Landscape Sensitivity Assessments at local level. The purpose of these assessments and profiles is to provide a guidance framework for communities to use when making decisions that impact their local landscapes or seascapes.

Table 8: Landscape

Sustainability Topic / Baseline	England	Wales	Scotland	Northern Ireland
Landscape: National Parks	<p>In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them.</p> <p>The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales. In addition, the Environment Act 1995 requires relevant authorities to have regard for nature conservation. Special Acts of Parliament may be used to establish statutory authorities for their management (e.g. the Broads Authority was set up through the Norfolk and Suffolk Broads Act 1988).</p> <p>The National Parks (Scotland) Act 2000 enabled the establishment of National Parks in Scotland. In addition to the two purposes described above, National Parks in Scotland are designated to promote the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. These purposes have equal weight and are to be pursued collectively unless conservation interests are threatened. Where these aims conflict, the relevant National Park authority must prioritise the first of these aims²⁴⁸.</p> <p>Note that every National Park is required to prepare and publish a National Park Management Plan which formulates its policy for the management of the relevant National Park and for the carrying out of its functions in relation to that National Park and note needs to be made of these in relation to any National Park that may be affected.</p>			

²⁴⁸ NatureScot (2023) National Park. Available: <https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/national-designations/national-park>

	<p>There are 10 National Parks in England²⁴⁹:</p> <ul style="list-style-type: none"> • Broads • Dartmoor • Exmoor • Lake District • New Forest • North York Moors • Northumberland • Peak District • South Downs • Yorkshire Dales 	<p>There are three National Parks in Wales²⁵⁰:</p> <ul style="list-style-type: none"> • Brecon Beacons • Pembrokeshire Coast • Snowdonia 	<p>There are two National Parks in Scotland²⁵¹:</p> <ul style="list-style-type: none"> • Cairngorms • Loch Lomond and the Trossachs 	<p>There are currently no National Parks within Northern Ireland.</p>
	<p>Supporting Trend Data:</p> <p>The designation of National Parks is an ongoing process with two being added in England since 2008 (South Downs and Broads). Within Northern Ireland there are proposals to create a National Park within the Mourne Mountains²⁵².</p>			
Landscape:	<p>In England, Wales and Northern Ireland, the primary purpose of the AONB designation is to conserve natural beauty – which by statute includes wildlife, physiographic features and cultural heritage as well as the more conventional</p>			

²⁴⁹ National Parks UK (2023) Your National Parks. Available: <https://www.nationalparks.uk/parks/>

²⁵⁰ National Parks UK (2023) Your National Parks. Available: <https://www.nationalparks.uk/parks/>

²⁵¹ National Parks UK (2023) Your National Parks. Available: <https://www.nationalparks.uk/parks/>

²⁵² Northern Ireland Assembly (2008) Potential Impacts of National Parks Designation with Particular Reference to The Proposed Mournes National Park. Available: http://archive.niassembly.gov.uk/environment/2007mandate/Research/0801National%20Parks%20_Mournes_.pdf

Areas of Outstanding Natural Beauty (AONBs) and National Scenic Areas	<p>concepts of landscape and scenery. Account is taken of the need to safeguard agriculture, forestry and other rural industries and the economic and social needs of local communities. AONBs have equivalent status to National Parks as far as conservation is concerned.</p> <p>AONBs are designated under the National Parks and Access to the Countryside Act 1949, amended in the Environment Act 1995. The Countryside and Rights of Way Act 2000 clarifies the procedure and purpose of designating AONBs²⁵³.</p> <p>Originally designated in Northern Ireland under the Amenity Lands Act (Northern Ireland) 1965, AONBs are now designated under the Nature Conservation and Amenity Lands Order (Northern Ireland) 1985²⁵⁴.</p> <p>National Scenic Areas (NSAs) are designated by Scottish Ministers as the best of Scotland's landscapes, deserving special protection in the nation's interest. Scottish Ministers in 2010 confirmed 40 NSAs under the provisions of The Town and Country Planning (Scotland) Act 1997 (as amended in 2006) (s.263)²⁵⁵. NSAs are broadly equivalent to the AONBs found in England, Wales and Northern Ireland.</p>			
	<p>There are 34 AONBs located within England:</p> <p>NB: the Wye Valley is on the England / Wales border.</p> <ul style="list-style-type: none"> • Arnside & Silverdale 	<p>There are four AONBs within Wales²⁵⁶:</p> <ul style="list-style-type: none"> • Anglesey • Clwydian Range and Dee Valley 	<p>There are 40 National Scenic Areas within Scotland²⁵⁷:</p> <ul style="list-style-type: none"> • Deeside & Lochnagar 	<p>There are eight AONBs within Northern Ireland²⁵⁸:</p> <ul style="list-style-type: none"> • Antrim Coast and Glens • Binevenagh

²⁵³ Natural England (2018) Areas of outstanding natural beauty (AONBs): designation and management. Available: <https://www.gov.uk/guidance/areas-of-outstanding-natural-beauty-aonbs-designation-and-management>

²⁵⁴ Department of Agriculture, Environment and Rural Affairs Northern Ireland (2023) Council for Nature Conservation and the Countryside. Available: <https://www.daera-ni.gov.uk/articles/council-nature-conservation-and-countryside>

²⁵⁵ NatureScot (2023) National Scenic Areas: background, guidance and policy. Available: <https://www.nature.scot/professional-advice/protected-areas-and-species/protected-areas/national-designations/national-scenic-areas/national-scenic-areas-background-guidance>

²⁵⁶ The National Association of Areas of Outstanding Natural Beauty (2023) Areas of Outstanding Natural Beauty. Available: <http://www.landscapesforlife.org.uk/>

²⁵⁷ NatureScot (2020) National Scenic Areas of Scotland: maps. Available: <https://www.gov.scot/publications/national-scenic-areas-of-scotland-maps/>

²⁵⁸ The National Association of Areas of Outstanding Natural Beauty (2023) Areas of Outstanding Natural Beauty. Available: <http://www.landscapesforlife.org.uk/>

	<ul style="list-style-type: none"> • Blackdown Hills • Cannock Chase • Chichester Harbour • Chilterns • Cornwall • Cotswolds • Cranborne Chase and West Wiltshire Downs • Dedham Vale • Dorset • East Devon • Forest of Bowland • High Weald • Howardian Hills • Isle of Wight • Isles of Scilly • Kent Downs • Lincolnshire Wolds • Malvern Hills • Mendip Hills 	<ul style="list-style-type: none"> • Gower • Llyn 	<ul style="list-style-type: none"> • Jura • Knapdale • Kyles of Bute • Loch na Keal, Isle of Mull • Lynn of Lorn • Scarba, Lunga and the Garvellachs • Loch Lomond • East Stewartry Coast • Fleet Valley • Nith Estuary • Assynt-Coigach • Dornoch Firth • Glen Affric • Glen Strathfarrar • Kintail • Knoydart • Kyle of Tongue • Loch Shiel • Morar, Moidart and Ardnamurchan 	<ul style="list-style-type: none"> • Causeway Coast • Lagan Valley • Mourne • Ring of Gullion • Sperrin • Strangford Lough
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	<ul style="list-style-type: none"> • Nidderdale • Norfolk Coast • North Devon • North Pennines • North Wessex Downs • Northumberland Coast • Quantock Hills • Shropshire Hills • Solway Coast • South Devon • Suffolk Coast and Heaths • Surrey Hills • Tamar Valley • Wye Valley (England and Wales) 		<ul style="list-style-type: none"> • North-West Sutherland • Cuillin Hills • Small Isles • Trotternish • Wester Ross • Cairngorm Mountains • Ben Nevis Glen Coe • North Arran • Hoy & West Mainland • Loch Tummel • River Earn (Comrie to St. Fillans) • River Tay (Dunkeld) • Loch Rannoch & Glen Lyon • Eildon and Leaderfoot • Upper Tweeddale • Shetland • The Trossachs 	
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			<ul style="list-style-type: none"> • South Lewis, Harris and North Uist • South Uist Machair • St. Kilda 	
	<i>Supporting trend data is not available.</i>			
Landscape: Heritage Coasts (England and Wales)	A Heritage Coast is a section of coast exceeding one mile in length that is of exceptionally fine scenic quality, substantially undeveloped and containing features of special significance and interest. The designation is agreed between local authorities and (in England) Natural England or (in Wales) Natural Resources Wales, as an aid to local authorities in planning and managing their coastlines ²⁵⁹ .			
	<p>There are 32 Heritage Coasts located around England²⁶⁰:</p> <ul style="list-style-type: none"> • Sussex • Pentire - Widemouth • Isles Of Scilly • Hartland (Cornwall) 	<p>There are 14 Heritage Coasts located around Wales²⁶¹:</p> <ul style="list-style-type: none"> • Aberffraw Bay • Ceredigion • Dinas Head • Glamorgan 	<p>There are no areas of Heritage Coast in Scotland.</p>	<p>There are no areas of Heritage Coast in Northern Ireland.</p>

²⁵⁹ Natural England (2015) Heritage coasts: definition, purpose and Natural England's role. Available: <https://www.gov.uk/government/publications/heritage-coasts-protecting-undeveloped-coast/heritage-coasts-definition-purpose-and-natural-englands-role>

²⁶⁰ Natural England (2006) Review and evaluation of heritage coasts in England. Available: <https://publications.naturalengland.org.uk/publication/4594438590431232?category=56001>

²⁶¹ Welsh Government (2023) Heritage Coasts: Natural Resources Wales. Available: https://datamap.gov.wales/maps/new?layer=inspire-nrw:NRW_HERITAGE_COAST#/

	<ul style="list-style-type: none"> • North Norfolk • South Devon • Suffolk • Spurn • N Yorks & Cleveland Hamstead • Purbeck • Tennyson • West Dorset • Flamborough Head • East Devon • Hartland (Devon) • Rame Head • Lundy • Gribbin Head • Exmoor • The Roseland • St Bees Head • The Lizard • Northumberland • Penwith 	<ul style="list-style-type: none"> • Gower • Great Orme • Holyhead Mountain • Llŷn • Marloes and Dale • North Anglesey • St Bride's Bay • St David's Peninsula • St Dogmaels and Moylgrove • South Pembrokeshire 		
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	<ul style="list-style-type: none"> • North Devon • Godrevy – Portreath • South Foreland • St Agnes • Dover-Folkestone • Trevoise Head • Durham 			
	<i>Supporting trend data is not available.</i>			
Landscape:	Landscape Character Areas or Landscape Character Assessments encompass various aspects of landscape, biodiversity, heritage, cultural and geological features. These are non-statutory and used as an aid in the planning process and for decision making.			
Landscape Character Areas	Natural England has produced National Character Area Profiles (NCAs) ²⁶² which divide England into 159 distinct natural areas. Each is defined by a unique combination of landscape, biodiversity, geodiversity,	Natural Resources Wales uses the LANDMAP tool to evaluate landscape characteristics. This includes geological landscape, landscape habitats, visual and sensory, historic landscape	The Landscape Character Assessment in Scotland over 300 distinct landscape character types, which are aggregated into 53 types for a strategic overview. These are used to inform development plans and	The Northern Ireland Landscape Character Assessment subdivides the countryside into 130 Landscape Character Areas, each based upon local patterns of geology,

²⁶² Natural England (2014) National Character Area profiles: data for local decision making. Available: <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making>

	history, and cultural and economic activity. Their boundaries follow natural lines in the landscape rather than administrative boundaries. They can be used for planning and development.	and cultural landscape ²⁶³ . Although no specific defined Landscape Character Areas are identified, LANDMAP is used to inform planning, policy and strategies.	decision making on proposed developments ²⁶⁴ .	landform, land use, cultural and ecological features ²⁶⁵ .
	<i>Supporting trend data is not available.</i>			
Landscape: National Character Area	<p>National Character Areas are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment. National Character Area profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain inform the delivery of nature improvement areas and encourage broader partnership working through local nature partnerships.</p> <p>National Seascape Character Areas are also defined to support decision making through the marine planning process. Visual, cultural, historical and archaeological impacts are considered for all coastal areas alongside wider social and economic impacts of development or activity on coastal landscapes and seascapes.</p>			
	See text for Landscape Character Areas	Wales defines 48 National Landscape Character Areas	Scotland has a digital map-based national Landscape	Northern Ireland provides a strategic overview of the

²⁶³ Natural Resources Wales (2023) LANDMAP – the Welsh landscape baseline. Available: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/landmap-the-welsh-landscape-baseline/?lang=en>

²⁶⁴ NatureScot (2019) Landscape Character Assessment in Scotland. Available: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/landscape-character-assessment-scotland>

²⁶⁵ DAERA (2023) Landscape Character of Northern Ireland. Available: <https://www.daera-ni.gov.uk/articles/landscape-character-northern-ireland>

	<p>In England four Seascape Character Assessments are published for the north east, north west, south east and south west marine plan areas and comprise marine character areas profiles²⁶⁶.</p>	<p>(NLCAs) which highlight what distinguishes one landscape from another, with reference to their regionally distinct natural, cultural and perceptual characteristics²⁶⁷.</p> <p>Wales identifies National Marine Character Areas which highlight the key natural, cultural and perceptual influences that make the character of each seascape distinct and unique. Wales inshore waters are divided into 29 Marine Character Areas²⁶⁸.</p>	<p>Character Assessment which shows Landscape Character Types and produced a series of 30 regional LCA studies which identify, map and describe the landscape character of all of Scotland²⁶⁹.</p> <p>Coastal Character Assessment is defined in Scotland as the process of identifying and describing Scotland's diverse coasts. Thirteen National Coastal Character Types have been identified, most recently the Orkney and north Caithness characterisation added in 2016²⁷⁰.</p>	<p>landscape and subdivides the countryside into 26 Regional Landscape Character Areas based upon information on people and place and the combinations of nature, culture and perception which make each part of Northern Ireland unique²⁷¹.</p> <p>NI defines 24 different regional seascape character areas around the coast which describe the key features and characteristics of each seascape character area²⁷².</p>
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²⁶⁶ UK Government (2018) Seascape Assessments for North East, North West, South East and South West Marine Plan Areas. Available:

<https://www.gov.uk/government/publications/seascape-assessments-for-north-east-north-west-south-east-south-west-marine-plan-areas-mmo1134>

²⁶⁷ Natural Resources Wales (2019) *National Landscape Character Areas (NLCA)*. Available: <https://naturalresources.wales/evidence-and-data/maps/nlca/?lang=en>

²⁶⁸ Natural Resources Wales (2022) *Marine Character Areas*. Available: <https://naturalresources.wales/evidence-and-data/maps/marine-character-areas/?lang=en>

²⁶⁹ NatureScot (2019) *Landscape Character Assessment in Scotland*. Available: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/landscape-character-assessment-scotland>

²⁷⁰ NatureScot (2023) *Coastal Character Assessment*. Available: <https://www.nature.scot/professional-advice/landscape/coastal-character-assessment#:~:text=Coastal%20Character%20Assessment%20identifies%2C%20describes,plans%20and%20specific%20development%20proposals>

²⁷¹ DAERA (2023) *Landscape Character of Northern Ireland*. Available: <https://www.daera-ni.gov.uk/articles/landscape-character-northern-ireland>

²⁷² DAERA (2023) *Seascape Character Areas*. Available: <https://www.daera-ni.gov.uk/articles/seascape-character-areas>

	<i>Supporting trend data is not available.</i>			
Landscape: Seascape Character Areas	Seascape Character Areas highlight the key natural, cultural and perceptual influences that make the character of each seascape distinct and unique. Seascape character sets out links between people and their cultures, and places and their natural resources. As such, seascape character is an integrating concept and an essential tool in natural resource planning ²⁷³ .			
	In 2018, the Marine Management Organisation required character assessments for the north east, north west, south east and south west marine plan areas to support decision making through the marine planning process. Fifty-three Marine Character Areas have been identified for England ²⁷⁴ .	In 2014, Welsh Government and Natural Resources Wales undertook a Seascape Assessment for the Welsh Inshore Waters. Twenty-nine Marine Character Areas have been identified for Wales ²⁷⁵ .	Thirteen National Coastal Character Types have been identified in Scotland ²⁷⁵ .	In 2013, the Northern Ireland Environment Agency undertook a Regional Seascape Character Assessment of Northern Ireland. Twenty-four different regional seascape character areas have been identified round the coast of Northern Ireland ²⁷⁶ .

²⁷³ Natural Resources Wales (2023) *Marine character areas*. Available: [Natural Resources Wales / Marine Character Areas](#)

²⁷⁴ Marine Management Organisation (2018) *Seascape assessments for North East, North West, South East, South West marine plan areas (MMO1134)*. Available: [Seascape assessments for North East, North West, South East, South West marine plan areas \(MMO1134\) - GOV.UK \(www.gov.uk\)](#)

²⁷⁵ NatureScot (2023) *Coastal character assessment*. Available: [Coastal Character Assessment | NatureScot](#)

²⁷⁶ Northern Ireland Environment Agency and Department of Environment (2014) *Northern Ireland Regional Seascape Character Assessment*. Available: [Research and Development Series - 14/01 Northern Ireland Regional Seascape Character Assessment - Part 1 \(daera-ni.gov.uk\)](#)

Landscape: Green Belt	The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping some land permanently open around urban areas ²⁷⁷ .			
	England had around 16,382 km ² of Green Belt land at the end of March 2022, covering 12.6% of England's land area. The Green Belt is clustered around 15 urban cores, the largest of which are London (5,062 km ²), Merseyside and Greater Manchester (2,489 km ²), and South and West Yorkshire (including Sheffield, Leeds and Bradford, 2,270 km ²) ²⁷⁸ .	As of 2018, one Green Belt has been designated in Wales between Newport and Cardiff. Planning Policy Wales (Edition 5) 2012 (PPW) sets the context for managing urban form in Wales by means of Green Belts and Green Wedges. Land within a Green Belt should be protected for a longer period than the current development plan period, whereas Green Wedge policies should be reviewed as part of the development plan review process. Land to the north of Cardiff and land around Swansea are designated as Green Wedges. ²⁷⁹	As of 2018, 13 Green Belts have been designated in Scotland ²⁷⁹ .	As of 2018, Northern Ireland contained 30 Green Belts ²⁷⁹ .

²⁷⁷ Department for Levelling Up, Housing and Communities (2012) *National planning policy framework*. Available: [National Planning Policy Framework - 13. Protecting Green Belt land - Guidance - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/54421/nppf-2012.pdf)

²⁷⁸ House of Commons (2023) *Green Belt*. Available: [SN00934.pdf \(parliament.uk\)](https://www.parliament.uk/documents/commons/lib/committees/leisure-land-and-green-space/green-belt-2023.pdf)

²⁷⁹ Landscape Institute (2018) *Green Belt Policy*. Available: [li-green-belt-briefing-apr-2018.pdf \(windows.net\)](https://www.li-green-belt-briefing-apr-2018.pdf)

	<p>An inquiry by the Housing, Communities and Local Government Committee called for a review to “examine the purpose of the Green Belt”. The Committee noted that stakeholders were divided on whether Green Belt land should “never be built on” or constituted “an anti-growth mechanism”²⁷⁸. Many local authorities are in the process of carrying out Green Belt reviews as part of their Local Plan or local plan review preparation. These are likely to be concluded within the next few years, allowing the local authorities to set in place policies to release Green Belt land over the next 25-30 years, where ‘exceptional circumstances’ can be demonstrated. This suggests further reductions in the total area of Green Belt land are to be anticipated.</p>
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B.9. Communities – Population, Employment and Viability

Introduction to the baseline information and overview of interaction with the NPS

Consideration of the demographics of the UK population is necessary when exploring opportunities for new nuclear energy infrastructure for two key reasons. First, building, operating and decommissioning nuclear infrastructure will require a large workforce of skilled workers and extended supply chain but must have regard for proximity to large population centres. Secondly, secure, affordable and low carbon power provided by nuclear power plants is considered by government to be essential for a strong UK economy that supports creation of jobs.

The demographics considered here are overall population growth and age structure, location of major population centres and economic activity rates.

Overall UK population was 5.9% higher in mid-2021 when compared with mid-2010, with England's population growing the most (6.5%) over this period and Wales's the least (1.4%). The densest area of population in England is generally the south east, in Wales is the south coast, in Scotland is around Glasgow and Edinburgh and in Northern Ireland is around Belfast and Londonderry.

The proportion of the population considered to be of "working age" (between 15-64) in mid-2021 varied between 62.1% in Wales and 64.8% Scotland. As of March 2023, the unemployment rates varied between 2.4% in Northern Ireland to 4.8% in Wales.

Economic Activity Rates is a measure to incorporate several demographic factors previously discussed, it is a measure of people, who are economically active, expressed as a percentage of all people aged 16-64. The Economic Activity Rates as of March 2023 varied from 74.2% in Northern Ireland up to 79.6% in England. Taking the UK as a whole, the economic activity rates have not varied significantly since 1992.

Table 9: Communities – Population, Employment and Viability

Sustainability Topic / Baseline	England	Wales	Scotland	Northern Ireland
Communities – Population, Employment, and Viability:	The population in the UK is measured through the Census. This provides an estimate of the overall population the UK and its distribution within countries and regions. The last Census was undertaken in 2021, although this was delayed to 2022 in Scotland because of the Covid-19 pandemic ²⁸⁰ . The Office for National Statistics (ONS) also provides mid-year population estimates which provide annual and more recent data.			
Population	The population of England in mid-2021 was 56,536,419 which accounts for 84% of the UK's population ²⁸¹ .	The population of Wales in mid-2021 was 3,105,410 which accounts for 5% of the UK's population ²⁸² .	The population of Scotland in mid-2021 was 5,479,900 which accounts for 8% of the UK's population ²⁸³ .	The population of Northern Ireland in June 2019 was 1,904,563 which accounts for 3% of the UK's population ²⁸⁴ .

²⁸⁰ Office for National Statistics (2022) Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2021. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

²⁸¹ Office of National Statistics (2022) Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

²⁸² Office of National Statistics (2022) Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

²⁸³ Office of National Statistics (2022) Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

²⁸⁴ Office of National Statistics (2022) Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

	<p>Supporting Trend Data:</p> <p>The UK population at mid-2021 was estimated to be 5.9% greater than the population in mid-2011. Over these 10 years, the population of England increased at the highest rate (6.5%); with Northern Ireland increasing by 5.0%, Scotland by 3.4% and Wales by 1.4% over the same 10 year period²⁸⁵.</p>			
<p>Communities – Population, Employment, and Viability:</p> <p>The location of major settlements and areas of population.</p>	The densest areas of population within the UK are within towns and cities.			
	<p>The south east of England, in particular London and the surrounding areas are highly populated. Large urban areas are located along the south coast, including Brighton, Southampton, Portsmouth and Bournemouth. The midlands and north west are also locations of large urban areas, including Birmingham, Leicester, Nottingham, Greater Manchester and Liverpool. The east, north east and south west of England contain fewer major</p>	<p>The most populated area of Wales is the south coast, where the large urban areas of Cardiff, Newport, Bridgend and Swansea are located. The north coast has fewer major urban settlements, however areas of population are present in Rhyl, Colwyn Bay and Bangor. Central and western Wales have smaller towns and villages distributed throughout the regions.</p> <p>(GIS Mapping)</p>	<p>The largest settlements in Scotland are Glasgow and Edinburgh, both of which are located in the south of the country. The east coast has several areas of population including Aberdeen, Inverness and Dundee. The highland areas and north and west coasts of Scotland are comparatively sparsely populated.</p> <p>(GIS Mapping)</p>	<p>The major settlements in Northern Ireland are Belfast to the east and Londonderry to the north west. The area surrounding Belfast is particularly densely populated, with smaller urban areas including Bangor, Lisburn and Carrickfergus located in close proximity to Belfast. Smaller towns and villages are distributed through the rest of the country.</p> <p>(GIS Mapping)</p>

²⁸⁵ Office for National Statistics (2022) *Population estimated for the UK, England, Wales, Scotland and Northern Ireland: mid-2021*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2021>

	<p>settlements, however large urban areas are located in these regions, including Newcastle, Sunderland, Leeds and Bristol.</p> <p>(GIS Mapping)</p>			
	<p><i>Supporting trend data is not available.</i></p>			
Communities – Population, Employment, and Viability:	<p>Using the 2021 Census, the Office for National Statistics compared the age structures of each of the UK countries. Mid-year population estimates provide annual and more recent data. Below population estimates are shown in three categories: 0-14, 15-64 (i.e. working age) and 65+.</p>			
	<p>In mid-2021, in England, the estimated percentage of the</p>	<p>In mid-2021, in Wales, the estimated percentage of the</p>	<p>In mid-2021, in Scotland, the estimated percentage of</p>	<p>In mid-2021, in Northern Ireland, the estimated percentage of the</p>

Age Structure – Working age population	population in each age group was ²⁸⁶ :	population in each age group was ²⁸⁷ :	the population in each age group was ²⁸⁸ :	population in each age group was ²⁸⁹ :
	0-14: 17.4% 15-64: 64.1% 65+: 18.5%	0-14: 16.5% 15-64: 62.1% 65+: 21.4%	0-14: 15.6% 15-64: 64.8% 65+: 19.6%	0-14: 19.1% 15-64: 63.6% 65+: 17.3%
Supporting Trend Data: In mid-2021, there were 12.5 million people aged 65 years and over (18.7%) and 2.5% were aged 85 years and over ²⁹⁰ . The median age in the UK changed from 39.6 to 40.7 between mid-2011 and mid-2021. The increase in median age over this period was greatest in Northern Ireland, where median age increased by 2.4 years (from 37.4 to 39.8) ²⁹¹ .				

²⁸⁶ Office of National Statistics (2022) Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

²⁸⁷ Office of National Statistics (2022) Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

²⁸⁸ Office of National Statistics (2022) Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

²⁸⁹ Office of National Statistics (2022) Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

²⁹⁰ Office of National Statistics (2022) *Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland*. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

²⁹¹ Office for National Statistics (2022) Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2021. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

Communities – Population, Employment, and Viability: Unemployment	The definition of unemployed people within the UK is specified by the International Labour Organisation. This defines unemployed people as being without a job, having been actively seeking work in the past four weeks and are available to start work in the next two weeks, or people who are out of work, have found a job and are waiting to start it in the next two weeks ²⁹² .			
	As of March 2023, the unemployment rate in England was 3.8% ²⁹³ .	As of March 2023, the unemployment rate in Wales was 4.8% ²⁹⁴ .	As of March 2023, the unemployment rate in Scotland was 3.1% ²⁹⁵ .	As of March 2023, the unemployment rate in Northern Ireland was 2.4% ²⁹⁶ .
	<p>Supporting Trend Data:</p> <p>The unemployment rate has fluctuated in the UK since 1992. A general decrease in unemployment rates can be seen throughout the UK since the period of economic recession between 2009 and 2012, however this is largely dependent on economic performance.</p> <p>Since the coronavirus pandemic, unemployment rates have begun to increase. However, as this is still ongoing and is seen as temporary, there is still some uncertainty about the accuracy of this data and the effects on unemployment that will be present in the long-term.</p>			

²⁹² Office for National Statistics (2020) A guide to labour market statistics. Available:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/aguidetolabourmarketstatistics#unemployment>

²⁹³ Office for National Statistics (2023) LFS: ILO unemployment rate: England: All: %: SA. Available:

<https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnl/lms>

²⁹⁴ Office for National Statistics (2023) LFS: ILO unemployment rate: Wales: All: %: SA. Available:

<https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnm/lms>

²⁹⁵ Office for National Statistics (2023) LFS: ILO unemployment rate: Scotland: All: %: SA. Available:

<https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnn/lms>

²⁹⁶ Office for National Statistics (2023) LFS: ILO unemployment rate: Northern Ireland: All: %: SA. Available:

<https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/zsfb/lms>

Communities – Population, Employment, and Viability: Economic Activity Rates	This is a measure of people, who are economically active, expressed as a percentage of all people (aged 16-64).			
	As of March 2023, the economic activity rate in England was 79.6% ²⁹⁷ .	As of March 2023, the economic activity rate in Wales was 75.6% ²⁹⁸ .	As of March 2023, the economic activity rate in Scotland was 77.1% ²⁹⁹ .	As of March 2023, the economic activity rate in Northern Ireland was 74.2% ³⁰⁰ .
	Supporting Trend Data: Economic activity rates in the UK have not varied significantly since 1992.			

²⁹⁷ Office for National Statistics (2023) LFS: Economic activity rate: England: Aged 16-64: All: %: SA. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf3l/lms>

²⁹⁸ Office for National Statistics (2023) LFS: ILO unemployment rate: Wales: All: %: SA. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/ycnm/lms>

²⁹⁹ Office for National Statistics (20213) LFS: Economic activity rate: Scotland: Aged 16-64: All: %: SA. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf3n/lms>

³⁰⁰ Office for National Statistics (2023) LFS: Economic activity rate: Northern Ireland: Aged 16-64: All: %: SA. Available: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf5y/lms>

B.10. Communities – Supporting Infrastructure

Introduction to the baseline information and overview of interaction with the NPS

Consideration of the UK's existing and planned transport network is essential when exploring opportunities for new nuclear energy infrastructure. This is because during the construction, operation and decommissioning of nuclear power plants, materials will need to be brought to the site and waste materials removed from site. Further to this, a large workforce will need to be able to access the site. Adequate transport links are particularly important during construction, as traditionally very large components (such as the reactor pressure vessel) are required to be transported to site.

The UK transport links considered here are major airports, ports, road network and rail network. It is noted that smaller transport infrastructure has not been listed here and may be suitable for use by nuclear power plants.

Across the UK, typically the rail networks are centred around major cities and some towns, while rural and coastal areas are less well served by rail. The following areas are generally poorly served by rail: remote, rural and coastal areas of England, the far north western regions of Scotland, the central and western regions of Wales and the central and south west regions of Northern Ireland. It is not expected that future rail projects will significantly increase the strategic rail network, as planned projects typically centre around major cities.

Similarly for the road network, all major UK cities are served by motorways and A roads. Areas in England not served by these connections are generally rural and in areas of low population, highland areas and the west coast of Scotland and central and upland regions of Wales. It is considered unlikely that new strategic road networks will be developed.

There are 26 airports in the UK that had over 500,000 terminal passengers in 2022. The majority of these are located in England and Scotland, with Wales and Northern Ireland having one and two respectively. It is not anticipated that new major airports will be developed, although the capacity of some existing sites may be expanded.

There are 33 ports in the UK that handled over two million tonnes of freight in 2021. The majority of these ports are located in England and Scotland. It is considered unlikely that new strategic port development will take place

Table 10: Communities – Supporting Infrastructure

Sustainability Topic / Baseline	England	Wales	Scotland	Northern Ireland
Communities – Supporting Infrastructure: Locations of Strategic Rail Links				
	<p>The strategic rail network in England is well developed. All major cities are connected as are the majority of significant towns. Extensive rail networks are located around large conurbations such as London and Greater Manchester, with the major cities in the midlands being well connected. Remote, rural and coastal areas are less well served by rail.</p> <p>(GIS mapping)</p>	<p>Both the north and south coast of Wales are well connected by rail, linking the major coastal cities such as Cardiff and Swansea in the south, and Llandudno, Bangor and Holyhead in the north. Few major branch lines extend from these links, and the central and western regions of Wales are comparatively poorly served by rail.</p> <p>(GIS mapping)</p>	<p>The larger cities of Scotland are located in the south of the country and as such, this is where the majority of the strategic rail network is focused. This extends up the east coast to the cities of Dundee, Aberdeen and Inverness. The far north and western regions of Scotland are far less served by rail. This is largely as a result of fewer major urban centres being located in these areas.</p> <p>(GIS mapping)</p>	<p>The strategic rail network in Northern Ireland is concentrated in the east of the country around Belfast and the surrounding cities of Lisburn, Antrim, Bangor and Carrickfergus. The network extends to the north and north west, with Londonderry being the most westerly point. The central and south west regions are poorly served by rail.</p> <p>(GIS mapping)</p>
	Supporting Trend Data:			

	Major new strategic rail projects currently being undertaken in the UK include High Speed Two (HS2), Northern Powerhouse Rail and Midlands Engine. Upgrades to lines and electrification projects are continually taking place. It is considered unlikely that future projects will significantly increase the strategic rail network.			
Communities – Supporting Infrastructure: Locations of strategic road networks (motorways and primary roads)				
	England is covered by a comprehensive network of motorways and A roads. All major cities are served by motorways, whilst towns and larger villages are connected by A routes. Areas not serviced by these connections are generally rural and in areas of low population. (GIS mapping)	The south and north coast of Wales are the only areas with motorway connections. The remaining regions are serviced by the A road network which links the major towns and villages. Comparatively the central and upland regions are less provisioned with strategic network links. (GIS mapping)	The major cities of Glasgow and Edinburgh are served by the motorway network which extends north to Perth. The west coast has a substantial network of A roads linking the major coastal cities. The A road network in highland areas and the west coast are less extensive, although most towns and large villages are connected. (GIS mapping)	The motorway network in Northern Ireland is focused around Belfast in the east, with two links extending north west and south west. These terminate in Randalstown and Dungannon respectively. The remaining regions are well connected by the A road network, which services towns and the majority of larger villages. (GIS mapping)
	Supporting Trend Data: The strategic road network in the UK is constantly undergoing maintenance and improvements to improve efficiency, such as managed motorways. It is considered unlikely that significant new strategic road networks will be developed.			

Communities – Supporting Infrastructure: Location of Airports				
	Major Airports in England with over 500,000 passengers in 2022 are ³⁰¹ : <ul style="list-style-type: none"> • Heathrow • Gatwick • Manchester • Stansted • Luton • Birmingham • Bristol • Newcastle • Liverpool (John Lennon) • Leeds Bradford • East Midlands International 	The only major airport in Wales is Cardiff ³⁰² .	Major Airports in Scotland with over 500,000 passengers in 2022 are ³⁰³ : <ul style="list-style-type: none"> • Edinburgh • Glasgow • Aberdeen • Inverness 	Major Airports in Northern Ireland with over 500,000 passengers in 2022 are ³⁰⁴ : <ul style="list-style-type: none"> • Belfast International • Belfast City (George Best)

³⁰¹ Civil Aviation Authority (2022) Annual Airport Data 2022. Available: <https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2022/annual-2022/>

³⁰² Civil Aviation Authority (2022) Annual Airport Data 2022. Available: <https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2022/annual-2022/>

³⁰³ Civil Aviation Authority (2022) Annual Airport Data 2022. Available: <https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2022/annual-2022/>

³⁰⁴ Civil Aviation Authority (2022) Annual Airport Data 2022. Available: <https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2022/annual-2022/>

	<ul style="list-style-type: none"> • London City • Doncaster Sheffield (now closed) • Bournemouth • Southampton 			
	<p>Supporting Trend Data:</p> <p>The number of passengers using UK airports has decreased since the Covid-19 pandemic. For example, when the Civil Aviation Authority compared annual 2022 data against 2017 data, the 19 largest airports in 2022 all had more passengers in 2017³⁰⁵.</p> <p>The proposed expansion of London Heathrow Airport is likely to increase airport capacity in the south east of England if approved, in addition to smaller-scale improvements at other airports. It is considered unlikely that other significant new airports will be developed, although capacity may be increased through development at existing sites.</p>			
Communities – Supporting Infrastructure:				
	Principal ports in England ³⁰⁶ : <ul style="list-style-type: none"> • London 	Principal ports in Wales are ³⁰⁷ : <ul style="list-style-type: none"> • Milford Haven 	Principal ports in Scotland ³⁰⁸ : <ul style="list-style-type: none"> • Forth 	Principal ports in Northern Ireland are ³⁰⁹ : <ul style="list-style-type: none"> • Belfast

³⁰⁵ Civil Aviation Authority (2022) Annual Airport Data 2022. Available: <https://www.caa.co.uk/data-and-analysis/uk-aviation-market/airports/uk-airport-data/uk-airport-data-2022/annual-2022/>

³⁰⁶ Department for Transport (2023) *Maritime Statistics: Interactive Dashboard (2021 data)*. Available: [UK maritime statistics: interactive dashboard \(dft.gov.uk\)](https://www.dft.gov.uk/maritime-statistics/interactive-dashboard/)

³⁰⁷ Department for Transport (2023) *Maritime Statistics: Interactive Dashboard (2021 data)*. Available: [UK maritime statistics: interactive dashboard \(dft.gov.uk\)](https://www.dft.gov.uk/maritime-statistics/interactive-dashboard/)

³⁰⁸ Department for Transport (2023) *Maritime Statistics: Interactive Dashboard (2021 data)*. Available: [UK maritime statistics: interactive dashboard \(dft.gov.uk\)](https://www.dft.gov.uk/maritime-statistics/interactive-dashboard/)

³⁰⁹ Department for Transport (2023) *Maritime Statistics: Interactive Dashboard (2021 data)*. Available: [UK maritime statistics: interactive dashboard \(dft.gov.uk\)](https://www.dft.gov.uk/maritime-statistics/interactive-dashboard/)

Location of Ports	<ul style="list-style-type: none"> • Grimsby and Immingham • Liverpool • Southampton • Tees and Hartlepool • Felixstowe • Dover • Medway • Rivers Hull and Humber • Hull • Manchester • Bristol • Heysham • Harwich • Tyne • Portsmouth • Plymouth • Ipswich 	<ul style="list-style-type: none"> • Port Talbot • Holyhead • Newport 	<ul style="list-style-type: none"> • Clyde • Sullom Voe • Glensanda • Aberdeen • Cairnryan • Orkney • Loch Ryan 	<ul style="list-style-type: none"> • Warrenpoint • Larne
	<p>Supporting Trend Data:</p> <p>It is considered unlikely that significant new strategic port development will take place.</p>			

Communities – Supporting Infrastructure: Gas Network	The National Transmission System (NTS) transports high pressure natural gas around Great Britain via thousands of miles of pipelines, supplying large end users such as power stations, large industrial plant, whilst it also receives gas injections from the main gas terminals and gas producers. There are eight distribution networks throughout the British Isles which are owned by Cadent, Northern Gas Networks, SGN (formerly Scotia Gas Networks) and Wales & West Utilities.			
	Northern Gas Networks distributes gas to the North of England. Cadent distributes gas to North West LDN – London, West of Midlands and East of England. SGN distributes gas to the South of England. ³¹⁰	Wales & West Utilities distributes gas to Wales.	SGN distributes gas to Scotland.	There are three distribution licensed areas within Northern Ireland. Greater Belfast and Larne distribution licensed area is operated by Phoenix Natural Gas. Ten Towns distribution licensed area is operated by firmus energy (Distribution). West distribution licensed area is operated by SGN Natural Gas. ³¹¹
	In Quarter 1 2023 gas demand fell by 6.1 per cent compared with the same period last year, despite colder temperatures. This reflects lower consumption by households, industry and other final users that is likely to be driven by higher prices. Gas used for generation also fell, due to reduced electricity demand and strong output from renewable sources. Exports of gas remained substantial and were up 41 per cent compared to Quarter 1 2022 as the UK continued to support the European move away from Russian gas. Export volumes were facilitated by low			

³¹⁰ Energy Solutions The Gas Network, understanding the regions. (Accessed 14/07/2023) Available: The Gas Network, understanding the regions | Energy Solutions (energybrokers.co.uk)

³¹¹ Utility Regulator Networks. (Accessed 14/07/2023). Available: Networks | Utility Regulator (uregni.gov.uk)

	demand with total imports stable on the same period last year. Imports were broadly stable on last year, with an increase in imports of Liquefied Natural Gas (LNG) offsetting the decrease of gas from Norway. ³¹²			
Communities – Supporting Infrastructure: HV Electricity Network	The National Grid is a high-voltage electricity transmission network in England and Wales. Electricity is generated at a range of sources including gas fired power stations, wind turbines, nuclear power stations, biomass, coal, solar, imports, hydro and storage. Separate lower voltage local distribution networks connect the electricity directly to homes and businesses. ³¹³			
	HV electricity networks in England are operated by National Grid.	HV electricity networks in Wales are operated by National Grid.	Scottish Power distribute HV electricity in southern Scotland. Scottish Hydro distribute HV electricity in Northern Scotland and the Scottish isles.	Northern Ireland Electricity Networks (NIE Networks) is the owner of the HV electricity transmission and distribution networks in Northern Ireland. ³¹⁴
	Quarter 1 of 2023 saw lower electricity demand and generation compared to Quarter 1 2022. Supply and demand both decreased by 4.5 per cent. In line with this lower demand, generation decreased by 7.4 per cent with a substantial increase in net imports (up 44 per cent) accounting for the difference. Total imports rose to a record 9.0 TWh, with a record 2.3 TWh from Norway across the North Sea Interconnector.			
	The UK is the second largest offshore wind (OSW) market in the world. The UK currently has 13.9 GW of offshore wind fully commissioned, a fourfold increase on capacity installed in 2012. There is also a total project pipeline of around 77 GW across 80 projects that are either in construction, consented, in development and planned in future			

³¹² Department for Energy Security and Net Zero (2023) *Energy trends: UK oil and oil products*. Available: [Energy Trends June 2023 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

³¹³ National Grid Group *National Grid Electricity Transmission* (Accessed 14/07/2023) Available: [National Grid Electricity Transmission](https://www.nationalgrid.com)

³¹⁴ NFCC *High-voltage networks (national grid)* (Accessed 14/07/2023) Available: [High-voltage networks \(national grid\) | NFCC CPO \(ukfrs.com\)](https://www.nfccc.co.uk)

Communities – Supporting Infrastructure:	seabed leasing auctions. The UK has the largest offshore wind farm in the world, which is located off the coast of Yorkshire.			
Offshore Wind Farms	There are 29 offshore wind farms in England. ³¹⁵	There are three operational offshore wind farms off the North Wales coast. ³¹⁶	As of 2020, Scotland has six operational offshore windfarms or demonstration projects. ³¹⁷	Although there are currently no offshore wind farms in Northern Ireland, The Energy Strategy Action Plan 2022 for Northern Ireland includes Action 14 to develop an action plan to deliver 1GW of offshore wind from 2030. ³¹⁸
	Electricity generation from wind power in the UK has increased by 715% from 2009 to 2020. Wind energy generation accounted for 24% of total electricity generation (including renewables and non-renewables) in 2020; with offshore wind accounting for 13% and onshore wind accounting for 11%. ³¹⁹ In 2022, the British Energy Security Strategy included an ambition to deliver up to 50GW of offshore wind by 2030, including up to 5gw of innovative floating wind, in Great Britain. ³²⁰			
	The UK currently has eight operational nuclear power stations, which supplied 18.7 per cent of total electricity supply in 2018. Nuclear energy has an important role to play in delivering our long term objective of a secure, low carbon, affordable, energy future. For nuclear energy to reach its full potential, significant challenges need to be met, both in			

³¹⁵ Department for Business & Trade Offshore wind (Accessed 14/07/2023) Available: Offshore wind - great.gov.uk international

³¹⁶ Natural Resources Wales (2023) Offshore wind developments. Available: Natural Resources Wales / Offshore wind developments

³¹⁷ NatureScot (2020) *Offshore wind energy* Available: [Offshore wind energy | NatureScot](#)

³¹⁸ Northern Ireland Executive (2022) *Energy strategy for Northern Ireland*. Available: [The Path to Net Zero Energy. Safe. Affordable. Clean. \(economy-ni.gov.uk\)](#)

³¹⁹ Office for National Statistics (2021) *Wind energy in the UK: June 2021* Available: [Wind energy in the UK - Office for National Statistics \(ons.gov.uk\)](#)

³²⁰ Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy (2022) *British energy security strategy*. Available: [British energy security strategy - GOV.UK \(www.gov.uk\)](#)

Communities – Supporting Infrastructure:	the short term and for the longer term to 2050 and beyond. ³²¹ The Long-term Nuclear Energy Strategy outlines government policy to help the UK nuclear sector increase its key role in UK electricity provision and the global economy to 2050. ³²²			
Nuclear Power Stations	There are six nuclear power stations operating in England. ³²¹	There are two historic nuclear sites in Wales, at Wylfa on Ynys Môn and Trawsfynydd in Gwynedd. The construction of two Magnox reactors at Wylfa began in 1963 and the plant began operations in 1971; generation ceased in 2015. At Trawsfynydd, there were also two Magnox reactors operational between 1965 and 1991. ³²³	Scotland has two nuclear stations currently generating electricity, three civil nuclear sites at advanced stages of decommissioning, and three nuclear defence sites. ³²⁴	N/A
	In 2017, the UK's average nuclear load factor was 77.4 per cent, 0.9 percentage points (pp) above the European average. However, for 1970 to 2017, the UK's average load factor was 67.4 per cent, 5.2 pp below the European average. In 2022, the British Security Strategy included an ambition to deploy up to 24GW of civil nuclear by 2050, representing 25% of Great Britain's projected energy demand.			

³²¹ Department of Energy & Climate Change (2023) Nuclear electricity in the UK. Available: [Nuclear electricity in the UK.pdf \(publishing.service.gov.uk\)](#)

³²² Department of Energy & Climate Change and Department for Business, Innovation & Skills *Long-term nuclear energy strategy*. Available: [Long-term Nuclear Energy Strategy - GOV.UK \(www.gov.uk\)](#)

³²³ UK Parliament (2023) *Nuclear energy in Wales*. Available: [Nuclear energy in Wales - Welsh Affairs Committee \(parliament.uk\)](#)

³²⁴ Scottish Government Nuclear energy (Accessed 14/07/2023) Available: [Nuclear stations - Nuclear energy - gov.scot \(www.gov.scot\)](#)

B.11. Health and Well-being

Introduction to the baseline information and overview of interaction with the NPS

Health and well-being is a broad topic that has been taken here to cover the following three elements: the level of risk to physical health posed by radioactivity in food and the environment, mental well-being, and level of deprivation. All of which combine to provide an indication of patterns in UK overall health and well-being. Consideration of patterns in health and well-being across the UK is important when exploring opportunities for new nuclear energy infrastructure. First, the potential for discharges from a new nuclear power station to have an impact on the existing levels of radioactivity in surrounding environment must be considered. Additionally, the impacts that new nuclear energy infrastructure may have on the local landscape and job opportunities must be considered in terms of the well-being and level of deprivation of the local population.

Radioactivity in Food and the Environment (RIFE) reports are published each year by the various UK environment and food standards agencies and these present an assessment of radioactivity in food and the environment and the public's resultant exposure to radiation. Across the UK, the radiation doses to people living around nuclear licensed sites from authorised releases of radioactivity (or consumer doses in Northern Ireland) were well below the UK national and European limit of one millisievert (mSv) per year in 2021. The highest doses of radiation received by the public in the UK were near Sellafield (0.21 mSv) and Capenhurst in (0.17 mSv), both in the north west of England.

The UK-wide Measuring National Well-Being (MNW) Programme monitors national well-being. In general across the UK, scores relating to feelings of life being worthwhile and overall rated happiness decreased between 2017 and 2022. In general, Northern Ireland scored highest against these indicators. The same decrease was seen for overall mental well-being in the short and long term. The labour market shocks associated with covid-19 were felt more by young people and the lowest paid, the resultant impacts on mental well-being are yet to be explored.

Each nation of the UK has its own index of deprivation. In England, the north west and north east are the most deprived areas. The most deprived areas in Scotland are concentrated around the populated central areas of Glasgow, Edinburgh, Stirling, Perth, Kilmarnock and Dundee. The most deprived areas of Wales are the south east and north east coasts. In Northern Ireland the most deprived areas are the urban centres of Belfast and Derry.

Table 11: Health and Wellbeing

Sustainability Topic / Baseline	England	Wales	Scotland	Northern Ireland
Health and Well-Being: Radioactivity levels in the environment	<p>Radiation levels in the UK are monitored regularly. This is undertaken by the Radioactive Incident Monitoring Network (RIMNET), the Environment Agency, Public Health England, the Scottish Environment Protection Agency (SEPA) Northern Ireland Environment Agency (NIEA), Natural Resources Wales (NRW) and operators of nuclear sites.</p> <p>Environment agencies monitor radioactivity to:</p> <ul style="list-style-type: none"> • check whether radiation exposure conforms to legal limits • check that radioactivity in food and the environment from authorised releases and discharges does not affect people's health or the environment • gather long-term information on concentrations and trends so that we can identify any changes and take action if required • assess the public's total exposure to radiation around nuclear sites <p>Monitoring includes several high volume air samplers, which are capable of detecting tiny amounts of radioactive particles in the air. Analysis can be carried out for short lived radionuclides. Results are published in Radioactivity in Food and the Environment (RIFE) reports. The latest RIFE report was published in 2022 and contains data for 2021³²⁵.</p>			
	The RIFE report identifies that the radiation doses to people living around nuclear	The RIFE report identifies that the radiation doses to people living around nuclear	The RIFE report identifies that the radiation doses to people living around nuclear	There are no nuclear licensed facilities in Northern Ireland. The RIFE

³²⁵ UK Government (2022) Radioactivity in Food and the Environment (RIFE) Reports. Available: <https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports>

	<p>licensed sites from authorised releases of radioactivity were well below the UK national and European limit of 1 millisievert (mSv) per year in 2021. The highest doses of radiation received by the public in England were near Sellafield and Drigg in the north west (0.21 mSv), Capenhurst in the north-west (0.17 mSv), and Amersham in the south-east (0.083 mSv). The high doses around Sellafield are found within consumers of locally caught crab and lobster, which have concentrations of polonium-210 which is attributed to discharges from the former phosphate processing plant</p>	<p>licensed sites from authorised releases of radioactivity were well below the UK national and European limit of 1 millisievert (mSv) per year in 2021. The highest doses of radiation received by the public in Wales was in Trawsfynydd in the north west (0.010 mSv). This was found in consumers of locally grown food and the site is currently being decommissioned³²⁷.</p>	<p>licensed sites from authorised releases of radioactivity were well below the UK national and European limit of 1 millisievert (mSv) per year in 2021. The highest doses of radiation received by the public in Scotland were on the Dumfries and Galloway coast in the south west (0.056 mSv). This was found within consumers of fish, shellfish and wildfowl, and is attributed to historical discharges from the Sellafield site located in England³²⁸.</p>	<p>report identifies through regional monitoring of consumer doses were all less than one per cent of the annual limit of one mSv³²⁹.</p>
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³²⁷ UK Government (2022) Radioactivity in Food and the Environment (RIFE) Reports. Available: <https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports>

³²⁸ UK Government (2022) Radioactivity in Food and the Environment (RIFE) Reports. Available: <https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports>

³²⁹ UK Government (2022) Radioactivity in Food and the Environment (RIFE) Reports. Available: <https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports>

	at Whitehaven, rather than the nuclear site at Sellafield ³²⁶ .			
	<p>Supporting Trend Data:</p> <p>During 2021, as a result of an ongoing programme of monitoring by the operator, radioactive items (particles, including contaminated pebbles / stones) from Sellafield were detected on Cumbrian coastline beaches and removed. Over several decades, concentrations of radioactivity in the environment around Sellafield have declined as a result of reduced discharges. Public Health England (PHE) has provided advice that the overall health risks for beach users from radioactive objects on beaches near Sellafield are very low and significantly lower than other risks that people accept when using the beaches. Fishing restrictions under the Food and Environment Protection Act (FEPA) 1985 are still in force³³⁰.</p>			
<p>Health and Well-Being:</p> <p>The Measuring National Well-being programme</p>	<p>The Measuring National Well-being (MNW) programme set out to establish measures to understand and monitor national well-being³³¹.</p> <p>Mental well-being in adults aged 16 and over on average ranked 24.3 out of 35 in 2018/2019. This represents a deterioration over the short and long term³³². This varies across the UK as follows:</p> <ul style="list-style-type: none"> England – 24.3 out of 35 			

³²⁶ UK Government (2022) Radioactivity in Food and the Environment (RIFE) Reports. Available: <https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports>

³³⁰ UK Government (2022) Radioactivity in Food and the Environment (RIFE) Reports. Available: <https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports>

³³¹ Office for National Statistics (2019) Measuring national well-being in the UK: international comparisons, 2019. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/internationalcomparisons2019>

³³² Office for National Statistics (2023) Measures of National Well-Being Dashboard: Quality of Life in the UK. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuresofnationalwellbeingdashboardqualityoflifeintheuk/2022-08-12>

	<ul style="list-style-type: none"> • Wales – 23.7 out of 35 • Scotland – 24.4 out of 35 • Northern Ireland – 25.0 out of 35 <p>In October to December 2022, 32.1% of adults aged 16 and over rated how worthwhile they feel the things they do in life are as very high. This represents no change from the previous year but a deterioration since the same period in 2017³³³. This varies across the UK as follows³³⁴:</p> <ul style="list-style-type: none"> • England – 31.8% • Wales – 36.1% • Scotland – 31.0% • Northern Ireland – 38.9% <p>In October to December 2022, 29.4% of adults aged 16 and over rated their happiness yesterday as very high. This represents no change from the previous year but a deterioration since the same period in 2017³³⁵. This varies across the UK as follows³³⁶:</p> <ul style="list-style-type: none"> • England – 29.2% • Wales – 32.3% • Scotland – 27.9%
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³³³ Office for National Statistics (2023) Measures of National Well-Being Dashboard: Quality of Life in the UK. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuresofnationalwellbeingdashboardqualityoflifeintheuk/2022-08-12>

³³⁴ Office for National Statistics (2023) Quarterly Personal Well-Being Estimates – Non-Seasonally Adjusted. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/datasets/quarterlypersonalwellbeingestimatesnonseasonallyadjusted>

³³⁵ Office for National Statistics (2023) Measures of National Well-Being Dashboard: Quality of Life in the UK. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuresofnationalwellbeingdashboardqualityoflifeintheuk/2022-08-12>

³³⁶ Office for National Statistics (2023) Quarterly Personal Well-Being Estimates – Non-Seasonally Adjusted. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/datasets/quarterlypersonalwellbeingestimatesnonseasonallyadjusted>

	<ul style="list-style-type: none"> Northern Ireland – 33.3% <p>In October to December 2022, 23.3% of adults in the UK rated their life satisfaction as very high. This represents a deterioration from the previous year and a deterioration since the same period in 2017³³⁷.</p> <p>In October 2021 to September 2022, it was reported that 6.24% people in England felt lonely often or always. Data was not available for the other regions within the UK³³⁸.</p> <p>The labour market shocks associated with the coronavirus pandemic have been felt more by young people and the lowest paid; people aged under 30 years and those with household incomes under £10,000 were around 35% and 60%, respectively, more likely to be furloughed than the general population. Measurements of health and well-being as a result of the coronavirus pandemic are still to be confirmed and indications of mental health issues such as anxiety are being preliminarily explored. The reliability of such data is unknown at this stage. Detailed studies of the health and well-being of populations surrounding new nuclear sites will need to be undertaken at later stages³³⁹.</p>
Health and Well-Being: The English Index of Multiple	<p>The IMD is the official measure of relative deprivation for small areas (Lower-Area Super Output Areas) in England. The Index ranks every small area in England from 1 (most deprived) to 32,844 (least deprived)³⁴⁰.</p> <p>The SIMD shows where the most deprived areas in Scotland and is a relative measure of deprivation. Scotland is split into 6,976 zones with indicators measured including income, employment, education, health, access to services, crime and housing³⁴¹.</p>

³³⁷ Office for National Statistics (2023) Measures of National Well-Being Dashboard: Quality of Life in the UK. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuresofnationalwellbeingdashboardqualityoflifeintheuk/2022-08-12>

³³⁸ Office for National Statistics (2023) Measures of National Well-Being Dashboard: Quality of Life in the UK. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuresofnationalwellbeingdashboardqualityoflifeintheuk/2022-08-12>

³³⁹ Office for National Statistics (2021) Personal and economic well-being in Great Britain: May 2021. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalandeconomicwellbeingintheuk/may2021>

³⁴⁰ Ministry of Housing, Communities and Local Government (2019) English indices of deprivation 2019. Available: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

³⁴¹ Scottish Government (2020) Scottish Index of Multiple Deprivation 2020. Available: <https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/>

Deprivation (IMD) 2019	The WIMD is the official measure of relative deprivation for small areas in Wales. WIMD ranks all small areas in Wales from 1 (most deprived) to 1,909 (least deprived) ³⁴² .			
The Scottish Index of Multiple Deprivation (SIMD) 2020	The NIMDM comprises seven domains of deprivation, each developed to measure a distinct form or type of deprivation. This provides a mechanism for ranking the 890 Super Output areas (SOAs) from the most deprived (rank 1) to the least deprived (rank 890) ³⁴³ .			
The Welsh Index of Multiple Deprivation (WIMD) 2019	The south east, south west and east of England are the least deprived areas in the UK. Deprivation increases in urban areas, with towns and cities generally being more deprived than rural areas. The north west and north east are the most deprived areas of England. Middlesbrough, Knowsley, Kingston upon Hull, Liverpool and Manchester are the five local authority districts with the largest proportions of highly	The south east and north east coast are the most deprived areas in Wales. Deprivation is most concentrated in the south east, around the urban areas of Cardiff, Newport, Swansea and Bridgend. The smaller towns within the valleys of the south east, such as Caerphilly and Merthyr Tydfil are similarly deprived. Comparatively the rural areas of Wales are considerably less deprived.	The most deprived areas in Scotland are concentrated around the populated central areas of Glasgow, Edinburgh Stirling, Perth, Kilmarnock and Dundee. Pockets of deprivation are also located in other urban centres throughout the country, such as Stranraer in the south west, Oban in the west and Aberdeen in the East. The islands of Stornoway and the Orkneys are comparatively deprived to the majority of Scotland.	The most deprived areas of Northern Ireland are the urban centres of Belfast in the east and Derry in the north west. Deprivation is also recorded in rural areas, including around Cookstown in central Northern Ireland, Crossmaglen in the south and Strabane in the west. The lowest deprived areas are North Down, Fermanagh and South Tyrone, Strangford and South Antrim.
Northern Ireland Multiple Deprivation				

³⁴² Welsh Government (2019) Welsh Index of Multiple Deprivation. Available: <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation>

³⁴³ Northern Ireland Statistics and Research Agency (2017) Northern Ireland Multiple Deprivation Measure 2017 (NIMDM2017). Available: <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2017-nimdm2017>

Measure (NIMDM) 2017	deprived neighbourhoods in England.			
<p>Supporting Trend Data:</p> <p>It is not advised to compare the deprivation measures across the UK as data definitions, collection methods and base populations are not the same across the devolved administrations.</p> <p>Overall, 88% of neighbourhoods that are in the most deprived decile according to the Index of Multiple Deprivation 2019 (IMD2019) were also the most deprived according to the IMD2015. As was the case in previous versions of the Indices, IMD2019 reveals concentrations of deprivation in large urban conurbations, areas that have historically had large heavy industry manufacturing and/or mining sectors (such as Birmingham, Nottingham, Hartlepool), coastal towns (such as Blackpool or Hastings), and parts of east London. There are also pockets of deprivation surrounded by less deprived places in every region of England.</p> <p>Six council areas have a larger share of the 20% most deprived data zones in Scotland compared with SIMD 2016. Three council areas have a smaller share. The rest have changed by less than 2 percentage points. The councils with the largest decrease are Glasgow City, Renfrewshire, and City of Edinburgh. The councils with the largest increase are Aberdeen City, North Lanarkshire, Moray, East Lothian, Highland, and North Ayrshire.</p> <p>In WIMD 2019, there were pockets of high relative deprivation in the South Wales cities and valleys, and in some North Wales coastal and border towns. The overall picture is similar to that of WIMD 2014. Seven of the ten most deprived areas from WIMD 2014 remained in the ten most deprived areas in WIMD 2019.</p> <p>Since 2005 there has been little change in the areas of worst deprivation within Northern Ireland.</p>				

Health and Well-Being: National Trails	National Trails are long distance walking, cycling and horse riding routes through the best landscapes in England and Wales. In Scotland the equivalent trails are called Scotland's Great Trails. In total, England and Wales have around 2,500 miles (4,000 Km) of National Trail. ³⁴⁴			
	There are 13 National Trails in England including: <ul style="list-style-type: none"> • Cleveland Way • Cotswold Way • Hadrian's Wall Path • North Downs Way • Peddar's Way and Norfolk Coast Path • Pennine Bridleway • Pennine Way • South Downs Way • South West Coast Path • Thames Path • The Ridgeway • Yorkshire Wolds Way 	There are 3 National Trails in Wales including: <ul style="list-style-type: none"> • Glyndŵr's Way • Offa's Dyke Path • Pembrokeshire Coast Path 	Scotland's Great Trails include 29 routes, totalling over 1,900 miles, including: <ul style="list-style-type: none"> • Annadale Way • Arran Coastal Way • Ayrshire Coastal Path • Berwickshire Coastal Path • Border Abbeys Way • CATERAN Trail • Clyde Walkway • Cross Borders Drove Road • Dava Way • Fife Coastal Path • Formartine and Buchan Way 	N/A

³⁴⁴ National Trails The Trails. (Accessed 17/07/2023) Available: The Trails - National Trails

	<ul style="list-style-type: none"> A new 2,795 mile National Trail, the King Charles III England Coast Path, is currently being established. Error! Bookmark not defined. 		<ul style="list-style-type: none"> Forth & Clyde/Union Canal Towpath Great Glen Canoe Trail Great Glen Way Great Trossachs Path John Muir Way Kintyre Way Loch Lomond & Cowal Way Moray Coast Trail Mull of Galloway Trail River Ayr Way Rob Roy Way Romans and Reivers Route Southern Upland Way Speyside Way St Cuthbert's Way Three Lochs Way 	
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			<ul style="list-style-type: none"> • West Highland Way • West Island Way³⁴⁵ 	
	<p>The trails – like many local greenspaces and access areas further afield – recorded high levels of use during the pandemic. Whilst these levels have certainly not been sustained, the people counters provided evidence of high levels of use, which suggests that some people may have continued to explore these high quality networks. Natural England has secured an uplift for the National Trails for three years from April 2022.³⁴⁶</p>			
Health and Well-Being: Country Parks	Country Parks are public green spaces often at the edge of urban areas which provide places to enjoy the outdoors and experience nature in an informal semi-rural park setting.			
	Many Country Parks were designated in the 1970s by the then Countryside Commission, under the Countryside Act 1968. More recently Country Parks have been created under a less formal arrangement and Natural England is working with partners to encourage a renaissance	Most Country Parks were designated in the 1970s, under the Countryside Act 1968 with the support of the former Countryside Commission. In more recent times there has been no specific financial support for Country Parks directly, and	Countryside (Scotland) Act 1967 Section 48 gives local authorities power to assess and review the need for Country Parks in consultation with SNH. There are 40 Country Parks in Scotland. ³⁴⁹	There are 7 Country Parks in Northern Ireland. ³⁵⁰

³⁴⁵ Scotland's Great Trails Scotland's Great Trails (Accessed 17/07/2023) Available: [Discover Scotland's finest long-distance trails, compare routes, find support services, maps and guidebooks - Scotland's Great Trails \(scotlandsgreattrails.com\)](https://scotlandsgreattrails.com)

³⁴⁶ Natural England and National Trails (2023) National Trails Annual Report 2021/22. Available: [NT-Annual-Report-21-22-small.pdf \(nationaltrails.s3.eu-west-2.amazonaws.com\)](https://nationaltrails.s3.eu-west-2.amazonaws.com)

³⁴⁹ NatureScot (2023) Country parks. Available: [Country parks | NatureScot](https://www.naturescot.gov.uk/country-parks)

³⁵⁰ NI Direct Country parks (Accessed 17/04/202) Available: [Country parks | nidirect](https://www.nidirect.gov.uk/country-parks)

	and accreditation of parks which meet certain criteria. There are over 250 Country Parks in England and Wales. ³⁴⁷	fewer have been designated. ³⁴⁸		
	Public parks and greenspaces have been under increasing budget pressures in recent years, with limited resources available to adapt to changing circumstances. Between 2014 and 2020, Nesta, in partnership with The National Lottery Heritage Fund and The National Lottery Community Fund backed 24 innovations, with £3 million in funding and support, to test and replicate ideas to improve parks. The Future Parks Accelerator, a collaboration between the National Trust, National Lottery Heritage Fund, and the Ministry for Housing, Communities and Local Government is supporting nine places to help local authorities transform their green spaces to enable these valuable places to be more financially sustainable and ensure that communities can continue to benefit from them for generations to come. ³⁵¹			
Health and Well-Being: National Cycle Networks	The National Cycle Network is a UK-wide network of signed walking and cycling paths connecting our cities, towns, and countryside. The National Cycle Network brings huge benefits to the UK's economy and improves people's health and wellbeing.			
	There are over 250 cycle paths in England of varying distances ³⁵² .	There are over 1,200 miles of National Cycle Network in Wales. ³⁵⁴	There are approximately 1,643 miles (2,644 km) of National Cycle Network routes in Scotland, including 702 miles of traffic-free	There are currently more than 1,300km of cycle paths in Northern Ireland - this includes 170km of traffic-free paths offering long,

³⁴⁷ Natural England (2023) Country Parks (England). Available: [Country Parks \(England\) - data.gov.uk](#)

³⁴⁸ Natural Resources Wales (2023) Country parks. Available: [Country Parks - data.gov.uk](#)

³⁵¹ Nesta (2020) Rethinking the future of parks. Available: [Rethinking the Future of Parks | Nesta](#)

³⁵² Sustrans About the national cycle network (Accessed 17/07/2023) Available: About the National Cycle Network - Sustrans.org.uk

³⁵⁴ Sustrans The national cycle network in Wales (Accessed 17/07/2023) Available: The National Cycle Network in Wales - Sustrans.org.uk

	<p>The next Cycling and Walking Investment Strategy (CWIS2) is due out in spring 2022 and will cover a three-year period from 2022 to 2025, seeking to create traffic-free stretches by using Environmental Land Management pilots.³⁵³</p>	<p>The Welsh Government is investing in active travel and has provided £350,000 funding for maintenance of the National Cycle Network.³⁵⁵</p>	<p>routes which use a mix of railway path, canal towpath, forest road, shared-use path, segregated cycle lanes and redetermined rural footways.³⁵⁶</p> <p>In September 2021 the Programme for Government pledged that the Scottish Government would increase funding for active travel from £100 million a year to £320 million a year by 2025/26. It also includes a commitment to deliver investment in the Sustrans 30-year National Cycle Network Plan.³⁵⁷</p>	<p>medium and short rides for cyclists of all ages.³⁵⁸</p> <p>The Department for Infrastructure's strategy, 'Exercise - Explore - Enjoy: A Strategic Plan for Greenways', provides a solid basis and rationale for greenway development across Northern Ireland.³⁵⁹</p>
<p>Sustrans is working in partnership with government, local authorities and other key stakeholders to create a safe and accessible traffic-free Network. The project involves assessment and plans for every mile of the National Cycle Network, as well as detailed and specific plans for priority sections.</p>				

³⁵³ Sustrans (2022) Paths for everyone. Available: Paths for Everyone Three Years On (sustrans.org.uk)

³⁵⁵ Sustrans (2022) Paths for everyone. Available: Paths for Everyone Three Years On (sustrans.org.uk)

³⁵⁶ Sustrans The national cycle network in Scotland (Accessed 17/07/2023) Available: The National Cycle Network in Scotland - Sustrans.org.uk

³⁵⁷ Sustrans (2022) Paths for everyone. Available: Paths for Everyone Three Years On (sustrans.org.uk)

³⁵⁸ NI Direct Cycling – getting started (Accessed 17/07/2023) Available: Cycling – getting started | nidirect

³⁵⁹ Sustrans (2022) Paths for everyone. Available: Paths for Everyone Three Years On (sustrans.org.uk)

Health and Well-Being: Coastal Paths	A coastal path is a trail that runs alongside a lake or seashore for pedestrians, and sometimes cyclists or equestrians.			
	The King Charles III England Coast Path will circle the entire country's coastline and, when completed, will total around 2,700 miles in length. The path is aims to be fully walkable by the end of 2024. ³⁶⁰	The Wales Coast Path is a continuous coastal footpath stretching the entire coastline of Wales, totalling 870 miles. ³⁶¹	Popular paths along Scotland's 6000 miles of coastline include Fife Coastal Path, Clyde Coastal Path, the Berwickshire Trail and the John Muir Way. ³⁶²	Popular coastal paths in Northern Ireland include the Giant's Causeway Trail, Kearney Coastal Walk, Murlough Nature Reserve North Point trail, Castle Ward boundary trail and Mussenden Temple and Downhil Demesne. ³⁶³
	The National Trust protects over 780 miles of coastline in England, Wales and Northern Ireland. They work with other organisations such as tourist bodies and the South West Coast Path Association to protect and promote access to the coast, an essential part of their commitment to coastal access. Their ranger teams are continually working to improve our coastal paths, making them more accessible for everyone, and planning for future coastal change. ³⁶⁴			

³⁶⁰ Natural England (2023) King Charles III England Coast Path: improving public access to the coast. Available: King Charles III England Coast Path: improving public access to the coast - GOV.UK (www.gov.uk)

³⁶¹ Wales Coast Path About the path (Accessed 17/07/2023) Available: Wales Coast Path / About the path

³⁶² National Coast Path (2021) The Scottish Coastal Way. Available: The Scottish Coastal Way - Nationalcoastalpath.co.uk

³⁶³ National Trust Coastal walks in Northern Ireland (Accessed 17/07/2023) Available: Best Northern Ireland coast and sea walks | National Trust

³⁶⁴ National Trust Caring for coastal footpaths. (Accessed 17/07/2023) Available: Caring for coastal footpaths | National Trust

B.12. Resources and Waste

Introduction to the baseline information and overview of interaction with the NPS

Material resources allow us to meet our basic human needs as well as generate economic growth and create social value. A material is waste if the holder has discarded it. Improper waste disposal can cause serious issues to the environment. As such, waste management and the safe disposal of waste have massive and far-reaching consequences for the environment and are of vital importance. The UK generated 222.2 million tonnes of total waste in 2018, with England responsible for 84% (187.3 million tonnes) of the UK total. The UK recycling rate for Waste from Households was 44.6% in 2021, increasing from 44.4% in 2020. UK biodegradable municipal waste sent to landfill increased to 6.8 million tonnes in 2021 from 6.1 million tonnes in 2020. The Resources and Waste Strategy for England aims to maximise the value of resource use and minimise waste and its impact on the environment. Similar strategies exist in Wales, Scotland, and Northern Ireland. Central to these strategies are the waste hierarchy: waste prevention and reduction first, followed by reuse and, then recycling and composting. The government is committed to using Geological Disposal Facilities (GDF) to dispose of nuclear waste. Radioactive waste produced by the Nuclear NPS must be safely managed to minimise the environmental impact.

Mineral resources are defined as natural concentrations of minerals or, in the case of aggregates, bodies of rock that are, or may become, of potential economic interest due to their inherent properties. They make an essential contribution to the country's prosperity and quality of life. Minerals can only be worked where they naturally occur, so location options for the economically viable and environmentally acceptable extraction of minerals may be limited. This means that it is necessary to consider protecting minerals from non-minerals development and has implications for the preparation of minerals plans and approving non-mineral development in defined mineral safeguarding areas. Since minerals are a non-renewable resource, minerals safeguarding is the process of ensuring that non-minerals development does not needlessly prevent the future extraction of mineral resources, of local and national importance.³⁶⁵

To meet the UK's legally-binding target to be "net zero" across the economy by 2050, the government has said that all electricity should be generated from "clean" sources by 2035. Remaining non-electric energy use will have to be net zero by 2050. Around 20%, of UK energy use was from "low-carbon" sources in 2022 which is up from 12% in 2012. "Low-carbon" includes renewables such as wind, solar, hydropower and bioenergy and nuclear. The licensing of exploration and development of the UK's offshore and onshore oil and gas resources, gas storage and unloading activities is regulated in accordance

³⁶⁵ Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2014) Minerals. Available: [Minerals - GOV.UK \(www.gov.uk\)](https://www.gov.uk/minerals)

with the Strategy and the UK Government's target of net zero greenhouse gas emissions by 2050.³⁶⁶

³⁶⁶ North Sea Transition Authority (2023) *Exploration and production*. Available: [North Sea Transition Authority \(NSTA\): Overview - Exploration &
production \(nstauthority.co.uk\)](https://www.nstauthority.co.uk/overview-exploration-and-production)

Table 12: Resources and Waste

Sustainability				
Topic / Baseline	England	Wales	Scotland	Northern Ireland
Resources & Waste: Active Landfill Sites	A landfill is a waste disposal site for the deposit of waste onto or into land ³⁶⁷ . The Landfill Tax Regulations 1996 were introduced in the UK with the primary purpose of reducing the disposal of waste to landfill and encouraging more sustainable waste management outcomes. This is a tax on the disposal of waste to landfill, paid by site operators. Landfill Tax applies to England and Northern Ireland. The tax was devolved to Wales by way of the Landfill Disposals Tax (Wales) Act 2017 ³⁶⁸ and to Scotland by way of the Landfill Tax (Scotland) Act 2014 ³⁶⁹ . The tax is chargeable by weight. As of April 2023, the standard rate was £102.10 per tonne.			
	Landfill sites are regulated in England by the Environment Agency. As of 2020, England contained 534 landfill sites.	Landfill sites are regulated in Wales by Natural Resources Wales. The Welsh Revenue Authority provides a list of the 20 landfill sites in Wales which was updated in 2023 ³⁷⁰ .	The Scottish Environment Protection Agency regulates landfill sites in Scotland. As of 2021, Scotland contained 43 landfill sites ³⁷¹ .	The Northern Ireland Environment Agency regulates landfill sites through an environmental permit which aims to ensure that the landfill is operated by best practice with minimal impact on the

³⁶⁷ DEFRA (2010) *Environmental Permitting Guidance- The Landfill Directive*. Available: [DRAFT GUIDANCE ON: \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/362222/efp-guidance-landfill-directive.pdf)

³⁶⁸ Welsh Government (2023) *An Independent Review of the Landfill Disposals Tax (Wales) Act 2017*. Available: [An Independent Review of the Landfill Disposals Tax \(Wales\) Act 2017 \(gov.wales\)](#)

³⁶⁹ Scottish Government *Scottish landfill tax* (Accessed 17/07/2023) Available: [Scottish Landfill Tax - Taxes - gov.scot \(www.gov.scot\)](https://www.gov.scot/topics/taxes/scottish-landfill-tax)

³⁷⁰ Welsh Revenue Authority (2023) *Check the list of registered landfill site operators in Wales*. Available: [Check the list of registered landfill site operators in Wales | GOV.WALES](#)

³⁷¹ SEPA (2022) 2021 waste data quality report – waste landfilled in Scotland. Available: [2021-landfill-qual-report-003.pdf \(sepa.org.uk\)](#)

				environment ³⁷² . As of 2021, NI contained 22 inert landfills, 10 non-hazardous landfills and 2 hazardous landfills, one of which had no waste deposited since 2015 ³⁷³ .
	The UK recycling rate for Waste from Households (WfH); including Incinerator Bottom Ash metal (IBAm) was 44.6% in 2021, increasing from 44.4% in 2020. However, UK biodegradable municipal waste (BMW) sent to landfill increased to 6.8 million tonnes in 2021 from 6.1 million tonnes in 2020. It is estimated that the UK generated 40.4 million tonnes of commercial and industrial (C&I) waste in 2020, of which 33.8 million tonnes (84%) was generated in England. ³⁷⁴			
Resources & Waste: Mineral safeguarding and	The National Planning Policy Framework states that “it is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs” ³⁷⁵ . The role of the planning authority in relation to mineral extraction is to balance the fundamental requirement to ensure the adequate supply of minerals with the protection of amenity and the environment. Each mineral planning authority should ensure that it makes an appropriate contribution to meeting local, regional and UK needs for primary minerals which reflects the nature and extent of resources in the area and their best and most appropriate use, subject to relevant environmental and other planning considerations. ³⁷⁶			

³⁷² DAERA *Regulation of landfills in Northern Ireland* (Accessed 18/07/2023) Available: [Regulation of landfills in Northern Ireland | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](https://www.daera-ni.gov.uk/landfills)

³⁷³ DAERA (2023) *Number of active landfill sites in Northern Ireland, their remaining capacity and their waste inputs and outputs*. Available: [Number of active landfill sites in Northern Ireland, their remaining capacity and their waste inputs and outputs | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](https://www.daera-ni.gov.uk/landfill-sites)

³⁷⁴ Department for Environment, Food & Rural Affairs (2023) *UK statistics on waste*. Available: [UK statistics on waste - GOV.UK \(www.gov.uk\)](https://www.gov.uk/statistics-on-waste)

³⁷⁵ Ministry of Housing, Communities & Local Government (2021) *National Planning Policy Framework*. Available: [National Planning Policy Framework \(publishing.service.gov.uk\)](https://www.gov.uk/national-planning-policy-framework)

³⁷⁶ Welsh Government (2021) *Planning Policy Wales*. Available: [Planning Policy Wales - Edition 11 \(gov.wales\)](https://www.gov.wales/planning-policy-wales)

exploration zones	Mineral exploration is the systematic process of investigation designed to eliminate mineral resource targets that are considered uneconomic and highlight targets for further investigation. The ultimate aim is to identify a concentration of minerals that can be economically extracted. ³⁷⁷			
	Relevant Plans should designate Minerals Safeguarding Areas (MSAs) that include areas of known resources, existing permitted reserves and quarries. Minerals Consultation Areas (MCAs) identify the area in which the local planning authority should consult with the Mineral Planning Authority on local plan site allocations and planning applications. MCAs should be defined based on MSAs but often extending beyond these, in the form of a 'buffer' (often between 100 and 500m) around mineral	Using the National Minerals Resource Maps and the National Aggregates Safeguarding Maps for Wales, areas to be safeguarded should be identified on proposals maps and policies should protect potential mineral resources from other types of permanent development which would either sterilise them or hinder extraction. Development plans should set out the broad strategy for mineral working and related development and as far as practicable, areas for future working should be identified, where this can be	Local Development Plans should support a landbank of construction aggregates of at least 10-years at all times in the relevant market areas, whilst promoting sustainable resource management, safeguarding important workable mineral resources, which are of economic or conservation value, and take steps to ensure these are not sterilised by other types of development. ³⁸⁰	Mineral exploration in Northern Ireland is administered by the Department for the Economy (DfE) who are advised and supported by the Geological Survey of Northern Ireland ³⁸¹ .

³⁷⁷ Department for the Economy (2021) *Mineral prospecting - common exploration methods*. Available: [Mineral prospecting - common exploration methods | Department for the Economy \(economy-ni.gov.uk\)](https://www.economy-ni.gov.uk/mineral-prospecting-common-exploration-methods/)

³⁸⁰ Scottish Government (2023) *National Planning Framework 4*. Available: [National Planning Framework 4 \(www.gov.scot\)](https://www.gov.scot/national-planning-framework-4/)

³⁸¹ British Geological Survey (2019) *Exploration and Mining in Northern Ireland*. Available: [Exploration and Mining in Northern Ireland \(bgs.ac.uk\)](https://www.bgs.ac.uk/exploration-mining-northern-ireland/)

	resource, depending on the type of resource and extraction activity and may include access roads, and existing and potential minerals infrastructure sites. ³⁷⁸	undertaken in a sustainable way. ³⁷⁹		
	The UK's Critical Minerals Strategy, published in 2022, set out an approach to improve the resilience of critical mineral supply chains to safeguard British industries now and in the future, deliver clean energy transition and protect national security and defence capability. The strategy sets out how we will accelerate our domestic capabilities, collaborate with international partners and enhance international markets. ³⁸²			
Resources & Waste: Exploration Licenses	A UK Petroleum Exploration and Development Licence (PEDL) allows a company to pursue a range of oil and gas exploration activities, subject to necessary drilling/development consents and planning permission. There are currently 230 onshore licences, covering 529 blocks. The 14th Licensing Round was announced on the 17th of December 2015 with the award of 159 new blocks under 93 new licences. ³⁸³			
	In England, the licensing functions are carried out by the Oil and Gas Authority.	From 2018, Welsh Ministers are responsible for licensing the exploration and development of Wales'	From 2018, onshore oil and gas licensing powers were devolved to Scotland ³⁸⁵ .	Any person who wants to explore for, drill for or extract oil or gas in Northern Ireland must hold a

³⁷⁸ The Mineral Products Association and The Planning Officers' Society (2019) *Mineral safeguarding practical guidance*. Available:

[MPA POS Minerals Safeguarding Guidance Document.pdf \(mineralproducts.org\)](#)

³⁷⁹ Welsh Government (2021) Planning Policy Wales. Available: Planning Policy Wales - Edition 11 (gov.wales)

³⁸² Department for Business & Trade and Department for Business, Energy & Industrial Strategy (2023) *Critical Minerals Refresh: Delivering Resilience in a Changing Global Environment*. Available: [Critical Minerals Refresh: Delivering Resilience in a Changing Global Environment \(published 13 March 2023\) - GOV.UK \(www.gov.uk\)](#)

³⁸³ UKOOG Licensed areas. Available: [Licensed Areas | UKOOG](#)

³⁸⁵ Scottish Government *Oil and gas* (Accessed 19/07/2023) Available: [Oil and gas - gov.scot \(www.gov.scot\)](#)

		onshore petroleum resources ³⁸⁴ .		petroleum licence granted by the Department for the Economy (DfE) under the Petroleum (Production) Act (Northern Ireland) 1964 ³⁸⁶ .
	<p>For the UK, the scenarios for meeting the Sixth Carbon Budget and Net Zero in 2050 require large and rapid reductions in consumption of oil and gas³⁸⁷. The UK is a mature basin and in their 2021 reserves and resources report, the Oil and Gas Authority warned that without further exploration the UK faces a cliff edge in production decline and increased reliance on imports. The North Sea Transition Deal, signed in March 2021, has ambitious milestones for the offshore sector to support the government's objective of reaching Net Zero, for example challenging production emission reduction targets (10% by 2025, 25% in 2027 and 50% by 2030) and enabling Carbon Capture, Utilisation and Storage at scale.³⁸⁸</p>			

³⁸⁴ Welsh Government (2021) *Petroleum Licensing Functions in Wales: Frequently Asked Questions*. Available: [Petroleum Licensing Functions in Wales: Frequently Asked Questions \(gov.wales\)](#)

³⁸⁶ Department for the Economy *Petroleum licensing* (Accessed 19/07/2023) Available: [Petroleum licensing | Department for the Economy \(economy-ni.gov.uk\)](#)

³⁸⁷ Climate Change Committee (2022) *Letter: Climate Compatibility of New Oil and Gas Fields*. Available: [Letter: Climate Compatibility of New Oil and Gas Fields - Climate Change Committee \(theccc.org.uk\)](#)

³⁸⁸ OEUK (2022) *Designing a climate compatibility Checkpoint for future oil and gas licensing in the UK Continental Shelf – OEUK Response*. Available: [OEUK-Consultation-Response-28.02.2022-Designing-a-climate-compatibility-checkpoint-for-future-oil-and-gas-licensing-in-the-UK-.pdf](#)

Appendix C. Baseline Maps

Note that due to size, these baseline maps are provided in a separate Volume.

This publication is available from: www.gov.uk/government/consultations/approach-to-siting-new-nuclear-power-stations-beyond-2025

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