



Department for
Business, Energy
& Industrial Strategy

ATKINS

Member of the SNC-Lavalin Group

Energy National Policy Statements

Appraisal of Sustainability Scoping Report
Department for Business, Energy and Industrial
Strategy

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Notice

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1. Introduction

1.1. Energy National Policy Statements

National Policy Statements (NPSs) are designated under the Planning Act 2008 to provide guidance for decision-makers on the application of Government policy when determining development consent for major infrastructure. Their function is to state clearly how existing policy applies to development consent, removing discussion of the merits of Government policy from the examination process so that decisions can be made on the basis of planning considerations alone. NPSs apply to infrastructure that is defined as a “Nationally Significant Infrastructure Project” in the Planning Act 2008.

The Energy White Paper (EWP) sets out the Government’s analysis of the strategic direction for tackling the long-run decarbonisation of energy, consistent with achieving net zero emissions by 2050. The Energy NPS need to reflect the Government’s energy policy, so the content of the EWP will be a significant factor in any review.

The current suite of Energy NPSs were designated by the Department of Energy and Climate Change in 2011, namely:

- The overarching NPS (EN-1)
- Fossil fuel electricity generating infrastructure (EN-2)
- Renewable Energy Infrastructure (EN-3)
- Gas supply infrastructure & gas and oil pipelines (EN-4)
- Electricity Networks Infrastructure (EN-5)
- Nuclear Power Generation (EN-6)

The Department for Business, Energy and Industrial Strategy (BEIS) has initiated the review of the current suite of six NPS (EN-1 – EN-6) with the aim of designating any amendments to the suite of NPSs by the end of 2021. As part of any review of NPS, Appraisal of Sustainability (AoS) and Habitat Regulations Assessment (HRA) are statutory requirements for the Secretary of State. All Energy NPS designated in 2011 were the subject of previous processes of AoS and HRA.

While the review is still ongoing, there is the possibility that this could result in amendment to any of the NPS and the scope of the AoS should be wide enough to cover such amendments. It is the purpose of this Scoping Report to set out the parameters of this AoS.

1.2. Appraisal of Sustainability

The main purpose of an AoS is to examine the likely social, economic and environmental effects of designating an NPS. If potential significant adverse effects are identified, the AoS recommends options for avoiding or mitigating such effects. In this way, the AoS helps inform the preparation of the NPS to promote sustainable development.

AoS is a requirement of the Planning Act 2008. It also incorporates the Strategic Environmental Assessment requirements of the Environmental Assessment of Plans and Programmes Regulations 2004 (“the SEA Regulations”). The AoS thus considers socio-economic effects alongside the environmental effects which are required to be assessed by the SEA Regulations. Chapter 2 provides further legislative context.

This report sets out the scoping stage of the AoS to support the reviewed suite of NPSs. A number of tasks are undertaken which result in the development of an AoS framework of objectives and guide questions against which the revised suite of NPSs are assessed.

1.3. Structure of Scoping Report

The scoping report follows the structure below:

- Chapter 2: Approach to the AoS – this chapter provides the regulatory background, the scope of the reviewed NPSs, the relationship between the reviewed NPSs and AoS, and sets out the AoS process which is followed in the subsequent sections.
- Chapter 3: Task A1: Review Other Relevant Policies, Plans, Programmes – this chapter summarises the review of other legislation and policy at an international and national level which is presented in full in Appendix A.
- Chapter 4: Task A2: Collecting Baseline Information – this chapter sets out the information collected at a national level, summarising the contents of Appendix B and Appendix C.
- Chapter 5: Task A3: Identifying sustainability issues and problems - this section uses the review of policies, plans, and programmes in addition to the baseline information to identify key issues for the appraisal of the reviewed NPSs.
- Chapter 6: Task A4: Developing the AoS Framework – this chapter sets out the framework that will be used to appraise the reviewed NPSs in the AoS.
- Chapter 7: Next Steps – provides a summary of the consultation and next steps in development of the reviewed NPSs.

1.4. Consultation

Consultees are invited to consider the following questions:

1: Are there other plans, programmes or environmental protection objectives that should be identified and reviewed as part of the AoS process (Appendix A)?

2: Is there additional information that needs to be considered as part of the baseline data?

3: Do you consider that the range of sustainability problems and issues covered is appropriate?

4: Are there any changes you consider should be made to the proposed AoS objectives and guide questions?

5: Do you have further suggestions regarding the scope of the AoS and its proposed assessment of the reviewed NPS?

2. Approach to the Appraisal of Sustainability

2.1. Introduction

As already mentioned, the Planning Act 2008 sets out a requirement that before designating an NPS, the Secretary of State must carry out an AoS. The AoS must also meet the requirements for SEA. These processes are integrated. There are also additional assessments which are separate processes but provide information for the AoS.

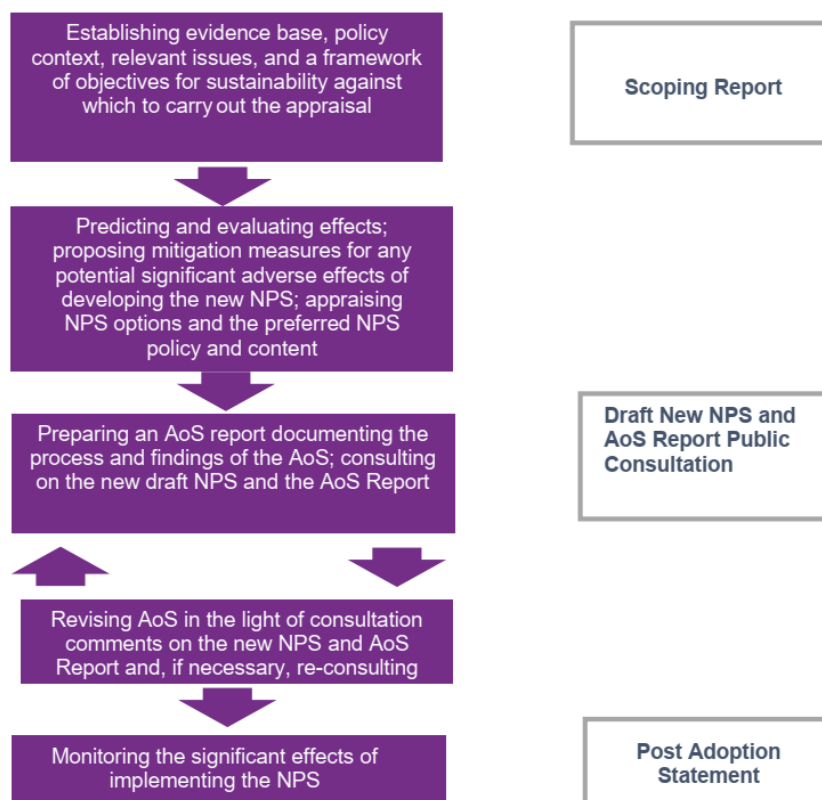
2.2. AoS Process

The AoS process and methods that have been applied are broadly based on a number of published guidance documents (note that there is no specific guidance on preparing an AoS):

- Sustainability Appraisal (SA) of Regional Spatial Strategies and Local Development Documents - Guidance for Regional Planning Bodies and Local Planning Authorities, by the ODPM, the Scottish Executive, the Welsh Assembly Government and the Northern Ireland Department of the Environment November 2005;
- A Practical Guide to the Strategic Environmental Assessment Directive, by the ODPM, the Scottish Executive, the Welsh Assembly Government and the Northern Ireland Department of the Environment, September 2005; and
- Revised National Planning Policy Framework, July 2018 and associated Planning Practice Guidance, March 2014.

It is to be noted that the processes of SEA and HRA are based on European Union (EU) Directives. While the United Kingdom has left the EU, the relevant SEA and HRA Regulations implementing these processes still apply as of March 2021, however, future changes cannot be ruled out.

Figure 2-1 - Government's guidance for preparing SEAs and Sustainability Appraisals



Source: Based on ODPM (2005) A practical guide to the Strategic Environmental Assessment Directive and ODPM (2005) Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents

The AoS of the revised NPS will be carried out in a staged approach. Figure 2-1 demonstrates the various preparation stages of the AoS. HRA is being undertaken in parallel to the AoS and its results incorporated into the AoS as appropriate.

2.3. Geographical and Temporal scope of the AoS

The temporal scope of the AoS has been aligned with that for the NPSs, which remain in force until such time as a further review is considered to be appropriate. It should be noted though, that the AoS considers the full lifetime of any individual energy related development which might arise from the reviewed NPSs and that includes the construction, operation and decommissioning stages.

The AoS applies to the same geographical area of the NPSs – namely England and Wales, though in certain circumstances elements will apply to Scotland.

The Energy NPS does not apply to Northern Ireland.

2.4. Technical Scope of the AoS

The AoS has a very wide remit and will consider the following topics associated with the SEA regulations which require that the likely significant effects on the environment are assessed, considering the following factors and interrelationship between them:

- Biodiversity;
- Population;
- Human health (covering noise issues among other effects on local communities and public health);
- Fauna and flora;
- Soil;
- Water;
- Air;
- Noise;
- Climatic factors;
- Material assets (covering infrastructure, waste and other assets);
- Cultural heritage including architectural and archaeological heritage; and
- Landscape.

In addition, SA guidance requires the consideration of socio-economic factors alongside the environmental factors identified above.

2.5. Habitats Regulations Assessment

Alongside the AoS, Habitats Regulations Assessment (HRA) will be carried out on each of the six NPS noted above.

In England and Wales, under the Conservation of Habitats and Species Regulations 2017 (as amended)¹ (the 'Habitats Regulations') an 'Appropriate Assessment' is required to be undertaken on proposed plans or projects

¹ Following the changes made to the Conservation of Habitats and Species Regulations 2017 (as amended) by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the UK no longer form part of the EU's Natura 2000 ecological network and now form part of the UK's national network of European Sites. In this document they are still referred to as European Sites.

which are not necessary for the management of the European Site but which are likely to have a significant effect on one or more European Sites either individually, or in combination with other plans or projects.

European Sites include Special Areas of Conservation (SACs), originally designated under European Council Directive 92/43/EEC (referred to as the Habitats Directive), and Special Protection Areas (SPAs), originally designated under the Conservation of Wild Birds Directive (Council Directive 2009/147/EC (which codifies Directive 79/409/EEC)) for rare, vulnerable and regularly occurring migratory bird species and internationally important wetlands. As a matter of Government policy² listed or proposed Ramsar sites, potential SPAs (pSPA), candidate SACs (cSAC) and sites identified, or required, as compensatory measures for adverse effects on habitats sites, pSPAs, cSACs and listed or proposed Ramsar sites, are treated in the same way as European Sites. Hereafter, all the above sites are referred to as European Sites.

It is important to note that the HRA Regulations require assessment of the NPSs as a plan and as such the HRA will be undertaken on that basis – this does not remove the requirement for detailed project level HRA to be undertaken at development consent stage. At this point, there are no specific sites, allocations or any spatial component to the NPSs. Therefore, the HRA will purely focus on the policy content within each NPS.

² Ministry of Housing, Communities and Local Government (2019) National Planning Policy Framework (NPPF). Paragraph 176.

3. Relevant Plans, Programmes and Environmental Protection Objectives

3.1. Introduction

A key element of the AoS is the identification of other relevant plans, programmes and environmental protection (PPP) objectives. This helps to identify relevant environmental and wider sustainability themes, baseline information and key issues. The reviewed NPSs must be prepared to take these PPPs into account as it may influence and be influenced by them.

The SEA Regulations specifically state that information should be provided on:

‘An outline of the contents and main objectives of the plan or programme and of its relationship with other relevant plans and programmes’ (Schedule 2, paragraph 1)

‘The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation’ (Schedule 2, paragraph 5)

3.2. Summary of PPP reviewed

The review of PPP is a valuable element of the AoS process as it assists with the following:

- The identification of environmental, social and economic objectives of other relevant plans or programmes that should guide the identification of sustainability issues;
- The development of the AoS framework which should comprise sustainability objectives; and
- Determining whether there are any clear potential conflicts or challenges between the PPP and the emerging policy which is the subject of the AoS process.

The international and national PPP that have been reviewed are listed in Table 1 and details of the review presented in Appendix A.

Table 3-1 - International and national PPP reviewed³

International
Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1971)
UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (1972)
Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)
Espoo Convention on Environmental Impact Assessment in a Transboundary Context (1991)
UN Framework Convention on Climate Change (1994)
WHO Guidelines for Community Noise 1999
The OSPAR Convention
Aarhus Convention (Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters) (2001)
Kyoto Protocol to the UN Framework Convention on Climate Change (agreed in 1997, ratified in 2005)
Closing the Gap: Social Determinants of Health (World Health Organisation, 2008)
WHO Night Noise Guidelines for Europe 2009
UN Convention on Biological Diversity (2010)
The Paris Agreement (2015)

³ : The review of Plans, Policy and Legislation is not to be considered an exhaustive list and elements may have been superseded. However, it is the purpose to illustrate the evolution of sustainability requirements and demonstrate the context of the NPS and associated AoS and to show how these are broadly influenced in setting Objectives for both.

UK-EU TAC Agreement, Articles: ENER.21 Renewable Energy and Energy Efficiency, ENER.22 Support for Renewable Energy, ENER.23 Cooperation in the Development of Offshore Renewable Energy, and ENER.26 Research, Development and Innovation.
National (United Kingdom)
Historic Buildings and Ancient Monuments Act 1953
Salmon and Freshwater Fisheries Act 1975
Ancient Monuments and Archaeological Areas Act 1979
The Wildlife and Countryside Act (1981)
Environmental Protection Act (1990)
The Planning (Listed Buildings and Conservation Areas) Act 1990
Water Resources Act 1991 (which applies in England and Wales)
UK Biodiversity Plan (1994)
Environment Act 1995 (as amended)
Countryside and Rights of Way Act 2000
Transport Act 2000
Health Impact Assessment in Strategic Environmental Assessment (2001)
UK Government Sustainable Development Strategy: Securing the Future (HM Government, 2005)
UK Shared Framework for Sustainable Development; One Future – Different Paths 2005
Natural Environment and Rural Communities Act 2006
National Parks and Access to Countryside Act 2006
Climate Change – The UK Programme 2006: Tomorrow's Climate Today's Challenge (House of Commons Environmental Audit Committee, 2006)
Guidance for Local Authorities on Implementing the Biodiversity Duty (2007)
Heritage Protection for the 21st Century 2007
Children's Environment and Health Action Plan – Summary of current activities which address children's environment and health issues in the UK (2007)
The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Defra, 2007)
The Planning Act 2008
Local Transport Act 2008
The Flood Risk Regulations 2009
Marine and Coastal Access Act 2009
Low Carbon Transition Plan 2009
A Children's Environment and Health Strategy for the United Kingdom (2009)
Flood and Water Management Act 2010
Building a Low-Carbon Economy – The UK's Contribution to Tackling Climate Change (Committee on Climate Change, 2008) and the Fourth Carbon Budget: Reducing Emissions Through the 2020s (CCC, 2010)
Localism Act 2011
UK Marine Policy Statement 2011
National Forest Inventory
Ancient Woodland Inventory
Cutting Carbon, Creating Growth: Making Sustainable Local Transport Happen White Paper 2011
Enabling the Transition to a Green Economy: Government and business working together (HM Government, 2011)
UK Post-2010 Biodiversity Framework (July 2012)
UK Renewable Energy Road Map 2013
Enterprise and Regulatory Reform Act 2013

National Infrastructure Plan (HM Treasury, 2014)
UK Clean Growth Strategy 2017
Stern Review of the Economics of Climate Change (Stern, 2007)
Air Quality Standards Regulation 2010 as amended by The Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019
Air Pollution: Action in a Changing Climate (Defra, 2010)
River Basin Management Plans (RBMP)
Natural Environment White Paper (Defra, 2011)
BIS Climate Change Adaptation Plan 2011
Carbon Plan (DECC, 2011)
Resource Security Action Plan 2012
Towards Social Investment for Growth and Cohesion 2014 - 2020
National Pollinator Strategy 2014-2024
Planning Practice Guidance – Climate Change 2015
Environmental Permitting (England and Wales) Regulations 2016
Climate Change Risk Assessment 2017
The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017
Air Quality Plan for Nitrogen Dioxide in the UK, 2017
UK Climate Change Risk Assessment 2017 Synthesis report: priorities for the next five years
Infrastructure Planning (Environmental Impact Assessment) Regulations 2018
The Road to Zero, 2018
A Green Future: Our 25 Year Plan to Improve the Environment (HM Government 2018)
Inclusive Transport Strategy 2018
A connected society – A strategy for tackling loneliness, 2018 A connected society – A strategy for tackling loneliness, 2018
Clean Air Strategy, 2019
Climate Change Act 2008 and its 2050 Target Amendment Order, 2019
Network Rail Delivery Plan 2019-2024
Conservation of Habitats and Species Regulations 2010 as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
The Floods and Water (Amendment etc.) (EU Exit) Regulations 2019
DfT Single Departmental Plan 2019
The Ten Point Plan for a Green Industrial Revolution (2020)
Environment Bill Policy Statement 2020
Decarbonising Transport: Setting the Challenge 2020
The Energy White Paper (2020)
Industrial Decarbonisation Strategy (2021)
England
The Contaminated Land (England) Regulations 2006 (HMSO, 2006) as amended by the Contaminated Land (England) (Amendment) Regulations 2012
A Strategy for England's Trees, Woods and Forests (2007)
Future Water, the Government's Water Strategy for England (Defra, 2008)
Safeguarding our Soils: a strategy for England 2009
Environmental Noise (England) Regulations 2006 SI 2238 as amended by Environmental Noise (England) (Amendment) Regulations 2009 and 2010
Healthy Lives, Healthy People: Our strategy for public health in England (2010)

Noise Policy Statement for England (DEFRA, 2010)
English National Parks and Broads UK Government Vision and Circular 2010 (DEFRA 2010)
The National Flood and Coastal Erosion Risk Management Strategy for England (FCERM) (Environment Agency, 2011)
Government Review of Waste Policy in England 2011
Government Forestry and Woodlands Policy Statement (2013)
Waste Management Plan for England (2013)
National Planning Policy for Waste (2014)
Waste (England and Wales) Regulations 2011 as amended by The Waste (England and Wales) (Amendment) Regulations 2014
The Smoke Control Areas (Authorised Fuels) England (No. 2) Regulations 2014
The National Planning Policy Framework (2012; revised 2019)
The Town and Country Planning (Trees Preservation) (England) Regulations 2012
Waste Prevention Programme for England 2013
The National Adaptation Programme – Making the country resilient to a changing climate (2013)
Biodiversity 2020: a Strategy for England's Wildlife and Ecosystem Services (Defra, 2011)
Landscape Character Framework
Environmental Damage (Prevention and Remediation) (England) Regulations 2015 as amended by The Environmental Damage (Prevention and Remediation) (England) (Amendment) Regulations 2019
Roads Investment Strategy 2020 - 2025
Planning for the Future: A guide to working with Highways England on planning matters
Highways England Growth and Housing Fund
Wales
Technical Advice Notes (TANs)
TAN 5: Nature Conservation and Planning (2009)
TAN 6: Planning for Sustainable Rural Communities (2010)
TAN 8: Renewable Energy (2005)
TAN 11: Noise (1997)
TAN 13: Tourism (1997)
TAN 14: Coastal Planning (1998)
TAN 15: Development and Flood Risk (2004)
TAN 16: Sport, Recreation and Open Space (2009)
TAN 18: Transport (2007)
TAN 21: Waste (2014)
Rural Development Plan 2007-2013
One Wales: Connecting the Nation - The Wales Transport Strategy (2008)
One Wales: One Planet – the Sustainable Development Scheme for Wales (2009)
Towards Zero Waste - One Wales: One Planet - The Overarching Waste Strategy Document for Wales (2010)
The Climate Change Strategy for Wales (2010)
The Welsh Historic Environment Strategic Statement: Action Plan (2010)
National Strategy for Flood and Coastal Erosion Risk Management in Wales (2011)
Woodlands for Wales (2011)
The Waste (Miscellaneous Provisions) (Wales) Regulations 2012
The Contaminated Land (Wales) Regulations 2006 as amended by the Contaminated Land (Wales) (Amendment) Regulations 2012
Welsh Government Rural Communities - Rural Development Programme (2014-2020)

Wellbeing and Future Generations (Wales) Act 2015
Water Strategy for Wales (2015)
Planning (Wales) Act 2015, including consideration of Development of National Significance (DNS)
Environment (Wales) Act 2016
The Town and Country Planning (Trees) (Amendment) (Wales) Regulations 2017
Natural Resource Policy (Welsh Government) (2017)
The Smoke Control Areas (Authorised Fuels) (Wales) Regulations 2019
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
Welsh National Marine Plan (Welsh Government) (2019)
Shoreline Management Plans applicable in Wales
State of Natural Resources Report (Natural Resources Wales)
Planning Policy Wales (Edition 11, 2021)
Scotland
Contaminated Land (Scotland) Regulations (2000 and 2005)
The Scottish Forestry Strategy (2006)
Flood Risk Management Act (Scotland) (2009)
Climate Change (Scotland) Act 2009
Scotland's Zero Waste Plan (2010)
The Air Quality Standards (Scotland) Regulations (2010)
The Nature Conservation (Scotland) Act 2004 (Authorised Operations) Order 2011
The Town and Country Planning (Tree Preservation Order and Trees in Conservation Areas) (Scotland) Regulations 2010
Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 and amendments
The Water Environment (Controlled Activities) (Scotland) Regulations 2011
Control of Woodland Removal 2012
The Waste (Scotland) Regulations 2012
Tourism Development Framework for Scotland (2013)
Scottish Planning Policy (2014)
The Smoke Control Areas (Authorised Fuels) Scotland Regulations 2014
Scotland's Third National Planning Framework (2014)
Climate Ready Scotland Scottish Climate Change Adaptation Programme (2014)
Scottish Energy Strategy: The Future of Energy in Scotland (2017)
Environmental Noise (Scotland) Regulations (2006) as amended by The Environmental Noise (Scotland) Amendment Regulations 2018
2020 Challenge for Scotland's Biodiversity - A Strategy for the conservation and enhancement of biodiversity in Scotland
Planning Advice Note (PAN) 3/2010 Community Engagement
PAN 33 Development of Contaminated Land (Revised Oct 2000)
PAN 51 Planning, Environmental Protection and Regulation (Revised 2006)
PAN 2/2011 Planning and Archaeology
PAN 71 Conservation Area Management
PAN 60 Planning for Natural Heritage
PAN 1/2011 Planning and Noise
PAN 61 Waste Management Planning

Securing a green recovery on a path to net zero: climate change plan 2018–2032 - update

A series of tables contained in Appendix A present the review of PPP and document the following:

- The primary objectives of the documents including their environmental protection objectives where appropriate;
- Key indicators and targets of relevance in the documents; and
- How the objectives within the plans and programmes should be taken into consideration in the AoS and NPS processes.

Consultation Question 1: Are there other plans, programmes or environmental protection objectives that should be identified and reviewed as part of the AoS process (Appendix A)?

3.3. Environmental Themes

The review of PPPs revealed a large number of common themes in terms of their objectives relating to sustainability within the context of strategic development planning. These are listed below:

3.3.1. Biodiversity and the Natural Environment

- Protection of sites designated for nature conservation purposes
- Protect and enhance endangered or important species and habitats, including those considered irreplaceable such as Ancient Woodland and Veteran trees
- Contribute to the delivery of biodiversity strategies and plans
- Increase important habitat
- Protect, maintain and where possible enhance natural habitat networks and green infrastructure, to avoid fragmentation and isolation of networks
- Contribute to the achievement of Biodiversity Net Gain
- Contribute to delivering multi-functional Green Infrastructure – note this will also have implications in addition to biodiversity across a range of themes such as climate change, air quality, water quality and so on
- Contribute to the achievement of Environment Net Gain

3.3.2. Geodiversity

- Protection of sites designated for geodiversity importance

3.3.3. Greenhouse gas (GHG) Emissions

- Reduce GHG emissions, particularly CO₂
- Maximise the use of renewable energy
- Increase energy efficiency and make use of new technology
- Minimise use of fossil fuels
- Contribute to the achievement of Net Zero Carbon target

3.3.4. Adaptation to a Changing Climate and Flooding

- Prepare for extreme weather events and sea level rise
- Minimise the risk and impact of flooding
- Avoid development in floodplains when possible

- Help meet objectives of Flood Risk Management Plans allowing for climate change
- Utilise Natural Flood Management

3.3.5. Air Quality

- Do not cause additional AQMA to be designated
- Reduce emissions of NO₂
- Reduce emissions from transport (roads in particular)
- Increase use of low emission / zero emission at point of use vehicles
- Increase convenience and use of sustainable transport modes
- Reduce emissions of PM₁₀ and PM_{2.5}

3.3.6. Water Resources

- Protect and improve the quality of ground and surface water
- Help to meet objectives of the Water Framework Directive (WFD) and the relevant River Basin Management Plan
- Make use of Sustainable Drainage Systems (SuDS)

3.3.7. Land Use, Soil and Agriculture

- Prioritise development on brownfield sites
- Seek to reclaim derelict and contaminated land
- Protect farmland and soils – particularly those of the best value
- Change agricultural land use to forestry

3.3.8. Cultural Heritage

- Conserve and protect historic assets (designated and undesignated) and those of cultural note
- Improve access to historic assets, including buildings and landscapes of value where appropriate
- Sympathetic design and use of vernacular architecture when appropriate to enhance the local character and 'sense of place'

3.3.9. Landscapes and Townscapes

- Protect those areas designated for landscape value
- Protect and enhance landscape and townscape character and local distinctiveness
- Protect tranquillity from noise and light pollution
- Foster good design quality for all new development
- Promote regeneration of previously developed land when appropriate

3.3.10. Natural Resources and Waste

- Ensure efficient resource use and minimise resource footprint
- Use secondary and recycled materials
- Consider opportunities to maximise on-site re-use of materials
- Employ waste reduction methods to minimise construction and maintenance waste
- Reduce the amount of waste disposed of at landfill
- Promote circular economy

3.4. Economic Themes

- Improve physical accessibility to jobs through the location of employment sites and transport links close to areas of high unemployment

- Improve accessibility to superfast / ultrafast broadband
- Widen the number and range of accessible employment opportunities and support growth in employment and labour productivity
- Improve attractiveness for inward investment
- Improve rail and road journey reliability for business users
- Support local businesses
- Support enhancement of local economy and overall prosperity
- Support development of the skills base

3.5. Social Themes

- Distinctive development that recognises, reflects and enhances the 'sense of place' and 'sense of community'
- Self-sufficient, resilient and adaptable communities
- Communities that will develop roots and connections between people
- Access to a mix of affordable housing to meet the needs of all sections of society, at different phases of life
- Access to social facilities – community, cultural, health and leisure / recreational
- Access to transport with an emphasis on active, low carbon and sustainable modes
- Access to and provision of modern and robust infrastructure, including digital, to allow connected communities
- Access to Open Space and Green Infrastructure
- Access to educational, training and employment opportunities

3.5.1. Health & Community Themes

- Tackle poor health by improving the health of everyone, and of the worst off in particular
- Tackle, where possible, specific issues that can affect health e.g. poor air quality
- Reduce health inequalities among different groups in the community (e.g. young children, pregnant women, black and minority ethnic people; older people, people with disabilities; low income households)
- Support the public to make healthier and more informed choices with regard to their health and adopt physically active lifestyles
- Address pockets of deprivation
- Provide physical access for people with disabilities
- Provide or improve access to local health and social care services
- Provide opportunities for increased exercise, thus reducing obesity, particularly in children, and illnesses such as coronary heart disease
- Provide for an ageing population
- Promote healthy lifestyles through exercise, physically active travel and access to good quality and affordable food, which can assist in reducing both physical and mental illnesses

3.5.2. Equalities Themes

- Protect human rights (e.g. the right to liberty and security of person) and fundamental freedoms (e.g. a right to freedom of thought, conscience and religion, freedom of expression, etc.)
- Prohibit discrimination, harassment and victimisation on such grounds as sex, race, language and religion
- Promote equality of opportunity in the way services are planned, promoted and delivered
- Treat everyone with dignity and respect
- Recognise people's different needs, situations and goals and remove the barriers that limit what people can do and can be

- Create sustainable communities that are active, inclusive, safe, fair, tolerant and cohesive
- Create sustainable communities that are fair for everyone - including those in other communities, now and in the future
- Improve economic, social and environmental conditions, particularly in the most deprived areas
- Ensure fair access to and distribution of resources across the community, including rural areas
- Assess and address the impacts upon diverse communities including cultural, racial, economic, generational, social (including disabilities) and religious mixes
- Create a sense of belonging and well-being for all members of the community
- Provide physical access for people with disabilities
- Minimise isolation for vulnerable people

4. Baseline Information

4.1. Introduction

The collection of baseline information is the next step of the AoS. The SEA Regulations require the inclusion of:

- *The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme. (Schedule 2, paragraph 2)*
- *The environmental characteristics of areas likely to be significantly affected (Schedule 2, paragraph 3);*

This chapter sets out baseline information for the UK and baseline information required for the assessment of each NPS. The baseline information in this Chapter and Appendix C is an update of information used to inform the current NPSs.

4.2. Summary of national baseline data

The AoS is being undertaken to support reviewed NPSs which will have national implications and the approach to the baseline data collation process that has been adopted involved the collation of higher-level national data.

Appendix B sets out national baseline information that has been collated. The indicators that have been considered are listed in Table 4-1 below.

Table 4-1 - Summary of national baseline information

Topic	Baseline Information (national)
Climate change	Distribution of greenhouse gas emissions Contribution of sectors to greenhouse gas emissions Predicted changes to temperature and weather patterns
Biodiversity and Ecosystems	Special Protection Areas Special Areas of Conservation Ramsar sites National Nature Reserves Sites of Special Scientific Interest (England, Scotland, Wales) and Areas of Special Scientific Interest (Northern Ireland)

	<p>Marine Conservation Zones (England, Wales, Northern Ireland)</p> <p>Nature Conservation Marine Protected Areas (Scotland)</p> <p>Ancient Woodland</p> <p>Biosphere Reserves</p> <p>Biodiversity Targets</p>
Communities – Population, Employment, and Viability	<p>Population</p> <p>Location of major settlements and areas of population</p> <p>Working age population</p> <p>Unemployment</p> <p>Economic Activity Rates</p>
Communities – Supporting Infrastructure	<p>Location of strategic rail links</p> <p>Location of strategic road network</p> <p>Location of airports</p> <p>Location of ports</p>
Health and Well-Being	<p>Radioactivity levels in the environment</p> <p>The Index of Multiple Deprivation (England)</p> <p>The Scottish Index of Multiple Deprivation</p> <p>The Welsh Index of Multiple Deprivation</p> <p>Northern Ireland Multiple Deprivation Measure</p> <p>The Measuring National Well-Being Programme</p> <p>National Trails (England and Wales), Scotland’s Great Trails</p>
Historic Environment	<p>World Heritage Sites</p> <p>Scheduled Monuments</p> <p>Historic Battlefields</p> <p>Parks and Gardens</p> <p>Protected Wrecks</p> <p>Listed Buildings</p> <p>Conservation Areas</p>
Landscape, Townscape, and Seascape	<p>National Parks</p> <p>Areas of Outstanding Natural Beauty (England, Wales, Northern Ireland) and National Scenic Areas (Scotland)</p> <p>Heritage Coasts (England and Wales)</p>

	National Character Areas (England)
Air Quality	Air Quality Management Areas
Soils, Geology, and Land Use	Sites of Special Scientific Interest (England, Scotland, Wales) and Areas of Special Scientific Interest (Northern Ireland) UNESCO Global Geoparks
Water Quality and Resources	Water Framework Directive (WFD) Bathing Water Quality Marine Strategy Framework Directive
Flood Risk and Coastal Change	Flood Zones (England, Scotland, Wales) and Flood Risk Areas (Northern Ireland)
Resources and Waste	Sector waste statistics

Appendix B is supported by Figures 1 - 6 in Appendix C which show the geographical distribution of some of the key designations and land uses across the UK. Table 4-2 provides a summary of the data presented on these figures. An indication is provided in brackets of whether an information layer only applies to a specific part of the UK.

Table 4-2 - Key designations and land use across the UK

Figure	Key designations / land use considered
Figure 1: Biodiversity and Ecosystems	Special Protection Areas Special Area of Conservation Ramsar sites Sites of Special Scientific Interest (England, Scotland, Wales) and Areas of Special Scientific Interest (Northern Ireland) National Nature Reserves Ancient Woodland Inventory (England and Scotland) Marine Conservation Zones (England, Wales, Northern Ireland) Nature Conservation Marine Protected Areas (Scotland) Biosphere Reserves
Figure 2: Infrastructure	Urban Areas Location of strategic rail links Location of strategic road network Location of airports

	Location of ports
Figure 3: Historic Environment	Protected Wrecks (England) World Heritage Sites Scheduled Monuments (England and Scotland) Historic Battlefields (England and Scotland) Parks and Gardens (England and Scotland)
Figure 4: Landscape / Health and Well-being	Areas of Outstanding Natural Beauty National Parks Heritage Coasts (England and Wales) National Trails (England)
Figure 5: Air Quality	Air Quality Management Areas
Figure 6: Flood Risk	Flood Risks Zones (England) Flood Risk Areas (Northern Ireland)

Note that while the above Figures depict a range of key designation and land use across the United Kingdom, the scale at which this mapping is presented does not allow for the full granularity of data of relevance. Underpinning many of the above noted aspects are a series of more 'local' designations and land uses which are also sustainability considerations. These include, for example, sites designated as Local Nature Reserves, Sites of Nature Conservation Importance, Noise Important Areas, non-designated heritage assets, listed buildings, Conservation Areas, Special Landscape Areas, Areas of Great Landscape Value, areas of contaminated land and so on.

4.3. Data Collection Methodology

The most efficient way to collate relevant baseline data is through the use of indicators. This ensures that the data collation is both focused and effective. The identification of relevant indicators has taken place alongside the assessment of other relevant Plans, Policies and Programmes, the identification of sustainability issues and development of the AoS framework.

It should be noted that the AoS process does not require the collection of primary data, instead relying on the analysis of existing information that will continue to be collected as the AoS process is undertaken. As such, where data gaps exist this is highlighted in the AoS report.

Indicators have been selected for their ability to provide objective data that will, over time, offer an insight into general trends taking place. Throughout the assessment process the following issues will need to be addressed:

- What is the current situation, including trends over time?
- How far is the current situation from known thresholds, objectives or targets?
- Are particularly sensitive or important elements of the environment, economy or society affected?
- Are the problems of a large or small scale, reversible or irreversible, permanent or temporary, direct or indirect?
- How difficult would it be to prevent, reduce or compensate for any negative effect?
- Have there been, or will there be, any significant cumulative or synergistic effects over time?

Since AoS is an iterative process, subsequent stages in its preparation and assessment might identify other issues and priorities that require the sourcing of additional data and/or information and identification of monitoring strategies. This makes the AoS process flexible, adaptable and responsive to changes in the baseline conditions and enables trends to be analysed over time.

4.4. Data Analysis

Data have been collated and analysed for the following indicators (as detailed in Appendix B):

4.4.1. Environmental Data

- CO₂ emissions
- Climate change (including UK climate projections on temperature, rainfall, sea level rise etc.)
- Air quality
- Noise / Light pollution ('Tranquillity')
- Biodiversity, fauna and flora (including designated sites)
- Landscape and townscape
- National and Landscape Character Areas
- Heritage assets
- Green space
- Soil / land classification, including Best and Most Versatile
- Water quality
- Flooding
- Waste and resources

4.4.2. Economic Data

- Employment
- Long term trends in GVA
- Long term trends in population
- Economic sectors
- Performance gap and sub-regional performance
- Identification of economic centres

4.4.3. Social Data (including Health, Equalities and Community Safety)

- Population and diversity
- Settlement (hierarchies, characteristics)
- General health statistics
- Accessibility
- Road safety and accidents
- Physical activity in children and adults
- Equality target groups
- Multiple deprivation
- Crime statistics

The baseline data provide an overview of the sustainability characteristics of the United Kingdom, with a particular focus on England and Wales. This overview, together with contextual information, is presented in Appendix B. The analysis of the baseline and likely evolution without the NPS has highlighted several key

issues. These, together with implications and opportunities arising for the NPS, have been summarised in Table 5-1.

Consultation Question 2: Is there additional information that needs to be considered as part of the baseline data?

5. Key Issues

5.1. Introduction

The identification of sustainability issues is the next step of the AoS methodology. The SEA Regulations require the inclusion of:

any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Council Directive 79/409/EEC on the conservation of wild birds and the Habitats Directive (Schedule 2, paragraph 4).

5.2. Summary of key sustainability issues, implications and opportunities for the NPS

The identification of key sustainability issues has been based upon the collation of baseline data (Chapter 3) and the review of relevant PPP (Chapter 4). The summary of issues is presented below in Table 5-1. Note that due to the geographical scope of the NPS, this summary of key sustainability issues is focused on England and Wales, along with the United Kingdom as a whole as appropriate. Further detail on Scotland and Northern Ireland is provided in the baseline and contextual information contained within Appendix B.

It should be noted that some issues are cross-cutting and affect several topics. For example, climate change can affect biodiversity, water resources, flooding and landscapes. Table 5-1 shows the linkages to the AoS Objectives identified in the following chapter.

Table 5-1 - Key issues and opportunities

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>Biodiversity – new development and climate change put pressure on sites designated for nature conservation and wider green infrastructure but wider green infrastructure can benefit from opportunities to deliver Biodiversity Net Gain through new development</p> <p>Across England and Wales, there are sites internationally (SACs, SPAs, Ramsar sites) and nationally (SSSIs) designated for nature conservation. SACs, SPAs, Ramsar sites and SSSIs are afforded the highest level of protection through statutory designations.</p> <p>Within England there are a total of 82 SPAs, while Wales has a total of 17. There are also 242 SACs in England and 85 in Wales.</p> <p>A number of SPAs and SACs protect habitat and/or species associated with the marine environment. Currently, there are 46 SPAs with marine components designated partly or wholly within English waters and 10 within Welsh waters. A total of 3 SPAs with marine components are located within both English and Welsh waters.</p> <p>There are also currently 37 SACs with marine components designated partly or wholly within English waters and 12 designated partly or wholly within Welsh waters. A further 3 SACs with marine components are located within both English and Welsh waters.</p> <p>As of May 2018, there were 68 Ramsar sites in England, totalling an area of 320,648 ha, while Wales has 7 Ramsar sites, totalling 11,366ha.</p> <p>In addition to these internationally designated sites, there are over 4000 SSSIs within England and over 1000 in Wales. There are also 89 MCZs designated in England.</p> <p>There are substantial numbers of NNR and LNR recorded across England and Wales. There are also numerous areas of</p>	<p>Declining</p> <p>Although designated sites are afforded protection; however, this is unlikely to prevent some decline in condition due to the effects of climate change.</p> <p>Much of the green infrastructure network is not designated, however, the absence of the strategic guidance of the NPS could lead further declines.</p>	<p>The NPS should aim to protect and enhance all sites of biodiversity importance and place a particular emphasis on protecting sites designated for nature conservation. This could be achieved by ensuring that planning / design of new Energy developments and their associated infrastructure avoid sensitive areas and through the adoption of best practice wildlife friendly designs that deliver multi-functional green infrastructure. Where this is not possible, there should be mitigation and compensation for losses.</p> <p>In parallel with the AoS of the NPS, HRA is being undertaken which will identify the internationally designated nature conservation areas, where possible establish the likelihood of impacts on the integrity of these sites and identify appropriate avoidance and mitigation measures early in the development of the NPS.</p> <p>The NPS should afford protection to priority species and their habitats.</p> <p>The NPS should explore opportunities for new habitat creation and enhancement associated with energy developments, e.g. through the use of appropriate locally native species in landscaping plans. The potential for biodiversity creation in brownfield sites should be also taken into account. There should therefore be achievement of Biodiversity Net Gain in areas not formally designated, recognising that a target of 10% is anticipated as part of the forthcoming Environment Bill.</p> <p>Other opportunities for the NPS include the following:</p> <ul style="list-style-type: none"> • avoid the fragmentation of green infrastructure, by seeking the integration and enhancement of the 	<p>Enhance biodiversity, promote ecosystem resilience and functionality and achieve Biodiversity Net Gain</p> <p>Protect and enhance sites designated for their international importance for nature conservation purposes <i>(linked to separate HRA process for Energy NPS)</i></p>

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>Ancient Woodland and priority habitats, together with Sites of Nature Conservation Interest (SNCIs) and locally designated wildlife corridor sites. Although these areas are not afforded the highest statutory protection, they contribute significantly towards nature conservation.</p> <p>All sites, from those designated with the very highest level of protection, to those areas at the local level, are threatened by a range of issues such as habitat loss, human encroachment, poor management practices and invasive species. Changes in air and water quality along with a changing climate can also change distribution of species and habitats within these sites. Increased accessibility or proximity of development to designated sites also has the potential to adversely affect them indirectly.</p> <p>The wider green infrastructure network across England and Wales incorporates not only sites designated for nature conservation purposes, but also many other multi-functional green spaces and the connections between such locations. This network is highly susceptible to impacts from development including:</p> <ul style="list-style-type: none"> • direct land take (which may contribute to fragmentation) • construction and operational disturbance (noise, vibration, light pollution, etc.) • emissions / contamination (air, water and soil). <p>On the other hand, new development can provide opportunities for increased biodiversity, or to aid certain species. One such example is the National Pollinator Strategy 2014-2024 produced by DEFRA to support bees and other pollinators.</p> <p>In recognition of the continued threats and alarming levels of biodiversity decline, there are a range of commitments made through Strategies, Policy and Action Plans at the International, National and Local levels to halt biodiversity loss and reverse those losses made to date – this has resulted in the need for new development to deliver Biodiversity Net Gain.</p>		<p>green infrastructure network to contribute to protecting natural habitats and delivering biodiversity net gain through all new developments;</p> <ul style="list-style-type: none"> • the need for cohesive habitat networks to help habitats and species adapt to the consequences of climate change; • enhancement of the green infrastructure. Increased accessibility to appropriately designed multi-functional green infrastructure can play a significant role in diverting pressure away from more sensitive sites or areas. <p>The NPS should incorporate measures designed to support the adaptation of biodiversity to the effects of climate change.</p>	

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>Geodiversity - new development puts pressure on designated geodiversity sites</p> <p>In addition to the three Geoparks designated within England and two in Wales, there are a number of areas designated as SSSI due to having geodiversity, or geodiversity combined with biodiversity importance. These areas are in a mix of conditions, with both favourable and unfavourable occurring. There are also some of the areas in decline, while others are recovering.</p> <p>There are also a range of Regionally Important Geology Sites (RIGS) across England and Wales.</p> <p>Geology across England and Wales is likely to face threats from development; human activities such as pollution, roads, disturbance, farming practices; loss of habitat; and a changing climate.</p>	<p>Declining</p> <p>While some of the geodiversity resource is in favourable condition, some is not and all aspects are experiencing threats from development, as well as the need to adapt to climate change. In the absence of the NPS, there is heightened potential for inappropriate greenfield development.</p>	<p>A co-ordinated strategic approach to development and infrastructure is required to limit the potential for inappropriate greenfield development to occur. This will help to manage pressures on SSSIs designated for their geological importance and on RIGS.</p> <p>The NPS presents an opportunity to develop strategic principles designed to control pollution, promote the re-use of previously developed land and tackle some of the causes of climate change, all of which should help to afford protection to the geodiversity resource.</p>	<p>Protect, enhance and promote geodiversity</p>
<p>Greenhouse gas emissions – there is an urgent need to further reduce emissions from the energy sector and reduce energy demand</p> <p>The release into the atmosphere of greenhouse gases (e.g. CO₂, CH₄, N₂O, O₃) resulting from fossil fuel usage, agriculture, land use change and other human activities has been linked with atmospheric warming and global climate change.</p> <p>The United Kingdom has achieved significant cuts to emissions in recent years. Total emissions of direct greenhouse gases have decreased by 44% between 1990 and 2019 and 3% between 2018 and 2019. This decline between 1990 and 2019 is driven predominantly by a decrease in emissions from the energy supply sector – particularly from power stations.</p> <p>CO₂ is the largest contributor to global warming in the UK. As of 2019, CO₂ emissions were 454.8 Mt CO₂ equivalent, 43.8% below the 1990 level. CH₄ is the second most significant greenhouse gas in the UK after CO₂ and since 1990, emissions</p>	<p>Declining</p> <p>Interventions at the local and regional level have started to reduce the rate of greenhouse gas emissions; and actions outside the NPS are contributing to decarbonisation of energy networks. However, the underlying trend points towards a slowing of emissions rather than reversal of trends.</p>	<p>The NPS should ensure that reducing CO₂ emissions and achieving Net Zero carbon is a core component of all development ambitions. There is also a need to seek to minimise energy demand from households, transport and businesses in anticipation of growing pressure on the future supply of electricity as decarbonisation continues across all sectors.</p> <p>The NPS should also ensure that opportunities are taken for maximising tree cover, where practical. Amongst other benefits, careful species selection can contribute to carbon sequestration by absorbing increased amounts of CO₂ from the atmosphere.</p> <p>There is an opportunity for the NPS to coordinate the proposed strategic energy development locations with sustainable infrastructure connections.</p>	<p>Contribute to the national target of reducing carbon emissions to Net Zero by 2050</p>

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>of CH4 have decreased by 59.7%. As of 2015, methane emissions were 54 Mt CO2 equivalent.</p> <p>As of 2019, emissions of N2O were 22 Mt CO2 equivalent. Emissions of N2O have declined 55.1% since 1990.</p> <p>Emissions of the F-gases (HFCs, PFCs, SF6 and NF3) totalled 13 Mt CO2 equivalent in 2019. Since 1990 the overall decrease in their emissions has been 22.6%.</p> <p>Efforts in relation to addressing climate change have been bolstered by a declaration of a Climate Emergency and this has resulted in commitments (made in December 2020 under the UK's Nationally Determined Contribution communication to the UNFCCC⁴) to reducing economy-wide greenhouse gas emissions by at least 68% by 2030, compared to 1990 levels and to bring all greenhouse gas emissions to net zero by 2050. In addition, the Climate Change Committee has recommended a 78% reduction target by 2035 in the 6th Carbon Budget Report⁵.</p>			
<p>Adaptation to a changing climate – England and Wales are already seeing the impact of climate change through increased severe weather events, leading to flooding, heat waves and hotter summers. There is a need for development to be climate change resilient</p> <p>The UK's Climate Projections show that the UK as a whole is likely to continue to experience hotter, drier summers, warmer, wetter winters and rising sea levels. This is likely to have a significant effect on a range of environmental conditions, including the water environment and there is an urgent need to develop climate resilience.</p> <p>Along with an increase in extreme weather events, it is anticipated that a changing climate will lead to an increase in risk to people and place. These increased risks include risks to</p>	<p>Declining</p> <p>Climate change is recognised as a global concern with England and Wales, as with the rest of the UK, anticipated to experience hotter, drier summers; warmer, wetter winters; and rising sea levels. These trends are anticipated to continue irrespective of interventions from outside the NPS.</p>	<p>The NPS needs to be realistic and recognise that changes in temperature and rainfall patterns, along with more frequent extreme weather events, creates the situation where a greater degree of resilience will have to be incorporated into plans and proposals. Recognition also needs to be made of health implications from a changing climate and the NPS can drive a strategic response to health stressors associated with climate change.</p> <p>There are multiple benefits associated with tree planting, including climate change adaptations. Strategic policies present the opportunity to promote this as a means of delivering urban cooling, wildlife benefits, contributing to flood reduction and supporting carbon sequestration.</p>	<p>Maximise adaptation and resilience to climate change</p> <p>Enhance biodiversity, promote ecosystem resilience and functionality and achieve Biodiversity Net Gain</p>

⁴ UNFCCC is the United Nations Framework Convention on Climate Change

⁵ [Sixth Carbon Budget - Climate Change Committee \(theccc.org.uk\)](https://www.theccc.org.uk)

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>health and well-being from increase in extremes of temperatures; risk to people, communities and buildings from flooding; risk to viability of coastal communities from sea level rise; risk to health and social care delivery from extreme weather and risk to health from changes in air quality.</p> <p>A changing climate is likely to result in increased frequency and intensity of severe weather events. At present, significant proportions of the UK population are at risk from flooding, although the degree of risk varies, with a range of factors affecting potential risk. Increased flooding and increased flood risk are recognised as being some of the main potential threats from a changing climate due to potential direct risk to properties and infrastructure, as well as potential direct risk to human life and indirect risk to mental wellbeing. In addition, extreme weather events could include increased risk of higher summer temperatures, or severe cold spells.</p> <p>Across England and Wales, areas of potential flood risk from both rivers and coastal sources have been identified and are noted in a series of flood hazard maps and flood management plans. Flood Zones 2 and 3 are located across England and Wales. Very significant numbers of properties are currently at flood risk – for example, in England alone this is in excess of 5.2 million properties.</p>		<p>The NPS should recognise the challenges that a changing climate will bring and aim to reduce the impacts. More frequent and extreme weather events should be considered in any design – this would include potential risks posed by increased heat, or more intense cold.</p> <p>The NPS should seek to ensure that new development minimises any negative effects arising from flooding and avoids where possible areas of highest flood risk. Flood risk should be considered in any design and the implementation of multi functional green infrastructure including SuDS and other similar appropriate measures or new approaches should be considered and encouraged where feasible. This should include Natural Flood Management and other means of increasing flood storage capacity. The NPS should seek to explore the possibilities for creating blue infrastructure which can both help to manage localised flood risk and simultaneously create new habitats.</p>	
<p>Air Quality – the United Kingdom experiences pockets of poor air quality, principally derived from concentrations of urban and industrial activity, major road infrastructure and congestion</p> <p>Air pollution affects public health, the natural environment and the economy.</p> <p>Air quality has improved in the UK over the last sixty years as a result of the switch from coal to gas and electricity for heating of domestic and industrial premises, stricter controls on industrial emissions, higher standards for the composition of fuel and</p>	<p>Improving</p> <p>At the national level air quality is generally improving as industrial practices, energy sources and tighter environmental legislation have contributed to reductions in pollutants. However, parts of England and Wales experience localised pockets of poor air quality –</p>	<p>The NPS should aim to protect and enhance air quality and should seek to ensure that reducing NO₂, PM_{2.5} and PM₁₀ emissions is a fundamental principle.</p> <p>The NPS should aim to ensure that no AQMA is worsened, or proposed development does not lead to changes, particularly increases, in traffic / transport that could lead to the declaration of further AQMA.</p> <p>The NPS should aim to exceed Government targets for air quality and be reflective of appropriate legislation, particularly seeking to deliver health benefits from</p>	<p>Protect and enhance air quality</p> <p>Improve health and well-being and safety for all citizens and reduce inequalities in health</p>

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>tighter regulations on emissions from motor vehicles. However, poor air quality – particularly from motor vehicles – remains a significant issue for community health and for biodiversity, especially in/downwind of urban areas and major transport networks. It is also to be noted that the use of solid fuels (including for ‘lifestyle’ fuel such as wood burners in homes) are recognised as being a major contributor to poor air quality in towns, particularly during winter months.</p> <p>Nevertheless, poor air quality is generally associated with urban/industrial areas and major road infrastructure and this is reflected in the typical location for Air Quality Management Areas (AQMA), many of which have been designated due to high NO₂ and PM₁₀ levels. Across England, there are a total of 532 AQMA, while within Wales there were 44, all principally in those areas of greatest population, or areas of particular road congestion and these have impacts both on human health and biodiversity.</p>	<p>interventions outside the NPS will seek to address some of these issues, but opportunities exist for the NPS to influence this issue.</p>	<p>improved air quality, as well as considering ecological receptors.</p>	<p>Enhance biodiversity, promote ecosystem resilience and functionality and achieve Biodiversity Net Gain</p>
<p>Water environment –pollutants from a range of sectors including energy pose considerable risks to the quality of water across England and Wales. Additional water demand from energy development would likely put further pressure on water resources.</p> <p>There are considerable pressures on water resources with resulting major impacts on many of the waterbodies across the UK. 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).</p> <p>As with most water bodies in England, there are a range of significant water management issues manifested across RBD, with pollution from infrastructure being of note.</p>	<p>Stable / Improving</p> <p>Surface water quality is predicted to remain stable; however, ongoing pressures remain and climate change may compromise improvements.</p>	<p>The NPS should seek to prevent pollution of water bodies (including groundwater and bathing water) both during the construction and operation of any proposed energy development. This could be achieved via the appropriate use of SuDS, green infrastructure or other appropriate measures and new approaches in infrastructure drainage design to enhance water quality and reduce pollution and flood risk. Risk to all types of water bodies (not just main rivers) is to be considered during any development design.</p> <p>Recognition of the objectives of the WFD should be made and all opportunities to help meet the objectives of the WFD should be taken when possible.</p> <p>Green-blue Infrastructure should be considered in the NPS in the context of the aims of the WFD and how this</p>	<p>Protect and enhance the water environment</p> <p>Enhance biodiversity, promote ecosystem resilience and functionality and achieve Biodiversity Net Gain</p>

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>There are also a series of Drinking Water Safeguard Zone (DWSZ) across England and Wales, as well as bathing waters.</p> <p>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).</p> <p>Climate change and a growing population will increase pressure on water resources.</p>		<p>can realise these, as well as other wider benefits and objectives.</p> <p>Without a coordinated approach to energy development and infrastructure there is increased potential for water availability and pollution problems to result at water bodies, including contamination of drinking water.</p>	
<p>Soil and Contaminated Land – soil is a non-renewable resource and is vulnerable to erosion, degradation and contamination. In addition, historic land uses have contributed to contamination across large areas. There is a need to address this in order to enable beneficial re-use of previously developed land and help protect soil resources from pressure for greenfield development</p> <p>Soil across England and Wales is graded, with those considered Best and Most Versatile (BMV) being noted as Grade 1, 2 and 3a. BMV soils are under pressure in many areas from development in order to support market led growth aspirations. Soil sealing (the covering of the soil surface with impervious material or the changing of its nature so that it becomes impermeable) is associated with development and is a primary cause of soil loss. The development of greenfield sites can lead to loss of valuable agricultural land which generally cannot be mitigated.</p>	<p>Declining</p> <p>It is likely that greenfield sites will experience increasing pressure for development in preference to the complexities of redeveloping previously developed and potentially contaminated sites. This could reduce available high quality soil resources and fail to realise the potential of existing capacity within existing urban and previously developed areas.</p>	<p>The NPS should seek to make best use of areas that are already urbanised (or subject to energy / industrial uses) and provide an opportunity for regeneration / improvements to land quality. Measures should be taken to avoid those areas of the highest quality agricultural soils and aim to protect soil and agricultural holdings through avoidance of impacts such as contamination or severance.</p> <p>The NPS must protect soils as they are essential natural capital and perform a range of important ecosystem services and functions.</p> <p>Dealing with the past pollution / contamination legacy is a major issue and should be addressed at all opportunities due to its ongoing environmental impact.</p>	<p>Protect soil resources and avoid land contamination</p>

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>Many areas of land in the UK have also been contaminated by past industrial and other human activities, including former factories, storage depots and landfills. Energy related infrastructure is also a frequent source of land contamination. Land at the full range of potentially contaminated sites could be contaminated by a wide range of harmful substances such as oils and tars, heavy metals, asbestos and chemicals.</p> <p>While many special sites of contamination have been identified, by its nature, it is often very difficult to know where land has been contaminated previously or is currently suffering ongoing contamination. As such the number of known sites of contamination is likely to be only a very small fraction of the overall number of potentially contaminated sites. Given the present and historic levels of industrial, commercial and transportation activity across England and Wales, in addition to the high levels of urbanisation, it is suggested that the number of areas of contaminated land could be considerable.</p>			
<p>Cultural Heritage – there is a substantial cultural heritage resource across England and Wales; however, there is considerable variation in the condition and integrity of assets. There is a need for a strategic perspective that promotes contextual understanding and supports regeneration where this contributes to conservation and enhancement</p> <p>Those cultural heritage assets of the greatest recognition in England and Wales are the 22 World Heritage Sites. These sites are recognised as having Outstanding Universal Value and the management plans note that this is to be understood, protected and sustained.</p> <p>In addition, there is also a very large number of Scheduled Monuments across England and Wales (in excess of 24,000), including a large number which are at particular risk of being lost through neglect, decay or deterioration. Similarly, there is a very</p>	<p>Stable/Declining</p> <p>Designated heritage assets benefit from protection that will continue without the NPS. However, in the absence of a strategic plan there is a greater risk of uncoordinated and piecemeal energy development resulting in contributing to the successive erosion of the quantum and integrity of the nation's cultural heritage resource.</p>	<p>New energy related development may result in pressure on areas of importance for their cultural heritage and aesthetic quality. There is a requirement for development proposals to be carefully considered such that assets are preserved and enhanced – the NPS will need to respond to context such that preservation is pursued where appropriate, but pro-active management and redevelopment can be supported where this secures viable futures for cultural heritage resources that are currently threatened.</p> <p>Additional energy related development may be inappropriately located or designated to pose a risk to the cultural heritage assets as well as their setting. Without a co-ordinated strategic approach to development and infrastructure there is an increased potential for this risk to result. As well as those sites of the very highest value such as World Heritage Sites,</p>	<p>Protect and enhance cultural heritage assets and their settings, and the wider historic environment</p>

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>significant number of listed buildings across England and Wales (in excess of 10,000) and many of these are at particular risk of being lost through neglect, decay or deterioration. Likewise, Conservation Areas are under increasing pressure from development, neglect, decay or deterioration.</p> <p>In addition, Areas of Ancient Woodland, i.e. those areas that have been continuously wooded since at least 1600AD are scattered across England and Wales. These areas have a significant contribution to the cultural heritage of an area and are also of importance to biodiversity and landscape.</p> <p>Of course, by its nature, there are also a number of undesignated assets or unknown archaeological remains which could have national regional or local value. The importance of the protection of the historic environment is increasingly being recognised at a national and regional level, with the loss of heritage resources being difficult to mitigate. Development affects the historic environment through loss, damage or changes to setting for instance from visual intrusion, increased traffic, noise, or air pollution.</p>		<p>similar potential impacts can be identified in respect of the range of scheduled monuments, Listed Buildings, Conservation Areas and locally listed cultural heritage assets.</p> <p>It is important to note that the nature of cultural heritage features means that not all are known at present; in particular, buried archaeological remains.</p> <p>As such, any energy related development should be as sensitively designed as possible to recognise and be sympathetic to the existing cultural character and quality and opportunities for improving settings should be examined.</p>	
<p>Landscapes & Townscapes – there are marked contrasts in the quality, character and distinctiveness of landscapes and townscapes across England and Wales. There is a need to fully protect the highest quality locations, whilst driving best practice principles through all energy development to address poor landscape and townscape environments.</p> <p>There are a total of 13 National Parks within England and Wales. There are also 34 AONB's in England and 4 within Wales. In addition, there are a total of 46 Heritage Coasts around both England and Wales.</p> <p>England and Wales have been divided into a series of National Character Areas, each with their own characteristics and then further sub-divided into a range of Landscape Character Areas.</p> <p>There are also significant areas designated as Green Belt, with "a fundamental aim to prevent urban sprawl by keeping land</p>	<p>Improving</p> <p>Many of the most exceptional landscape and townscapes benefit from protection through designations that will persist in the absence of the NPS. In general terms, modern design principles are promoting a renewed focus on the quality of design and this trend is likely to continue; however, without the NPS it may lack strategic focus and direction, resulting in variable quality and</p>	<p>The NPS should seek to preserve and enhance the character of the wider landscape and townscape by ensuring that its integrity and valuable natural open space is not lost. Particular attention to be paid to those areas designated for their landscape value, such as AONBs.</p> <p>Opportunities for landscape enhancement should be explored, e.g. through sympathetic design and enhancements to existing landscape improvement areas, as well as new planting opportunities associated with new energy development and be in keeping with the aims of the Nature Recovery Network.</p> <p>Increased energy development poses a serious risk to tranquillity through increased disturbance (including light and noise) and visitors. As such, there is a need to</p>	<p>Protect and enhance the character and quality of the landscapes and townscapes, protect and enhance visual amenity</p>

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<p><i>permanently open. This designation serves five main purposes of checking unrestricted sprawl in large built up areas; prevents neighbouring towns from merging; assists safeguarding the countryside from encroachment; preserves the setting and special character of historic towns and assists in regeneration, by encouraging the recycling of derelict and other urban land</i>⁶.</p> <p>While there are areas of great beauty and tranquillity across England and Wales, it is also important to recognise that there are significant parts that are characterised by urban development, major infrastructure and other noise and visual intrusion (including light pollution). This is largely associated with the main urban areas.</p> <p>Nevertheless, there exists across England and Wales, significant elements of green infrastructure that includes for example, parks, open spaces, playing fields, woodlands and private gardens, as well as agricultural and upland areas. This, alongside 'blue infrastructure' of rivers, canals, streams and other water bodies can act in a multi-functional way across a range of issues by supporting, for example, biodiversity, carbon storage, natural drainage and flood storage and health and wellbeing. However, increased urbanisation and general development has acted to erode the connectivity of this green and blue infrastructure, resulting in a decrease in its integrity.</p> <p>The townscapes across England and Wales includes substantial cultural heritage assets. There are many areas benefitting from associated designations, which include World Heritage Sites, Conservation Areas and local listings (refer to the cultural heritage key issue description). In many areas, 20th and 21st century redevelopment and regeneration have introduced a juxtaposition of modern architecture with historic fabric, delivering distinctiveness within the townscape.</p> <p>However, there are also areas where the quality and integrity of townscape has been eroded by successive and often piecemeal</p>	<p>some pressure on greenfield land.</p>	<p>protect the special quality of those areas of relative tranquillity of many parts of England and Wales. Without a co-ordinated strategic approach to development and infrastructure degradation of the special qualities of the most special areas such as AONBs may result.</p> <p>The NPS should also aim to ensure that energy developments and associated infrastructure avoid sensitive areas and respect particular landscape or townscape settings. Careful consideration should be given to design quality in both an urban and rural setting, promoting placemaking principles and seeking to inject character and distinctiveness where possible and where this enhances the sense of place. Design, where possible, should respond positively to the local characteristics, including vernacular architecture when appropriate.</p> <p>Without a co-ordinated strategic approach to development and infrastructure, there is increased potential for planning decisions to lead to inappropriate development, which could fragment existing networks of open space thereby reducing connectivity.</p>	

⁶ National Planning Policy Framework (2019), Paragraphs 133 to 134

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<p>regeneration activities and there is a need to promote enhanced design through all energy development proposals.</p>			
<p>Resources and Waste – growth continues to be associated with increased resource use and waste generation. There is an urgent need to reverse trends in order to move towards a circular economy where resource efficiency is maximised and waste generation curbed.</p> <p>New energy development will impact on and interact with a wide range of resources such as energy (fuel) use, use of construction materials (aggregate, concrete, etc.), waste generation and disposal etc. Construction will contribute to increases in the levels of waste generated, if building materials are not efficiently used / reused. With more waste being produced, trip kilometres to transport such waste for disposal will result in greater transport trip generation and increased emissions of air pollutants or greenhouse gases.</p> <p>The UK generated 221.0 million tonnes of total waste in 2016, and it is estimated that 41.1 million tonnes of this was commercial and industrial (C&I) waste .</p> <p>In 2018, 26,411,000 tonnes of Waste from Households (WfH) were generated in the UK with an overall recycling rate of 45%. In England, the recycling rate was 44.7%, in Wales it was 54.1%. Around 14,644,000 tonnes of the UK's municipal waste went to landfill in 2018 .</p> <p>Total UK commercial and industrial waste, comprising inert, non-hazardous arising which result from trade or businesses, was 41.1 million tonnes in 2017. Around 80% of this total was generated in England. This was split between the commercial and industrial sectors by 27.5 and 13.6 million tonnes respectively.</p>	<p>Declining</p> <p>Continued growth will contribute towards a trend of increased waste and resource use. Interventions outside the planning system are helping to shift towards greater efficiencies in resource use and adherence to the waste hierarchy, but underlying waste generation volumes are anticipated to increase cumulatively,</p>	<p>The NPS should seek to reduce consumption of resources such as construction materials, e.g. through encouraging the use of recycled or secondary materials. This will also reduce the need to transport these materials and transport the waste by-products.</p> <p>The NPS can also help reduce the consumption of fuel by helping to promote a shift to more sustainable forms of energy generation and transport such as active modes like cycling and walking, as well as Low and Zero Emission Vehicles by helping to provide / enable the appropriate infrastructure in new development areas.</p> <p>Design of new energy development can help to encourage better recycling, as well as resource sharing initiatives and allow a 'Circular Economy' to develop.</p>	<p>Promote sustainable use of resources and natural assets</p>
<p>Economic activity, opportunity and deprivation – there are marked spatial contrasts in economic activity and GVA by job across England and Wales and the challenge is to</p>	<p>Improving</p> <p>The headline statistics generally show an upward</p>	<p>Without the strategic approach to energy development the required development and associated infrastructure is less likely to be provided to encourage investment in areas where highest numbers of residents can benefit</p>	<p>To promote a strong economy with</p>

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<p>achieve more equitable access to opportunity as a means of tackling deprivation.</p> <p>The economy across the UK has been subject to challenging conditions throughout 2020 and into 2021 due to impacts from COVID-19 and 'Brexit'. As of March 2021, it remains uncertain as to how these will continue to impact in coming years. Main points from the ONS note that UK gross domestic product (GDP) is estimated to have increased by a record 16.0% in Quarter 3 (July to Sept) 2020, revised from the first estimate of 15.5% growth.</p> <p>Though this reflects some recovery of activity following the record contraction in Quarter 2 (Apr to June) 2020, the level of GDP in the UK is still 8.6% below where it was at the end of 2019, revised from an initial estimate of 9.7%.</p> <p>Compared with the same quarter a year ago, the UK economy fell by a revised 8.6%.</p> <p>While output in the services, production and construction sectors increased by record amounts in Quarter 3 2020, the level of output remains below Quarter 4 (Oct to Dec) 2019 levels, before the impact of the coronavirus (COVID-19) pandemic was seen.</p> <p>There has been a recovery in private consumption, government consumption and, to a lesser extent, business investment in Quarter 3 2020 in line with the easing of public health restrictions, however, the levels remain below their pre-lockdown level.</p> <p>As of March 2020, the unemployment rate in England was 4%, while it was 3.1% in Wales. Economic activity in the same period was 79.8% in England and 76.4% in Wales.</p> <p>These issues will undoubtedly play a major role in deprivation and economic outcomes for all parts of England and Wales, with those areas of current deprivation most likely to have the worst economic recovery and future outcome. The Indices of Multiple Deprivation show that the majority of the most deprived areas in the UK are located within urban centres of population.</p>	<p>trend in employment and GVA by job; and a falling trend in unemployment. However, there are clear spatial disparities between the value of jobs, which can be a proxy for the quality of job opportunities available.</p> <p>The impact of Covid-19 on these trends is not yet readily apparent in data.</p>	<p>from new employment opportunities. The NPS also offers the opportunity to help shape the spatial distribution of employment generation helping to overcome some traditional barriers to opportunities, such as accessibility.</p> <p>The pattern of deprivation across England and Wales is geographically complex, incorporating stark contrasts between wealthy and severely deprived communities. Without the strategic approach to energy development, opportunities to deliver development and infrastructure which can improve equitable and inclusive access to employment and the increasing of income of local people are less likely to be achieved.</p>	<p>opportunities for local communities</p> <p>Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society</p>

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<p>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 deprived neighbourhoods in England.</p> <p>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.</p> <p>These areas have relatively lower income, less access to services, higher unemployment and increased crime rates. There has been little variance in the locations of the most deprived areas of the UK over the last 20 years, with certain areas being in a state of persistent deprivation. It is important to note that there are also pockets of deprivation surrounded by less deprived places in every region of England.</p> <p>These areas have relatively poorer health and well-being in comparison as those classed as less deprived.</p>			
<p>Population growth and demographics – England and Wales have a growing population, with a general underlying trend towards an ageing population, though there are areas with younger population profiles. These demographic characteristics contribute to a complex pattern of highly-contrasting communities, with differing requirements for economic and social infrastructure.</p> <p>The population of England in June 2019 was 56,287,000 which accounts for 84% of the UK's population. The population of</p>	<p>Increasing</p> <p>Population growth is projected to continue to increase across the UK and the overall trend is towards an ageing population.</p>	<p>Both England and Wales (along with the UK as a whole) are expected to see population growth in the coming years, with the proportion of residents of an older age. This growth will be uneven across the country, with a focus on larger urban areas most likely in relation to population growth (though the move to home working induced by COVID-19 may have implications for smaller towns, villages and rural areas). Smaller villages and rural areas may experience an increasingly older demographic (as would less deprived areas), though</p>	<p>Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society</p> <p>To promote a strong economy with</p>

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<p>Wales in June 2019 was 3,153,000 which accounts for 5% of the UK's population.</p> <p>Over the year to mid-2019, decreasing numbers of births and net international migration have resulted in the slowest rate of growth that the UK has seen in 15 years, returning it to the level seen in mid-2004 at 0.5% (361,000). Despite population growth slowing, this was the 37th consecutive year (since 1982) that the total UK population has increased. It is also anticipated that the population profile will age, though all age groups will increase in numbers.</p> <p>Local authorities with the highest proportions of older people in the UK are most commonly found in coastal areas of southern and eastern England.</p> <p>The population of the UK is spread unevenly, with the population density ranging from 5,700 people per square kilometre across London to fewer than 50 people per square kilometre in the most rural local authorities of the UK.</p> <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 settlements, however large urban areas are located in these regions, including Newcastle, Sunderland, Leeds and Bristol.</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>again, the implications of COVID-19 are unclear in this regard.</p>	<p>opportunities for local communities</p>

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<p>Communities: Supporting Physical Infrastructure – infrastructure investment is delivered by a range of providers across the United Kingdom and can often be reactive. Significant new infrastructure, or upgrades to existing infrastructure is planned across a range of sectors.</p> <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. 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>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.</p> <p>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.</p> <p>There is a well-established electricity generation and distribution network across both England and Wales, which is being increasingly utilised for an expanding EV charging network. As would be expected, greatest provision of electricity network capacity is to the more urbanised areas. This network is increasingly supplied by renewable sources.</p> <p>As would be expected, there is significant wastewater infrastructure across the area, though, as with other areas there</p>	<p>Improving</p> <p>There are various infrastructure investment plans and programmes being developed and implemented and these should continue to enhance the supporting transport, utilities and digital infrastructure to support growth levels.</p>	<p>There is a role for the NPS in promoting infrastructure provision in a co-ordinated and pro-active manner, delivering the means to catalyse, rather than react to demands for growth.</p> <p>The NPS should seek to ensure that energy development provides opportunities for utilisation of electric vehicles, as well as access to more sustainable transport modes.</p>	<p>Promote sustainable transport and minimise detrimental impacts on strategic transport network and disruption to basic services and infrastructure</p> <p>To promote a strong economy with opportunities for local communities</p> <p>Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society</p>

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>are legacy and capacity issues with some elements. For example, many areas still have both a combined and separate sewer systems for collecting all wastewater and sewage and under heavy storm conditions, the sewer capacity can be exceeded. Consequently, these areas have above average risk for sewer incapacity and also has several frequent spilling storm overflows.</p> <p>Provision of gas networks is variable across the country.</p> <p>Across the United Kingdom, the areas with ultrafast broadband connectivity are mainly located in urban residential areas, though it should be noted that there are pockets within many urban areas where only standard broadband is available.</p>			
<p>Communities: Physical Health and mental wellbeing – in general terms there are significant differences in measures of good physical and mental health as well as life expectancy across England and Wales, many indicators reflecting the spatial distributions of economic activity and income, age, deprivation, race and similar - there is a need to tackle spatial inequalities in health regards. There is also a growing appreciation of the importance of supporting good mental health and generating a sense of well-being as a means of promoting healthy communities. There is a role for the environment in enabling people to feel connected to place; and growing evidence that physical activity and access to nature and opportunities for community interaction is an important contributor to mental health and well-being.</p> <p>It is worth noting that different groups or different areas of the UK feel differently about their lives and have different experiences, however data that compares different UK geographies has not yet been released.</p> <p>Four measures of personal well-being are examined: how satisfied people feel with their lives; how worthwhile they feel the</p>	<p>Stable / Uncertain</p> <p>While population levels are likely to continue to rise, there is uncertainty over migration levels due to a lack of clarity on issues such as 'Brexit', COVID-19 and general global economic uncertainty. These factors will all have major implications for health outcomes for the wider population but particularly for those in more deprived or vulnerable groups. Population profiles are also likely to continue to get older – this will likely result in changes to overall health outcomes with an increased number of long-term conditions and place an</p>	<p>Indirectly, health and wellbeing levels could be improved through secondary effects of policies that help to create healthy environments. This involves the protection of existing and creation of new open spaces, contributing to a strengthened multi-functional green infrastructure network; and policy approaches designed to reduce air pollution, decreasing noise pollution and reducing traffic congestion. Good design principles can combine with broader green infrastructure as key factors in fostering active travel, recreation and healthy lifestyles.</p> <p>The NPS should seek to ensure continued access to and provision of quality greenspace along with improvement of the physical environment in general. Ensuring continued or enhanced access to employment, educational, recreational / leisure and health services and facilities, along with adequate provision, should also be a priority.</p> <p>Improved walking and cycling facilities, along with open spaces and outdoor recreational facilities are vital to ensuring people have opportunities to undertake informal and formal physical activity outdoors in a safe</p>	<p>Improve health and well-being and safety for all citizens and reduce inequalities in health</p> <p>Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society</p>

Key Issue and summary of baseline situation/information	Summary of likely evolution of the baseline without the Energy NPS (direction of condition trend)	Implications and Opportunities for the Energy National Policy Statement	AoS Objective (see Section 6)
<p>things they do are; how happy they were yesterday; and how anxious they felt yesterday. Overall, personal well-being levels have increased in the UK.</p> <ul style="list-style-type: none"> • Mental well-being improved by 4.6 percentage points between 2011 and 2016, compared with the EU-28 average change of 2.2 percentage points. • Feelings of worthwhile increased by 4.1 percentage points between 2011 and 2016 in the UK, compared with the EU-28 average decrease of 0.5 percentage points. • There was little change in ratings of happiness between 2011 and 2016, but the UK remains similar to the EU-28 average of 7.4 out of 10. <p>According to data from the Organisation for Economic Co-operation and Development (OECD), the average (mean) rating of life satisfaction of people aged 15 years and over in the UK was 6.7 out of 10 from 2014 to 2016.</p> <p>According to 2016 data from the European Quality of Life Survey (EQLS), 86% of adults aged 18 years and over in the UK agreed or strongly agreed that they generally felt that what they did in life was worthwhile. This was a 4.1-percentage point increase from 2011, where 82% agreed or strongly agreed.</p> <p>When the EQLS asked adults aged 18 years and over to rate how happy they were, the average happiness rating for the UK was 7.8 out of 10 in 2016. The EQLS also asked adults aged 18 years and over the questions on the World Health Organisation's (WHO-5)'s mental well-being index. This comprises five questions about feeling cheerful, calm, active, rested, and interested. A higher percentage score on the index indicates better mental well-being. The UK scored an average of 63.2% on the scale in 2016; an increase from 58.6% in 2011.</p> <p>Loneliness was measured on the European Quality of Life Survey (EQLS) by asking adults aged 18 years and over to rate how often they felt lonely in the past two weeks. In 2016, of</p>	<p>increasing burden on health provision and facilities.</p>	<p>manner. This will help to increase physical activity levels and improve general health and wellbeing.</p> <p>The NPS needs to ensure that energy developments are safe, both in terms of crime as well as accidents and engender a perception of safety.</p>	

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<p>respondents in the UK, 5% reported that they felt lonely most or all of the time, compared with 7% in 2011.</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.</p> <p>Crime across England shows regional variations, with the South West (particularly those rural parts) having the lowest rate of crime in 2018/19 (67.8 per 1000 people, as opposed to 110.3 per 1000 people in the north east).</p> <p>The level of crime has been broadly stable in recent years however, the latest figures from the Crime Survey for England and Wales estimate a significant 9% reduction in the year ending March 2020. Underlying this were significant falls in theft (12%) and criminal damage (13%) and almost all other crime types saw non-significant falls. However, while the most recent crime rate appears to be falling, it is unclear to what extent Covid-19 is impacting crime rates.</p>			

Consultation Question 3: Do you consider that the range of sustainability problems and issues covered is appropriate?

6. AoS Framework

6.1. Introduction

This chapter sets out the AoS Framework used to assess the reviewed NPSs. The AoS Framework is comprised of sustainability objectives and related guide questions. The use of objectives and guide questions is explained further below.

6.2. Development of Sustainability Objectives and Guide Questions

The use of objectives is not a requirement of the SEA Regulations, but their use is a recognised method of assessing the effects of a plan or programme. This technique is also proposed in the published guidance.

The sustainability objectives were defined using:

- The review of PPP;
- The baseline data collation; and
- The identification of sustainability issues.

Defining objectives prior to development of the reviewed NPS gives an early indication of the sustainability issues that will require attention in the NPS making process. The AoS objectives have been worded so that they reflect one single desired direction of change for the theme concerned and while mutually supportive, do not overlap other objectives. The objectives include both externally imposed sustainability objectives and other objectives that have been devised specifically in relation to the context of the reviewed NPS.

Each sustainability objective is supported by guide questions intended to cover the range of sustainability issues associated with the sustainability objectives. The guide questions will assist the overall assessment process and help to ensure that significant effects are identified. As such, the guide questions provide a clarification of the intended interpretation of each objective to support the direction of change sought through implementation of the NPS and they have been developed to capture significant effects associated with the range of energy technologies covered by the NPSs.

6.3. AoS Framework

The AoS Framework is set out below at Table 6-1.

Table 6-1 - AoS Framework for Energy NPS

No	AoS Objective	Guide Questions
1	Consistent with the national target of reducing carbon emissions to Net Zero by 2050	Will the NPSs support ... <ul style="list-style-type: none"> • Reduction of the carbon emissions of the national portfolio of major energy infrastructure? • Reduction of direct and indirect emissions of all greenhouse gases, including carbon dioxide? • Supply of energy from low carbon/renewable energy sources / use of low carbon/renewable energy? • Creation of new carbon sinks/removals through enhancing green infrastructure? • Carbon removal mitigation and compensation? • Support an energy system consistent with reducing carbon emissions to Net Zero by 2050?
2	Maximise adaptation and resilience to climate change* *Adaptation is about taking steps to live with the effects of climate change such as building quay walls and flood barriers. Resilience is the ability of a system to adsorb and bounce back after an adverse event.	Will the NPS... <ul style="list-style-type: none"> • Promote future proofing against the effects and risks of climate change (e.g. flooding, sea level rise, coastal erosion and change in weather patterns)? • Encourage design for successful adaptation to the predicted changes in weather conditions and frequency of extreme weather events (freezing, heat waves, intense storms)? • Address the climate induced risks of cascading failures from interdependent infrastructure energy networks? • Lead to major infrastructure development that is flood resilient over its lifetime, considering the effects of climate change, without increasing the flood risk elsewhere and identifying opportunities to reduce the risk overall? • Avoid inappropriate development in areas at risk from flooding and coastal erosion? • Manage the risks of flooding and coastal erosion, particularly through working with natural processes? • Ensure provision of appropriate compensatory measures is in place when there is no other option to land take from areas of flood plain? • Contribute to the improvement green infrastructure networks to support adaptation to the potential effects of climate change?
3	Enhance biodiversity, promoting net gain, and supporting ecosystem resilience and functionality	Will the NPS... <ul style="list-style-type: none"> • Protect and enhance nationally designated sites such as SSSIs and National Nature Reserves, including those of potential or candidate designation? • Protect and enhance valued habitat and populations of protected/scarce species on locally designated sites, including Key Wildlife Sites, Local Wildlife Sites and Local Nature Reserves? • Protect the structure and function/ecosystem processes, including in the marine environment? • Protect and enhance the Nature Recovery Network?

No	AoS Objective	Guide Questions
		<ul style="list-style-type: none"> • Protect and enhance priority habitats, and the habitat of priority species? • Promote new habitat creation or restoration and linkages with existing habitats? • Protect and enhance the wider green infrastructure network? • Increase the resilience of biodiversity to the potential effects of climate change? • Promote a net gain in biodiversity for any new major infrastructure development?
4	Protect and enhance sites designated for their international importance for nature conservation purposes <i>(linked to separate HRA process for Energy NPS)</i>	Will the NPS... <ul style="list-style-type: none"> • Avoid the loss of sites of international importance (SPAs, SACs and Ramsar sites), including those of potential designation (candidate SPAs, proposed SACs, Sites of Community Importance (SCI) and proposed Ramsar sites) both onshore and offshore? • Support continued improvements to the condition status of the UK's national site network?
5	Protect and enhance cultural heritage assets and their settings, and the wider historic environment	Will the NPS... <ul style="list-style-type: none"> • Conserve and enhance designated heritage assets and their settings (World Heritage Sites, Scheduled Monuments, Listed Buildings and structures, Registered Parks and Gardens, Registered Battlefields and Conservation Areas), as well as maritime assets such as protected wrecks? • Conserve and enhance non-designated and / or locally listed heritage assets (including newly discovered heritage assets and archaeology) and their settings? • Avoid significant harm to heritage assets, for example from the generation of noise, pollutants and visual intrusion? • Ensure appropriate archaeological assessment prior to development? • Maintain or improve the interpretation, understanding and appreciation of the historic environment?
6	Protect and enhance the character and quality of the landscapes and townscapes, protect and enhance visual amenity	Will the NPS... <ul style="list-style-type: none"> • Support the integrity of any areas designated for landscape value, including in conjunction with the provisions of any relevant Management Plan (e.g. AONB and local landscape designations)? • Conserve and enhance the intrinsic character or setting of local landscapes or townscapes or waterscapes? • Minimise noise and light pollution from construction and operational activities on residential amenity and on sensitive locations, receptors and views? • Conserve, protect and enhance natural environmental assets (e.g. parks and green spaces, common land, woodland / forests etc) where they contribute to landscape and townscape quality?
7	Protect and enhance the water environment	Will the NPS... <ul style="list-style-type: none"> • Protect ground, surface, estuarine and coastal water quality?

No	AoS Objective	Guide Questions
		<ul style="list-style-type: none"> • Safeguard the availability of water resources (surface and groundwater)? • Minimise the use of water resources / water consumption?
8	Protect and enhance air quality	Will the NPS... <ul style="list-style-type: none"> • Minimise emissions of dust and other air pollutants that affect human health or biodiversity? • Improve air quality within AQMAs and avoid the need for new AQMAs? • Promote enhancements to green infrastructure networks to help improve air quality?
9	Protect soil resources and avoid land contamination	Will the NPS... <ul style="list-style-type: none"> • Assist in facilitating the re-use of previously developed land? • Avoid development upon the best and most versatile agricultural land? • Ensure the protection of soil resources and reduce soil quality degradation? • Seek to remediate contaminated land?
10	Protect, enhance and promote geodiversity	Will the NPS... <ul style="list-style-type: none"> • Protect and enhance geodiversity resource? • Protect or enhance SSSIs designated for their geological interest? • Avoid the degradation and removal, wherever possible, of RIGS? • Support access to, interpretation and understanding of geodiversity?
11	Improve health and well-being and safety for all citizens and reduce inequalities in health	Will the NPS... <ul style="list-style-type: none"> • Protect the health of communities through prevention of accidental pollutant discharges, exposure to electric and magnetic fields, shadow flicker or radiation? • Minimise nuisance on communities and their facilities including air, noise and light pollution? • Provide for facilities that can promote more social interaction and a more active lifestyle and enjoyment of the countryside and coasts? • Promote initiatives that enhance safety and personal security for all?
12	Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society	Will the NPS support ... <ul style="list-style-type: none"> • Delivery of infrastructure to support economic investment in the local economy? • Reduction of poverty and income inequality for those living in areas of concentrated disadvantage? • Reduction of people in fuel poverty? • Improvements to community services or facilities? • Reduction of inequalities between different groups in society?

No	AoS Objective	Guide Questions
13	Promote sustainable transport and minimise detrimental impacts on strategic transport network and disruption to basic services and infrastructure	Will the NPS... <ul style="list-style-type: none"> • Prevent adverse changes to strategic transport infrastructure road/rail/airport? • Prevent loss or disruption to basic services and infrastructure (e.g. electricity, gas)? • Promote transportation of goods and people by low/zero carbon transport modes? • Reduce travel distances to work and reduce the need for out commuting? • Facilitate working from home, remote working and home-based businesses?
14	To promote a strong economy with opportunities for local communities	Will the NPS ... <ul style="list-style-type: none"> • Support enhanced security, reliability and affordability of the national energy supply? • Support creation of both temporary and permanent jobs and increase skills, particularly in areas of need? • Have wider socio-economic effects such as changes to the demographics, community services or house prices?
15	Promote sustainable use of resources and natural assets	Will the NPS... <ul style="list-style-type: none"> • Reduce consumption of materials, energy and resources? • Promote sustainable waste management practices in line with the waste hierarchy? • Encourage the use of recycled and / or secondary materials? • Promote the use of low carbon materials and technologies? • Produce waste by-products that require appropriate management? • Provide for safe and secure interim storage of waste, where necessary? • Promote the use of local suppliers that use sustainably-sourced and locally produced materials?

Consultation Question 4: Are there any changes you consider should be made to the proposed AoS objectives and guide questions?

6.4. Applying the AoS Framework

The next stage will be to assess the reviewed NPS and its alternatives against the AoS Framework.

The AoS Framework will be used to identify likely significant effects including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, secondary and cumulative effects (including synergistic effects).

Criteria to determine significant effects are set out in the SEA Regulations (Schedule 1 (2)) and comprise characteristics of the effects and of the area likely to be affected:

- (a) the probability, duration, frequency and reversibility of the effects;
- (b) the cumulative nature of the effects;
- (c) the transboundary nature of the effects;
- (d) the risks to human health or the environment (for example, due to accidents);
- (e) the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected);
- (f) the value and vulnerability of the area likely to be affected due to—
 - (i) special natural characteristics or cultural heritage;
 - (ii) exceeded environmental quality standards or limit values; or
 - (iii) intensive land-use; and
- (g) the effects on areas or landscapes which have a recognised national, Community or international protection status.

7. Next Steps

Following the receipt of the consultation comments, they will be reviewed and modifications made to the scope of the AoS as necessary. Stage B of the AoS process comprises the assessment of the reviewed NPSs and alternatives. An AoS will be produced alongside the draft NPSs for consultation.

Consultation Question 5: Do you have further suggestions regarding the scope of the AoS and its proposed assessment of the reviewed NPS?

