

# Planning For New Energy Infrastructure

Appraisal of Sustainability for the draft National Policy Statements  
Non-Technical Summaries for:

1. Overarching Energy (EN-1)
2. Fossil Fuel Electricity Generating Infrastructure (EN-2)
3. Renewable Energy Infrastructure (EN-3)
4. Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)
5. Electricity Networks Infrastructure (EN-5)

November 2009



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Appraisal of Sustainability for the draft Overarching National Policy Statement for Energy (EN-1): Non-Technical Summary

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This is the **Non-Technical Summary** of the **Appraisal of Sustainability (AoS) Report** produced as part of the appraisal undertaken to inform the **Overarching National Policy Statement (NPS)** for Energy (also referred to as EN-1).

The following sections explain what the Overarching NPS is, provide an outline of its content and describe the relationship of the Overarching NPS with the technology-specific NPSs. An outline of the AoS process and the role of the AoS Report in this process is described on page iv. The findings and recommendations arising from the AoS are presented on page xiii.

For more information on this public consultation and how to give us your views, please see the Consultation Document on the draft NPSs for energy.

## 1. What are the National Policy Statements for Energy Infrastructure?

The Planning Act 2008 changes the way in which nationally important planning decisions are made. It has established a new Infrastructure Planning Commission (IPC) to take planning decisions on nationally significant infrastructure. The IPC replaces the current process in which the decisions are taken by the Secretary of State from the appropriate Government Department. The IPC will determine planning applications on nationally significant infrastructure projects using planning policy and guidance set out within National Policy Statements (NPSs) for the infrastructure from the transport, energy, waste, and water sectors. Government Departments are responsible for preparing each of the NPSs. The Department of Energy and Climate Change (DECC) are responsible for preparing those related to energy infrastructure projects. These are:

- Overarching NPS for Energy (EN-1);
- Fossil Fuel Electricity Generating Infrastructure (EN-2);
- Renewable Energy Infrastructure Generation (EN-3);
- Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4);
- Electricity Networks Infrastructure (EN-5); and
- Nuclear Power Generation (EN-6).

Under the Act, the IPC will examine applications and make decisions on the following nationally significant energy development:

- Electricity generating stations generating more than 50 megawatts onshore and 100 megawatts offshore. This includes generation from fossil fuels, renewables and nuclear. For these types of infrastructure, the Overarching NPS (EN-1) in conjunction with the relevant technology-specific NPSs will be the primary basis for IPC decision making.
- Electricity lines at or above 132 Kilovolts (kV). For this infrastructure, EN-1 in conjunction with the Electricity Networks NPS (EN-5) will be the primary basis for IPC decision making.
- Large gas reception and Liquefied Natural Gas facilities and underground gas storage facilities (above limits set out in EN-4 and the Planning Act). For this infrastructure, EN-1 in conjunction with the gas supply infrastructure and pipelines NPS (EN-4) will be the primary basis for IPC decision making.
- Cross country oil and gas pipelines at or above the threshold of 16.093 kilometres/10 miles in length and certain licensed gas transporter pipelines (see EN-4 for all pipeline thresholds). For this infrastructure, EN-1 in conjunction with EN-4 will be the primary basis for IPC decision making.

NPSs collectively present a summary of government energy and climate policy, the national need for energy infrastructure and guidance to the IPC on how to assess the likely impacts of energy infrastructure. The Nuclear NPS is different in that it also assesses the potential suitability of sites for new nuclear stations and it is the subject of a separate AoS which has assessed those parts of the Overarching NPS which apply to nuclear stations.

## 2. What is the Overarching NPS for Energy (EN-1)?

The Overarching NPS for Energy sets out the national policy for new nationally significant energy infrastructure. In combination with additional technology-specific NPSs, it will be used to provide the primary basis for decisions made by the IPC regarding the granting of development consent for nationally significant energy infrastructure.

Developers will need to ensure that their applications for development consent are consistent with the requirements of relevant NPSs, as the IPC must decide the application in accordance with their content except in the circumstances set out in Section 104 of the Planning Act.

The Overarching NPS for Energy will be issued by the Secretary of State for DECC. It applies to decisions for nationally significant energy projects (as described in Part 1 of the NPS) in England and Wales. The Overarching NPS will remain in force in its entirety unless withdrawn or suspended in whole or in part by the Government and will be subject to review by the Government in order to ensure that it remains appropriate for IPC decision-making.

## 3. What is an Appraisal of Sustainability (AoS)?

The Planning Act 2008 requires that 'an appraisal of the sustainability of the policy set out in the statement' is carried out. Section 5(5) of the Planning Act explains what the policy set out in statement may, in particular, contain<sup>1</sup>. It may:

- set out, in relation to energy infrastructure, the amount, type or size of development which is appropriate nationally or for a specified area [Section 5(5)(a) of the Act]
- set out criteria to be applied in deciding whether a location is suitable (or potentially suitable) for specified energy technologies [Section 5(5)(b) of the Act];
- set out the relative weight to be given to specific criteria [Section 5(5)(c) of the Act];
- identify locations which are potentially suitable or unsuitable for specified energy technologies [Section 5(5)(d) of the Act]; and
- set out circumstances in which it is appropriate for a specified type of action to be taken to mitigate the impact of specified energy technologies [Section 5(5)(f) of the Act].

Section 5(5)(e) of the Planning Act states that a National Policy Statement may identify one or more statutory undertakers as appropriate persons to carry out a specified description of development. Given that energy is delivered through a liberalised market, limiting energy developers would restrict competition and contravene the market approach to energy development.

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<sup>1</sup> Section 5(5) of the Planning Act. Available at [http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga\\_20080029\\_en.pdf](http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga_20080029_en.pdf) (Accessed 23/09/09)

The AoS of the Overarching NPS for Energy has been undertaken in a manner that incorporates the requirements of the European Directive on Strategic Environmental Assessment (SEA) (2001/42/EC) and the transposing UK Regulations<sup>2</sup>.

SEA is a statutory requirement following the adoption of European Community Directive 2001/42/EC which was transposed into UK legislation on the 20th July 2004 as Statutory Instrument No. 1633 – The Environmental Assessment of Plans and Programmes Regulations 2004. The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.

In addition to assessing the environmental effects required by the SEA Directive, the aim of the AoS is to identify, describe and evaluate the likely significant social and economic effects of implementing the NPS. Each AoS has been carried out at the same time as the development of the NPS and has therefore helped to inform that NPS. The NPS contains potential measures to mitigate significant adverse effects. All the NPSs (EN-1 to EN-6) have been subjected to an AoS<sup>3</sup>.

An overview of the key stages of the AoS process is presented below.

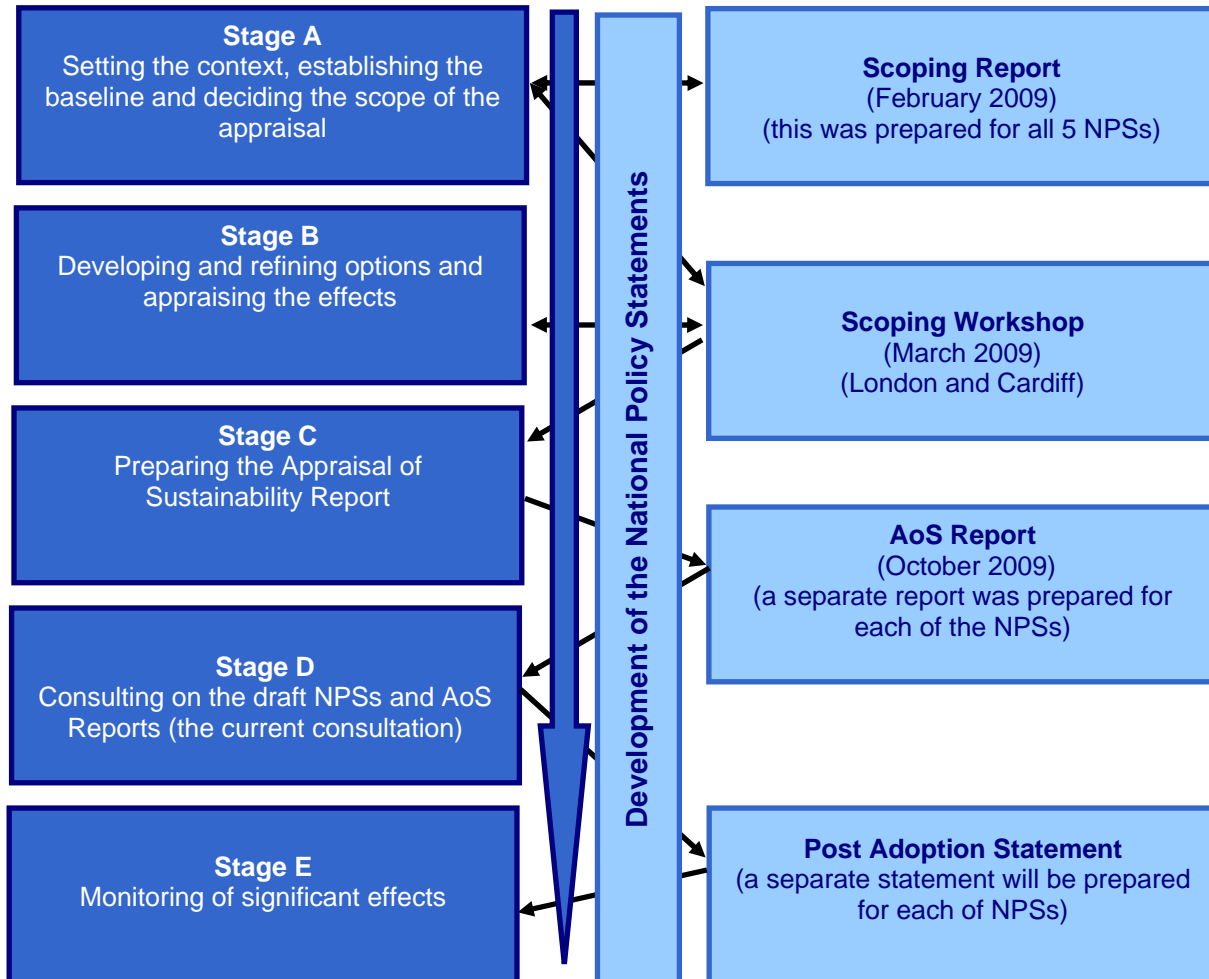
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<sup>2</sup> The Environmental Assessment of Plans and Programmes Regulations 2004 (S.I. 2004/1633). *Note: These Regulations apply when the plan or programme applies to England and any other part of the UK.*

<sup>3</sup> *In addition to the work on the NPSs (including their AoS), DECC has also completed an SEA for Offshore Energy, is undertaking a feasibility study for tidal range power in the River Severn, which includes an SEA, and is beginning a feasibility study for wave and tidal projects around English and Welsh territorial waters. DECC has also published an SEA of the Framework for the development of clean coal.*

## Appraisal Process

## Key Outputs



The AoS process began in early 2009 and reflects national guidance on SEA practice<sup>4</sup>. A Scoping Report (Stage A) was consulted on by statutory consultees in February and March 2009. A summary of the results of this consultation are presented in **Annex C** of the AoS Report and the consultees' responses have been considered within this AoS. From March through to September options were developed and refined and the effects of the NPSs were appraised (Stage B). The AoS Reports were prepared during this time (Stage C) before being consulted on (Stage D, the current consultation). Stage E, the final stage will involve setting the measures for monitoring significant impacts.

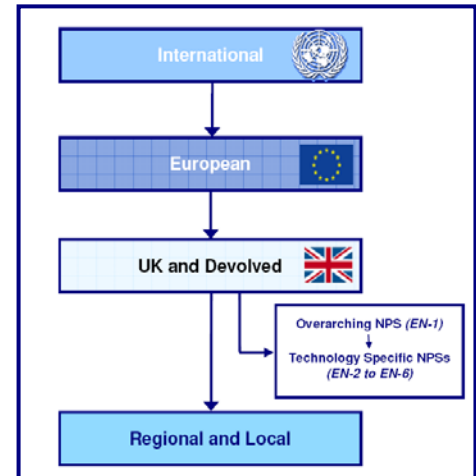
<sup>4</sup> ODPM (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*.



#### 4. What relationship does the Overarching NPS for Energy have with other policies, plans and programmes?

The AoS reviewed other relevant policies, plans, and programmes that could influence the Overarching NPS for Energy, to identify how the NPS could be affected by the other policies, or how it could contribute to, or hinder, the achievement of any environmental or sustainability targets set out in these policies. The review also helped to support the completion of the social, economic and environmental baseline and aid the determination of the key issues. The full review is provided in **Annex B**.

The Overarching NPS for Energy reflects European and International requirements where these are set out in legislation (for example, the UK Climate Change Act 2008 and other government agreements on climate change being key influences on the development of the NPSs).



#### 5. Which sustainability topics has the Overarching NPS for Energy been appraised against?

The Overarching NPS has been appraised against 14 topic areas. All of the topics identified in the Scoping Report were 'scoped in' (i.e. considered to be relevant to the appraisal<sup>5</sup>). The topics are identified below and are linked with the AoS Objectives identified in **Table 2** (page xii).

1. Climate Change	6. Water Quality	11. Air Quality
2. Ecology (Flora and Fauna)	7. Traffic and Transport	12. Soil and Geology
3. Resources and Raw Materials	8. Noise	13. Health and Well-Being
4. Economy and Skills	9. Landscape, Townscape and Visual	14. Equality
5. Flood Risk	10. Archaeology and Cultural Heritage	

The baseline data and information for each of these topics has been identified and included in **Annex F**. The baseline is common to all of the non-nuclear NPSs (EN-1 to EN-5). To avoid repetition, the baseline material is presented in the Overarching AoS Report and referenced in each of the non-nuclear AoS reports (EN-2 to EN-5).

#### 6. What reasonable alternatives for implementing the Overarching NPS for Energy were identified and appraised?

In line with the principles of good policy making and the requirements of the SEA legislation, a range of reasonable alternatives for the Overarching NPS were considered. These alternatives should be realistic, feasible and genuine. Within the strategic framework set by Government, the energy sector relies on private sector investment.

<sup>5</sup> Following consultation on the Scoping Report, *noise* and *landscape features* were scoped back into the appraisal (i.e. they were originally anticipated not to be relevant to a high-level appraisal but following comments this was reconsidered and they were included).

In general, the UK Government does not therefore specify the technologies that should be within the energy mix or what their volumes should be (with the exception of renewables where there are specific EU targets although not at the level of individual renewables technologies).

The objective in drafting the non-nuclear NPSs has been, for the most part, to reflect and clarify existing policy and practice of the Secretary of State in consenting nationally significant energy infrastructure. The intention is not to use the non-nuclear NPSs to change significantly the underlying policies against which applications are assessed (or the “benchmark” for what is, or is not, an acceptable nationally significant energy development). Therefore, the non-nuclear NPSs are based on established energy and climate change policies and the focus of their content is the manner in which energy infrastructure that flows from those policies should be controlled (reflected in the guidance on the key issues that the IPC should take into account in its decision making. Where there have been policy developments these have been conducted through separate processes, such as the consultation on the framework for the development of clean coal, and the NPS reflects those separate developments.

As a result, the following strategic-level alternatives were considered:

1. No NPS - “the effects of No NPS” to mean the effects of constructing energy infrastructure under a business as usual scenario where there is no NPS to set the framework for development consents;
2. An NPS that only set out high level Government energy policy;
3. An NPS that a) set out high level Government energy policy and b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments; and
4. An NPS that a) set out high level Government energy policy, b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments and c) set out guidance on how impacts of energy developments could be avoided or mitigated.

**What ‘No NPS’ means:** Government does not draft or designate an NPS for energy infrastructure. This is the “business as usual” scenario; energy companies would still apply for development consent for new nationally significant energy infrastructure to the IPC, which would consider a planning application and make a recommendation to the Secretary of State instead of making the decision themselves. However, in the absence of a comprehensive statement of national need and specific guidance on the application of energy policy to development consents that are provided by the NPS, the IPC would have few benchmarks against which to make recommendations. The IPC would have to attempt to interpret Government policy, but with no guarantee that their interpretation concurred with Government intentions. The IPC might fail to consider wider policy issues.

New nationally significant energy infrastructure could still be built but it is doubtful that some of the benefits of the new consenting regime would be realised.

Further, where there is no designated NPS and the IPC therefore acts as recommending body to the Secretary of State, the IPC should report to the Secretary of State within nine months of accepting an application. The Secretary of State has a further three months to make a decision to grant consent. This means that development consent should be granted in 12 months. However, since the IPC has the power to extend the time it is given to examine the application, it is more likely to need to extend its timetable in the absence of a designated NPS to allow time to consider the questions of need, the suitability of a location or alternative locations without specific guidance on particular issues. It is therefore highly likely that development consent would take longer than if an NPS were designated. This could result in delays in the planning process which would increase uncertainty for energy companies and make new nationally significant energy infrastructure a less attractive option.

The preferred option is Option 4 as this enables the clearest guidance to be given to the IPC on the circumstances in which different forms of energy development will be acceptable and does so in a way that is transparent to other interested parties. This option also helps to ensure that significant effects on the environment, economy and society are duly considered in the decision making process (which may be overlooked or not considered in Option 2). Furthermore, Option 4 includes details of avoidance and mitigation measures that may be adopted by the applicant or the IPC thus enabling the minimisation of potentially detrimental effects. The inclusion of such information is considered to be beneficial as it enables the applicant to see what effects the IPC will be considering and the types of mitigation measures that may be relevant.

The other alternatives proposed by the AoS Team are identified in **Table 1**.

**Table 1 Alternatives Identified by AoS Team**

Alternatives Proposed by the AoS Team	Response to the alternatives (provided by DECC)
<p><b>Option A: NPS sets ratio/mix of different forms of energy production:</b> Would help to ensure security by ensuring that a mix is achieved. This might also help ensure that low carbon targets are achieved.</p>	<p>It would not be appropriate for the NPS to set definitive ratios for different forms of energy production. This would go far beyond current energy policy under which the Government sets the strategic framework for the market within which private companies should come forward with specific proposals. There is no one right mix and setting inflexible ratios for each form of energy production could harm the provision of sufficient energy supply. While the renewables directive does impose targets for the proportion of our energy which should come from low carbon sources by 2020, these targets do not dictate which types of low carbon energy production should be consented to meet this target. For these reasons this option is not considered a reasonable alternative.</p>
<p><b>Option B: NPS requires IPC to incorporate environmental controls beyond development consent considerations.</b></p>	<p>There are national-level environmental safeguards. Energy infrastructure operates within a strict environmental regulatory regime, e.g. Environmental Permitting Regulations 2007. It is not the place for NPSs to supersede these safeguards or duplicate the functions carried out by regulatory bodies such as the Environment Agency. In addition, emission limits for certain substances are already determined at an EU level and therefore it is not necessary to duplicate this within the NPS. For these reasons, this option is not considered a reasonable alternative. The NPS does, however, include environmental guidance appropriate to development consents.</p>
<p><b>Option C: NPS sets exclusionary criteria:</b> For instance no energy development could be permitted in National Parks, Special Protection Areas, AONBs etc.</p>	<p>NPS set out a policy framework under which energy infrastructure may be consented and explains the various measures in place in the UK and across the EU to protect designated sites. However, it is for the IPC to assess the evidence presented on each project in terms of weighing the impacts it may have against the national need for new energy infrastructure taking account of any statutory controls. Exclusionary criteria could rule out development which in the particular circumstances of the case may have been acceptable, thereby reducing the number of sites at which development is able to take place. For these reasons this option is not considered a reasonable alternative.</p>
<p><b>Option D: NPS sets a 'points system':</b> Proposed developments would have to achieve a certain number of points (e.g. linked to the Government's energy goals, or to sustainability before they would be assumed to be acceptable).</p>	<p>NPSs set out a policy framework under which energy infrastructure may be consented. However, it is for the IPC to weigh the evidence presented by each project against the impacts it may have and the national need for new energy infrastructure. It would not be appropriate for the NPS to predetermine the outcome of the IPC's decisions on individual projects</p>

Alternatives Proposed by the AoS Team	Response to the alternatives (provided by DECC)
	<p>through the use of a point scoring system. Such a system would give rise to an overly formalistic and rigid structure which, given the range of infrastructures that would have to be covered, would be extremely complicated to create and administer. For these reasons this option is not considered a reasonable alternative.</p>
<p><b>Option E: NPS establishes a sequence/phasing of events:</b> For instance, permission can be given for a first tranche of fossil fuel power stations, but x GW of renewable energy generation must be approved (or operational) before a second tranche can be approved.</p>	<p>This would seek to determine the energy mix in a way that is not in accordance with Government policy as explained above and could harm the provision of sufficient energy supply. It is also the case that where Government nevertheless wishes to send the market signals as to infrastructure that should be brought forward, it has mechanisms beyond the planning system it uses, e.g. the Renewables Obligation to encourage renewables. The IPC's focus should be on planning decisions within the Government's policy framework. This option assumes that there is an identifiable and preferred sequence of events and carries the risk of significant delay to nationally significant energy infrastructure if wider events do not unfold in accordance with that sequence. For these reasons this option is not considered a reasonable alternative.</p>
<p><b>Option F: NPS only permits energy production up to a certain level</b> (or up to a certain amount per type of energy).</p>	<p>The NPS does set out the national need for new energy infrastructure, for example due to the enforced closures of certain power plants under the Large Combustion Plant Directive (LCPD) and the Industrial Emissions Directive (IED). Energy policy does not, however, dictate the amount of capacity considered necessary in the UK nor does it set limits on amounts which can be produced in total or from particular types of energy. It is also for industry to determine the margin needed between peak demand and total capacity. For these reasons this option is not considered a reasonable alternative.</p>
<p><b>Option G: NPS considers location of proposed projects vis-à-vis location of energy demand:</b> This could help to ensure that there is no undue concentration of projects in one area, reduce the inefficiencies of long-distance transport of energy and/or encourage more local-level projects.</p>	<p>The NPS explains the need to assess the likely significant cumulative impacts of one project with others. It also explains the on-going need for large scale infrastructure alongside more localised energy generation. The IPC is only responsible for decisions on the former so it is not necessary for the NPS to cover the latter in any detail. Most large scale energy infrastructure has particular locational requirements (e.g. water or wind resource) and these factors are likely to be more significant in siting decisions than proximity to centres of demand. Constraining the provision of large scale energy infrastructure to fit the location of energy demand could result in sub-optimal locations. Furthermore, this alternative might not deliver all the benefits stated as not all energy infrastructure is mutually compatible. For these reasons this option is not considered a reasonable alternative.</p>
<p><b>Option H: NPS has presumption in favour of cooperative/local energy projects:</b> Preference will be given to projects shown by referendum to be supported by the majority of the community.</p>	<p>NPS set out a policy framework under which energy infrastructure may be consented. It is for the IPC to weigh the evidence presented by each project against the impacts it may have and the national need for new energy infrastructure. It would not be appropriate for the IPC to take decisions based on the ownership of a project or taking undue account of local community views given the benefits of much energy infrastructure will be national rather than local. It is also the case that many co-operative or local energy projects may be too small to go to the IPC. For these reasons this option is not considered a reasonable alternative.</p>

## 7. What aspects of the draft NPSs were appraised?

Projects consented under the IPC/NPS process will clearly have a number of direct, indirect and cumulative effects. The AoS identifies and assesses those effects arising as a result of the NPS and this is considered against the baseline (i.e. what's happening now and what's likely to happen in the future). **In this way, the appraisal assesses the effects of the differences between the current consenting regime ('business as usual') and the IPC/NPS process.**

The likely effects of the NPSs have been considered across a range of geographic scales (including UK, regional and local). However, with the exception of the Nuclear Power Generation NPS, the Energy NPSs do not prescribe the location for new infrastructure projects and there are limitations in terms of how far appraising effects at a non-spatially specific level can be taken. This is not to exclude the possibility that the effects could be significant; rather, that it will often only be possible to judge whether such effects are significant at the project level.

It is anticipated that relevant receptors and the assessment of project-level effects will be given full consideration at the project level, through for example Environmental Impact Assessment (EIA), Habitats Regulations Assessment (HRA) and other statutory and non-statutory assessments.

The following assumptions have then been used to aid the understanding of the influence of the NPSs on the outcome of planning decisions. It is intended that the IPC/NPS process:

- Will help to ensure that decisions are taken consistently, and will increase certainty (and efficiency) for investors;
- Will add greater certainty to the delivery of nationally significant energy infrastructure by making the guidance on decision-making clearer and more transparent;
- Will lead to faster decisions which may lead to more projects being built in the short-term. Faster decisions will improve the UK's security of supply. The guidance to the IPC on the overall level of need for energy infrastructure is relevant in terms of the IPC's understanding of the scale of need when considering individual applications;
- Will not have a significant effect on the proportion or type of energy generating facilities being submitted for consent – i.e. the NPSs focus on the factors that are considered during the decision making process for applications. They do not determine how many applications or the types of applications submitted – this is left to the market to decide or is influenced by Government policy delivered through other means to ensure new infrastructure is available quickly enough to meet demand; and
- The Government will monitor the infrastructure to ensure that goals are being achieved and, if necessary, alter the signals it gives to the market to drive development.

These effects have then been used as the basis to assess the implications of the NPS for future planning decisions. The AoS focuses on the material differences to sustainability against the existing planning system for energy infrastructure.

## 8. What approach was taken to the appraisal?

The appraisal of EN-1 to EN-5 has been undertaken using an objectives-led approach. The baseline information, the review of plans and programmes and the key issues identified were used to develop 14 AoS objectives (presented in **Table 2**). Each objective is also supported by a series of guide questions (and these are identified in

**Section 3.4** in the main AoS report). The AoS objectives cover all of the topics that the appraisal is required to include information on (as set out in the SEA Directive).

EN-1 to EN-5 have been appraised in terms of the extent to which they contribute towards achieving the AoS objective (e.g. Biodiversity) when considered against the baseline set by the existing planning environment. The 'guide questions' have been used to assist the appraisal of the potential effects in a qualitative manner, ensuring consideration is given to relevant influencing factors.

**Table 2 AoS Objectives**

AoS Objective	SEA Topic Requirement
<b>1. Climate Change:</b> To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.	Climate Change
<b>2. Ecology (Flora and Fauna):</b> To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.	Fauna, flora and biodiversity
<b>3. Resources and Raw Materials:</b> To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.	Material assets
<b>4. Economy and Skills:</b> To promote a strong and stable economy with opportunities for all.	Material assets
<b>5. Flood Risk:</b> To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring it is resilient over its lifetime without increasing risks elsewhere.	Climatic factors
<b>6. Water Quality:</b> To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).	Water
<b>7. Traffic and Transport:</b> To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.	Population
<b>8. Noise:</b> To protect both human and ecological receptors from disturbing levels of noise.	Population
<b>9. Landscape, Townscape and Visual:</b> To protect and enhance landscape quality, townscape quality and to enhance visual amenity.	Landscape
<b>10. Archaeology and Cultural Heritage:</b> Protect and, where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.	Cultural heritage, including architectural and archaeological heritage
<b>11. Air Quality:</b> To protect and enhance air quality on local, regional, national and international scale.	Air
<b>12. Soil and Geology:</b> To promote the use of brownfield land, and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.	Soil
<b>13. Health and Well-Being:</b> To protect and enhance the physical and mental health of the population	Human health
<b>14. Equality:</b> To encourage equality and sustainable communities.	Human health



For each of the objectives against which the NPS has been appraised, the score given was one of the following:

- **Significant Positive:** A very strong positive effect of the proposed NPS on the AoS Objective
- **Minor Positive:** A minor positive effect of the proposed NPS on the AoS Objective
- **No Overall effect:** No overall effects arising from proposed NPS on the AoS Objectives although this may include some very minor or isolated effects (where this is the case these are identified)
- **Minor Negative:** A minor negative effect of the proposed NPS on the AoS Objective
- **Significant Negative:** A very strong negative effect of the proposed NPS on the AoS Objective
- **Uncertain:** An uncertain effect of the proposed NPS on the AoS Objective
- **No Relationship:** There is no relationship between the proposed NPS and the AoS Objective.

In predicting and evaluating the effects of the Overarching NPS for Energy, all effects have been considered, including those that are minor or non-significant, but which could combine to create a significant cumulative or synergistic effect.

## 9. What were the key significant effects (when considered against the existing consenting regime)?

This section presents a summary of the appraisal of the Overarching NPS for Energy against the 14 objectives. Entec provided ongoing commentary on the sustainability effects of the emerging NPSs, and, where relevant, these points were incorporated in the NPSs. The boxes presented under each of the objectives identify some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**1. Climate Change:** *Minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.*

The appraisal indicates that when compared to the current consenting regime (the 'business as usual' baseline), the additional impact of the NPS is considered to have **minor positive effects** on this objective. Current government policy is set towards the delivery of low carbon energy. The Energy NPSs/IPC intend to deliver faster and more efficient decisions within the framework of government policy. As a result, the Energy NPSs/IPC may consent low carbon energy projects at a faster rate than at present. However, the overall net number of energy projects required will remain the same (i.e. the 'supply' of energy infrastructure does not exceed the 'demand' or the need). As a result the Energy NPSs may speed up the transition to a low carbon economy. This is predicted to have a positive effect on the AoS climate change objectives because UK climate change commitments may be realised sooner than continuation under the current consenting system.

Furthermore, the Overarching NPS requires applicants to consider the impacts of climate change when planning the location, design, build, operation and, where appropriate, decommissioning of new energy infrastructure (4.8.5 of EN-1). The NPS also states that 'the IPC should satisfy itself that applicants for new energy infrastructure have taken into account the potential impacts of climate change using the latest UK Climate Projections...' (4.8.8 of EN-1).

**Climate Change:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 1.1:** The UKCIP scenarios project until 2100, for proposals over a longer lifespan, the data source would need to be the IPCC Assessment Reports.

**Response 1.1:** The text now reflects that IPCC reports will be needed for longer term assessment of climate change.

**2. Ecology:** *To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have an **uncertain effect** on this objective. This is consistent with the findings of the assessment against the requirements of Article 6 of the Habitats Directive (92/43/EEC) (see **Section 3.7**), that states that 'the guidance contained within EN-1 recognises international designations for wildlife and habitat protection along with a range of potential effects and mitigation measures, however, the possibility of significant effects upon one or more European sites from future nationally significant energy infrastructure cannot be excluded at the NPS level'.

The NPS states that the applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests (Section 4.18.4 of EN-1). The NPS also states that the applicant is expected to have included appropriate mitigation measures as an integral part of the proposed development and to demonstrate that opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals.

**Ecology:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 2.1:** Habitat Management Plans/Nature Conservation Strategies may be requested as part of a current application. The NPS may benefit from referring explicitly to the preparation of Habitat Management Plans/Nature Conservation Strategies.

**Response 2.1:** The NPS reflects the current statutory requirements. The EIA regulations require that applicants provide in their ES "a description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment". Information within the ES may inform a Habitat Management Plan (HMP) or other Environmental Management Plan (EMP). However, it is not necessary for developers to deliver all mitigation proposed pre-consent as mitigation may be delivered via planning conditions. It is not necessary for developers to prepare an HMP or EMP in every case.

**Recommendation 2.2:** Consider revising para 4.18.3 (Applicant's Assessment) to reflect that significant effects could arise in other ways (e.g. on species that are not legally protected).

**Response 2.2:** This has been revised and now includes reference to 'other species identified as being of principal importance for the conservation of biodiversity'.

**Recommendation 2.3:** Para 4.18.15 (Project affecting legally protected species) implies that the Defra species referred to are protected, but they are not. Consider adding another subsection (e.g. Projects affecting other notable species) and including BAP priority species and habitats and rare species and habitats that are not on these lists (and may not be legally protected).

**Response 2.3:** The title has been changed to 'Habitats and Other Species Protection'.



**3. Material Assets and Raw Materials:** *To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have **significant positive effects** on this objective. The Overarching NPS addresses the issue of waste management (Section 4.29 of EN-1) and seeks to ensure that all development utilises effective waste management practices consistent with the waste management hierarchy.

The NPS recognises that all large infrastructure projects are likely to generate hazardous and non-hazardous waste during the construction, operation and decommissioning phases and states that applicants should set out the arrangements that are proposed for managing any waste produced. The NPS also states that the applicant should also seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental outcome.

In general, EN-1 is considered to score positively against this objective, as the faster delivery of energy infrastructure projects will support security of supply and the delivery of affordable and low carbon energy.

**Material Assets and Raw Materials:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 3.1:** Consider adding reference to the management of wastes during the construction and demolition stages. However, we recognise that this effect may more appropriately be considered in the technology-specific NPSs. Alternatively, consider adding a cross-reference to state that waste and raw materials is covered in the technology-specific NPSs.

**Response 3.1:** The waste management impact text of the Overarching NPS now refers to the generation of waste during the construction, operation and decommissioning phases.

**4. Economy and Skills:** *To promote a strong and stable economy with opportunities for all.*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have **significant positive effects** on this objective. The NPS contributes positively towards improving the vitality and competitiveness of the UK energy market as it provides greater clarity for developers, which can help in terms of planning risks associated with investment. Greater investment certainty would improve the UK's position for inward investment into energy infrastructure creating opportunities for skilled workers. The Energy NPSs/IPC intend to deliver faster and more transparent decisions on energy infrastructure which should improve the UK's security of supply. The UK economy will benefit from reliable energy supplies.

**Economy and Skills:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 4.1:** Consider requiring an economic or employment statement as part of any application.

**Response 4.1:** The NPS now covers the assessment of socio-economic impacts which could include the creation of jobs and training opportunities.

**5. Flood Risk:** *Does the NPS avoid an increase in flood risk (including coastal flood risk) and avoid siting flood sensitive infrastructure in areas of high flood risk?*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is

considered to have **no overall effect** on this objective. The Overarching NPS recognises that a number of energy infrastructure projects will need to be located on coastal or estuarine sites. However, the mitigation and flood risk assessment process identified in the Overarching NPS will help to ensure that potential risks with regard to flooding are identified and effective mitigation is built into the applicant's proposal.

Notwithstanding these requirements there may be exceptional instances, where an increase in flood risk elsewhere cannot be avoided or mitigated and in these circumstances, the Overarching NPS states (in Section 4.22.14) that *'the IPC may grant consent if it is satisfied that the increase in flood risk can be mitigated to an acceptable level and taking account of the benefits of, including the need for, nationally significant energy infrastructure as set out in Part 3...'*

This represents a continuation of the approach under the current system, where some projects that will result in an increased flood risk have still been consented because of the national need for the infrastructure. Examples include a gas pipeline, part of which was installed in a flood zone and temporarily increased run-off; and a power station next to a flood defence wall which required a short term breach of the wall while the cooling water abstraction and discharge pipes were being installed, temporarily increasing flood risk to the surrounding area. Therefore, when compared to the current consenting regime, the Overarching NPS does not significantly increase or decrease flood risk.

It is also noted that the NPS specifically guides applicants to obtain advice from the Environment Agency on flood risk, where necessary.

**Flood Risk: Key recommendation(s) emerging from the appraisal and how DECC responded**

**Recommendation 5.1:** The draft introductory paragraph singles out the effects of flood risk on projects. Consider revising to reflect the need to ensure that projects don't adversely affect flood risk (i.e. don't increase run-off).

**Response 5.1:** The introductory paragraphs have been amended and reflect more widely flood risk.

**Recommendation 5.2:** Clarify what is meant by 'deal with the flood risk', for example, does this mean to negate.

**Response 5.2:** The paragraph that included this sentence has now been replaced.

**Recommendation 5.3:** The text should state clearly that whilst some energy projects may be acceptable in areas of low flood risk – they still need to manage surface water in accordance with PPS25.

**Response 5.3:** This text has been clarified and reference to Planning Policy Statement 25 (PPS25) has been included.

**6. Water Quality and Resources:** *To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have **no overall effect** on this objective. This is because the NPS guides the IPC to give consideration to the effects on water quality and resources. The NPS specifically guides the IPC to obtain advice from the Environment Agency on the potential effects of discharges and abstractions.

Additionally, the IPC must be satisfied that development consent can be granted taking full account of environmental impacts and the NPS states that this ‘*will require close cooperation with the Environment Agency and/or the pollution control authority, and other relevant bodies...*’. The NPS also states that the IPC will generally need to give impacts on the water environment more weight where a project would have an impact on the achievement of the environmental objectives established under the Water Framework Directive.

**Water Quality and Resources:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 6.1:** NPS should clarify that water quality refers to marine and freshwater quality and resources.

**Recommendation 6.2:** The NPS should cover the effects of proposed development on water quality.

**Recommendation 6.3:** The NPS should refer to Water Framework Directive status and the objectives/measures for waterbodies affected.

**Response 6.1:** NPS now includes reference to marine and freshwater quality and resources.

**Response 6.2:** NPS now outlines effects of proposed developments on water quality.

**Response 6.3:** The NPS now refers to the Water Framework Directive.

**7. Traffic and Transport:** *To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.*

The appraisal indicates that when compared to the ‘business as usual’ baseline, the additional impact of the NPS is considered to have **no overall effect** on this objective. A key issue in transport is the effects of development on the local highways network. The NPS provides guidance on the requirements on the developer to identify any local effects and to mitigate these as part of any application. This approach is consistent with the existing national planning guidance and therefore is unlikely to result in anything other than a neutral effect against this objective.

**Traffic and Transport:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 7.1:** Consider the need for a Transport Assessment.

**Recommendation 7.2:** Reference should be made to the Department for Transport guidance on Transport Assessment.

**Recommendation 7.3:** Consider requiring a Traffic Management Plan (TMP).

**Recommendation 7.4:** A number of additional recommendations were made clarifying an appropriate methodology (e.g. transportation of abnormal loads, calculations of vehicle movements and investigation of route options).

**Response 7.1:** Reference to the requirement for a Transport Assessment is now included.

**Response 7.2:** Reference is now made to the NATA/WebTAG methodology stipulated in Department for Transport guidance.

**Response 7.3:** There is no statutory requirement for project proponents to prepare a TMP. However, the IPC or other stakeholders may, on a project by project basis, secure a TMP. If traffic impacts are considered significant, then traffic is expected to be ‘scoped in’ to any EIA. The NPS neither includes nor excludes TMPs, the scope for TMPs shall be determined as part of the consenting process.

**Response 7.4:** This text was removed and more generic information included.

**8. Noise:** *To protect both human and ecological receptors from disturbing levels of noise.*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have **no overall effect** on this objective. Noise can dramatically affect the quality of the environment in which we live and work and has also been shown to have a link to health. The NPS seeks to consider the effects of noise generated by the proposals against a baseline level of noise. The NPS requires that the IPC should be satisfied that the applicants' proposals will avoid significant adverse impacts on health and quality of life from noise and will mitigate and minimise other adverse impacts on health and quality of life from noise. The applicant is also required to, where possible, contribute to improvements to health and quality of life through the effective management and control of noise. The approach is in keeping with current guidelines. As a consequence when compared to the existing baseline, the additional impact of the NPS is considered to be neutral on this objective.

**Noise:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 8.1:** Within the NPS text reference to the BS4142 should read as 1997 rather than 1990. Reference to PPG24 should also cover the Welsh equivalent TAN11. With reference to construction noise BS5228:2009 should be used in calculating the noise levels while BS6472:2008 should be used when considering the effects of vibration on human health.

**Response 8.1:** The NPS now makes reference to the correct standards and planning policy. The NPS includes the AoS recommendations within the section which details what aspects should be included in a noise assessment.

**9. Landscape, Townscape and Visual:** *To protect and enhance landscape quality, townscape quality and to enhance visual amenity.*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have **no overall effect** on this objective. The NPS may result in consent given to nationally significant energy infrastructure projects that could potentially affect landscape and visual amenity. As a result, the NPS identifies national designations as the key landscape features to protect. This is in keeping with landscape guidance and the suggested approach in the NPS is in keeping with current guidelines. As a consequence, when compared to the existing baseline, the additional impact of the NPS is considered to be neutral on this objective.

**Landscape, Townscape and Visual:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 9.1:** The importance of highly valued landscapes outside nationally designated areas is not fully recognised by the NPS. The potential for highly valued local landscapes is recognised by the Government in paragraph 24 in PPS7 which considers the future role to be played by local landscape designations within the planning system. Whilst PPS7 advises that rigid local landscape designations should on the whole not be retained as a means of protecting local landscapes, it does provide for their retention within Local Development Documents (LDDs) when supported by robust justification.

**Response 9.1:** The draft NPS instructs the IPC to pay particular attention to local policies and designations for landscape; in addition, we would expect these to be covered in the local impact reports prepared by local authorities under the terms of the Act. However, it is appropriate that local designations do not enjoy the full protections appropriate to nationally designated landscapes; valuable though landscapes may be locally.

**10. Archaeology and Cultural Heritage:** *To protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have **no overall effect** on this objective. The NPS may result in consent given to energy infrastructure projects that could potentially affect heritage assets. However, the NPS provides guidance to the IPC and ensures that sufficient weighting is given to designated sites and to elements of setting that enhance the significance of designated heritage assets (and non-designated assets where there is significant archaeological interest). The NPS also gives due regard to the highest level of protection (World Heritage Sites) and advises that the IPC should not accept material harm to or removal of significance in relation to a heritage asset, unless it can be demonstrated that the material harm or removal of significance is outweighed by the wider social, economic and environmental benefits that will be delivered by the proposed development. Furthermore, the IPC may request applicants to undertake desk and field based assessment prior to application as part of an Environmental Impact Assessment and, where consent is given, to maximise opportunities to advance the understanding of the historic assets.

**Archaeology and Cultural Heritage:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 10.1:** A reference to the cumulative effects of national infrastructure on Archaeology and Cultural Heritage should be included.

**Response 10.1:** The NPS requires consideration to be given to cumulative impacts.

**11. Air Quality:** *To protect and enhance air quality on local, regional, national and international scale.*

The appraisal indicates that when compared to the existing baseline, the additional impact of the NPS is considered to have **no overall effect** on this objective. Overall, the Overarching NPS for Energy is unlikely to result in a significant deterioration in air quality, as the IPC is guided by the NPS to require appropriate levels of assessment to identify potential effects. Additionally, the IPC must be satisfied that development consent can be granted taking full account of environmental impacts and the NPS states that *this 'will require close cooperation with the Environment Agency and/or the pollution control authority, and other relevant bodies...'* (Section 4.10.7 of EN-1).

Furthermore, the NPS requires more weighting to be provided to air quality considerations where they may affect Air Quality Management Areas. In all cases, the NPS requires the IPC to take account of any legally binding air quality limits to minimise the severity of the emissions.

**12. Soil and Geology:** *To promote the use of brownfield land and, where this is not possible, to prioritise the protection of geologically important sites and agriculturally important land.*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have **no overall effect** on this objective. The NPS may result in consent given to energy infrastructure projects that could affect geological assets. However, the IPC is directed to take account of the effects that proposed energy infrastructure may have on existing, adjacent and proposed land uses, including effects on the agricultural quality of soils and on the planning significance of any affected development. The NPS also states that the environmental statement for the infrastructure project should set out the effects on international, national and locally designated sites of geological conservation and show how the project has taken advantage of

opportunities to conserve and enhance geological conservation interests. As a consequence, when compared to the existing baseline, the additional impact of the NPS is considered to be neutral on this objective.

**Soil and Geology:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 12.1:** The NPS does not mention specific geological designations for consideration by the IPC and the proposed mitigation measures are relatively limited.

**Response 12.1:** Reference to geological designations has been added. The section on biodiversity has been expanded to include geological conservation.

**13. Health and Well-Being:** *To protect and enhance the physical and mental health of the population.*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have **no overall effect** on this objective. The effects of the Overarching NPS for Energy on the significant aspects of health and well being are considered to be neutral.

Furthermore, where health and well being issues relate to certain impact areas (e.g. noise, air emissions, etc) they are addressed in these sections of the NPS.

**14. Equality:** *To encourage equality and sustainable communities.*

The appraisal indicates that when compared to the 'business as usual' baseline, the additional impact of the NPS is considered to have **no overall effect** on this objective. The Overarching NPS for Energy does not direct the IPC to determine the effectiveness of major energy infrastructure in reducing inequality; these are dealt with through other Government guidance and policies. As such the effects of the Overarching NPS for Energy on equality when compared to the existing baseline of planning and policy are considered to be neutral.

**Equality:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 14.1:** May wish to request an Equalities Impact Assessment (EqIA) as part of the application. This would go beyond current requirements and would be seen as positive.

**Response 14.1:** EqIA is not a statutory requirement for current energy applications. The applicability of EqIA may be considered on a case by case basis by the IPC.

**10. What are the cumulative and synergistic effects of the NPS?**

The SEA Directive, and its implementing regulations in the UK, requires that secondary, cumulative and synergistic effects are considered as part of the appraisal. These effects were considered in the commentary above.

A number of individual developments may give rise to cumulative effects when they are considered together (rather than in isolation). This is recognised by the Overarching NPS which states that *'the IPC should consider how the accumulation of effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place'* (Section 4.2.4 of EN-1). To support this, the NPS states that *'the Environmental Statement should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)'* (para 4.2.3 of EN-1).



## 11. What are the conclusions and key findings of the appraisal?

Current government policy promotes the delivery of low carbon energy. The Energy NPSs are expected to speed up the transition to a low carbon economy thus prompting a positive effect on the AoS climate change objectives because UK climate change commitments may be realised sooner than continuation under the current system.

Furthermore, the Energy NPSs contribute positively towards improving the vitality and competitiveness of the UK energy market. It provides greater clarity for developers, and so can help in terms of removing planning barriers associated with investment. Greater investment certainty would improve the UK's position for inward investment into energy infrastructure creating opportunities for skilled workers. The Energy NPSs/IPC intend to deliver faster and more transparent decisions on energy infrastructure which should improve the UK's security of supply. The UK economy will benefit from reliable energy supplies.

The development of new energy infrastructure, at the scale and speed required to meet the current need for development, will affect ecology, particularly as development may occur on previously undeveloped land. However the significance of these effects remain uncertain at the strategic level. Beyond this there are no significant differences identified between the existing consenting requirements ('business as usual') and what will be required under the IPC/NPS system.

In light of the assumptions (set out under **Section 7**), the Overarching NPS is envisaged to have a significant positive effect at the national policy level by contributing to the delivery of a low carbon economy and security of supply.

The Energy NPSs do not include site or project specific information so the AoS does not attempt to be site or project specific. Energy proposals brought forward under the Energy NPSs are liable to require project level, Environmental Impact Assessment and Habitats Regulations Assessment.

## 12. How will any effects be monitored?

It is a requirement of the SEA Directive to describe the measures envisaged concerning how the significant effects of implementing the NPS will be monitored. As ODPM Guidance<sup>6</sup> (ODPM, 2005) notes, '*it is not necessary to monitor everything, or monitor an effect indefinitely. Instead, monitoring needs to be focused on significant sustainability effects*'.

Monitoring should therefore be focussed upon significant effects that may give rise to irreversible damage, with a view to identifying trends before such damage is caused and significant effects where there was uncertainty in the AoS and where monitoring would enable preventative or mitigation measures to be undertaken.

The effects that should be monitored therefore include:

- Uncertain effects on Ecology (AoS Objective 2).

Monitoring measures have also been proposed for positive effects, these include:

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<sup>6</sup> *Practical Guide to the Strategic Environmental Assessment Directive* (ODPM, September 2005).

- Positive effects on Climate Change (AoS Objective 1);
- Positive effects on Resources and Raw Material (AoS Objective 3); and
- Positive effects on Economy and Skills (AoS Objective 4).

The measures are identified in the **Table 3** (these will be reviewed in light of comments on the significance of effects).

**Table 3 Potential Monitoring Measures**

AoS Objective	Monitoring Measure	Source(s) of Information
1. Climate Change	Emission of greenhouse gases Emission of CO <sub>2</sub> and greenhouse gases from Energy sector	Defra ( <a href="http://www.defra.gov.uk/environment/statistics/globalatmos">www.defra.gov.uk/environment/statistics/globalatmos</a> )
2. Ecology (Flora and Fauna)	Condition reports for designated sites	Natural England; Countryside Council Wales; Scottish Natural Heritage
3. Resources and Raw Materials	Industrial and commercial waste Energy Trends and Prices	Defra ( <a href="http://www.defra.gov.uk/environment/statistics/waste/wrindustry">www.defra.gov.uk/environment/statistics/waste/wrindustry</a> ) National Statistics ( <a href="http://stats.berr.gov.uk/uksa/energy/sa20090827.htm">http://stats.berr.gov.uk/uksa/energy/sa20090827.htm</a> )
4. Economy and Skills	Energy costs	National Statistics ( <a href="http://stats.berr.gov.uk/uksa/energy/sa20090827.htm">http://stats.berr.gov.uk/uksa/energy/sa20090827.htm</a> )

### 13. What are the next steps?

The AoS Report and the consultation on it fulfil the requirements of Stage C and D of the SEA process (see **Section 1.3**). This Non-Technical Summary of the AoS Report for the Overarching NPS provides a summary of the information presented in the AoS Report, which should be referred to for more detailed information.

This AoS Report will be presented for consultation alongside the draft Overarching NPS for Energy from 9 November 2009 to 22 February 2010. Feedback received from consultees in relation to the AoS will be documented and considered. The Overarching NPS for Energy may be amended and revisions to the AoS may be made. A Post Adoption Statement will be produced to summarise how the AoS and the consultation responses have been taken into account and how environmental considerations have been integrated into the Overarching NPS for Energy.



# Planning For New Energy Infrastructure

Appraisal of Sustainability for the draft National Policy Statement for Fossil Fuel Electricity Generating Infrastructure: Non-Technical Summary

November 2009



This document is the **Non-Technical Summary** of the **Appraisal of Sustainability (AoS)** Report produced as part of the appraisal undertaken to inform the **National Policy Statement (NPS) for Fossil Fuel Electricity Generating Infrastructure** (also referred to as EN-2).

The following sections explain what the NPS for Fossil Fuel Electricity Generating Infrastructure is, provide an outline of its content and describes the relationship of the NPS to the Overarching NPS and to the other technology-specific NPSs. An outline of the AoS process and the role of the AoS Report in this process is described on page 4. The findings and recommendations arising from the AoS are presented on page 13.

For more information on this public consultation and how to give us your views, please see the Consultation Document on the draft NPSs for energy.

## 1. What are the National Policy Statements for Energy Infrastructure?

The Planning Act 2008 changes the way in which nationally important planning decisions are made. It has established a new Infrastructure Planning Commission (IPC) to take planning decisions on nationally significant infrastructure. The IPC replaces the current process in which the decisions are taken by the Secretary of State from the appropriate Government Department. The IPC will determine planning applications on nationally significant infrastructure projects using planning policy and guidance set out within National Policy Statements (NPSs) for the infrastructure from the transport, energy, waste, and water sectors. Government Departments are responsible for preparing each of the NPSs. The Department of Energy and Climate Change (DECC) are responsible for preparing those related to energy infrastructure projects. These are:

- Overarching NPS for Energy (EN-1);
- Fossil Fuel Electricity Generating Infrastructure (EN-2);
- Renewable Energy Infrastructure (EN-3);
- Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4);
- Electricity Network Infrastructure (EN-5); and
- Nuclear Power Generation (EN-6).

Under the Act, the IPC will examine applications and make decisions on the following nationally significant energy development:

- Electricity generating stations generating more than 50 megawatts onshore and 100 megawatts offshore. This includes electricity generation from fossil fuels, renewables and nuclear power stations. For these types of infrastructure, the Overarching NPS (EN-1) in conjunction with the relevant technology-specific NPSs will be the primary basis for IPC decision making.
- Electricity lines at or above 132kV. For this infrastructure, EN-1 in conjunction with the Electricity Networks NPS (EN-5) will be the primary basis for IPC decision making.
- Large gas reception and Liquefied Natural Gas facilities and underground gas storage facilities (above limits set out in EN-4 and the Planning Act). For this infrastructure, EN-1 in conjunction with the gas supply infrastructure and pipelines NPS (EN-4) will be the primary basis for IPC decision making.
- Cross country oil and gas pipelines at or above the threshold of 16.093 kilometres/10 miles in length and certain licensed gas transporter pipelines (see EN-4 for all pipeline thresholds). For this infrastructure, EN-1 in conjunction with EN-4 will be the primary basis for IPC decision making.

NPSs collectively present a summary of government energy and climate policy, the national need for energy infrastructure and guidance to the IPC on how to assess the likely impacts of energy infrastructure. The Nuclear NPS is different in that it also assesses the potential suitability of sites for new nuclear stations and it is the subject of a separate AoS which has assessed those parts of the Overarching NPS which apply to nuclear stations.

## **2. What is the NPS for Fossil Fuel Electricity Generating Infrastructure (EN-2)?**

The NPS for Fossil Fuel Electricity Generating Infrastructure sets out the national policy for new fossil fuel electricity generating infrastructure. In combination with the Overarching NPS, it will be used to provide the primary basis for decisions made by the IPC regarding the granting of development consent for nationally significant energy infrastructure.

Developers will need to ensure that their applications for development consent are consistent with the requirements of relevant NPSs, as the IPC must decide the application in accordance with their content except in the circumstances set out in Section 104 of the Planning Act 2008.

The NPS for Fossil Fuel Electricity Generating Infrastructure will be issued by the Secretary of State for DECC. It applies to decisions for nationally significant energy projects (as described in Part 1 of the NPS) in England and Wales (and Scotland in the case of cross border oil and gas cross-country pipelines). The NPS for Fossil Fuel Electricity Generating Infrastructure will remain in force in its entirety unless withdrawn or suspended in whole or in part by the Government and will be subject to review by the Government in order to ensure that it remains appropriate for IPC decision making.

## **3. What is an Appraisal of Sustainability (AoS)?**

The Planning Act 2008 requires that ‘an appraisal of the sustainability of the policy set out in the statement’ is carried out. Section 5(5) of the Planning Act explains what the policy set out in statement may, in particular, contain<sup>65</sup>. It may:

- Set out, in relation to energy infrastructure, the amount, type or size of development which is appropriate nationally or for a specified area [Section 5(5)(a) of the Act]
- Set out criteria to be applied in deciding whether a location is suitable (or potentially suitable) for specified energy technologies [Section 5(5)(b) of the Act];
- Set out the relative weight to be given to specific criteria [Section 5(5)(c) of the Act];
- Identify locations which are potentially suitable or unsuitable for specified energy technologies [Section 5(5)(d) of the Act]; and
- Set out circumstances in which it is appropriate for a specified type of action to be taken to mitigate the impact of specified energy technologies [Section 5(5)(f) of the Act].

The AoS of the NPS for Fossil Fuel Electricity Generating Infrastructure has been undertaken in a manner that

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<sup>65</sup> Section 5(5) of the Planning Act. Available at [http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga\\_20080029\\_en.pdf](http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga_20080029_en.pdf) (Accessed 23/09/09)

incorporates the requirements of the European Directive on Strategic Environmental Assessment (SEA) (2001/42/EC) and the transposing UK Regulations<sup>66</sup>.

SEA is a statutory requirement following the adoption of European Community Directive 2001/42/EC which was transposed into UK legislation on the 20th July 2004 as Statutory Instrument No. 1633 – The Environmental Assessment of Plans and Programmes Regulations 2004. The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.

In addition to assessing the environmental effects required by the SEA Directive, the aim of the AoS is to identify, describe and evaluate the likely significant social and economic effects of implementing the NPS. Each AoS has been carried out at the same time as the development of the NPS and has therefore helped to inform that NPS. The NPS contains potential measures to mitigate significant adverse effects. All the NPSs (EN-1 to EN-6) have been subjected to an AoS<sup>67</sup>.

An overview of the key stages of the AoS process is presented below.

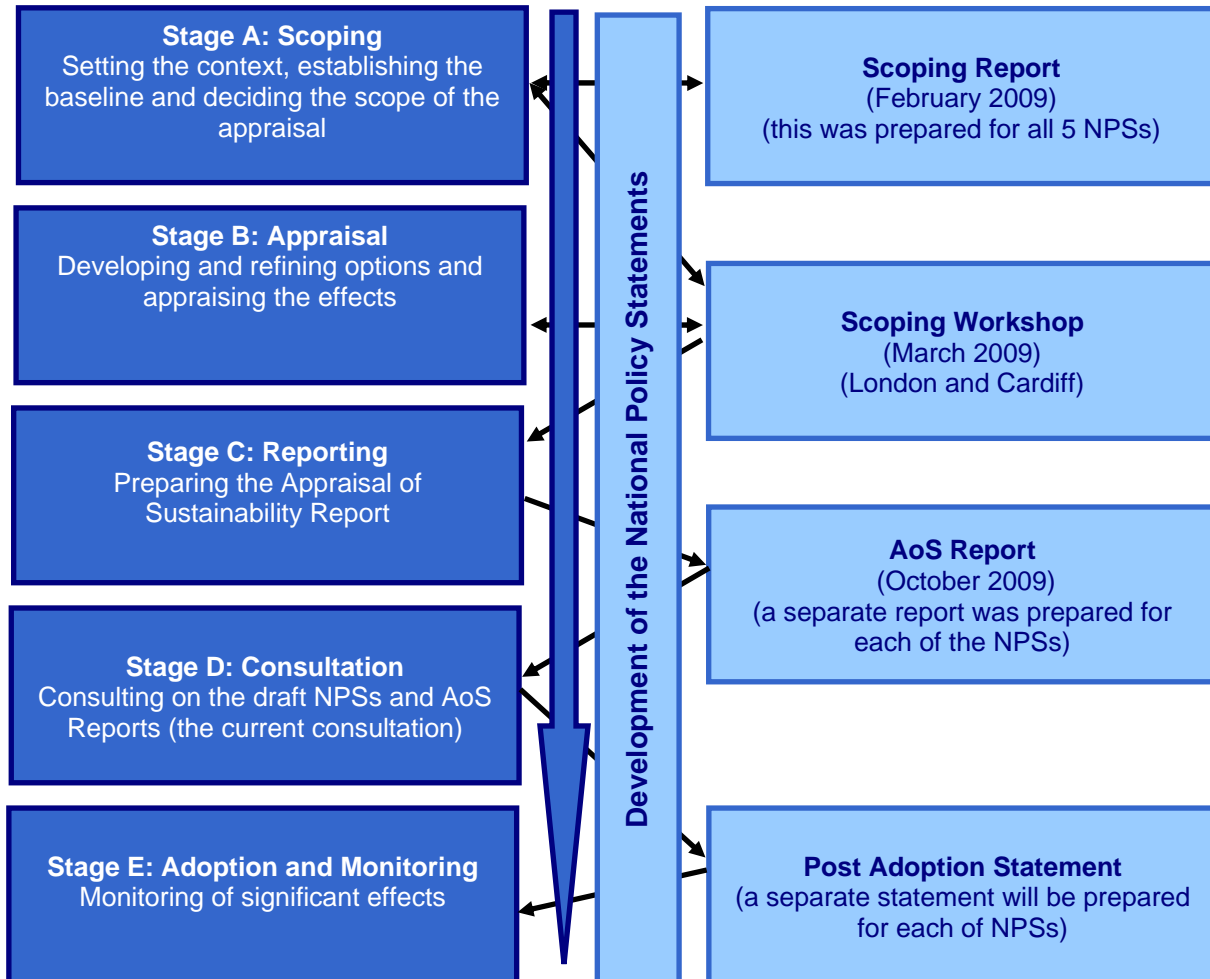
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<sup>66</sup> *The Environmental Assessment of Plans and Programmes Regulations 2004 (S.I. 2004/1633). Note: These Regulations apply when the plan or programme applies to England and any other part of the UK.*

<sup>67</sup> *In addition to the work on the NPSs (including their AoS), DECC has also completed an SEA for Offshore Energy, is undertaking a feasibility study for tidal range power in the River Severn, which includes an SEA, and is beginning a feasibility study for wave and tidal projects around English and Welsh territorial waters.*

## Appraisal Process

## Key Outputs



The AoS process began in early 2009 and reflects national guidance on SEA practice<sup>68</sup>. A Scoping Report (Stage A) was consulted on by statutory consultees in February and March 2009. A summary of the results of this consultation are presented in **Annex C** of the Overarching Energy AoS Report and the consultees' responses have been considered within that AoS and also within the AoS for the NPS for Fossil Fuel Electricity Generating Infrastructure. From March through to September options were developed and refined and the effects of the NPSs were appraised (Stage B). The AoS Reports were prepared during this time (Stage C) before being consulted on (Stage D, the current consultation). Stage E, the final stage will involve setting the measures for monitoring significant impacts.

<sup>68</sup> ODPM (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*.

#### 4. What relationship does the NPS for Fossil Fuel Electricity Generating Infrastructure have with other policies plans and programmes?

The AoS reviewed other relevant policies, plans, and programmes that could influence the NPS for Fossil Fuel Electricity Generating Infrastructure, to identify how the NPS could be affected by the other policies, or how it could contribute to, or hinder, the achievement of any environmental or sustainability targets set out in these policies. The review also helped to support the completion of the social, economic and environmental baseline and aid the determination of the key issues. The full review is provided in **Annex B** of the Overarching Energy AoS Report.

The NPS for Fossil Fuel Electricity Generating Infrastructure reflects European and International requirements where these are set out in legislation (for example, the UK Climate Change Act and other government agreements on climate change being key influences on the development of the NPSs).

#### 5. Which sustainability topics has the NPS for Fossil Fuel Electricity Generating Infrastructure been appraised against?

EN-2 has been appraised against 14 topic areas. All of the topics identified in the Scoping Report were ‘scoped in’ (i.e. considered to be relevant to the appraisal<sup>69</sup>). The topics are identified below and are linked with the AoS Objectives identified in **Table 1** (page xi).

1. Climate Change	6. Water Quality & Resources	11. Air Quality
2. Ecology (Flora and Fauna)	7. Traffic and Transport	12. Soil and Geology
3. Resources and Raw Materials	8. Noise	13. Health and Well-Being
4. Economy and Skills	9. Landscape, Townscape and Visual	14. Equality
5. Flood Risk	10. Archaeology and Cultural Heritage	

The baseline is common to all of the non-nuclear NPSs (EN-1 –EN-5). To avoid repetition, the baseline material is presented in **Annex F** of the Overarching AoS Report and referenced in each of the non-nuclear AoS reports (EN-2 to EN-5).

#### 6. What reasonable alternatives for implementing the NPS for Fossil Fuel Electricity Generating Infrastructure were identified and appraised?

In line with the principles of good policy making and the requirements of the SEA legislation, a range of reasonable alternatives for the NPS were considered. These alternatives should be realistic, feasible and genuine. Within the strategic framework set by Government, the energy sector relies on private sector investment. In general, the UK Government does not therefore specify the technologies that should be within the energy mix or what their volumes should be (with the exception of renewables where there are specific EU targets although not at the level of individual renewables technologies).

<sup>69</sup> Following consultation on the Scoping Report, *noise* and *landscape features* were scoped back into the appraisal (i.e. they were originally anticipated not to be relevant to a high-level appraisal but following comments this was reconsidered and they were included).

The objective in drafting the non-nuclear NPSs has been, for the most part, to reflect and clarify existing policy and practice of the Secretary of State in consenting nationally significant energy infrastructure. The intention is not to use the non-nuclear NPSs to change significantly the underlying policies against which applications are assessed (or the “benchmark” for what is, or is not, an acceptable nationally significant energy development). Therefore, the non-nuclear NPSs are based on established energy and climate change policies and the focus of their content is the manner in which energy infrastructure that flows from those policies should be controlled (reflected in the guidance on the key issues that the IPC should take into account in its decision making). Where there have been policy developments these have been conducted through separate processes, such as the consultation on the framework for the development of clean coal, and the NPS reflects those separate developments.

As a result, the following strategic-level reasonable alternatives were considered:

1. No NPS - “the effects of No NPS” to mean the effects of constructing energy infrastructure under a business as usual scenario where there is no NPS to set the framework for development consents;
2. An NPS that only set out high level Government energy policy;
3. An NPS that a) set out high level Government energy policy and b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments; or
4. An NPS that a) set out high level Government energy policy, b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments and c) set out guidance on how impacts of energy developments could be avoided or mitigated.

**What ‘No NPS’ means:** Government does not draft or designate an NPS for energy infrastructure. This is the “business as usual” scenario; energy companies would still apply for development consent for new nationally significant energy infrastructure to the IPC, which would consider a planning application and make a recommendation to the Secretary of State instead of making the decision themselves. However, in the absence of a comprehensive statement of national need and specific guidance on the application of energy policy to development consents that are provided by the NPS, the IPC would have few benchmarks against which to make recommendations. The IPC would have to attempt to interpret Government policy, but with no guarantee that their interpretation concurred with Government intentions. The IPC might fail to consider wider policy issues.

New nationally significant energy infrastructure could still be built but it is doubtful that some of the benefits of the new consenting regime would be realised.

Further, where there is no designated NPS and the IPC therefore acts as recommending body to the Secretary of State, the IPC should report to the Secretary of State within nine months of accepting an application. The Secretary of State has a further three months to make a decision to grant consent. This means that development consent should be granted in 12 months. However, since the IPC has the power to extend the time it is given to examine the application, it is more likely to need to extend its timetable in the absence of a designated NPS to allow time to consider the questions of need, the suitability of a location or alternative locations without specific guidance on particular issues. It is therefore highly likely that development consent would take longer than if an NPS were designated. This could result in delays in the planning process which would increase uncertainty for energy companies and make new nationally significant energy infrastructure a less attractive option.



The preferred option is Option 4 as this enables the clearest guidance to be given to the IPC on the circumstances in which different forms of energy development will be acceptable and does so in a way that is transparent to other interested parties. This option also helps to ensure that significant effects on the environment, economy and society are duly considered in the decision making process (which may be overlooked or not considered in Option 2). Furthermore, Option 4 includes details of avoidance and mitigation measures that may be adopted by the applicant or the IPC thus enabling the minimisation of potentially detrimental effects. The inclusion of such information is considered to be beneficial as it enables the applicant to see what effects the IPC will be considering and the types of mitigation measures that may be relevant.

The site-specific approach has been undertaken for the Nuclear NPS only, owing to the public interest in where nuclear is sited and in accordance with Parliamentary commitments. However, the Government does not consider it appropriate to use the energy NPSs to attempt at a national level to identify and prescribe specific locations for all of the technologies referred to in the suite of Energy NPSs. Given the range and complexity of technical, legal, environmental, geological and commercial siting issues that are relevant to each of the non-nuclear technologies, a strategic search would significantly delay the publication of the non-nuclear NPSs to the detriment of the timely deployment of new electricity infrastructure (given the urgency and need as set out in the Overarching Energy NPS). In any event, it would be very difficult to accurately predict the number of sites/routes that would be needed. For these reasons, it was not considered a reasonable alternative for the NPS to identify the specific sites for the development of energy infrastructure.

The other alternatives, are identified below in **Table 1** with reasons for them not being included with the NPS identified by DECC.

**Table 1 Alternative Approaches to Implement the NPS**

Alternative Approaches to Implement the NPS	Response to the alternatives (provided by DECC)
<p>The NPS should specify sites for new fossil fuel stations, in particular to facilitate the development of CCS clusters around the UK.</p>	<p>Carbon Capture and Storage (CCS) has yet to be demonstrated on a commercial scale so it would be premature to determine regional capacity for CCS without further understanding the technical and economic viability of CCS and demand for CCS clusters.</p> <p>CCS clusters could develop, in time, around large carbon emitting plants (not just those listed in EN-2) with captured emissions from several plants being transported and stored using a network of common infrastructure. However, the commercial viability of such clusters would not be a matter for the IPC to consider. It would not be reasonable, therefore, for the NPS to specify the sites where development should take place.</p>

## 7. What aspects of the draft NPSs were appraised?

Projects consented under the IPC/NPS process will clearly have a number of direct, indirect and cumulative effects. The AoS identifies and assesses those effects arising as a result of the NPS and this is considered against the baseline (i.e. what’s happening now and what’s likely to happen in the future). **In this way the appraisal assesses the effects of the differences between the current consenting regime (‘business as usual’) and the IPC/NPS process.**

The likely effects of the NPS have been considered across a range of geographic scales (including UK, regional and local). However, with the exception of the Nuclear Power Generation NPS, the Energy NPSs do not prescribe the location for new infrastructure projects and there are limitations in terms of how far appraising effects at a non-spatially specific level can be taken. This is not to exclude the possibility that the effects could be significant; rather, that it will often only be possible to judge whether such effects are significant at the project level.

It is anticipated that relevant receptors and the assessment of project-level effects will be given full consideration at the project level, through for example Environmental Impact Assessment (EIA), Habitats Regulations Assessment (HRA) and other statutory and non-statutory assessments.

The following assumptions have then been used to aid the understanding of the influence of the NPS on the outcome of planning decisions. It is intended that the IPC/NPS process:

- Will help to ensure that decisions are taken consistently, and will increase certainty (and efficiency) for investors.
- Will add greater certainty to the delivery of nationally significant energy infrastructure by making the guidance on decision-making clearer and more transparent.
- Will lead to faster decisions which may lead to more projects being built in the short-term. Faster decisions will improve the UK’s security of supply. The guidance to the IPC on the overall level of need for energy infrastructure is relevant in terms of the IPC’s understanding of the scale of need when considering individual applications.
- Will not have a significant effect on the proportion or type of energy generating facilities being submitted for consent – i.e. the NPSs focus on the factors that are considered during the decision

making process for applications. They do not determine how many applications or the types of applications submitted – this is left to the market to decide or is influenced by Government policy delivered through other means to ensure new infrastructure is available quickly enough to meet demand.

- The Government will monitor the infrastructure to ensure that goals are being achieved and, if necessary, alter the signals it gives to the market to drive development.

These effects have then been used as the basis to assess the implications of the NPS for future planning decisions. The AoS focuses on the material differences to sustainability against the existing planning system for energy infrastructure.

## 8. What approach was taken to the appraisal?

The appraisal of the NPS for Fossil Fuel Electricity Generating Infrastructure has been undertaken using an objectives-led approach. The baseline information, the review of plans and programmes and the key issues identified were used to develop 14 AoS objectives (presented in **Table 2**). Each objective is supported by a series of guide questions (and these are identified in **Section 3.4** of the AoS for EN-1). The AoS objectives cover all of the topics that the appraisal is required to include information on (as set out in the SEA Directive).

The NPS for Fossil Fuel Electricity Generating Infrastructure has then been appraised in terms of the extent to which it contributes towards achieving the AoS objective (e.g. Biodiversity) when considered against the baseline set by the existing planning environment. The 'guide questions' have been used to assist the appraisal of the potential effects in a qualitative manner, ensuring consideration is given to relevant influencing factors.

**Table 2 AoS Objectives**

AoS Objective	SEA Topic Requirement
1. <b>Climate Change:</b> To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.	Climate Change
2. <b>Ecology (Flora and Fauna):</b> To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.	Fauna, flora and biodiversity
3. <b>Resources and Raw Materials:</b> To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.	Material assets
4. <b>Economy and Skills:</b> To promote a strong and stable economy with opportunities for all.	Material assets
5. <b>Flood Risk:</b> To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring it is resilient over its lifetime without increasing risks elsewhere.	Climatic factors
6. <b>Water Quality:</b> To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).	Water
7. <b>Traffic and Transport:</b> To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.	Population
8. <b>Noise:</b> To protect both human and ecological receptors from disturbing levels of noise.	Population
9. <b>Landscape, Townscape and Visual:</b> To protect and enhance landscape quality, townscape quality and to enhance visual amenity.	Landscape
10. <b>Archaeology and Cultural Heritage:</b> Protect and, where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.	Cultural heritage, including architectural and archaeological heritage
11. <b>Air Quality:</b> To protect and enhance air quality on local, regional, national and international scale.	Air
12. <b>Soil and Geology:</b> To promote the use of brownfield land, and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.	Soil
13. <b>Health and Well-Being:</b> To protect and enhance the physical and mental health of the population	Human health
14. <b>Equality:</b> To encourage equality and sustainable communities.	Human health

For each of the objectives against which the NPS has been appraised, the score given was one of the following:

- **Significant Positive:** A very strong positive effect of the proposed NPS on the AoS Objective
- **Minor Positive:** A minor positive effect of the proposed NPS on the AoS Objective
- **No Overall effect:** No overall effects arising from proposed NPS on the AoS Objectives although this may include some very minor or isolated effects (where this is the case these are identified)
- **Minor Negative:** A minor negative effect of the proposed NPS on the AoS Objective
- **Significant Negative:** A very strong negative effect of the proposed NPS on the AoS Objective
- **Uncertain:** An uncertain effect of the proposed NPS on the AoS Objective
- **No Relationship:** There is no relationship between the proposed NPS and the AoS Objective.

This is in line with the SEA Directive which requires the identification, description and evaluation of the likely significant effects. In predicting and evaluating the effects of the NPS for Fossil Fuel Electricity Generating

Infrastructure, all effects have been considered, including those that are minor or non-significant, but which could combine to create a significant cumulative or synergistic effect.

## 9. What were the key significant effects (when considered against the existing consenting regime)?

This section presents a summary of the appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS against the 14 objectives (which were identified in the Scoping Report). The appraisal compared the existing 'business as usual' scenario (see **Annex F** of the Overarching AoS Report) with what would be achieved under the NPS.

Entec provided on-going commentary on the sustainability effects of the emerging NPSs. The boxes presented under each of the objectives identify some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

### Summary of Appraisal

**Table 3** summarises the appraisal of the EN-2.

**Table 3 Summary of the appraisal of EN-2**

AoS Objective	Assessment	Comment
<b>1. Climate Change:</b> To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.	?	Whilst EN-2 (in conjunction with EN-1) does not introduce new policy in relation to CHP, CCR and CCS, the NPSs intend to deliver faster and more transparent decisions on current government policy. However, its effect is dependent on CCS being demonstrated as a proven technology which remains uncertain at this stage.
<b>2. Ecology (Flora and Fauna):</b> To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.	?	In light of the outcome of the HRA carried out in line with the Habitat's Directive (92/43/ECC), the effects on ecology from EN-5 are considered to be uncertain. This is also the case for ecology on sites outside the Natura 2000 network as the need for low carbon energy infrastructure is likely to necessitate development on previously undeveloped areas.
<b>3. Material Assets and Resource Use:</b> To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to material assets and resource use, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 could be considered not to be significant against this objective.
<b>4. Economy and Skills:</b> To promote a strong and stable economy with opportunities for all.	+ +	There are significant positive economic benefits associated with the implementation of proven CCS technologies, which the implementation of EN-2 could expedite.
<b>5. Flood Risk:</b> To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring it is resilient over its lifetime without increasing risks elsewhere.	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to flood risk, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be

AoS Objective	Assessment	Comment
		significant against this objective.
<b>6. Water Quality:</b> To protect and enhance surface (including costal) and groundwater quality (including distribution and flow).	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to water quality, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be significant against this objective.
<b>7. Traffic and Transport:</b> To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to traffic and transport, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be significant against this objective.
<b>8. Noise:</b> To protect both human and ecological receptors from disturbing levels of noise.	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to noise, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be significant against this objective.
<b>9. Landscape, Townscape and Visual:</b> To protect and enhance landscape quality, townscape quality and to enhance visual amenity.	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to landscape townscape and visual, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be significant against this objective.
<b>10. Archaeology and Cultural Heritage:</b> Protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to archaeology and cultural heritage, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be significant against this objective.
<b>11. Air Quality:</b> To protect and enhance air quality on local, regional, national and international scale.	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to air quality, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be significant against this objective.
<b>12. Soil and Geology:</b> To promote the use of brownfield land and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to soil and geology, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be significant against this objective.
<b>13. Health and Well-Being:</b> To protect and enhance the physical and mental health of the population	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to health and wellbeing, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be significant against this objective.
<b>14. Equality:</b> To encourage equality and sustainable communities.	0	EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to equality, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 is considered not to be

AoS Objective		Assessment	Comment	
			significant against this objective.	
Score Key:	Significant (Major) Positive ++	Significant (major) negative --	no overall effects <b>0</b>	Uncertain <b>?</b>
	Minor Positive +	Minor Negative -		

The following provides more detailed information on the findings of the assessment.

## Climate Change

**Objective:** *To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** There are existing legislative requirements (Section 36 of the Electricity Act (1989)) relating to the incorporation of CHP technology in the design of new thermal combustion generating stations. EN-2 does not alter this requirement but does re-iterate the need for applicants to demonstrate that CHP has been considered (as described in EN-1). EN-2 also re-iterates the requirement that all applications for combustion plants at or over 300 MW must be CCR (as described in EN-1). Once CCS is proven, then CCS will be retrofitted to those plants which are CCR. As Government policy, this will happen regardless of EN-2, which does not itself enforce new policy.

EN-2 therefore echoes EN-1 in specifying that it shall be a condition of development consent for any new coal fired power station that construction may not begin until the IPC is satisfied that the requirements (which are described in EN-1) for operating with CCS have been fully met

Whilst EN-2 (in conjunction with EN-1) does not introduce new policy in relation to CHP, CCR and CCS, the NPSs intend to deliver faster and more transparent decisions on current government policy. As a result, the IPC may consent new fossil fuel, CCR electricity generating stations at a faster rate than at present under the existing planning system (although the net number of new fossil fuel power stations will remain the same).

It is assumed that over the coming years there will be significant closure of existing generating capacity, particularly to 2020, as a result of tightening environmental regulation and aging power stations. However, there will be a need to build new fossil fuel power stations in order to continue to meet peak demand which is predicted to remain at around 60GW by 2020. Depending on how soon CCS can be proven to be economically and technically viable, this may make the achievement of this objective more likely by resulting in significant carbon reductions as CCS has the potential to capture upto 90% of carbon emissions from coal power stations.

*The appraisal has indicated that the effects of EN-2 on this objective are **uncertain**, but that there is the potential for a significant positive effect.*

## Ecology

**Objective:** *To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.*



**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** The generic guidance contained within EN-1 recognises existing national and international designations for wildlife and habitat protection along with a range of potential effects and mitigation measures. EN-1 states that the applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests. It also states that the applicant is expected to have included appropriate mitigation measures as an integral part of the proposed development and to demonstrate opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within site landscaping proposals.

EN-2 does not provide any additional guidance to the IPC on impacts associated with ecology in relation to the construction of new fossil fuel electricity generating stations. However, it is considered that there are likely to be specific biodiversity effects, due to the likelihood that new power stations will be built in coastal or estuarial locations and have a large footprint. Coastal and estuarial sites are more likely to provide niche habitats for example sand dunes, salt marshes and mudflats, which support highly specialised species which are particularly vulnerable to any loss of habitat or disturbance. There may also effects on ecology resulting from the requirement to abstract and discharge large volumes of cooling water and the thermal emissions in cooling water may have adverse ecological effects, particularly in enclosed estuary areas.

The effects of the adoption of CCS will include CO<sub>2</sub> pipeline routes and there will be a need for the IPC and applicant to give consideration to the ecological sensitivity of any proposed location due weight in the site-selection and design process. In particular, pipelines to marine CO<sub>2</sub> storage areas will cross the coastal zone, which may include protected wildlife habitats that are designated at national or international level. Construction will need to include measures to mitigate adverse effects during construction and to restore habitats afterwards. In the case of European wildlife sites, Habitats Regulations Assessment will be required and measures will need to be taken to avoid or compensate for adverse effects on site integrity. Installation methods such as horizontal directional drilling can minimise negative effects on wildlife by avoiding sensitive sites.

In the long-term the introduction of CCS has the potential to reduce carbon dioxide emissions which in turn will help to reduce the effects of climate change on ecology. Thus, providing adverse ecological effects at a project level are avoided or fully mitigated or compensated, the ecological objective will be met.

If a fossil fuel plant is consented, even with CCS, the emission of nitrogen oxides (NO<sub>x</sub>), which are released as part of the process are a significant contributor to eutrophication and acidification of the environment.

The above potential effects could occur (depending on the nature of the plant proposed); and would also be captured by the generic requirements of EN-1. EN-2 (in conjunction with EN-1) does not set out any specific additional requirements or identify any specific impacts relating to ecology, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 could be considered not significant against this objective.

However, it is also considered that there will be uncertain effects on ecology as a result of EN-2 in conjunction with EN-1, as the need for fossil fuel generating infrastructure set out by the NPSs is likely to necessitate development on previously undeveloped sites. This is consistent with the findings of the assessment against the requirements of Article 6 of the Habitats Directive (92/43/EEC) (see **Section 3.7** of the AoS for EN-1), that states that ‘the guidance contained within EN-1 recognises international designations for wildlife and habitat protection along with a range of



potential effects and mitigation measures, however, the possibility of significant effects upon one or more European sites from future nationally significant energy infrastructure cannot be excluded at the NPS level’.

*The appraisal indicated that this will have **uncertain effects** on this objective.*

## Material Assets and Resource Use

**Objective:** *To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** Material assets and resource use issues are not directly covered in EN-1. However, EN-1 does address the issue of waste management and seeks to ensure that all development utilises effective waste management practices consistent with the waste management hierarchy.

As set out above, whilst EN-2 does not introduce new policy in relation to requirement for CCS, it will be one of the key means of ensuring that new coal fired power stations will operate with CCS in the future and there are likely to be associated increases in resources and raw materials used for CCS.

CCS technology requires more coal per MW of electricity generated because the process of stripping CO<sub>2</sub> from combustion gasses in itself requires energy (estimated to be 10-40% of what would otherwise be distributed). This process therefore uses more resources compared to conventional fossil fuel electricity generation (although it will help to deliver clean energy). It is not considered that this will have a significant adverse effect on this objective when compared to the current system, as CCS will be a requirement irrespective of EN-2 and even if new fossil fuel power stations are constructed sooner as a result of the NPSs, the resources and raw materials required to construct and operate CCS will not change over the lifetime of the project.

EN-2 also sets out residue management effects specific to fossil fuel technology including the removal and disposal of furnace bottom ash and fine pulverised ash and specifies that the applicant should demonstrate how the waste management hierarchy has been applied to consideration of residue management.

EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to material assets and resource use, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-2 could be considered not significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Economy and Skills

**Objective:** *To promote a strong and stable economy with opportunities for all?*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** EN-2 does not set out any specific requirements or identify any specific impacts relating to the economy and skills, therefore requirements in relation to and mitigation of any effects on the economy and skills are as addressed in EN-1.

As set out above, although EN-2 does not introduce new policy in relation to CCS, it will be one of the key means of realising this requirement in the future. There are likely to be significant economic benefits associated with the requirement for CCS. It is expected that there will be significant capacity beneath the North Sea to store carbon emissions and predictions are that an industry offering carbon storage to the mainland could create as many jobs as North Sea oil and contribute £5bn a year to the UK economy<sup>70</sup>. Developers are encouraged to bring forward applications earlier than they otherwise would (and/or apply from more schemes, depending on commercial decisions) owing to clarity and definite timescales.

Whilst EN-2 will not alter the volume of projects coming forward (compared to the present), it is likely to speed up the determination process (the impact assessment references an improvement in application times) – so whilst there is no net change in the employment opportunities created (when compared to the current situation), the assumption that it will expedite determination, means that these employment opportunities are likely to be created when the economy most needs it – i.e. during the years when it is emerging from a recession. As a result, the significance of such effects and their value to society will be greater than in a period of high employment.

*The appraisal indicated that there will be **significant positive effects** on this objective.*

## Flood Risk

**Objective:** *Does the NPS avoid an increase in flood risk (including coastal flood risk) and avoid siting flood sensitive infrastructure in areas of high flood risk?*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** EN-2 does not set out any specific requirements or identify any specific impacts relating to flood risk although it is recognised that fossil fuel generating stations are likely to be proposed for coastal or estuarine sites and therefore applicants should in particular set out how the proposal would be resilient<sup>71</sup> to increased risk from storm surge. Generic guidance on flood risk is contained within EN-1 which sets out that the approach the IPC will take to assessing whether any application that comes forward is permissible in terms of flood risk and will be in accordance with the principles of Planning Policy Statement (PPS) 25: Development and Flood Risk. This will seek to ensure that proposed development does not result in increased flood risk, that it would be safe from flooding given the prevailing flood risk and where possible reduces flood risk overall.

Notwithstanding these requirements, there may be **exceptional** instances, where an increase in flood risk cannot be avoided or mitigated and in these circumstances, EN-1 states (in Section 4.24) that ‘the IPC may grant consent if it is satisfied that the increase in flood risk is acceptable and taking account of the benefits of, including the need for, nationally significant energy infrastructure as set out in Part 3...’. However, there are **exceptional** instances where under the present planning system, projects that will result in an increased flood risk have still been

<sup>70</sup> <http://www.guardian.co.uk/science/2009/sep/08/carbon-capture-north-sea>

<sup>71</sup> *Flood-resilient buildings are designed to reduce the consequences of flooding and facilitate recovery from the effects of flooding sooner than conventional buildings. This may be achieved through the use of water-resistant materials for floors, walls and fixtures and the siting of electrical controls, cables and appliances at a higher than normal level. If the lowest floor level is raised above the predicted flood level, consideration must be given to providing access for those with restricted mobility. In considering appropriate resilience measures, it will be necessary to plan for specific circumstances and have a clear understanding of the mechanisms that lead to flooding and the nature of the flood risk by undertaking a FRA. (PPS:25 Annex G, G8).*

consented. EN-1 therefore represents a continuation of the approach under the current planning system and does not significantly increase or decrease flood risk.

EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to flood risk, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Water Quality

**Objective:** *To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** In addition to the generic water quality effects, guidance and requirements set out in EN-1, EN-2 presents water quality (and resources) effects specific to fossil fuel technology on aquatic flora and fauna and specifically fish, which may result from discharging water at a higher temperature, reducing flow in water courses due to abstraction and the chemical anti-fouling treatment of water for use in cooling systems. Suggested mitigation measures (in addition to measures set out in EN-1) are that the design of the cooling system should include intake and outfall locations to avoid or minimise adverse impacts, and that specific measures should be taken to minimise fish impingement and/or entrainment and excessive heat from discharges to receiving waters.

However, the IPC would only consider the effects identified above as part of determining a planning application for a specific project. EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific water quality impacts, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Traffic and Transport

**Objective:** *To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** EN-1 sets out generic impacts, guidance and requirements in relation to traffic and transport. EN-2 does not provide any additional guidance, set out any specific requirements or identify any specific impacts in relation to the construction of new fossil fuel electricity generating stations. Furthermore, EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to traffic and transport, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Noise

**Objective:** *To protect both human and ecological receptors from disturbing levels of noise.*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** In addition to the generic noise effects, guidance and requirements set out in EN-1, EN-2 presents noise (and vibration) effects specific to fossil fuel technology, which may result from, for example, the milling of coal, delivery of fuel and materials to the site and the operation of gas/steam turbines and externally sited air-cooled condensers.

However, the IPC would only consider these effects as part of determining a planning application for a specific project. EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific noise impacts, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Landscape, Townscape and Visual

**Objective:** *To protect and enhance landscape quality, townscape quality and to enhance visual amenity.*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** EN-1 sets out generic landscape and visual impacts, guidance and requirements. EN-2 presents landscape and visual effects specific to fossil fuel technology, which are likely to result from the need for large structures such as turbine and boiler halls, exhaust gas stacks, storage facilities, cooling towers and water processing plant. There is also mention of the need for night time lighting which may affect visual amenity and rural tranquillity.

However, the IPC would only consider these effects as part of determining a planning application for a specific project. EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific landscape and visual impacts, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Archaeology and Cultural Heritage

**Objective:** *Protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** EN-1 sets out generic impacts, guidance and requirements in relation to archaeology and cultural heritage. EN-2 does not provide any additional guidance, set out any specific requirements or identify any specific impacts in relation to the construction of new fossil fuel electricity generating stations. Furthermore, EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to archaeology and cultural heritage, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Air Quality

**Objective:** *To protect and enhance air quality on local, regional, national and international scale.*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** In addition to the generic air quality effects, guidance and requirements set out in EN-1, EN-2 presents air quality effects specific to fossil fuel technology, relating to the likely emission of nitrogen oxides and sulphur oxides. Suggested mitigation measures (dependant on the type and design of generating station) are flue gas desulphurisation and Selective Catalytic Reduction to reduce nitrogen oxides, however it is recognised that these will have additional adverse noise and dust effects. It also sets out how the release of dust may result from the transport and handling of fuel, materials and waste. A range of mitigation measures for dust effects include enclosed storage and conveyors, landscaping to reduce wind blown dust, dust suppression systems and the control of vehicle and plant movements to reduce grinding of materials into fine dust.

The IPC should therefore be satisfied that any adverse effects of mitigation measures have been considered in the Environmental Statement.

However, the IPC would only consider these effects as part of determining a planning application for a specific project. EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to air quality, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Soil and Geology

**Objective:** *To promote the use of brownfield land and, where this is not possible, to prioritise the protection of geologically important sites and agriculturally important land.*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** EN-1 sets out generic impacts, guidance and requirements in relation to geological conservation and recognises existing regional and local designations for protecting important geological sites. The IPC is also directed to take account of the potential effects any proposed energy infrastructure may have on existing, adjacent and proposed land uses, which is anticipated to include consideration of the agricultural quality of soils.

EN-2 does not provide any additional guidance, set out any specific requirements or identify any specific impacts on soil and geology in relation to the construction of new fossil fuel electricity generating stations. Furthermore, EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to soil and geology, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Health and Well-Being

**Objective:** *To protect and enhance the physical and mental health of the population*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** EN-1 recognises that energy production has the potential to impact on the health and well-being of the population. However, EN-1 also sets out that existing safety and environmental regulatory mechanisms e.g. relating to noise and air emissions will limit the environmental exposure of the population. Where health and well-being issues relate to certain impact areas (i.e. noise, dust and air emissions) these are addressed in these sections of EN-1.

EN-2 does not set out any specific requirements or identify any specific impacts relating to health and well-being but also addresses health and well-being issues relating to certain impact areas in the relevant sections.

EN-2 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to health and well-being, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Equality

**Objective:** *To encourage equality and sustainable communities.*

**Appraisal of the Fossil Fuel Electricity Generating Infrastructure NPS:** Neither EN-1 or EN-2 set out any specific requirements or identify any specific impacts relating to equality. As such, the IPC are not directed to take equality issues into account in determining applications for new fossil fuel electricity generating power stations and the NPSs do not set out any specific additional requirements or identify any specific impacts relating to equality, above those which are already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## 10. What are the cumulative and synergistic effects of the NPS?

The SEA Directive, and its implementing regulations in the UK, requires that secondary, cumulative and synergistic effects are considered as part of the appraisal. These effects were considered in the commentary above.

A number of individual developments may give rise to cumulative effects when they are considered together (rather than in isolation). This is recognised by the Overarching NPS which states that *'the IPC should consider how the accumulation of effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place'* (para 4.2.4). To support this, the NPS states that *'the Environmental Statement should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)'* (para 4.2.3).

## 11. What are the conclusions and key findings of the appraisal?

The NPS, in conjunction with EN-1, is likely to improve business and investor confidence in fossil fuel generating infrastructure projects. However, beyond this there are no significant differences identified between existing



consenting requirements and what will be required under the IPC/NPS system. EN-2 has neither set out additional, more stringent requirements for applications, in terms of identifying, assessing or mitigating the effects nor has it relaxed any requirements. Therefore, the NPS is not considered to result in any significant effects at the national policy level when compared to the existing consenting controls. However, at the individual project level there is the potential for significant effects depending on the nature of the infrastructure development that comes forward for determination by the IPC.

## 12. How will any effects be monitored?

It is a requirement of the SEA Directive to describe how the measures envisaged concerning how significant effects of implementing the NPS will be monitored. As ODPM Guidance<sup>72</sup> (ODPM, 2005) notes, *'it is not necessary to monitor everything, or monitor an effect indefinitely. Instead, monitoring needs to be focused on significant sustainability effects'*.

Monitoring should therefore be focussed upon significant effects that may give rise to irreversible damage, with a view to identifying trends before such damage is caused and significant effects where there was uncertainty in the AoS and where monitoring would enable preventative or mitigation measures to be undertaken.

The effects that should be monitored therefore include:

1. Uncertain effects on Climate Change (AoS Objective 1);
2. Uncertain effects on Ecology (AoS Objective 2).

Monitoring measures have also been proposed for positive effects, these include:

3. Positive effects on Economy and Skills (AoS Objective 4).

The measures are identified in the Table 3 (these will be reviewed in light of comments on the significance of effects).

**Table 3 Potential Monitoring Measures**

AoS Objective	Monitoring Measure	Source(s) of Information
1. Climate Change	Emission of greenhouse gases Emission of CO <sub>2</sub> and greenhouse gases from Energy sector	Defra ( <a href="http://www.defra.gov.uk/environment/statistics/globalatmos">www.defra.gov.uk/environment/statistics/globalatmos</a> )
2. Ecology (Flora and Fauna)	Condition reports for designated sites	Natural England; Countryside Council Wales; Scottish Natural Heritage
4. Economy and Skills	Energy costs	National Statistics ( <a href="http://stats.berr.gov.uk/ukxa/energy/sa20090827.htm">http://stats.berr.gov.uk/ukxa/energy/sa20090827.htm</a> )

<sup>72</sup> *Practical Guide to the Strategic Environmental Assessment Directive* (ODPM, September 2005).

### 13. What are the next steps?

The AoS Report and the consultation on it fulfil the requirements of Stage C and D of the SEA process (see **Section 1.3**). This Non-Technical Summary of the Appraisal of Sustainability (AoS) Report for EN-2 provides a summary of the information presented in the AoS Report, which should be referred to for more detailed information.

This AoS Report will be presented for consultation alongside the draft NPS for Fossil Fuel Electricity Generating Infrastructure from 9 November 2009 to 22 February 2010. Feedback received from consultees in relation to the AoS will be documented and considered. The NPS for Fossil Fuel Electricity Generating Infrastructure may be amended and revisions to the AoS may be made. A Post Adoption Statement will be produced to summarise how the AoS and the consultation responses have been taken into account and how environmental considerations have been integrated into the NPS for Fossil Fuel Electricity Generating Infrastructure.



# Planning For New Energy Infrastructure

Appraisal of Sustainability for the draft National Policy Statement for Renewable Energy Infrastructure: Non-Technical Summary



This document is the **Non-Technical Summary** of the **Appraisal of Sustainability** (AoS) Report produced as part of the appraisal undertaken to inform the **National Policy Statement (NPS) for Renewable Energy Infrastructure** (also referred to as EN-3).

The following sections explain what the Renewable Energy Infrastructure NPS is, provide an outline of its content and describes the relationship of the NPS to the Overarching NPS and to the other technology-specific NPSs. An outline of the AoS process and the role of the AoS Report in this process is described on page iii. The findings and recommendations arising from the AoS are presented on page xi.

For more information on this public consultation and how to give us your views, please see the Consultation Document.

## 1. What are the National Policy Statements for Energy Infrastructure?

The Planning Act 2008 changes the way in which nationally important planning decisions are made. It has established a new Infrastructure Planning Commission (IPC) to take planning decisions on nationally significant infrastructure. The IPC replaces the current process in which the decisions are taken by the Secretary of State from the appropriate Government Department. The IPC will determine planning applications on nationally significant infrastructure projects using planning policy and guidance set out within National Policy Statements (NPSs) for the infrastructure from the transport, energy, waste, and water sectors. Government Departments are responsible for preparing each of the NPSs. The Department of Energy and Climate Change (DECC) are responsible for preparing those related to energy infrastructure projects. These are:

- Overarching NPS for Energy (EN-1);
- Fossil Fuel Electricity Generating Infrastructure (EN-2);
- Renewable Energy Infrastructure (EN-3);
- Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4);
- Electricity Networks Infrastructure (EN-5); and
- Nuclear Power Generation (EN-6).

Under the Act, the IPC will examine applications and make decisions on the following nationally significant energy development:

- Electricity generating stations generating more than 50 megawatts onshore and 100 megawatts offshore. This includes generation of electricity from fossil fuels, renewable and nuclear power stations. For these types of infrastructure, the Overarching NPS (EN-1) in conjunction with the relevant technology-specific NPSs will be the primary basis for IPC decision making.
- Electricity lines at, or above, 132kV. For this infrastructure, EN-1 in conjunction with the Electricity Networks NPS (EN-5) will be the primary basis for IPC decision making.
- Large gas reception and Liquefied Natural Gas facilities and underground gas storage facilities (above limits set out in EN-4 and the Planning Act). For this infrastructure, EN-1 in conjunction with the gas supply infrastructure and pipelines NPS (EN-4) will be the primary basis for IPC decision making.
- Cross country oil and gas pipelines at or above the threshold of 16.093 kilometres/10 miles in length and certain licensed gas transporter pipelines (see EN-4 for all pipeline thresholds). For this infrastructure, EN-1 in conjunction with EN-4 will be the primary basis for IPC decision making.

NPSs collectively present a summary of government energy and climate policy, the national need for energy infrastructure and guidance to the IPC on how to assess the likely impacts of energy infrastructure. The Nuclear NPS is different in that it also assesses the suitability of sites for new nuclear stations and it is the subject of a separate AoS which has assessed those parts of the Overarching NPS which apply to nuclear stations.

## 2. What is the NPS for Renewable Energy Infrastructure (EN-3)?

The NPS for Renewable Energy Infrastructure sets out the national policy for new renewable energy infrastructure. In combination with the Overarching NPS, it will be used to provide the primary basis for decisions made by the IPC regarding the granting of development consent for nationally significant renewable energy infrastructure for the generation of electricity from wind, biomass and waste.

Developers will need to ensure that their applications for development consent are consistent with the requirements of relevant NPSs, as the IPC must decide the application in accordance with their content except in the circumstances set out in Section 104 of the Planning Act (2008).

The NPS for Renewable Energy Infrastructure will be issued by the Secretary of State for DECC. It applies to decisions for nationally significant renewable energy infrastructure projects (as described in Part 1 of the NPS) in England and Wales. The NPS for Renewable Energy Infrastructure will remain in force in its entirety unless withdrawn or suspended in whole or in part by the Government and will be subject to review by the Government in order to ensure that it remains appropriate for IPC decision making.

## 3. What is an Appraisal of Sustainability (AoS)?

The Planning Act 2008 requires that ‘an appraisal of the sustainability of the policy set out in the statement’ is carried out. Section 5(5) of the Planning Act explains what the policy set out in statement may, in particular, contain<sup>77</sup>. It may:

- Set out, in relation to energy infrastructure, the amount, type or size of development which is appropriate nationally for a specified area [Section 5(5)(a) of the Act]
- Set out criteria to be applied in deciding whether a location is suitable (or potentially suitable) for a specified energy technology [Section 5(5)(b) of the Act];
- Set out the relative weight to be given to specific criteria [Section 5(5)(c) of the Act];
- Identify locations which are potentially suitable or unsuitable for specified energy technologies [Section 5(5)(d) of the Act]; and
- Set out circumstances in which it is appropriate for a specified type of action to be taken to mitigate the impact of specified energy technologies [Section 5(5)(f) of the Act].

Section 5(5)(e) of the Planning Act states that a National Policy Statement may identify one or more statutory undertakers as appropriate persons to carry out a specified description of development. Given that energy is delivered through a liberalised market, limiting energy developers would restrict competition and contravene the free market approach to energy development.

<sup>77</sup> Section 5(5) of the Planning Act. Available at [http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga\\_20080029\\_en.pdf](http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga_20080029_en.pdf) (Accessed 23/09/09)

The AoS of the NPS for Renewable Energy Infrastructure has been undertaken in a manner that incorporates the requirements of the European Directive on Strategic Environmental Assessment (SEA) (2001/42/EC) and the transposing UK Regulations<sup>78</sup>.

SEA is a statutory requirement following the adoption of European Community Directive 2001/42/EC which was transposed into UK legislation on the 20th July 2004 as Statutory Instrument No. 1633 – The Environmental Assessment of Plans and Programmes Regulations 2004. The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.

In addition to assessing the environmental effects required by the SEA Directive, the aim of the AoS is to identify, describe and evaluate the likely significant social and economic effects of implementing the NPS. Each AoS has been carried out at the same time as the development of the NPS and has therefore helped to inform that NPS. The NPS contains potential measures to mitigate significant adverse effects. All the NPSs (EN-1 to EN-6) have been subjected to an AoS<sup>79</sup>.

An overview of the key stages of the AoS process is presented below.

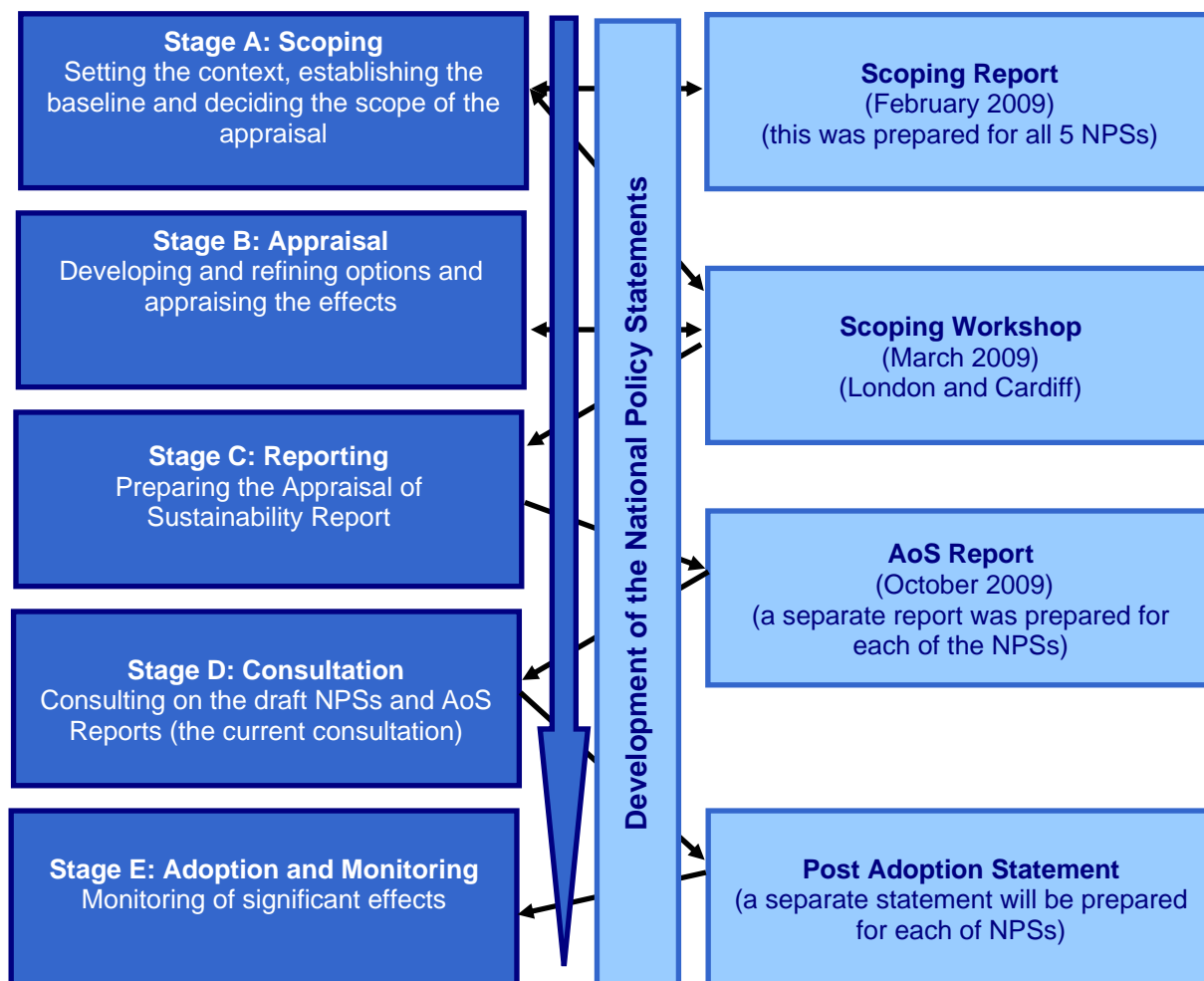
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<sup>78</sup> *The Environmental Assessment of Plans and Programmes Regulations 2004 (S.I. 2004/1633). Note: These Regulations apply when the plan or programme applies to England and any other part of the UK.*

<sup>79</sup> *In addition to the work on the NPSs (including their AoS), DECC has also completed an SEA for Offshore Energy, is undertaking a feasibility study for tidal range power in the River Severn, which includes an SEA, and is beginning a feasibility study for wave and tidal projects around English and Welsh territorial waters.*

## Appraisal Process

## Key Outputs



The AoS process began in early 2009 and reflects national guidance on SEA practice<sup>80</sup>. A Scoping Report (Stage A) was consulted on by statutory consultees in February and March 2009. A summary of the results of this consultation are presented in **Annex C** of the Overarching AoS Report and the consultees' responses have been considered within that AoS and also within the AoS for the NPS for Renewable Energy Infrastructure. From March through to September options were developed and refined and the effects of the NPSs were appraised (Stage B). The AoS Reports were prepared during this time (Stage C) before being consulted on (Stage D, the current consultation). Stage E, the final stage will involve setting the measures for monitoring significant impacts.

#### 4. What relationship does the NPS for Renewable Energy Infrastructure have with other policies, plans and programmes?

<sup>80</sup> ODPM (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*.

The AoS reviewed other relevant policies, plans, and programmes that could influence the NPS for Renewable Energy Infrastructure, to identify how the NPS could be affected by the other policies, or how it could contribute to, or hinder, the achievement of any environmental or sustainability targets set out in these policies. The review also helped to support the completion of the social, economic and environmental baseline and aid the determination of the key issues. The full review is provided in **Annex B** of the Overarching AoS Report.

The NPS for Renewable Energy Infrastructure reflects European and International requirements where these are set out in legislation (for example, the UK Climate Change Act and other government agreements on climate change being key influences on the development of the NPSs).

## 5. Which sustainability topics has the NPS for Renewable Energy Infrastructure been appraised against?

The NPS for Renewable Energy Infrastructure has been appraised against 14 topic areas. All of the topics identified in the Scoping Report were ‘scoped in’ (i.e. considered to be relevant to the appraisal<sup>81</sup>). The topics are identified below and are linked with the AoS Objectives identified in **Table 2** (page xi of this NTS).

1. Climate Change	6. Water Quality & Resources	11. Air Quality
2. Ecology (Flora and Fauna)	7. Traffic and Transport	12. Soil and Geology
3. Resources and Raw Materials	8. Noise	13. Health and Well-Being
4. Economy and Skills	9. Landscape, Townscape and Visual	14. Equality
5. Flood Risk	10. Archaeology and Cultural Heritage	

The baseline is common to all of the non-nuclear NPSs (EN-1 to EN-5). To avoid repetition, the baseline material is presented in **Annex F** of the Overarching AoS Report and referenced in each of the non-nuclear AoS reports (EN-2- EN-5).

## 6. What reasonable alternatives for implementing the NPS for Renewable Energy Infrastructure were identified and appraised?

In line with the principles of good policy making and the requirements of the SEA legislation, a range of reasonable alternatives for the NPS were considered. These alternatives should be realistic, feasible and genuine. Within the strategic framework set by Government, the energy sector relies on private sector investment. In general, the UK Government does not therefore specify the technologies that should be within the energy mix or what their volumes should be (with the exception of renewables where there are specific EU targets although not at the level of individual renewables technologies).

The objective in drafting the non-nuclear NPSs has been, for the most part, to reflect and clarify existing policy and practice of the Secretary of State in consenting nationally significant energy infrastructure. The intention is not to use the non-nuclear NPSs to change significantly the underlying policies against which applications are assessed (or the “benchmark” for what is, or is not, an acceptable nationally significant energy development). Therefore, the

<sup>81</sup> Following consultation on the Scoping Report, *noise* and *landscape features* were scoped back into the appraisal (i.e. they were originally anticipated not to be relevant to a high-level appraisal but following comments this was reconsidered and they were included).



non-nuclear NPSs are based on established energy and climate change policies and the focus of their content is the manner in which energy infrastructure that flows from those policies should be controlled (reflected in the guidance on the key issues that the IPC should take into account in its decision making). Where there have been policy developments these have been conducted through separate processes, such as the consultation on the framework for the development of clean coal, and the NPS reflects those separate developments.

As a result, the following strategic-level alternatives were considered:

1. No NPS - “the effects of No NPS” to mean the effects of constructing energy infrastructure under a business as usual scenario where there is no NPS to set the framework for development consents;
2. An NPS that only set out high level Government energy policy;
3. An NPS that a) set out high level Government energy policy and b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments; or
4. An NPS that a) set out high level Government energy policy, b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments and c) set out guidance on how impacts of energy developments could be avoided or mitigated.

**What ‘No NPS’ means:** Government does not draft or designate an NPS for energy infrastructure. This is the “business as usual” scenario; energy companies would still apply for development consent for new nationally significant energy infrastructure to the IPC, which would consider a planning application and make a recommendation to the Secretary of State instead of making the decision themselves. However, in the absence of a comprehensive statement of national need and specific guidance on the application of energy policy to development consents that are provided by the NPS, the IPC would have few benchmarks against which to make recommendations. The IPC would have to attempt to interpret Government policy, but with no guarantee that their interpretation concurred with Government intentions. The IPC might fail to consider wider policy issues.

New nationally significant energy infrastructure could still be built but it is doubtful that some of the benefits of the new consenting regime would be realised.

Further, where there is no designated NPS and the IPC therefore acts as recommending body to the Secretary of State, the IPC should report to the Secretary of State within nine months of accepting an application. The Secretary of State has a further three months to make a decision to grant consent. This means that development consent should be granted in 12 months. However, since the IPC has the power to extend the time it is given to examine the application, it is more likely to need to extend its timetable in the absence of a designated NPS to allow time to consider the questions of need, the suitability of a location or alternative locations without specific guidance on particular issues. It is therefore highly likely that development consent would take longer than if an NPS were designated. This could result in delays in the planning process which would increase uncertainty for energy companies and make new nationally significant energy infrastructure a less attractive option.

The preferred option is Option 4 as this enables the clearest guidance to be given to the IPC on the circumstances in which different forms of energy development will be acceptable and does so in a way that is transparent to other interested parties. This option also helps to ensure that significant effects on the environment, economy and society are duly considered in the decision making process (which may be overlooked or not considered in Option 2). Furthermore, Option 4 includes details of avoidance and mitigation measures that may be adopted by the

applicant or the IPC thus enabling the minimisation of potentially detrimental effects. The inclusion of such information is considered to be beneficial as it enables the applicant to see what effects the IPC will be considering and the types of mitigation measures that may be relevant.

The site-specific approach has been undertaken for the Nuclear NPS only, owing to the public interest in where nuclear is sited and in accordance with Parliamentary commitments. However, the Government does not consider it appropriate to use the energy NPSs to attempt at a national level to identify and prescribe specific locations for all of the technologies referred to in the suite of Energy NPSs. Given the range and complexity of technical, legal, environmental, geological and commercial siting issues that are relevant to each of the non-nuclear technologies, a strategic search would significantly delay the publication of the non-nuclear NPSs to the detriment of the timely deployment of new electricity infrastructure (given the urgency and need as set out in the Overarching Energy NPS). In any event, it would be very difficult to accurately predict the number of sites/routes that would be needed. For these reasons, it was not considered a reasonable alternative for the NPS to identify the specific sites for the development of energy infrastructure.

The other alternatives, are identified below in **Table 1** with reasons for them not being included with the NPS identified by DECC.

**Table 1 Alternative Approaches to Implement the NPS**

Alternative Approaches to Implement the NPS	Response to the alternatives (provided by DECC)
<p><b>Biomass:</b> The NPS should specify sites for new biomass projects, in particular in areas which are capable of sourcing fuel locally, such as agricultural areas or forests.</p>	<p>Biomass such as wood pellets and wood chip are globally traded commodities; large biomass plants may therefore take advantage of port locations for ease of import of biomass. UK biomass operators are encouraged to build local supply chains but this may take several years to develop the required capacity. DECC is researching the feasibility of growing short rotation forestry and what new types of energy crops might be suitable for the UK climate in the future. The Forestry Commission will be publishing their Woodfuel Strategy Implementation Plan next year, setting out how the FC will deliver increased sourcing of wood residues from existing woodland for the energy industry.</p> <p>However, these initiatives will take several years to develop and will be subject to the free market choices of farmers and woodland owners. It is therefore unreasonable to specify sites for biomass electricity generating stations.</p>
<p><b>Energy from Waste:</b> The NPS should specify sites for new energy from waste projects.</p>	<p>The siting of energy from waste plant is determined by a number of different factors, including, to a certain extent, regional waste management plans which may have identified broad areas for new plants to deal with local and regional waste. Waste management solutions may therefore contain more than one technology on more than one site for which EfW would form only part of an overall solution. Government policy is to encourage joint working between local authorities to gain benefits from economies of scale. Further, EfW is a highly fragmented sector with a large number of potential sites. It is therefore unreasonable for the NPS to specify sites for EfW that could hamper local authorities' joint working on waste management strategies and lose the economies of scale that should derive from such joint working.</p>

Alternative Approaches to Implement the NPS	Response to the alternatives (provided by DECC)
<p><b>Offshore Wind:</b> The NPS should specify sites for offshore wind farm projects.</p>	<p>DECC is responsible for the policy and framework regarding offshore renewable development. The Crown Estate is responsible for determining which areas of the sea they wish to offer for wind farm development in UK waters and for awarding site leases and licences for wind development. However, the Crown Estate works within the Government policy framework and the Government's strategic environmental assessment process to do so. Such an approach enables a more strategic focus which is essential to optimise the exploitation of the potential wind resource in a responsible way.</p> <p>It would therefore be unreasonable for the NPS duplicate this process or to fetter the Crown Estates' discretion on identification of areas for offshore wind development.</p>
<p><b>Onshore Wind:</b> The NPS should specify sites for onshore wind farms.</p>	<p>The NPS makes it clear that nationally significant energy projects (including wind farms) should be located in appropriate places and that the national and local benefits of a proposal should be weighed against the local harm when the application is determined. Government recognises the need to ensure that all renewable energy developments take place within the formal planning procedure, which allows all relevant stakeholders, including members of the public, to put forward their views on the likely impact of any proposal on the environment and the local community.</p> <p>In future, in England, the new integrated Regional Strategies developed by the RDAs and local authorities should include specific plans for carbon reduction and renewable energy, some of which may include identification of broad areas which it may consider suitable for certain types of renewable energy generation. Applicants will not be bound by such identified areas, but they will be an important consideration for applicants when selecting sites. Such work will therefore be undertaken at a local and regional level. Strategic Search Areas, potentially suitable for onshore wind farms in Wales have been identified by TAN8 by the Welsh Assembly Government. Again, such search areas are important for applicants when identifying new sites. For search areas in both England and Wales, applicants may have selected sites that are outside of identified areas. Where this is the case, it is for the applicant to explain the reasons for such a departure from either regional or Welsh policy.</p> <p>It is therefore not considered a reasonable alternative for the NPS to specify the sites at which development on onshore wind farm projects should take place.</p>

## 7. What aspects of the draft NPSs were appraised?

Projects consented under the IPC/NPS process will clearly have a number of direct, indirect and cumulative effects. The AoS identifies and assesses those effects arising as a result of the NPS and this is considered against the baseline (i.e. what's happening now and what's likely to happen in the future). In this way the appraisal assesses the effects of the differences between the current consenting regime ('business as usual') and the IPC/NPS process.

The likely effects of the NPSs have been considered across a range of geographic scales (including UK, regional and local). However, with the exception of the Nuclear Power Generation NPS, the Energy NPSs do not prescribe the location for new infrastructure projects and there are limitations in terms of how far appraising effects at a non-spatially specific level can be taken. This is not to exclude the possibility that the effects could be significant; rather, that it will often only be possible to judge whether such effects are significant at the project level.

It is anticipated that relevant receptors and the assessment of project-level effects will be given full consideration at the project level, through for example Environmental Impact Assessment (EIA), Habitats Regulations Assessment (HRA) and other statutory and non-statutory assessments.

The following assumptions have then been used to aid the understanding of the influence of the NPSs on the outcome of planning decisions. It is intended that the IPC/NPS process:

- Will help to ensure that decisions are taken consistently, and will increase certainty (and efficiency) for investors.
- Will add greater certainty to the delivery of nationally significant renewable energy infrastructure by making the guidance on decision-making clearer and more transparent.
- Will lead to faster decisions which may lead to more projects being built in the short-term. Faster decisions will improve the UK's security of supply. The guidance to the IPC on the overall level of need for energy infrastructure is relevant in terms of the IPC's understanding of the scale of need when considering individual applications.
- Will not have a significant effect on the proportion or type of energy generating facilities being submitted for consent – i.e. the NPSs focus on the factors that are considered during the decision making process for applications. They do not determine how many applications or the types of applications submitted – this is left to the market to decide or is influenced by Government policy delivered through other means to ensure new infrastructure is available quickly enough to meet demand.
- The Government will monitor the infrastructure to ensure that goals are being achieved and, if necessary, alter the signals it gives to the market to drive development.

These effects have then been used as the basis to assess the implications of the NPS for future planning decisions. The AoS focuses on the material differences to sustainability against the existing planning system for renewable energy infrastructure.

## 8. What approach was taken to the appraisal?

The appraisal of the NPS for Renewable Energy Infrastructure has been undertaken using an objectives-led approach. The baseline information, the review of plans and programmes and the key issues identified were used to develop 14 AoS objectives (presented in **Table 2**). Each objective is supported by a series of guide questions (and these are identified in **Section 3.4** of the AoS for EN-1). The AoS objectives cover all of the topics that the appraisal is required to include information on (as set out in the SEA Directive).

The NPS for Renewable Energy Infrastructure has then been appraised in terms of the extent to which it contributes towards achieving the AoS objective (e.g. Biodiversity) when considered against the baseline set by the existing planning environment. The 'guide questions' have been used to assist the appraisal of the potential effects in a qualitative manner, ensuring consideration is given to relevant influencing factors.

**Table 2 AoS Objectives**

AoS Objective	SEA Topic Requirement
1. <b>Climate Change:</b> To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.	Climate Change
2. <b>Ecology (Flora and Fauna):</b> To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.	Fauna, flora and biodiversity
3. <b>Resources and Raw Materials:</b> To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.	Material assets
4. <b>Economy and Skills:</b> To promote a strong and stable economy with opportunities for all.	Material assets
5. <b>Flood Risk:</b> To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring it is resilient over its lifetime without increasing risks elsewhere.	Climatic factors
6. <b>Water Quality:</b> To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).	Water
7. <b>Traffic and Transport:</b> To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.	Population
8. <b>Noise:</b> To protect both human and ecological receptors from disturbing levels of noise.	Population
9. <b>Landscape, Townscape and Visual:</b> To protect and enhance landscape quality, townscape quality and to enhance visual amenity.	Landscape
10. <b>Archaeology and Cultural Heritage:</b> Protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.	Cultural heritage, including architectural and archaeological heritage
11. <b>Air Quality:</b> To protect and enhance air quality on local, regional, national and international scale.	Air
12. <b>Soil and Geology:</b> To promote the use of brownfield land and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.	Soil
13. <b>Health and Well-Being:</b> To protect and enhance the physical and mental health of the population	Human health
14. <b>Equality:</b> To encourage equality and sustainable communities.	Human health

For each of the objectives against which the NPS has been appraised, the score given was one of the following:

- **Significant Positive:** A very strong positive effect of the proposed NPS on the AoS Objective
- **Minor Positive:** A minor positive effect of the proposed NPS on the AoS Objective
- **No Overall effect:** No overall effects arising from proposed NPS on the AoS Objectives although this may include some very minor or isolated effects (where this is the case these are identified)
- **Minor Negative:** A minor negative effect of the proposed NPS on the AoS Objective
- **Significant Negative:** A very strong negative effect of the proposed NPS on the AoS Objective
- **Uncertain:** An uncertain effect of the proposed NPS on the AoS Objective
- **No Relationship:** There is no relationship between the proposed NPS and the AoS Objective.

In predicting and evaluating the effects of the NPS for Renewable Energy Infrastructure, all effects have been considered, including those that are minor or non-significant, but which could combine to create a significant cumulative or synergistic effect.

## 9. What were the key significant effects (when considered against the existing consenting regime)?

This section presents a summary of the appraisal of the Renewable Energy Infrastructure NPS against the 14 objectives. The appraisal compared the existing 'business as usual' scenario (see **Annex F** of the Overarching AoS Report) with what would be achieved under the NPS.

**Table 3 Summary of the appraisal of EN-3**

AoS Objective	Assessment	Comment
<b>1. Climate Change:</b> To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.	+	EN-3 in combination with EN-1 will significantly improve the speed of the application determination process and as such will result in low carbon energy infrastructure being implemented in a faster timescale. This is anticipated to have a positive contribution towards the realisation of the government's low carbon energy targets and progress towards a low carbon economy. As a consequence, EN-3 is considered to have a minor positive effect on the climate change objective.
<b>2. Ecology (Flora and Fauna):</b> To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.	?	In light of the outcome of the HRA carried out in line with the Habitat's Directive (92/43/ECC) the effects on ecology from EN-3 are considered to be uncertain. This is also the case for ecology on sites outside the Natura 2000 network as the need for renewable energy infrastructure is likely to necessitate development on previously undeveloped areas.
<b>3. Resources and Raw Materials:</b> To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.	++	EN-3 recognises that waste and biomass combustion plants result in positive and negative effects on sustainability, however the use of low carbon technologies such as these not only reduce the amount of primary resources used and encourages the use of more sustainable materials, but also fundamentally reduces the amount of waste sent to landfill and the creation of greenhouse gasses, as a result it is considered to result in a positive benefit overall.
<b>4. Economy and Skills:</b> To promote a strong and stable economy with opportunities for all.	++	Whilst EN-3 is not intended to alter the volume of projects coming forward (compared to the present), it is likely to speed up the determination process (the impact assessment references an improvement in application times) – so whilst there is no net change in the employment opportunities created (when compared to the current situation), the assumption that it will expedite determination, means that these employment opportunities are likely to be created when the economy most needs it – i.e. during the years when it is emerging from a recession. As a result, the significance of such effects and their value to society will be greater.
<b>5. Flood Risk:</b> To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring it is resilient over its lifetime without increasing risks elsewhere.	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Flood Risk, above those already considered through the consenting process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>6. Water Quality:</b> To protect and enhance surface (including coastal) and groundwater quality	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Water Quality



AoS Objective	Assessment	Comment
(including distribution and flow).		and Resources, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>7. Traffic and Transport:</b> To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Traffic and Transport, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>8. Noise:</b> To protect both human and ecological receptors from disturbing levels of noise.	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Noise, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>9. Landscape, Townscape and Visual:</b> To protect and enhance landscape quality, townscape quality and to enhance visual amenity.	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to landscape, townscape and Visual, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>10. Archaeology and Cultural Heritage:</b> Protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Archaeology and Cultural Heritage, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>11. Air Quality:</b> To protect and enhance air quality on local, regional, national and international scale.	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to air quality, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>12. Soil and Geology:</b> To promote the use of brownfield land and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to soil and geology, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>13. Health and Well-Being:</b> To protect and enhance the physical and mental health of the population	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to health and wellbeing, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>14. Equality:</b> To encourage equality and sustainable communities.	0	EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to health and wellbeing, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-3 is considered not to be significant against this objective.
<b>Score Key:</b>		
Significant (major) Positive ++	Significant (major) negative --	no overall effects 0
		Uncertain ?



AoS Objective	Assessment	Comment	
Minor Positive +	Minor negative -		

Entec provided ongoing commentary on the sustainability effects of the emerging NPSs, and where relevant these points were incorporated in the NPSs. The boxes presented under each of the objectives identify some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

### Climate Change

**Objective:** *To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.*

EN-1 details the requirements in relation to and mitigation of any effects on, climate change.

EN-3 focuses specifically on renewable energy infrastructure, which comprises technologies which will significantly help to meet the governments low carbon objectives. While the benefits of this are acknowledged, the NPS is not intended to alter the volume of projects coming forward (compared to the present), but is likely to speed up the determination process (the impact assessment references an improvement in application times), as a result there is likely to be a positive benefit in aiding the realisation of low carbon energy targets (15% of energy from renewable energy by 2020).

EN-3 may also be a relevant consideration for the new Marine Management Organisation (MMO)(to be established under the Marine and Coastal Access Bill) when determining applications for offshore development (that do not exceed the thresholds detailed in the Planning Act 2008). The IPC are also directed to closely liaise with the MMO on the proposed terms of any consent under the Coast Protection Act 1949, or licence under the Food and Environment Protection Act 1985 for marine operations.

Electricity generation from tidal range, tidal stream and wave power could be an important source of electricity for the UK in the future. As technologies develop, schemes are likely exceed the 100MW threshold for being categorised as a Nationally Significant Infrastructure Project (NSIP). However, energy from wave and tidal is outside the scope of this current EN-3 but the Government intends to include wave and tidal in an NPS in due course.

If NPS do come forward for tidal range, these will be subject to an AoS, in line with the requirements of the Planning Act 2008. The current SEA of the tidal range proposals in the Severn Estuary may be informative for any future NPS that includes tidal range.

**Summary of Appraisal: Onshore Wind Farms/Offshore Wind Farms/Waste/Biomass Combustion** – EN-3 does require biomass plants to be equipped for Carbon Capture Readiness, all thermal generating stations (including biomass and Energy from Waste) are also required to explore the potential for CHP. This would also mitigate climate change in line with the requirements of EN-1. The requirements in relation to, and mitigation of, any effects on climate change are mainly addressed in EN-1 and not in EN-3. The NPS in combination with the Overarching NPS will significantly improve the speed of the application determination process and as such will

result in low carbon energy infrastructure being implemented in a faster timescale. This is anticipated to have a positive contribution towards the realisation of the government's low carbon energy targets and progress towards a low carbon economy. As a consequence, EN-3 is considered to have a significant positive effect on the climate change objective.

*The appraisal indicated that there will be **minor positive effects** on this objective.*

## Ecology

**Objective:** *To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.*

EN-1 recognises existing national and international designations for wildlife and habitat protection along with a range of potential effects and mitigation measures. EN-3 provides specific additional guidance on impacts associated with biodiversity (for onshore wind) and for specific aspects of biodiversity for offshore wind. The range of impacts identified and mitigation measures proposed in EN-1 and EN-3 do not differ from the existing consenting system. As a consequence, the contribution of EN-3 over and above the existing consenting system to the achievement of this objective is marginal. The specific impacts of the differing forms of renewable energy generation are set out below.

**Summary of Appraisal: Onshore Wind Farms** – In addition to the issues set out in EN-1, the IPC is directed by the NPS to give specific consideration of issues such as bird/bat strike and the lay-out of wind farms on peat land.

The NPS recognises that whilst there is considerable knowledge on the effects of onshore wind farms on specific species of birds and a more limited knowledge on bats, the IPC should seek to validate collision risk modelling, by requiring relevant monitoring during the construction and operational phases. The IPC is directed to determine the application in accordance with the guidance given within EN-1

**Summary of Appraisal: Offshore Wind Farms** – There is a potential for the construction and operation of offshore wind farms to have an effect on ecological receptors, such as through the loss of seabed habitat and bird strikes. In addition to those issues set out in EN-1, the NPS requires that early consultation must be undertaken with relevant organisations on assessment methodologies.

The NPS recognises that owing to the relatively new and complex nature of offshore wind development, the IPC should consider requiring monitoring prior to and during construction and operation.

An SEA on Offshore Energy was produced earlier this year (January 2009) and concluded that in general, marine mammals show the highest sensitivity to acoustic disturbance by noise generated by offshore wind farms and the physical presence of offshore infrastructure and support activities may potentially cause behavioural responses in fish, birds and marine mammals, through a range of different mechanisms. The assessment concluded that there are no overriding environmental considerations to prevent offshore wind farms, albeit with a number of mitigation measures to prevent, reduce and offset significant adverse impacts on the environment and other users of the sea.

**Summary of Appraisal: Waste/Biomass Combustion:** While EN-3 provides information on impacts arising from onshore/offshore wind farms; it does not make specific additional comments on effects on ecology/biodiversity

arising from waste/biomass. It does not identify any specific impacts arising from these plants above those referenced in EN-1.

The table below identifies some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**Ecology: Key recommendation(s) emerging from the appraisal and how DECC responded**

**Recommendation 2.1:** Consider specifying how the Coast Protection Act 1949 (CPA) and Food and Environment Protection Act 1985 (a FEPA licence) requirements will be reported to the IPC.

**Response 2.1:** Text has been added to specify CPA and FEPA licence requirements (para 2.6.6 - 2.6.14).

**Recommendation 2.2:** The favoured methodologies for addressing bird collision risk for onshore turbines birds are based on calculating theoretical risk, and they are likely to be revised radically as post-construction monitoring builds up the evidence base. Therefore, consider just stating that this is recognised as an issue of concern that should be addressed in consultation with the Statutory Consultation Organisation (SCO). For bats, it has yet to be established that this is an issue at all in the UK, and it may be unnecessarily restrictive to go beyond a general acknowledgement that this is a potential issue that needs to be addressed in consultation with the SCOs.

**Response 2.2:** Text has been revised within paragraphs 2.7.35 – 2.7.46.

EN-3 identifies specific effects in relation to onshore and offshore wind farms; however, no additional effects are identified for waste and biomass plants other than those considered within EN-1. In light of the outcome of the HRA carried out in line with the Habitat's Directive (92/43/ECC) the effects on ecology from EN-3 are considered to be uncertain. This is consistent with the findings of the assessment against the requirements of Article 6 of the Habitats Directive (92/43/EEC) (see **Section 3.7**), that states that 'the guidance contained within EN-1 recognises international designations for wildlife and habitat protection along with a range of potential effects and mitigation measures, however, the possibility of significant effects upon one or more European sites from future nationally significant energy infrastructure cannot be excluded at the NPS level'. This is also the case for ecology on sites outside the Natura 2000 network as the need for renewable energy infrastructure is likely to also necessitate development on previously undeveloped areas. Applicants will be required to appropriately mitigate and, where practical, create new habitats of value in accordance with advice given within EN-1 and EN-3.

*The appraisal indicated that this will have **uncertain effects** on this objective.*

**Material Assets and Resource Use**

**Objective:** *To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.*

EN-1 addresses the generic issues of waste management and seeks to ensure that all development utilises effective waste management practices consistent with the waste management hierarchy.

EN-3 recognises that waste/biomass plants have a direct effect on materials and resource use; however, identifies no specific effects for onshore or offshore wind farms. While EN-3 does not set out any other specific requirements or identify any specific impacts relating to climate change, it does make specific reference for biomass plants to be equipped for Carbon Capture Readiness (which is covered within EN-1). While waste/biomass combustion offers significant benefits, thermal combustion is classified by the Environment Agency as a disposal operation for waste. In some Energy from Waste plants, there's the potential for a significant proportion of material to be non-renewable such as plastics.

**Summary of Appraisal: Onshore Wind Farms/Offshore Wind Farms** – EN-3 does not set out any specific requirements or identify any specific impacts relating to material assets and raw materials. The requirements in relation to and mitigation of any effects on, material assets and raw materials are addressed in EN-1.

**Summary of Appraisal: Waste/Biomass Combustion** – The NPS recognises that waste/biomass plants have a direct effect on materials and resource use. The NPS requires the IPC to consider the waste hierarchy. The NPS requires the IPC to be satisfied, with reference to the relevant waste strategies and plans, that the proposed waste combustion plan is of an appropriate type and scale so as not to prejudice the achievement of local, regional or national waste management targets. Where there are concerns in terms of a possible conflict, the NPS requires evidence to be provided to the IPC by the applicant as to why this is not the case or why a deviation from the relevant waste strategy or plan is nonetheless appropriate and in accordance with the waste hierarchy. Additionally, in terms of residue by-products, the IPC should attribute limited weight to impacts from residue management where it had no reason to doubt that relevant Environmental Permit(s) would be issued by the Environment Agency. Furthermore, it should give substantial positive weight to applications that have a realistic prospect of recovering residue materials.

The table below identifies some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**Material Assets and Resource Use: Key recommendation(s) emerging from the appraisal and how DECC responded**

<p><b>Recommendation 3.1:</b> Consider adding reference to the management of residue wastes, in particular with regards to the waste management hierarchy. The requirement for a waste management plan to be developed would also be a useful addition.</p>	<p><b>Response 3.1:</b> This is covered in the Waste Management text in EN-1.</p>
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EN-3 identifies specific effects in relation to waste and biomass plants; however, onshore and offshore wind farms are not identified as having any additional effects other than those considered within EN-1. While it is noted that waste and biomass combustion plants result in positive and negative effects on sustainability, the use of renewable technologies such as these not only reduce the amount of primary resources used and encourages the use of more sustainable materials, but also fundamentally reduces the amount of waste sent to landfill and the creation of greenhouse gasses. Whilst EN-3 will not alter the volume of projects coming forward (compared to the present), it is likely to speed up the determination process which will result in renewable energy infrastructure being implemented in a faster timescale which is considered to result in a positive benefit overall.

*The appraisal indicated that there will be **significant positive effects** on this objective.*

## Economy and Skills

**Objective:** *To promote a strong and stable economy with opportunities for all.*

The documents contribute positively towards improving the vitality and competitiveness of the UK energy market, by providing greater clarity for developers, which can help in terms of planning risks associated with investment. Greater investment certainty would improve the UK's position for inward investment into energy infrastructure creating opportunities for skilled workers. The Planning Act is intended to deliver faster and more transparent decisions on energy infrastructure which should improve the UK's security of supply. The UK economy will benefit from reliable energy supplies.

EN-3 recognises that offshore wind farms may have a direct effect on commercial fisheries and fishing and navigation and shipping industries, however identifies no specific effects for onshore wind farms or waste and biomass plants. EN-3 may also be a relevant consideration for the new Marine Management Organisation (MMO) (to be established under the Marine and Coastal Access Bill) when determining applications for offshore development (that do not exceed the thresholds detailed in the Planning Act 2008). The IPC is also directed to closely liaise with the MMO on the proposed terms of any consent under the Coast Protection Act 1949, or licence under the Food and Environment Protection Act 1985 for marine operations.

**Summary of Appraisal: Offshore Wind Farms** –The scale and location of potential future offshore wind development around England and Wales results in a potential for development to be proposed in offshore areas where other offshore infrastructure is located, such as telecommunication cables or oil and gas pipelines. EN-3 also recognises that offshore wind farms may also affect fishing industry as well as navigation and shipping industry. Furthermore, there are other future technologies that may interact with future offshore wind farms, including other marine renewable energy generation, such as tidal range and the infrastructure required for the transportation and storage of carbon, associated with capture from combustion power stations.

The UK is heavily reliant on shipping for the import and export of goods. Most vessels typically take direct routes from place to place and new obstructions causing large route deviations would increase transit times and fuel usage. Fishing in the UK has a long history and is also of major economic and cultural importance. The EU has been monitoring the routes of fishing vessels since 2003 and has highlighted that the greatest density of fishing effort takes place in coastal waters, for both static (such as pots, traps or gillnets) and mobile gears (such as trawls and dredges). The SEA on Offshore (2009) concluded that wind farm siting should be outside areas important for navigation and avoid the waters near the coast and certain especially important fishing areas.

The NPS requires the IPC to be satisfied that the site selection process has been undertaken to reasonably minimise adverse effects on fish stocks, fishing, navigation and shipping activities, and that the proposal has been designed in consultation with the relevant fishing or shipping industry. EN-3 directs the IPC to not grant development consent in relation to the construction or extension of an offshore wind farm if it considers that interference with the use of recognised sea lanes essential to international navigation is likely to be caused by the development. The IPC are also directed to closely liaise with the MMO on the proposed terms of any consent under the Coast Protection Act 1949, or licence under the Food and Environment Protection Act 1985 for marine operations.

**Summary of Appraisal: Onshore Wind Farms Waste/Biomass Combustion** EN-3 does not set out any specific requirements or identify any specific impacts relating to economy and skills for waste/biomass combustion plants. The requirements in relation to and mitigation of any effects on, traffic and transport are addressed in EN-1.

The table below identifies some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**Economy and Skills:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 4.1:** Suggest addition text paragraph 2.6.120 Dredging-..., typically for scallops or towing a dredge with a suction system for various shellfish. **Response 4.1:** Text added.

The UK Renewable Energy Strategy identifies business and employment opportunities within the renewable field and the range of measures that the Government are pursuing. It is estimated that by 2020, UK employment in renewable sector could increase by 500,000<sup>82</sup>. Whilst EN-3 is not expected to alter the volume of projects coming forward (compared to the present), it is likely to speed up the determination process (the impact assessment references an improvement in application times) – so whilst there is no net change in the employment opportunities created (when compared to the current situation), the assumption that it will expedite determination, means that these employment opportunities are likely to be created when the economy most needs it – i.e. during the years when it is emerging from a recession. As a result, the significance of such effects and their value to society will be greater.

*The appraisal indicated that there will be a **significant positive effect** on this objective.*

## Flood Risk

**Objective:** To avoid an increase in flood risk (including coastal flood risk) and to avoid siting flood sensitive infrastructure in areas of high flood risk.

EN-1 identifies the generic effects of the energy NPS on Flood Risk and recognises that a number of energy infrastructure projects will need to be located on coastal or estuarine sites. EN-1 directs the IPC to ensure that the potential risks regarding flooding are identified and effective mitigation is built in to the applicants' proposal. EN-3 does not identify any specific effects on flood risk from renewable energy infrastructure.

The table below identifies some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**Flood Risk:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 5.1:** Consider stating more explicitly that flood risk impacts are likely to be relatively minor and relatively easily mitigated. Where the applicant can demonstrate this, flood risk isn't likely to be a significant factor in determination. Conversely, if risks are not managed, ensure that it is clear that **Response 5.1:** It is considered that there is no particular reason to have a separate Hydrogeology, Hydrology and Flood Risk chapter in the Onshore Wind section of EN-3.

<sup>82</sup> The Department of Energy and Climate Change. The UK Renewable Energy Strategy (2009).



**Flood Risk:** Key recommendation(s) emerging from the appraisal and how DECC responded

flood risk could be material to the IPC's decision to reject an application (perhaps worth referring to the process required in EN-1 to manage the flood risk).

**Recommendation 5.2:** Consider whether the implications for flood risk from the impact on flood defences from the connection from onshore plant to offshore plant has been given adequate reference.

**Response 5.2:** There is no onshore or offshore wind-specific flood risk text in the Renewable Energy NPS. The generic Flood Risk text in EN-1 refers to effects on flood defences.

**Summary of Appraisal: Onshore Wind Farms/Offshore Wind Farms/Waste/Biomass Combustion – EN-3** does not set out any specific requirements or identify any specific impacts relating to flood risk. The requirements in relation to and mitigation of any effects on, flood risk are addressed in EN-1.

EN-1 sets out the generic impacts and mitigating measures that relate to flood risk. Given that the range of impacts identified and mitigation measures proposed (and their means of implementation) do not differ from the existing consenting system, the contribution of EN-3 over and above the existing planning system to the achievement of this objective is not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Water Quality and Resources

**Objective:** *To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).*

The NPS states that the IPC should satisfy itself that a proposal has regard to the River Basin Management Plans and the requirements of the Water Framework Directive. Additionally it requires the IPC to consider whether appropriate conditions should be attached to any development consent or planning obligations entered into to mitigate adverse effects on the water environment. The NPS states that where there may be indirect effects (such as on marine ecology) the IPC should refer to relevant guidance within other sections of the NPS (section 2.6.2).

**Summary of Appraisal: Onshore Wind Farms/Wast/Biomass Combustion:** EN-3 does not set out any specific requirements or identify any specific impacts relating to water quality and resources. The requirements in relation to and mitigation of any effects on, water quality and resources are addressed in EN-1. The development of onshore wind farms and waste/biomass combustion plants are generally unlikely to have a significant effect on water resources or water quality. However during their construction, water quality may be affected through sediment mobilisation/disruption during site establishment, earthworks, truck movements and construction. Groundwater could also be affected if excavation works intrude into an aquifer or confining layer which may affect water resources, water quality or the groundwater hydrology.

**Summary of Appraisal: Offshore Wind Farms:** The construction of offshore wind farms may also result in effects as any drainage from the construction process that contains contaminants, sediment will alter marine water quality. Dispersion and dilution to safe levels in the receiving waters will depend on the discharge and receiving water properties, coastal layout (e.g. estuary, bay, straight coastline, headland) and currents.



However the SEA on Offshore Energy (January 2009) concluded that in light of the offshore locations, water depths and current regimes prevalent in areas of likely wind farm development, significant contamination or ecological effects of drilling discharges are not expected. Other operational discharges are subject to regulatory controls, and are not considered to have significant environmental risk. UK regional and national monitoring programme results indicate that water column contamination and associated biological effects are not significant issues.

**Water Quality and Resources: Key recommendation(s) emerging from the appraisal and how DECC responded**

<b>Recommendation 6.1:</b> Consider including information on surface water quality that links with the Overarching NPS	<b>Response 6.1:</b> It is considered that there is no particular reason to have a separate Hydrogeology, Hydrology and Flood Risk chapter in the Onshore Wind section of EN-3.
<b>Recommendation 6.2:</b> The EA regulates discharges from land-based structures only, not anything put into the sea from vessels.	<b>Response 6.2:</b> Generic text in EN-1 is considered to be adequate.
<b>Recommendation 6.3:</b> Consider materials, for example, access tracks should be permeable	<b>Response 6.3:</b> Generic text in EN-1 is considered to be adequate.

EN-1 sets out the generic impacts and mitigating measures that relate to water quality. EN-3 does not set out any additional specific requirements on the impacts on water quality from onshore wind, waste or biomass combustion. Given that the range of impacts identified and mitigation measures proposed (and their means of implementation) do not differ from the existing planning system, the contribution of EN-3 over and above the existing planning system to the achievement of this objective is not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Traffic and Transport

**Objective:** *To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.*

EN-1 provides generic effects arising on traffic and transport and highlights that the key issue of the effects are on the local highways network. EN-3 identifies specific effects of onshore and offshore wind farms on traffic and transport however identifies no specific effects for waste/biomass combustion plants.

**Summary of Appraisal: Onshore Wind Farms** – Many wind farms are likely to be located in relatively remote areas served predominantly by minor road networks. Currently a number of components for turbines need to be brought in one piece and can be large (weighing in excess of 100 tonnes or up to 45m length for blades). This can result in localised disruptions to nationally significant volumes of traffic. In addition, to the generic transport effects identified in EN-1, EN-3 requires the IPC to satisfy itself, taking into account views of the relevant highways authority, that abnormal loads may be safely transported with the least inconvenience caused to other road users.

**Summary of Appraisal: Offshore Wind Farms** – The NPS states that the IPC cannot grant permission to a development where construction or operation activities cause interference with the use of a recognised sea lane essential to international navigation. The NPS also identifies that a risk assessment will be required. Where conflicts arise between the applicant and the shipping industry, it is for the IPC to judge the merits of the arguments taking advice from the Maritime and Coastguard Agency (MCA) where necessary.

**Summary of Appraisal: Waste/Biomass Combustion** – EN-3 does not set out any specific requirements or identify any specific impacts relating to traffic and transport for waste/biomass combustion plants. The requirements in relation to and mitigation of any effects on, traffic and transport are addressed in EN-1.

The table below identifies some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**Traffic and Transport: Key recommendation(s) emerging from the appraisal and how DECC responded**

<p><b>Recommendation 7.1:</b> Consider referencing the Government’s “water preferred” policy of using water for the transport of abnormal indivisible loads - where these can be transported by water (by coastal shipping or inland waterways), subject to certain tests, this will be required, as the Highways Agency will not issue the relevant Special Orders to allow road use.</p>	<p><b>Response 7.1:</b> General government policy such as this is relevant to all infrastructure and is included in the generic Traffic and Transport text in EN-1.</p>
<p><b>Recommendation 7.2:</b> Government policy supports modal shift from road to rail and/or water. However, the statement about multimodal transport could be clarified - ideally transport should be single mode but not road.</p>	<p><b>Response 7.2:</b> General government policy such as this is relevant to all infrastructure and is reflected in the generic Traffic and Transport text in EN-1, which does not however go into this level of detail.</p>
<p><b>Recommendation 7.3:</b> Suggest the possibility of conducting a dry run to assess issues for wide loads.</p>	<p><b>Response 7.3:</b> Reference to “dry run” added to mitigation.</p>

EN-1 sets out the generic impacts and mitigating measures that relate to traffic and transport. EN-3 does not set out any additional specific requirements for Waste/Biomass Combustion Plants however identifies that there may be specific impacts on onshore wind farms on the local highway network and on navigation and shipping routes from offshore wind farms. However given that the range of impacts identified and mitigation measures proposed (and their means of implementation) do not differ from the existing planning system, the contribution of EN-3 over and above the existing planning system to the achievement of this objective is not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

**Noise**

**Objective:** *To protect both humans and ecological receptors from disturbing levels of noise.*

EN-1 directs the IPC to consider the effects of noise generated by the proposals against a baseline level of noise and ensure that they are satisfied that the applicants’ proposals will avoid significant adverse impacts on health and quality of life from noise and will mitigate and minimise other adverse impacts on health and quality of life from noise. The applicant is also required to, where possible; contribute to improvements to health and quality of life by effective management and control of noise.

Short term effects on noise during construction and decommissioning activities are also covered in EN-1.

**Summary of Appraisal: Onshore Wind Farms** – EN-3 also recognises that there may be increases in noise levels from onshore wind farms. The NPS recommends that the IPC should satisfy itself that the proposed development complies with noise limits set out in ‘*The Assessment and Rating of Noise from Wind Farms*’. Where compliance cannot be demonstrated, the IPC will need to consider refusing the application.

**Summary of Appraisal: Offshore Wind Farms** - EN-3 does not set out any specific requirements or identify any specific impacts in relation to offshore wind farms. The requirements in relation to and mitigation of any effects are addressed in EN-1.

EN-1 sets out the generic impacts and mitigating measures that relate to noise. EN-3 sets out specific additional requirements concerning the impacts on noise of onshore wind farms. However, EN-3 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to noise, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

### Landscape, Townscape and Visual Effects

**Objective:** *To protect and enhance landscape quality, townscape quality and to enhance visual amenity.*

EN-1 identifies national designations as the key landscape features to protect, in accordance with current landscape guidance.

**Summary of Appraisal: Onshore Wind Farms** – In addition to the requirements of EN-1, EN-3 recognises that there are specific issues relating to onshore wind farm developments. EN-3 requires that pre-application consultation is undertaken by the applicant and that the arrangement of wind turbines within a site is carefully designed to minimise effects so far as is possible. EN-3 recognises that mitigation in the form of reducing the scale or number of individual wind turbines may not be feasible without unduly affecting generating capacity of the site; however, EN-3 also notes that ‘wind turbines should be carefully designed within a site to minimise effects on the landscape’.

**Summary of Appraisal: Offshore Wind Farms** – In addition to the guidance set out in EN-1, EN-3 requires an assessment of the effects on landscape, seascape and visual effects unless the wind farm is not visible from the shore. Viewpoints must be consulted upon with the statutory consultees at the EIA stage and where appropriate must include the cumulative effects from other developments. EN-3 recognises that mitigation in the form of reducing in the scale or number of individual wind turbines is unlikely to be feasible; however, EN-3 notes that ‘wind turbines should be carefully designed within a site to minimise effects on the landscape’.

**Summary of Appraisal: Waste/Biomass Combustion** – In addition to the requirements set out in EN-1, EN-3 states that the IPC should be satisfied that the design of the proposed plant is of appropriate quality and minimises adverse effects on the landscape character and quality. This may include the design, scale and layout of the plant and other buildings, and includes the colour and materials used. Additionally, the IPC should expect applicants to seek to landscape combustion plant to reduce adverse effects through the use of the earth bunds, mounds and tree screening. Assessments of the landscape and visual effects must be undertaken by the applicant and should have regard to the building size, stack height, and plume visibility, which the IPC will consider in the decision making process having due regard to technical and legislative restrictions on the design.

The table below identifies some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**Landscape, Townscape and Visual Effects:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation 9.1:** Consider the visual impact of access tracks.

**Response 9.1:** The EIA Regs and generic EN-1 landscape and visual text require all landscape and visual effects to be considered, and thus would include any effects from access tracks.

EN-1 sets out the generic impacts and mitigation measures that relate to landscape. EN-3 sets out specific additional requirements concerning the impacts on landscape from all the technologies considered. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this effect. As the range of impacts identified and mitigation measures proposed (and their means of implementation) given in EN-1 and EN-3 do not differ from the existing planning system, the contribution of EN-3 over and above the existing planning system to the achievement of this objective is not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Archaeology and Cultural Heritage

**Objective:** *Protect and where possible enhance the historic environment including heritage resources, historic buildings and archaeological features.*

EN-1 recognises that development consents granted to energy infrastructure projects by the IPC could potentially affect heritage assets. However, EN-1 gives guidance and seeks to ensure that sufficient weighting is given to the effects on the objectives for designation as well as to elements of setting that enhance the significance of designated heritage assets (and non-designated assets where there is significant archaeological interest).

**Summary of Appraisal: Onshore Wind Farms** – There are significant archaeology and cultural heritage effects that could arise from the development of onshore wind farms. The IPC may request visualisations to demonstrate the effects of onshore wind farms against the setting of historical features and, where necessary, may request a cumulative assessment of the impacts on the setting. In addition to specifying mitigating measures such as trial trenching or a watching brief, the IPC are also directed to consider granting consents which require micro-siting within a specified tolerance, of elements of the permitted infrastructure so that precise locations can be amended during construction stage, where previously unknown artefacts of archaeological interest are uncovered during construction.

EN-3 advises the IPC that onshore wind farms are not considered permanent features in the landscape as the applicants can specify the length of time they wish the consent to be granted for (usually 25 years) and upon its expiration, the wind farm may be decommissioned and dismantled. The period of time that the wind farm is on the site is likely therefore to inform the IPC in their consideration of the significance of the effects.

**Summary of Appraisal: Offshore Wind Farms** – EN-3 sets out further specific considerations relevant to offshore wind farms. In particular, it recognises that there could be effects on seabed archaeology (submerged settlements or wreck sites) as well as onshore features of significant maritime importance. The NPS requires applicants to consult relevant bodies, and the IPC to gain advice from statutory advisers (e.g. English Heritage, Cadw).

Furthermore, the NPS requires that the IPC should be satisfied that the offshore wind farms and associated infrastructure have been designed sensitively.

**Summary of Appraisal: Waste/Biomass Combustion** – EN-3 does not set out any specific requirements or identify any specific impacts in relation to waste or biomass combustion plants. The requirements in relation to and mitigation of any effects are addressed in EN-1.

The table below identifies some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**Archaeology and Cultural Heritage: Key recommendation(s) emerging from the appraisal and how DECC responded**

<p><b>Recommendation 10.1:</b> Palaeo-archaeology is also considered important. Note there is lots of guidance on offshore archaeology that has been developed in relation to the offshore aggregates dredging industry.</p>	<p><b>Response 10.1:</b> It is considered that the text adequately covers all relevant archaeology.</p>
<p><b>Recommendation 10.2:</b> Raise specific concern with stating that wind farms are not permanent structures as this can have severe implications on the culture and heritage assets. Consider revising.</p>	<p><b>Response 10.2:</b> On the “non-permanent nature” of wind farms point, the concern is not shared. The text is telling the IPC that the time-limited and non-permanent nature of onshore wind farms may be a relevant consideration. The IPC can determine for themselves the weight to which they give to this. They may consider that even turbines being there for 25 years is too long and the effect is too great and they could still refuse to grant consent for a scheme.</p>

EN-1 sets out the generic impacts and mitigating measures that relate to archaeology and cultural heritage. EN-3 sets out additional specific requirements for onshore wind farms/offshore winds farms but does not identify any for waste/biomass combustion plants. The temporal characteristic of wind farms is of particular relevance to the historic environment. Although this is considered to provide limited benefits to the protection of the effects on the historic environment this aspect is recognised within current planning policy guidance, along side measures which seek to ensure the environment is preserved and enhanced and any impacts are fully mitigated. It is therefore conclude that as the range of impacts identified and mitigation measures proposed (and their means of implementation) given in EN-1 and EN-3 do not differ from the existing planning system (which for the purpose of this AoS considered the consultation draft of PPS15 as part of the baseline), the contribution of EN-3 over and above the existing planning system to the achievement of this objective is therefore not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

**Air Quality**

**Objective:** *To Protect and enhance air quality on local, regional, national and international scale.*

EN-1 directs the IPC to work closely with the Environment Agency and/or the pollution control authority, and other relevant bodies and require appropriate levels of assessment to identify potential effects. The IPC must be satisfied that development consent can be granted taking full account of environmental impacts.

**Summary of Appraisal: Onshore Wind Farms/Offshore Wind Farms** - EN-3 does not set out any specific requirements or identify any specific impacts in relation to onshore or offshore wind farms. The requirements in relation to and mitigation of any effects are addressed in EN-1).

**Summary of Appraisal: Waste/Biomass Combustion** – There may well be an increase in emissions of pollutants such as NO<sub>x</sub>, SO<sub>x</sub>, Carbon Monoxide and particulates from the combustion of waste and biomass. In addition, the emission of heavy metals, dioxins and furans from the combustion of waste are also of relevance. These could affect sensitive receptors such as human health and ecological habitats/species. However, EN-3 states that plant meeting the requirements of the Waste Incineration Directive and which do not exceed local air quality standards should not be considered by the IPC as being detrimental to health (2.5.39).

EN-1 sets out the generic impacts and mitigating measures that relate to Air Quality. EN-3 sets out additional specific requirements for waste/biomass combustion plants but does not identify any for onshore wind farms/offshore wind farms.

The range of impacts identified and mitigation measures proposed (and their means of implementation) given in EN-1 and EN-3 do not differ from the existing planning system, the contribution of EN-3 over and above the existing planning system to the achievement of this objective is not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Soil and Geology

**Objective:** *To promote the use of brownfield land and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.*

EN-1 directs the IPC to consider the potential effects any proposed energy infrastructure may have on existing, adjacent and proposed land uses, which is anticipated to include consideration of the agricultural quality of soils as well as the planning significance of any development that may be affected.

**Summary of Appraisal: Onshore Wind Farms** – There may be a potentially detrimental effect from the construction and operation of access roads and the excavation of ground for turbine foundations and other ancillary equipment, although it is recognised that the footprint of individual turbines is relatively compact. The significance of any potential effect is unknown at this stage as it depends on site specific data. Such effects would be captured within EIA. EN-3 does not set out any explicit requirement for the IPC to consider the effect on geological SSSI or geoparks but refers to these within EN-1.

**Summary of Appraisal: Offshore Wind Farms** – Again it is recognised that there may be a potentially detrimental effect from the construction, excavation of the sea bed for turbine foundations and other ancillary equipment, although the footprint of individual turbines is relatively compact. The significance of any potential effect is unknown at this stage as it depends on site specific data.

An SEA on Offshore Energy was produced earlier this year (January 2009). This advised that seabed mapping undertaken in advance of operations would allow the identification and hence avoidance of valued seabed features. Contamination of sediments may occur from discharges of drilling wastes and spills. The composition of construction discharges from wind farm operations is regulated, with increasingly stringent controls applied in



recent years. Monitoring results indicate that sediment contamination is not considered a significant issue in offshore wind farm developments.

**Summary of Appraisal: Waste/Biomass Combustion** – EN-3 does not set out any specific requirements or identify any specific impacts. The requirements in relation to and mitigation of any effects are addressed in EN-1

EN-1 sets out the generic impacts and mitigating measures that relate to soil and geology. EN-3 sets out additional specific requirements for onshore wind farms/offshore wind farms.

The range of impacts identified and mitigation measures proposed (and their means of implementation) given in EN-1 and EN-3 do not differ from the existing planning system, the contribution of EN-3 over and above the existing planning system to the achievement of this objective is not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Health and Well-Being

**Objective:** *To protect and enhance the physical and mental health of the population and enhance the physical and mental health of the population.*

Commercial wind farms do not exceed a shadowing effect of more than 1 hertz, whilst epileptic sufferers are not known to be affected by frequencies below 2.5 hertz.

Atmospheric emissions from combustion activities may result in a number of health effects such as inflaming respiratory conditions. EN-3 considers the effects of emissions in sections on air which require the IPC to be satisfied that there is no good reason to believe that relevant permits would not be granted by the Environment Agency and that any plant would not meet the requirements of the Waste Incineration Directive and Large Combustion Plant Directive.

The range of impacts identified and mitigation measures proposed (and their means of implementation) given in EN-1 and EN-3 do not differ from the existing planning system, the contribution of EN-3 over and above the existing planning system to the achievement of this objective is not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Equality

**Objective:** *To encourage equality and sustainable communities.*

The NPS does not direct the IPC to determine the effectiveness of energy infrastructure in reducing inequality, as these are dealt with through other government policies and plans.

**Summary of Appraisal: Onshore Wind Farms/Offshore Wind Farms/Waste/Biomass Combustion** – EN-3 does not set out any specific requirements or identify any specific impacts.

EN-3 does not set out any additional specific requirements for onshore wind farms/offshore wind farms or waste/biomass combustion plants. The contribution of EN-3 over and above the existing planning system to the achievement of this objective is not considered to be significant.



The appraisal indicated that there will be **no overall effect** on this objective.

## 10. What are the cumulative and synergistic effects of the NPS?

The SEA Directive, and its implementing regulations in the UK, requires that secondary, cumulative and synergistic effects are considered as part of the appraisal. These effects were considered in the commentary above.

A number of individual developments may give rise to cumulative effects when they are considered together (rather than in isolation). This is recognised by the Overarching NPS EN-1 which states that *‘the IPC should consider how the accumulation of effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place’* (para 4.2.4). To support this, the NPS states that *‘the Environmental Statement should provide information on how the effects of the applicant’s proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)’* (para 4.2.3).

## 11. What are the conclusions and key findings of the appraisal?

The NPS is likely to improve business and investor confidence in low carbon infrastructure projects. The NPS is also likely to improve the speed of the application process and as such will result in these projects being implemented in a faster timescale. This is anticipated to have a positive contribution towards the realisation of the government’s low carbon targets and progress towards a low carbon economy. However, beyond this there are no significant differences identified between existing consenting requirements and what will be required under the IPC/NPS system. EN-3 has neither set out additional, more stringent requirements for applications, in terms of identifying, assessing or mitigating the effects nor has it relaxed any requirements. Therefore, and in light of the assumptions (set out in **Section 4.6**) the NPS EN-3 is not envisaged to have any significant effects at the national policy level when compared to the existing consenting controls.

## 12. How will any effects be monitored?

It is a requirement of the SEA Directive to describe the measures envisaged concerning how significant effects of implementing the NPS will be monitored. As ODPM Guidance<sup>83</sup> (ODPM, 2005) notes, *‘it is not necessary to monitor everything, or monitor an effect indefinitely. Instead, monitoring needs to be focused on significant sustainability effects’*.

Monitoring should therefore be focussed upon significant effects that may give rise to irreversible damage, with a view to identifying trends before such damage is caused and significant effects where there was uncertainty in the AoS and where monitoring would enable preventative or mitigation measures to be undertaken.

The effects that should be monitored therefore include:

- Uncertain effects on Ecology (AoS Objective 2).

Monitoring measures have also been proposed for positive effects, these include:

<sup>83</sup> *Practical Guide to the Strategic Environmental Assessment Directive* (ODPM, September 2005).

- Positive effects on Climate Change (AoS Objective 1);
- Positive effects on Resources and Raw Material (AoS Objective 3); and
- Positive effects on Economy and Skills (AoS Objective 4).

The measures are identified in the Table 2 (these will be reviewed in light of comments on the significance of effects).

**Table 2 Potential Monitoring Measures**

AoS Objective	Monitoring Measure	Source(s) of Information
1. Climate Change	Emission of greenhouse gases and greenhouse gases from Energy sector	Defra ( <a href="http://www.defra.gov.uk/environment/statistics/globalatmos">www.defra.gov.uk/environment/statistics/globalatmos</a> )
2. Ecology (Flora and Fauna)	Condition reports for designated sites	Natural England; Countryside Council Wales; Scottish Natural Heritage
3. Resources and Raw Materials	Industrial and commercial waste Energy Trends and Prices	Defra ( <a href="http://www.defra.gov.uk/environment/statistics/waste/wrindustry">www.defra.gov.uk/environment/statistics/waste/wrindustry</a> ) National Statistics ( <a href="http://stats.berr.gov.uk/uksa/energy/sa20090827.htm">http://stats.berr.gov.uk/uksa/energy/sa20090827.htm</a> )
4. Economy and Skills	Energy costs	National Statistics ( <a href="http://stats.berr.gov.uk/uksa/energy/sa20090827.htm">http://stats.berr.gov.uk/uksa/energy/sa20090827.htm</a> )

### 13. What are the next steps?

The AoS Report and the consultation on it fulfil the requirements of Stage C and D of the SEA process (see **Section 1.3**). This Non-Technical Summary of the AoS Report for the Renewable Energy Infrastructure NPS provides a summary of the information presented in the AoS Report, which should be referred to for more detailed information.

This AoS Report will be presented for consultation alongside the draft NPS for Renewable Energy Infrastructure from 9 November 2009 to 22 February 2010. Feedback received from consultees in relation to the AoS will be documented and considered. The NPS Renewable Energy Infrastructure may be amended and revisions to the AoS may be made. A Post Adoption Statement will be produced to summarise how the AoS and the consultation responses have been taken into account and how environmental considerations have been integrated into the Renewable Energy Infrastructure NPS.

# Planning For New Energy Infrastructure

**Appraisal of Sustainability for the draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines: Non-Technical Summary**



This document is the **Non-Technical Summary** of the **Appraisal of Sustainability (AoS)** Report produced as part of the appraisal undertaken to inform the **National Policy Statement (NPS) for Gas Supply Infrastructure and Gas and Oil Pipelines** (also referred to as EN-4).

The following sections explain what the Gas Supply Infrastructure and Gas and Oil Pipelines NPS is, provide an outline of its content and describes the relationship of the NPS to the Overarching NPS and to the other technology-specific NPSs. An outline of the AoS process and the role of the AoS Report in this process is described on page iii. The findings and recommendations arising from the AoS are presented on page xi.

For more information on this public consultation and how to give us your views, please see the Consultation Document on the draft NPSs for energy.

## 1. What are the National Policy Statements for Energy?

The Planning Act 2008 changes the way in which nationally important planning decisions are made. It has established a new Infrastructure Planning Commission (IPC) to take planning decisions on nationally significant infrastructure. The IPC replaces the current process in which the decisions are taken by the Secretary of State from the appropriate Government Department. The IPC will determine planning applications on nationally significant infrastructure projects using planning policy and guidance set out within National Policy Statements (NPSs) for the infrastructure from the transport, energy, waste, and water sectors. Government Departments are responsible for preparing each of the NPSs. The Department of Energy and Climate Change (DECC) are responsible for preparing those related to energy infrastructure projects. These are:

- Overarching NPS for Energy (EN-1);
- Fossil Fuel Electricity Generating Infrastructure (EN-2);
- Renewable Energy Infrastructure (EN-3);
- Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4);
- Electricity Networks Infrastructure (EN-5); and
- Nuclear Power Generation (EN-6).

Under the Act, the IPC will examine applications and make decisions on the following nationally significant energy development:

- Electricity generating stations generating more than 50 megawatts onshore and 100 megawatts offshore. This includes generation from fossil fuels, renewables and nuclear. For these types of infrastructure, the Overarching NPS (EN-1) in conjunction with the relevant technology-specific NPSs will be the primary basis for IPC decision making.
- Electricity lines at or above 132kV. For this infrastructure, EN-1 in conjunction with the Electricity Networks NPS (EN-5) will be the primary basis for IPC decision making.
- Large gas reception and Liquefied Natural Gas facilities and underground gas storage facilities (above limits set out in EN-4 and the Planning Act). For this infrastructure, EN-1 in conjunction with the gas supply infrastructure and pipelines NPS (EN-4) will be the primary basis for IPC decision making.
- Cross country oil and gas pipelines at or above the threshold of 16.093 kilometres/10 miles in length and certain licensed gas transporter pipelines (see EN-4 for all pipeline thresholds). For this infrastructure, EN-1 in conjunction with EN-4 will be the primary basis for IPC decision making.

NPSs collectively present a summary of government energy and climate policy, the national need for energy infrastructure and guidance to the IPC on how to assess the likely impacts of energy infrastructure. The Nuclear NPS is different in that it also assesses the potential suitability of sites for new nuclear stations and it is the subject of a separate AoS which has assessed those parts of the Overarching NPS which apply to nuclear stations.

## **2. What is the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

The NPS for Gas Supply Infrastructure and Gas and Oil Pipelines sets out the national policy for new gas supply infrastructure and gas and oil pipelines. In combination with the Overarching NPS, it will be used to provide the primary basis for decisions made by the IPC regarding the granting of development consent for nationally significant gas supply infrastructure and gas and oil pipelines.

Developers will need to ensure that their applications for development consent are consistent with the requirements of relevant NPSs, as the IPC must decide the application in accordance with their content except in the circumstances set out in Section 104 of the Planning Act (2008).

The NPS for Gas Supply Infrastructure and Gas and Oil Pipelines will be issued by the Secretary of State for DECC. It applies to decisions for nationally significant gas supply infrastructure and gas and oil pipeline projects (as described in Part 1 of the NPS) in England and Wales (and Scotland in the case of cross border oil and gas cross-country pipelines). The NPS for Gas Supply Infrastructure and Gas and Oil Pipelines will remain in force in its entirety unless withdrawn or suspended in whole or in part by the Government and will be subject to review by the Government in order to ensure that it remains appropriate for IPC decision making.

## **3. What is an Appraisal of Sustainability (AoS)?**

The Planning Act 2008 requires that ‘an appraisal of the sustainability of the policy set out in the statement’ is carried out. Section 5(5) of the Planning Act explains what the policy set out in statement may, in particular contain<sup>87</sup>. It may:

- Set out, in relation to energy, the need for energy infrastructure which is appropriate nationally [Section 5(5)(a) of the Act]
- Set out criteria to be applied in deciding whether a location is suitable (or potentially suitable) for a specified energy technology [Section 5(5)(b) of the Act];
- Set out the relative weight to be given to specific criteria [Section 5(5)(c) of the Act];
- Identify locations which are potentially unsuitable for development [Section 5(5)(d) of the Act]; and
- Set out circumstances in which it is appropriate for a specified type of action to be taken to mitigate the impact of specified energy technologies [Section 5(5)(f) of the Act].
- Section 5(5)(e) of the Planning Act states that a National Policy Statement may identify one or more statutory undertakers as appropriate persons to carry out a specified description of development. Given that energy is delivered through a liberalised market, limiting energy developers would restrict competition and contravene the free market approach to energy development.

The AoS of the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines has been undertaken in a manner

<sup>87</sup> Section 5(5) of the Planning Act. Available at [http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga\\_20080029\\_en.pdf](http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga_20080029_en.pdf) (Accessed 23/09/09)

that incorporates the requirements of the European Directive on Strategic Environmental Assessment (SEA) (2001/42/EC) and the transposing UK Regulations<sup>88</sup>.

SEA is a statutory requirement following the adoption of European Union Directive 2001/42/EC which was transposed into UK legislation on the 20th July 2004 as Statutory Instrument No. 1633 – The Environmental Assessment of Plans and Programmes Regulations 2004. The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.

In addition to assessing the environmental effects required by the SEA Directive, the aim of the AoS is to identify, describe and evaluate the likely social and economic effects of implementing the NPS. Each AoS has been carried out at the same time as the development of the NPS and has therefore helped to inform that NPS. The NPS contains potential measures to mitigate significant adverse effects. All the NPSs (EN-1 to EN-6) have been subjected to an AoS.

An overview of the key stages of the AoS process is presented below.

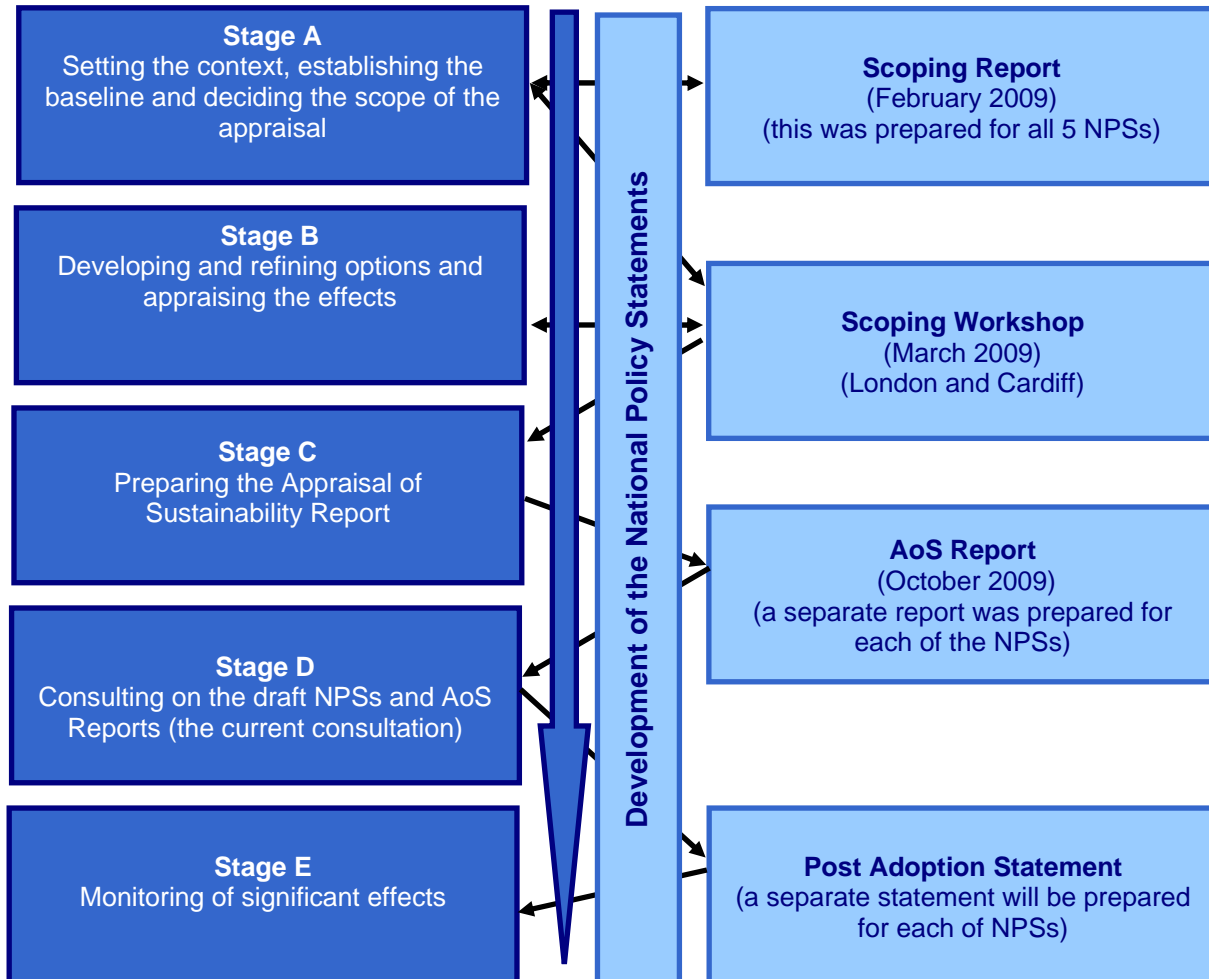
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<sup>88</sup> *The Environmental Assessment of Plans and Programmes Regulations 2004 (S.I. 2004/1633). Note: These Regulations apply when the plan or programme applies to England and any other part of the UK.*



## Appraisal Process

## Key Outputs



The AoS process began in early 2009 and reflects national guidance on SEA practice<sup>89</sup>. A Scoping Report (Stage A) was consulted on by statutory consultees in February and March 2009. A summary of the results of this consultation are presented in **Annex C** of the Overarching AoS Report and the consultees' responses have been considered in this AoS. From March through to September options were developed and refined and the effects of the NPSs were appraised (Stage B). The AoS Reports were prepared during this time (Stage C) before being consulted on (Stage D, the current consultation). Stage E, the final stage will involve setting the measures for monitoring significant impacts.

<sup>89</sup> ODPM (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*.

#### 4. What relationship does the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines have with other policies, plans and programmes?

The AoS reviewed other relevant policies, plans, and programmes that could influence the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines, to identify how the NPS could be affected by the other policies, or how it could contribute to, or hinder, the achievement of any environmental or sustainability targets set out in these policies. The review also helped to support the completion of the social, economic and environmental baseline and aid the determination of the key issues. The full review is provided in **Annex B** of the full Overarching AoS Report.

The NPS for Gas Supply Infrastructure and Gas and Oil Pipelines reflects European and International requirements where these are set out in legislation (for example, the UK Climate Change Act and other government agreements on climate change being key influences on the development of the NPSs).

#### 5. Which sustainability topics has the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines been appraised against?

The NPS for Gas Supply Infrastructure and Gas and Oil Pipelines has been appraised against 14 topic areas. All of the topics identified in the Scoping Report were ‘scoped in’ (i.e. considered to be relevant to the appraisal<sup>90</sup>). The topics are identified below and are linked with the AoS Objectives identified in **Table 1** (page xi).

1. Climate Change	6. Water Quality & Resources	11. Air Quality
2. Ecology (Flora and Fauna)	7. Traffic and Transport	12. Soil and Geology
3. Resources and Raw Materials	8. Noise	13. Health and Well-Being
4. Economy and Skills	9. Landscape, Townscape and Visual	14. Equality
5. Flood Risk	10. Archaeology and Cultural Heritage	

The baseline is common to all of the non-nuclear NPSs (EN-1 –EN-5). To avoid repetition, the baseline material is presented in **Annex F** of the Overarching AoS Report and referenced in each of the non-nuclear AoS reports (EN-2- EN-5).

#### 6. What reasonable alternatives for implementing the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines were identified and appraised?

In line with the principles of good policy making and the requirements of the SEA legislation, a range of reasonable alternatives for the NPS were considered. These alternatives should be realistic, feasible and genuine. Within the strategic framework set by Government, the energy sector relies on private sector investment. In general, the UK Government does not therefore specify the technologies that should be within the energy mix or what their volumes should be (with the exception of renewables where there are specific EU targets although not at the level of individual renewables technologies).

<sup>90</sup> Following consultation on the Scoping Report, *noise* and *landscape features* were scoped back into the appraisal (i.e. they were originally anticipated not to be relevant to a high-level appraisal but following comments this was reconsidered and they were included).

The objective in drafting the non-nuclear NPSs has been, for the most part, to reflect and clarify existing policy and practice of the Secretary of State in consenting nationally significant energy infrastructure. The intention is not to use the non-nuclear NPSs to change significantly the underlying policies against which applications are assessed (or the “benchmark” for what is, or is not, an acceptable nationally significant energy development). Therefore, the non-nuclear NPSs are based on established energy and climate change policies and the focus of their content is the manner in which energy infrastructure that flows from those policies should be controlled, i.e. guidance on the key issues that the IPC should take into account in its decision making. Where there have been policy developments these have been conducted through separate processes, such as the consultation on the framework for the development of clean coal, and the NPS reflects those separate developments.

As a result, the following strategic-level alternatives were considered:

1. No NPS - “the effects of No NPS” to mean the effects of constructing energy infrastructure under a business as usual scenario where there is no NPS to set the framework for development consents;
2. An NPS that only set out high level Government energy policy;
3. An NPS that a) set out high level Government energy policy and b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments; or
4. An NPS that a) set out high level Government energy policy, b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments and c) set out guidance on how impacts of energy developments could be avoided or mitigated.

**What ‘No NPS’ means:** Government does not draft or designate an NPS for energy infrastructure. This is the “business as usual” scenario; energy companies would still apply for development consent for new nationally significant energy infrastructure to the IPC, which would consider a planning application and make a recommendation to the Secretary of State instead of making the decision themselves. However, in the absence of a comprehensive statement of national need and specific guidance on the application of energy policy to development consents that are provided by the NPS, the IPC would have few benchmarks against which to make recommendations. The IPC would have to attempt to interpret Government policy, but with no guarantee that their interpretation concurred with Government intentions. The IPC might fail to consider wider policy issues.

New nationally significant energy infrastructure could still be built but it is doubtful that some of the benefits of the new consenting regime would be realised.

Further, where there is no designated NPS and the IPC therefore acts as recommending body to the Secretary of State, the IPC should report to the Secretary of State within nine months of accepting an application. The Secretary of State has a further three months to make a decision to grant consent. This means that development consent should be granted in 12 months. However, since the IPC has the power to extend the time it is given to examine the application, it is more likely to need to extend its timetable in the absence of a designated NPS to allow time to consider the questions of need, the suitability of a location or alternative locations without specific guidance on particular issues. It is therefore highly likely that development consent would take longer than if an NPS were designated. This could result in delays in the planning process which would increase uncertainty for energy companies and make new nationally significant energy infrastructure a less attractive option.

The preferred option is Option 4 as this enables the clearest guidance to be given to the IPC on the circumstances in which different forms of energy development will be acceptable and does so in a way that is transparent to other interested parties. This option also helps to ensure that significant effects on the environment, economy and society are duly considered in the decision making process (which may be overlooked or not considered in Option 2). Furthermore, Option 4 includes details of avoidance and mitigation measures that may be adopted by the applicant or the IPC thus enabling the minimisation of potentially detrimental effects. The inclusion of such information is considered to be beneficial as it enables the applicant to see what effects the IPC will be considering and the types of mitigation measures that may be relevant.

The site-specific approach has been undertaken for the Nuclear NPS only, owing to the public interest in where nuclear is sited and in accordance with Parliamentary commitments. However, the Government does not consider it appropriate to use the energy NPSs to attempt at a national level to identify and prescribe specific locations for all of the technologies referred to in the suite of Energy NPSs. Given the range and complexity of technical, legal, environmental, geological and commercial siting issues that are relevant to each of the non-nuclear technologies, a strategic search would significantly delay the publication of the non-nuclear NPSs to the detriment of the timely deployment of new electricity infrastructure (given the urgency and need as set out in the Overarching Energy NPS). In any event, it would be very difficult to accurately predict the number of sites/routes that would be needed. For these reasons, it was not considered a reasonable alternative for the NPS to identify the specific sites for the development of energy infrastructure.

The other alternatives, are identified below in **Table 1** with reasons for them not being included with the NPS identified by DECC.

**Table 1 Alternative Approaches to Implement the NPS**

Alternative Approaches to Implement the NPS	Response to the alternatives (provided by DECC)
<p><b>Gas Supply Infrastructure:</b> The NPS should specify exact locations where gas supply infrastructure should be sited.</p>	<p>The NPS makes clear that there is a need for increased import and storage of natural gas. It does not, however, aim to calculate the precise volumes needed or the proportion and mix of storage and import infrastructure which will need to be deployed. There are a number of ways in which the market could deploy existing and evolving technology to meet the need for gas and sites for the infrastructure will need to be tested and explored. A combination of short range and medium range underground storage options are likely to be needed as well as long range storage options which could provide endurance. Industry is in the best place to explore the feasibility of these options. As a more diverse gas supply market becomes established, further options will need to be continuously reassessed.</p> <p>It is therefore unreasonable for the NPS to specify exact locations where gas supply infrastructure should be sited.</p>
<p><b>Pipelines:</b> The NPS should specify exact location where pipelines should be sited.</p>	<p>The case for new gas and oil pipelines will be linked to the need to connect up new infrastructure, or to reinforce transmission pipelines to reflect changing requirements for the flow of gas or oil due to new import and storage arrangements. It would not be feasible to set out these requirements in advance of the siting of new infrastructure. The aim should be to ensure that the siting of new gas pipelines should be designed in to new infrastructure</p>

Alternative Approaches to Implement the NPS	Response to the alternatives (provided by DECC)
	<p>plans as early as possible so that full consideration can be given to the routeing rather than the siting of gas and oil pipelines</p> <p>It would be unreasonable therefore to specify pipeline routes that would necessarily constrain development of gas and oil infrastructure.</p>

## 7. What aspects of the draft NPSs were appraised?

Projects consented under the IPC/NPS process will clearly have a number of direct, indirect and cumulative effects. The AoS identifies and assesses those effects arising as a result of the NPS and this is considered against the baseline (i.e. what's happening now and what's likely to happen in the future). In this way the appraisal assesses the effects of the differences between the current consenting regime ('business as usual') and the IPC/NPS process.

The likely effects of the NPSs have been considered across a range of geographic scales (including UK, regional and local). However, with the exception of the Nuclear Power Generation NPS, the Energy NPSs do not prescribe the location for new infrastructure projects and there are limitations in terms of how far appraising effects at a non-spatially specific level can be taken. This is not to exclude the possibility that the effects could be significant; rather, that it will often only be possible to judge whether such effects are significant at the project level.

It is anticipated that relevant receptors and the assessment of project-level effects will be given full consideration at the project level, through for example Environmental Impact Assessment (EIA), Habitats Regulations Assessment (HRA) and other statutory and non-statutory assessments.

The following assumptions have then been used to aid the understanding of the influence of the NPSs on the outcome of planning decisions. It is intended that the IPC/NPS process:

- Will help to ensure that decisions are taken consistently, and will increase certainty (and efficiency) for investors;
- Will add greater certainty to the delivery of nationally significant energy infrastructure by making the guidance on decision-making clearer and more transparent;
- Will lead to faster decisions which may lead to more projects being built in the short-term. Faster decisions will improve the UK's security of supply. The guidance to the IPC on the overall level of need for energy infrastructure is relevant in terms of the IPC's understanding of the scale of need when considering individual applications;
- Will not have a significant effect on the proportion or type of energy generating facilities being submitted for consent – i.e. the NPSs focus on the factors that are considered during the decision making process for applications. They do not determine how many applications or the types of applications submitted – this is left to the market to decide or is influenced by Government policy delivered through other means to ensure new infrastructure is available quickly enough to meet demand; and
- The Government will monitor the infrastructure to ensure that goals are being achieved and, if necessary, alter the signals it gives to the market to drive development.

These effects have then been used as the basis to assess the implications of the NPS for future planning decisions. The AoS focuses on the material differences to sustainability against the existing planning system for energy infrastructure.

## 8. What approach was taken to the appraisal?

The appraisal of the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines has been undertaken using an objectives-led approach. The baseline information, the review of plans and programmes and the key issues identified were used to develop 14 AoS objectives (presented in **Table 2**). Each objective is supported by a series of guide questions (and these are identified in **Section 3.4** of the AoS for EN-1). The AoS objectives cover all of the topics that the appraisal is required to include information on (as set out in the SEA Directive).

The NPS for Gas Supply Infrastructure and Gas and Oil Pipelines has been appraised in terms of the extent to which it contributes towards achieving the AoS objective (e.g. Biodiversity) when considered against the baseline set by the existing planning environment. The 'guide questions' have been used to assist the appraisal of the potential effects in a qualitative manner, ensuring consideration is given to relevant influencing factors.

**Table 2 AoS Objectives**

AoS Objective	SEA Topic Requirement
<b>1. Climate Change:</b> To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.	Climate Change
<b>2. Ecology (Flora and Fauna):</b> To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.	Fauna, flora and biodiversity
<b>3. Resources and Raw Materials:</b> To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.	Material assets
<b>4. Economy and Skills:</b> To promote a strong and stable economy with opportunities for all.	Material assets
<b>5. Flood Risk:</b> To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring it is resilient over its lifetime without increasing risks elsewhere.	Climatic factors
<b>6. Water Quality:</b> To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).	Water
<b>7. Traffic and Transport:</b> To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.	Population
<b>8. Noise:</b> To protect both human and ecological receptors from disturbing levels of noise.	Population
<b>9. Landscape, Townscape and Visual:</b> To protect and enhance landscape quality, townscape quality and to enhance visual amenity.	Landscape
<b>10. Archaeology and Cultural Heritage:</b> Protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.	Cultural heritage, including architectural and archaeological heritage
<b>11. Air Quality:</b> To protect and enhance air quality on local, regional, national and international scale.	Air
<b>12. Soil and Geology:</b> To promote the use of brownfield land and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.	Soil
<b>13. Health and Well-Being:</b> To protect and enhance the physical and mental health of the	Human health



AoS Objective	SEA Topic Requirement
population	
<b>14. Equality:</b> To encourage equality and sustainable communities.	Human health

For each of the objectives against which the NPS has been appraised, the score given was one of the following:

- **Significant Positive:** A very strong positive effect of the proposed NPS on the AoS Objective
- **Minor Positive:** A minor positive effect of the proposed NPS on the AoS Objective
- **No Overall effect:** No overall effects arising from proposed NPS on the AoS Objectives although this may include some very minor or isolated effects (where this is the case these are identified)
- **Minor Negative:** A minor negative effect of the proposed NPS on the AoS Objective
- **Significant Negative:** A very strong negative effect of the proposed NPS on the AoS Objective
- **Uncertain:** An uncertain effect of the proposed NPS on the AoS Objective
- **No Relationship:** There is no relationship between the proposed NPS and the AoS Objective.

In predicting and evaluating the effects of the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines, all effects have been considered, including those that are minor or non-significant, but which could combine to create a significant cumulative or synergistic effect.

## 9. What were the key significant effects (when considered against the existing consenting regime)?

This section presents a summary of the appraisal of the Gas and Oil NPS against the 14 objectives (which were identified in the Scoping Report). The appraisal compared the existing 'business as usual' scenario (see **Annex F** of the Overarching AoS Report) with what would be achieved under the NPS.

Entec provided on-going commentary on the sustainability effects of the emerging NPSs. The boxes presented under each of the objectives identify some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.



Summary of Appraisal

**Table 3 Summary of the appraisal of EN-4**

AoS Objective	Assessment	Comment
<p><b>1. Climate Change:</b> To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.</p>	?	<p>EN-4 sets out specific detail on resilience to climate change on top of the generic mitigation outlined in EN-1 which will result in a significant positive score against climate change resilience. The NPS in combination with Overarching NPS EN-1 will significantly improve the speed of the application determination process and as such will result in gas and oil infrastructure coming forward more quickly. However, it is not clear the effect that this will have against the climate change objective. As a consequence, the overall effect of improving storage and infrastructure for their delivery is assessed as uncertain.</p>
<p><b>2. Ecology (Flora and Fauna):</b> To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.</p>	?	<p>There is the potential for projects consented under by the IPC to have ecological effects; however, at the strategic level the effects on ecology from the energy infrastructure are uncertain due to the lack of specificity of sites and potential locations of proposed plant.</p>
<p><b>3. Material Assets and Resources Use:</b> To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy</p>	+ / -	<p>The speeding up of the delivery of gas and oil infrastructure could be considered to have a positive effect against the delivery of secure and affordable energy part of the objective. However, speeding up the construction of import and storage facilities as fossil fuel use would not score positively against the promotion of sustainable use of resources and natural assets. It is therefore considered that there will be both positive and negative effects against this objective.</p>
<p><b>4. Economy and Skills:</b> To promote a strong and stable economy with opportunities for all.</p>	+	<p>This NPS is anticipated to have short term positive effects against local economies due to the added requirements on goods and services. The security provided by a swifter planning system will have a positive effect on both energy suppliers and industry users.</p>
<p><b>5. Flood Risk:</b> To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring it is resilient over its lifetime without increasing risks elsewhere.</p>	0	<p>EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to flood risk, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.</p>
<p><b>6. Water Quality:</b> To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).</p>	0	<p>EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to water quality, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.</p>
<p><b>7. Traffic and Transport:</b> To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.</p>	0	<p>EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to traffic and transport, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.</p>
<p><b>8. Noise:</b> To protect both human and ecological receptors from disturbing levels of noise.</p>	0	<p>EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to noise, above those already considered through the planning</p>

AoS Objective	Assessment	Comment		
		process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.		
<b>9. Landscape, Townscape and Visual:</b> To protect and enhance landscape quality, townscape quality and to enhance visual amenity.	0	EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to landscape townscape and visual, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.		
<b>10. Archaeology and Cultural Heritage:</b> Protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.	0	EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Archaeology and cultural heritage, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.		
<b>11. Air Quality:</b> To protect and enhance air quality on local, regional, national and international scale.	0	EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to air quality, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.		
<b>12. Soil and Geology:</b> To promote the use of brownfield land and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.	0	EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Soil and Geology, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.		
<b>13. Health and Well-Being:</b> To protect and enhance the physical and mental health of the population	0	EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to health and wellbeing, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.		
<b>14. Equality:</b> To encourage equality and sustainable communities.	0	EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to equality, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-4 is considered not to be significant against this objective.		
Score Key	Significant (Major) Positive ++	Significant (major) negative --	no overall effects 0	Uncertain ?
	Minor Positive +	Minor Negative -		

The following provides more detailed information on the findings of the assessment.

## Climate Change

**Objective:** To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.

Climate change resilience is an important consideration for the LNG facilities and gas reception facilities as this infrastructure will be marine or coastal in location where the anticipated effects of climate change will be most

keenly felt. As such, EN-4 provides guidance for applicants with proposals relevant to the infrastructure covered by EN-4 such as increase in the risk of flooding, damage from the effects of wind, higher temperatures and earth movement or subsidence. The importance of considering the effects of climate change in relation to this infrastructure is important in maximising resilience to climate change. Ensuring that these issues are robustly addressed at the planning stage helps EN-4 to score positively against climate change.

The NPS in combination with Overarching NPS EN-1 will significantly improve the speed of the application determination process and as such will result in gas and oil supply infrastructure coming forward more quickly. It is unclear what the effects of this will be against the climate change objective as a secure supply of gas and oil could be seen to promote cleaner gas power stations over more polluting coal power stations. However, it could also be seen to promote supply of aviation fuel, road vehicle fuel and domestic fuel, all of which contribute significantly to national greenhouse gas levels.

**Summary of Appraisal: Underground Gas Storage, LNG facilities, and gas receptions facilities/Gas and Oil Pipelines** – In addition to the mitigation measures outlined in EN-1, EN-4 requires applicants to set out specific detail on resilience to climate change which will result in a significant positive score against climate change resilience. The IPC/NPS system will result in the speeding up of applications. However, it is not clear the effect that this will have against the climate change objective. As a consequence, the overall effect of improving storage and infrastructure for their delivery is assessed as uncertain.

*The appraisal indicated that the effects will be **uncertain** on this objective.*

## Ecology

**Objective:** *To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.*

EN-1 recognises existing national and international designations for wildlife and habitat protection along with a range of potential effects and mitigation measures which will apply to the ecological effects of infrastructure outlined in EN-4. EN-4 presents the guidance for the IPC in appraising applications for gas supply infrastructure and gas and oil pipelines. Only LNG import facilities are recognised as having the potential for specific ecological effects which are not addressed by EN-1.

**Summary of Appraisal: Underground Gas Storage, LNG facilities, and gas receptions facilities** – As LNG facilities will often be in coastal and estuarine locations which will often require dredging, EN-4 includes detail on how this should consider effects on local marine and estuarine environments. EN-4 goes on to suggest that applicants propose mitigation measures to address the effects of dredging. It is not clear that this will ensure that there will be no overall effects on marine ecosystems though the NPS does require the application of best practice for all applications.

The effects related to the disposal of brine from salt cavern gas storage facilities on ecological receptors is not explored in the 2.10.3 'Disposal of brine' impacts section; however, reference is made to the requirement for environmental permits and discharge consents from the Environment Agency which should ensure that effects are no different from those experienced under the current system.

**Summary of Appraisal: Gas and Oil Pipelines** No specific effects associated with pipelines are set out in the NPS, and the IPC is directed to the generic issues set out in EN-1 with regard to the potential effect on ecology of the proposed energy infrastructure. It is felt that the inclusion of details such as those provided on landscape features could be useful here; the fragmentation of habitat by linear features, even in a temporary sense could result in significant effects on ecological resources. For example the removal of hedgerow for several miles is thought to fragment the habitat of dormice and some bat species; this could be mitigated through the inclusion of appropriate mitigation<sup>91,92</sup> techniques.

In accordance with the requirements of Article 6 of the Habitats Directive (92/43/EEC) in which a plan or project is likely to have a significant impact on a protected site, DECC have completed a screening assessment of the effects of the NPSs on European designated sites. The conclusion of the assessment was that the effects on ecology from the energy infrastructure are uncertain. Given the conclusion of the screening assessment, it is also considered that there will be uncertain effects on ecology as a result of EN-4 in conjunction with EN-1.

*The appraisal indicated that effects against this objective are **uncertain**.*

### Material Assets and Resource Use

**Objective:** *To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.*

EN-4 does not set out any specific requirements for the IPC to consider beyond those identified in EN-1 since the infrastructure outlined in EN- 4 are not anticipated to generate notable volumes of waste. The exception to this is the disposal of brine in the creation of new underground gas storage facilities in salt caverns. Here a clear waste hierarchy is detailed which will help to mitigate the effects associated with the disposal of brine.

The speeding up of the delivery of gas and oil infrastructure could be considered to have a positive effect against the delivery of secure and affordable energy part of the objective. However, both gas and oil are fossil fuels and because gas is considered to be *cleaner* than oil and even cleaner than coal speeding up the delivery of gas supply infrastructure will allow the UK to take advantage of the best and cleanest fossil fuel whilst cleaner and low carbon technologies are being developed. Speeding up the construction of import and storage facilities as fossil fuel use would not score positively against the promotion of sustainable use of resources and natural assets. It is therefore considered that there will be both positive and negative effects against this objective.

*The appraisal indicated that effects against this objective are **both positive and negative**.*

### Economy and Skills

**Objective:** *To promote a strong and stable economy with opportunities for all.*

EN-4 provides guidance for the IPC in reaching a planning decision for gas supply infrastructure and gas and oil pipelines. It is anticipated that the introduction of the new planning system for major infrastructure, which is outlined in the NPSs, will speed up the planning process. It is anticipated that increasing the speed of delivery of

<sup>91</sup> *Natural England (1996) Dormouse conservation handbook.*

<sup>92</sup> *National Grid (2007) Barton Stacey to Lockerly ES.*

these projects will have localised positive effects against employment, and subsequently the economy particularly in areas where new LNG facilities and gas reception facilities are proposed.

The additional security provided by projects being completed faster will have direct positive effects on energy and industry. More certainty about the delivery of Gas and Oil will allow more accurate long term planning.

**Summary of Appraisal: Underground Gas Storage, LNG facilities, gas receptions facilities and Gas and Oil pipelines** – This NPS is anticipated to have short term positive effects against local economies due to the added requirements on goods and services. The security provided by a swifter planning system will have a positive effect on both energy suppliers and industry users.

*The appraisal indicated that there will be **significant positive effects** on this objective.*

## Flood Risk

**Objective:** *To avoid an increase in flood risk (including coastal flood risk) and to avoid siting flood sensitive infrastructure in areas of high flood risk.*

**Summary of Appraisal: Underground Gas Storage, LNG facilities, and gas receptions facilities** – The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1 since onshore Gas storage and reception facilities are not anticipated to create a notable impact on flood risk.

EN-4 does not set out any specific requirements or identify any specific impacts relating to flood risk although it is recognised that LNG and gas reception facilities are likely to be proposed for coastal or estuarine sites. Generic guidance on flood risk is contained within EN-1 which sets out that the approach the IPC will take to assessing whether any application that comes forward is permissible in terms of flood risk will be in accordance with the principles of *Planning Policy Statement (PPS) 25: Development and Flood Risk*. This will seek to ensure that proposed development does not result in increased flood risk, that it would be safe from flooding given the prevailing flood risk and where possible reduces flood risk overall.

Notwithstanding these requirements there may be **exceptional** instances, where an increase in flood risk cannot be avoided or mitigated and in these circumstances, EN-1 states (in Section 4.22) that *'the IPC may grant consent if it is satisfied that the increase in flood risk can be mitigated to an acceptable level and taking account of the benefits of, including the need for, nationally significant energy infrastructure as set out in Part 3...'*. However, there are **exceptional** instances where under the present planning system, projects that will result in an increased flood risk have still been consented. EN-1 therefore represents a continuation of the approach under the current planning system and does not significantly increase or decrease flood risk.

EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to flood risk, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Water Quality and Resources

**Objective:** *To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).*

**Summary of Appraisal: *Underground Gas Storage, LNG facilities, and gas receptions facilities*** – In addition to the generic effects considered within EN-1, EN-4 considers effects from the construction of an underground gas storage facility in a salt dome which has high demand on water and will also result a requirement to dispose of brine.

**Mitigation:** The NPS recommends measures to control the abstraction of water, given in abstraction licences and environmental permits through the Environment Agency. Similarly, for the disposal of brine water EN-4 requires that the IPC should refuse consent if it has good reason to believe that the Environment Agency will not approve the disposal arrangements. Consequently, the NPS is not considered to have a significant effect.

**Summary of Appraisal: *Gas and Oil Pipelines***. EN-4 considers the addition effects arising from the construction of pipelines, which create corridors of surface clearance and excavation with potential effects on water courses. Aquifers, water abstraction, discharge points and areas prone to flooding.

**Mitigation:** EN-4 recommends that the IPC secure appropriate mitigation measures (such as working methods to prevent spillage of fuels, as well as achieve acceptable residual impacts on water quality and resources using techniques for crossing rivers, managing surface water after construction, including restoring vegetation in order to control run off) be included in the planning application. In combination with the generic guidance included in EN-1 it is not considered that the NPS will have any significant effect.

EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to water quality, above those already considered through the planning process and those detailed above. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Traffic and Transport

**Objective:** *To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.*

Generic traffic and transport effects are explored in EN-1. Specific safety considerations associated with the transport of Gas and Oil are regulated by the Control of Major Accident Hazards (COMAH) Regulations 1999 and are enforced jointly through the HSE and Environment Agency. Detail on the applicant's assessment of these effects is discussed in more detail under the health and well-being objective.

**Summary of Appraisal: *Underground Gas Storage, LNG facilities, and gas receptions facilities*** – The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1 since onshore gas storage and reception facilities are not anticipated to create a notable impact on traffic and transport. However, it is felt, with reference to LNG facilities shipping issues should be adequately addressed within EN-4.



**Summary of Appraisal: Gas and Oil Pipelines** The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1 as pipelines are not anticipated to create a notable impact on traffic and transport, particularly post construction.

The table below identifies some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**Traffic and Transport:** Key recommendation(s) emerging from the appraisal and how DECC responded

**Recommendation: 7.1:** With reference to LNG facilities, DECC to consider effects of increased tanker shipments on marine transport, with particular reference to safety.

**Response: 7.1:** DECC agrees that the safety of shipping and navigation is an important issue for all shipping, especially LNG tanker shipments. The existing legal framework and its enforcement will ensure that LNG tanker shipments are safely regulated. The Safety of Life at Sea Convention (SOLAS) governs the requirements for safe navigation between ports. Chapters 4 and 5 cover the carriage requirements of navigation and communications equipment, nautical charts and publications, and the planning and execution of the passage, port to port. The carriage requirements vary between ship sizes and classes, but for all intents and purposes LNG ships (because of their size) will face the strictest carriage requirements of any cargo ship. These are variously inspected, surveyed and certified by the Flag Maritime Administration or a Recognised Organisation acting on their behalf. A proportion of foreign Flag vessels entering UK ports are subject to Port State Control.

At sea, LNG tankers have to obey all the normal traffic reporting and routing rules and procedures as well as COLREGs (collision regulations).

There are special rules regarding port operations for LNG vessels, with detailed procedures set out port by port in each Port Safety Management System.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Noise

**Objective:** *To protect both humans and ecological receptors from disturbing levels of noise.*

**Summary of Appraisal: Underground Gas Storage, LNG facilities, and gas reception facilities** – EN-4 recognises that the construction of underground gas storage facilities including the drilling of new boreholes and operational noise from the compressors and drivers can potentially give rise to high noise levels. Gas Reception Facilities also may have noise impacts from operation of motors, compressors and equipments such as heaters and inter-stage coolers. LNG Reception Facilities also have noise from their process plant, compressors and LNG pumps.

**Mitigation:** To minimise the noise, the NPS recommends the use of typical noise mitigation measures such as high performance acoustic cladding for buildings, the use of sound attenuators on ventilation systems, acoustic lagging on pipe work. With this mitigation in place, it is anticipated that there will be no overall effects against this objective for underground gas storage, LNG facilities and gas reception facilities.



**Summary of Appraisal: Gas and Oil Pipelines** - EN-4 recognises that the construction and routing of pipelines is likely to create some noise impacts.

**Mitigation:** To minimise the impacts, the NPS requires the IPC to ensure pipelines avoid areas of human habitation or other noise sensitive sites, and identify all noise sensitive sites within a 300m corridor either side of the pipeline. Mitigation is proposed for the effects of construction noise; though given the temporary nature of construction it is not anticipated that there would be any significant effects.

EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to noise, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Landscape, Townscape and Visual Effects

**Objective:** *To protect and enhance landscape quality, townscape quality and to enhance visual amenity.*

**Summary of Appraisal: Underground Gas Storage, LNG facilities, and gas receptions facilities** In addition to the requirements of EN-1, the NPS recognises that there are specific issues relating to LNG import facilities.

**Mitigation** The NPS suggests that LNG facilities can be reduced in scale or counter sunk or use squat tanks to minimise visual impacts so far as is possible. It is not clear that the proposed mitigation will be practical in all events but it is anticipated that the consideration of methods to reduce the visual impacts of LNG facilities could help to reduce the residual landscape effects of development.

**Summary of Appraisal: Gas and Oil Pipelines** – In addition to the requirements set out in EN-1, the NPS recognises that pipelines have potential to have a temporary and permanent impact on landscape.

**Mitigation:** The proposed route should avoid any impact on protected landscapes such as AONBs or National Parks except in exceptional circumstances. The mitigation outlined in EN-4 relating to pipelines is currently applied to pipelines in areas of sensitive landscape and as such its inclusion in EN-4 is welcome.

EN-4 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to landscape, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Archaeology and Cultural Heritage

**Objective:** *Protect and where possible enhance the historic environment including heritage resources, historic buildings and archaeological features.*

Increasing the speed at which planning applications are processed such that projects are consented on average 12 months sooner than under the current system is not anticipated to alter the effects of gas and oil infrastructure on archaeology and cultural heritage resources. No specific guidance on the assessment, appraisal or mitigation of effects on archaeology and cultural heritage within EN-4 other than the inclusion of detail about the protection of hedgerows under the landscape effects of pipelines (the Hedgerow regulations consider a hedgerow 'important' based on a number of criteria one of which are 'ancient'). This is considered to be current best practice and is not anticipated to result in any significant effects against this objective.

**Summary of Appraisal: *Underground Gas Storage, LNG facilities, and gas receptions facilities*** – The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1.

**Summary of Appraisal: *Gas and Oil Pipelines*** - The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Air Quality

**Objective:** *To Protect and enhance air quality on local, regional, national and international scale.*

Increasing the speed at which applications are processed by a year on average is anticipated to speed up the delivery of gas and oil infrastructure projects. It is hoped that this will mean that there will be a more secure supply of gas and oil in the UK. As such there could be an increase in gas power stations coming forward which, depending on market conditions could be in place of more or less polluting alternatives.

**Summary of Appraisal: *Underground Gas Storage, LNG facilities, and gas receptions facilities*** – The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1 since onshore Gas storage and reception facilities are not anticipated to create a notable impact on air quality.

**Summary of Appraisal: *Gas and Oil Pipelines*** The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1 as pipelines are not anticipated to create a notable impact on air quality.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Soil and Geology

**Objective:** *To promote the use of brownfield land and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.*

The effects of speeding up the delivery of gas and oil infrastructure projects by a year is not anticipated to result in significant effects against this objective.

**Summary of Appraisal: *Underground Gas Storage, LNG facilities, and gas receptions facilities*** – The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1 since onshore Gas storage and reception facilities are not anticipated to create a notable effect on soil and geology.

**Summary of Appraisal: Gas and Oil Pipelines:** In addition to the requirements set out in EN-1, the NPS recognises that pipelines can be installed within a variety of geological conditions.

*The appraisal indicated that there are **no overall effects** on this objective.*

## Health and Well-Being

**Objective:** *To protect and enhance the physical and mental health of the population and enhance the physical and mental health of the population.*

Gas infrastructure is governed by the Control of Major Accident Hazards (COMAH) Regulations 1999, section 2.4 of EN-4 addresses the requirements for applicants and the IPC to consult with the HSE and Environment Agency in relation to COMAH. As such it is anticipated that there will be no overall effects against this objective.

Speeding up the planning process for gas and oil infrastructure is also not anticipated to result in effects against this objective. The appraisal indicated that there are **no overall effects** on this objective.

## Equality

**Objective:** *To encourage equality and sustainable communities.*

**Summary of Appraisal: Underground Gas Storage, LNG facilities, and gas reception facilities** – The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1 since onshore Gas storage and reception facilities are not anticipated to create a notable effect on equality.

**Summary of Appraisal: Gas and Oil Pipelines** The NPS does not set out any specific requirements for the IPC to consider beyond those identified in EN-1 as pipelines are not anticipated to create a notable effect on equality.

*The appraisal indicated that there are **no overall effects** on this objective.*

## 10. What are the cumulative and synergistic effects of the NPS?

The SEA Directive, and its implementing regulations in the UK, requires that secondary, cumulative and synergistic effects are considered as part of the appraisal. These effects were considered in the commentary above.

A number of individual developments may give rise to cumulative effects when they are considered together (rather than in isolation). This is recognised by the Overarching NPS EN-1 which states that *'the IPC should consider how the accumulation of effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place'* (para 4.2.4). To support this, the NPS states that *'the Environmental Statement should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)'* (para 4.2.3).

## 11. What are the conclusions and key findings of the appraisal?

The Energy NPSs contribute positively towards improving the vitality and competitiveness of the UK energy market. It provides greater clarity for developers, and so can help in terms of removing planning barriers associated with investment. Greater investment certainty would improve the UK's position for inward investment into energy

infrastructure creating opportunities for skilled workers. The Energy NPSs/IPC intend to deliver faster and more transparent decisions on energy infrastructure which should improve the UK's security of supply. The UK economy will benefit from reliable energy supplies.

The development of new energy infrastructure, at the scale and speed required to meet the current need, will affect ecology as development may occur on previously undeveloped land. However the significance of these effects remain uncertain at the strategic level. Beyond this there are no significant differences identified between the existing consenting requirements ('business as usual') and what will be required under the this NPS. This NPS does not set out additional, more stringent requirements for applications, in terms of identifying, assessing or mitigating the effects nor has it relaxed any requirements.

In light of the assumptions (set out on page ix) the NPS is envisaged to have a significant positive effect at the national policy level by contributing to security of supply. The Energy NPSs do not include site or project specific information so the AoS does not attempt to be site or project specific. Energy proposals brought forward under the Energy NPSs are liable to require project level, Environmental Impact Assessment and Habitats Regulations Assessment.

## 12. How will any effects be monitored?

It is a requirement of the SEA Directive to describe the measures envisaged concerning how significant effects of implementing the NPS will be monitored. As ODPM Guidance<sup>93</sup> (ODPM, 2005) notes, '*it is not necessary to monitor everything, or monitor an effect indefinitely. Instead, monitoring needs to be focused on significant sustainability effects*'.

Monitoring should therefore be focussed upon significant effects that may give rise to irreversible damage, with a view to identifying trends before such damage is caused and significant effects where there was uncertainty in the AoS and where monitoring would enable preventative or mitigation measures to be undertaken.

The effects that should be monitored therefore include:

- Uncertain effects on Climate Change (AoS Objective 1);
- Uncertain effects on Ecology (AoS Objective 2).

Monitoring measures have also been proposed for positive effects, these include:

- Positive effects on Economy and Skills (AoS Objective 4).

And the

- Positive and negative effects on Resources and Raw Material (AoS Objective 3); and

The measures are identified in the **Table 2** (these will be reviewed in light of comments on the significance of effects).

<sup>93</sup> *Practical Guide to the Strategic Environmental Assessment Directive* (ODPM, September 2005).

**Table 2 Potential Monitoring Measures**

AoS Objective	Monitoring Measure	Source(s) of Information
1. Climate Change	Emission of greenhouse gases Emission of CO <sub>2</sub> and greenhouse gases from Energy sector	Defra ( <a href="http://www.defra.gov.uk/environment/statistics/globalatmos">www.defra.gov.uk/environment/statistics/globalatmos</a> )
2. Ecology (Flora and Fauna)	Condition reports for designated sites	Natural England; Countryside Council Wales; Scottish Natural Heritage
3. Resources and Raw Materials	Industrial and commercial waste Energy Trends and Prices	Defra ( <a href="http://www.defra.gov.uk/environment/statistics/waste/wrindustry">www.defra.gov.uk/environment/statistics/waste/wrindustry</a> ) National Statistics ( <a href="http://stats.berr.gov.uk/uksa/energy/sa20090827.htm">http://stats.berr.gov.uk/uksa/energy/sa20090827.htm</a> )
4. Economy and Skills	Energy costs	National Statistics ( <a href="http://stats.berr.gov.uk/uksa/energy/sa20090827.htm">http://stats.berr.gov.uk/uksa/energy/sa20090827.htm</a> )

### 13. What are the next steps?

The AoS Report and the consultation on it fulfil the requirements of Stage C and D of the SEA process (see **Section 1.3**). This Non-Technical Summary of the AoS Report for the Overarching NPS provides a summary of the information presented in the AoS Report, which should be referred to for more detailed information.

This AoS Report will be presented for consultation alongside the draft NPS for Gas Supply Infrastructure and Gas and Oil Pipelines from 9 November 2009 to 22 February 2010. Feedback received from consultees in relation to the AoS will be documented and considered. The NPS for Gas Supply Infrastructure and Gas and Oil Pipelines may be amended and revisions to the AoS may be made. A Post Adoption Statement will be produced to summarise how the AoS and the consultation responses have been taken into account and how environmental considerations have been integrated into the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines.

# Planning For New Energy Infrastructure

Appraisal of Sustainability for the draft National Policy  
Statement for Electricity Networks Infrastructure: Non-Technical  
Summary

This document is the **Non-Technical Summary** of the **Appraisal of Sustainability** (AoS) Report produced as part of the appraisal undertaken to inform the **National Policy Statement (NPS) for Electricity Network Infrastructure** (also referred to as EN-5).

The following sections explain what the NPS for Electricity Network Infrastructure is, provide an outline of its content and describes the relationship of the NPS to the Overarching NPS and to the other technology-specific NPSs. An outline of the AoS process and the role of the AoS Report in this process is described on page iii. The findings and recommendations arising from the AoS are presented on page xi.

For more information on this public consultation and how to give us your views, please see the Consultation Document on the draft NPSs for energy.

## 1. What are the National Policy Statements for Energy Infrastructure?

The Planning Act 2008 changes the way in which nationally important planning decisions are made. It has established a new Infrastructure Planning Commission (IPC) to take planning decisions on nationally significant infrastructure. The IPC replaces the current process in which the decisions are taken by the Secretary of State from the appropriate Government Department. The IPC will determine planning applications on nationally significant infrastructure projects using planning policy and guidance set out within National Policy Statements (NPSs) for the infrastructure from the transport, energy, waste, and water sectors. Government Departments are responsible for preparing each of the NPSs. The Department of Energy and Climate Change (DECC) are responsible for preparing those related to energy infrastructure projects. These are:

- Overarching NPS for Energy (EN-1);
- Fossil Fuel Electricity Generating Infrastructure (EN-2);
- Renewable Energy Infrastructure (EN-3);
- Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4);
- Electricity Network Infrastructure (EN-5); and
- Nuclear Power Generation (EN-6).

Under the Act, the IPC will examine applications and make decisions on the following nationally significant energy development:

- Electricity generating stations generating more than 50 megawatts onshore and 100 megawatts offshore. This includes electricity generation from fossil fuels, renewables and nuclear power stations. For these types of infrastructure, the Overarching NPS (EN-1) in conjunction with the relevant technology-specific NPSs will be the primary basis for IPC decision making.
- Electricity lines at or above 132kV. For this infrastructure, EN-1 in conjunction with the Electricity Networks NPS (EN-5) will be the primary basis for IPC decision making.
- Large gas reception and Liquefied Natural Gas facilities and underground gas storage facilities (above limits set out in EN-4 and the Planning Act). For this infrastructure, EN-1 in conjunction with the gas supply infrastructure and pipelines NPS (EN-4) will be the primary basis for IPC decision making.
- Cross country oil and gas pipelines at or above the threshold of 16.093 kilometres/10 miles in length and certain licensed gas transporter pipelines (see EN-4 for all pipeline thresholds). For this infrastructure, EN-1 in conjunction with EN-4 will be the primary basis for IPC decision making.



NPSs collectively present a summary of government energy and climate policy, the national need for energy infrastructure and guidance to the IPC on how to assess the likely impacts of energy infrastructure. The Nuclear NPS is different in that it also assesses the potential suitability of sites for new nuclear stations and it is the subject of a separate AoS which has assessed those parts of the Overarching NPS which apply to nuclear stations.

## 2. What is the NPS for Electricity Network Infrastructure (EN-5)?

The NPS for Electricity Network Infrastructure sets out the national policy for new electricity network infrastructure. In combination with the Overarching NPS and the additional technology-specific NPSs, it will be used to provide the primary basis for decisions made by the IPC regarding the granting of development consent for nationally significant energy infrastructure.

Developers will need to ensure that their applications for development consent are consistent with the requirements of relevant NPSs, as the IPC must decide the application in accordance with their content except in the circumstances set out in Section 104 of the Planning Act 2008.

The NPS for Electricity Network Infrastructure is issued by the Secretary of State for DECC. It applies to decisions for overhead electricity lines of 132kv and above and associated electricity network infrastructure (as described in Part 1 of the NPS) in England and Wales. The NPS for Electricity Network Infrastructure will remain in force in its entirety unless withdrawn or suspended in whole or in part by the Government and will be subject to review by the Government in order to ensure that it remains appropriate for IPC decision making.

## 3. What is an Appraisal of Sustainability (AoS)?

The Planning Act 2008 requires that ‘an appraisal of the sustainability of the policy set out in the statement’ is carried out. Section 5(5)e of the Planning Act explains what the policy set out in statement may, in particular, contain<sup>98</sup>. It may:

- Set out, in relation to energy infrastructure, the amount, type or size of development which is appropriate nationally or for a specified area [Section 5(5)(a) of the Act]
- Set out criteria to be applied in deciding whether a location is suitable (or potentially suitable) for specified energy technologies [Section 5(5)(b) of the Act];
- Set out the relative weight to be given to specific criteria [Section 5(5)(c) of the Act];
- Identify locations which are potentially suitable or unsuitable for specified energy technologies [Section 5(5)(d) of the Act]; and
- Set out circumstances in which it is appropriate for a specified type of action to be taken to mitigate the impact of specified energy technologies [Section 5(5)(f) of the Act].

Section 5(5)(e) of the Planning Act states that a National Policy Statement may identify one or more statutory undertakers as appropriate persons to carry out a specified description of development. Given that energy is delivered through a liberalised market, limiting energy developers would restrict competition and contravene the market approach to energy development.

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<sup>98</sup> Section 5(5) of the Planning Act. Available at [http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga\\_20080029\\_en.pdf](http://www.opsi.gov.uk/acts/acts2008/pdf/ukpga_20080029_en.pdf) (Accessed 23/09/09)

The AoS of the NPS for Electricity Network Infrastructure has been undertaken in a manner that incorporates the requirements of the European Directive on Strategic Environmental Assessment (SEA) (2001/42/EC) and the transposing UK Regulations<sup>99</sup>.

SEA is a statutory requirement following the adoption of European Community Directive 2001/42/EC which was transposed into UK legislation on the 20th July 2004 as Statutory Instrument No. 1633 – The Environmental Assessment of Plans and Programmes Regulations 2004. The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.

In addition to assessing the environmental effects required by the SEA Directive, the aim of the AoS is to identify, describe and evaluate the likely significant social and economic effects of implementing the NPS. Each AoS has been carried out at the same time as the development of the NPS and has therefore helped to inform that NPS. The NPS contains potential measures to mitigate significant adverse effects. All the NPSs (EN-1 to EN-6) have been subjected to an AoS<sup>100</sup>.

An overview of the key stages of the AoS process is presented below.

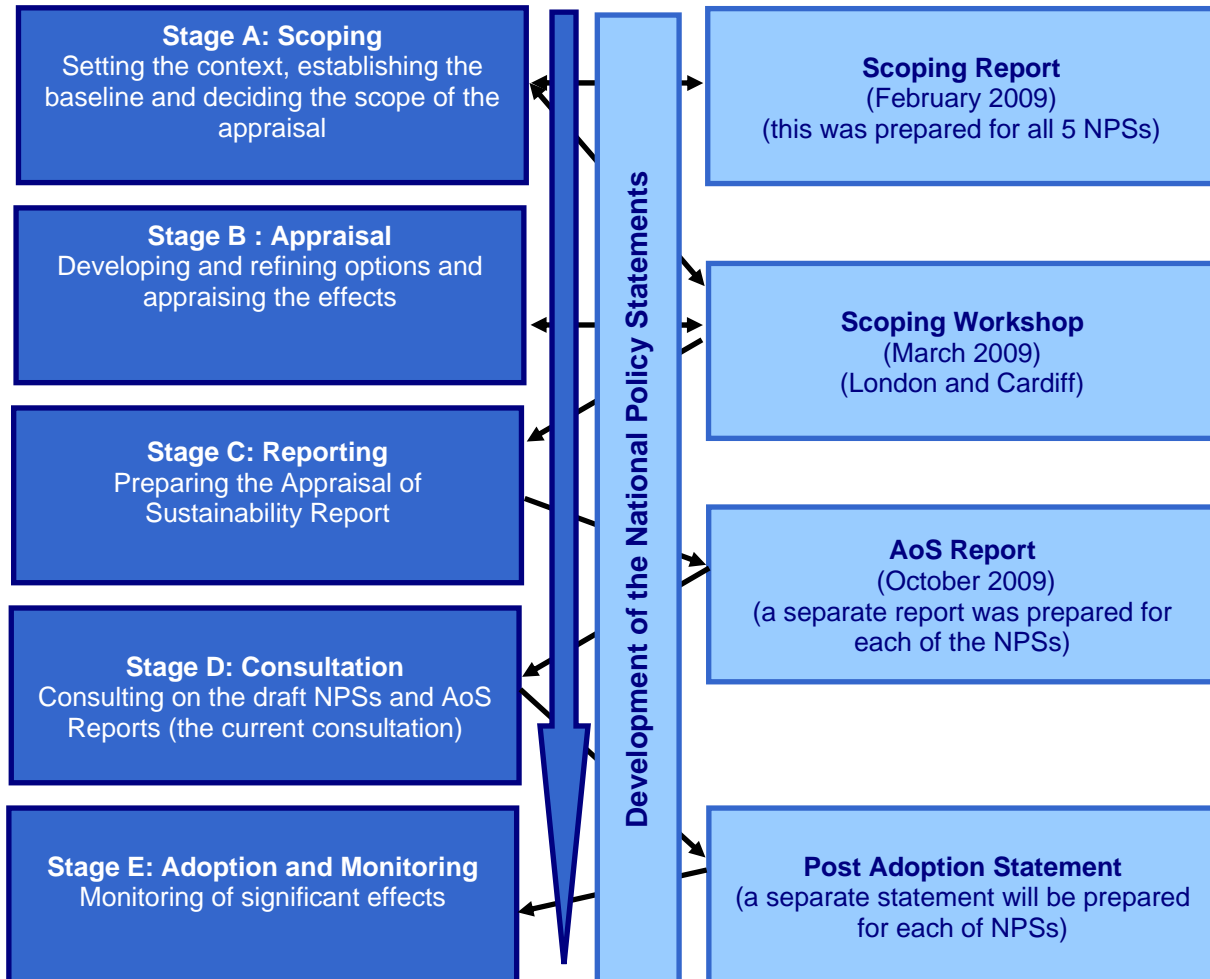
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<sup>99</sup> *The Environmental Assessment of Plans and Programmes Regulations 2004 (S.I. 2004/1633). Note: Note: These Regulations apply when the plan or programme applies to England and any other part of the UK.*

<sup>100</sup> *In addition to the work on the NPSs (including their AoS), DECC has also completed an SEA for Offshore Energy, is undertaking a feasibility study for tidal range power in the River Severn, which includes an SEA, and is beginning a feasibility study for wave and tidal projects around English and Welsh territorial waters.*

## Appraisal Process

## Key Outputs



The AoS process began in early 2009 and reflects national guidance on SEA practice<sup>101</sup>. A Scoping Report (Stage A) was consulted on by statutory consultees in February and March 2009. A summary of the results of this consultation are presented in **Annex C** of the Overarching Energy AoS Report and the consultees' responses have been considered within that AoS and also within the AoS for the NPS for Electricity Network Infrastructure. From March through to September options were developed and refined and the effects of the NPSs were appraised (Stage B). The AoS Reports were prepared during this time (Stage C) before being consulted on (Stage D, the current consultation). Stage E, the final stage will involve setting the measures for monitoring significant impacts.

<sup>101</sup> ODPM (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*.

#### 4. What relationship does the NPS for Electricity Networks Infrastructure have with other policies plans and programmes?

The AoS reviewed other relevant policies, plans, and programmes that could influence the NPS for Electricity Network Infrastructure, to identify how the NPS could be affected by the other policies, or how it could contribute to, or hinder, the achievement of any environmental or sustainability targets set out in these policies. The review also helped to support the completion of the social, economic and environmental baseline and aid the determination of the key issues. The full review is provided in **Annex B** of the Overarching Energy AoS Report.

The NPS for Electricity Network Infrastructure reflects European and International requirements where these are set out in legislation (for example, the UK Climate Change Act and other government agreements on climate change being key influences on the development of the NPSs).

#### 5. Which sustainability topics has the NPS for Electricity Networks been appraised against?

EN-5 has been appraised against 14 topic areas. All of the topics identified in the Scoping Report were ‘scoped in’ (i.e. considered to be relevant to the appraisal<sup>102</sup>). The topics are identified below and are linked with the AoS Objectives identified in **Table 2** (page x).

1. Climate Change	6. Water Quality & Resources	11. Air Quality
2. Ecology (Flora and Fauna)	7. Traffic and Transport	12. Soil and Geology
3. Resources and Raw Materials	8. Noise	13. Health and Well-Being
4. Economy and Skills	9. Landscape, Townscape and Visual	14. Equality
5. Flood Risk	10. Archaeology and Cultural Heritage	

The baseline is common to all of the non-nuclear NPSs (EN-1 –EN-5). To avoid repetition, the baseline material is presented in **Annex F** of the Overarching AoS Report and referenced in each of the non-nuclear AoS reports (EN-2 to EN-5).

#### 6. What reasonable alternatives for implementing the NPS for Electricity Network Infrastructure were identified and appraised?

In line with the principles of good policy making and the requirements of the SEA legislation, a range of reasonable alternatives for the NPS were considered. These alternatives should be realistic, feasible and genuine. Within the strategic framework set by Government, the energy sector relies on private sector investment. In general, the UK Government does not therefore specify the technologies that should be within the energy mix or what their volumes should be (with the exception of renewables where there are specific EU targets although not at the level of individual renewables technologies).

<sup>102</sup> Following consultation on the Scoping Report, *noise* and *landscape features* were scoped back into the appraisal (i.e. they were originally anticipated not to be relevant to a high-level appraisal but following comments this was reconsidered and they were included).

The objective in drafting the non-nuclear NPSs has been, for the most part, to reflect and clarify existing policy and practice of the Secretary of State in consenting nationally significant energy infrastructure. The intention is not to use the non-nuclear NPSs to change significantly the underlying policies against which applications are assessed (or the “benchmark” for what is, or is not, an acceptable nationally significant energy development). Therefore, the non-nuclear NPSs are based on established energy and climate change policies and the focus of their content is the manner in which energy infrastructure that flows from those policies should be controlled, i.e. guidance on the key issues that the IPC should take into account in its decision making. Where there have been policy developments these have been conducted through separate processes, such as the consultation on the framework for the development of clean coal, and the NPS reflects those separate developments.

As a result, the following strategic-level alternatives were considered:

1. No NPS - “the effects of No NPS” to mean the effects of constructing energy infrastructure under a business as usual scenario where there is no NPS to set the framework for development consents;
2. An NPS that only set out high level Government energy policy;
3. An NPS that a) set out high level Government energy policy and b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments; or
4. An NPS that a) set out high level Government energy policy, b) defined, through generic criteria, types of location which were unlikely (and/or likely) to be suitable for energy developments and c) set out guidance on how impacts of energy developments could be avoided or mitigated.

**What ‘No NPS’ means:** Government does not draft or designate an NPS for energy infrastructure. This is the “business as usual” scenario; energy companies would still apply for development consent for new nationally significant energy infrastructure to the IPC, which would consider a planning application and make a recommendation to the Secretary of State instead of making the decision themselves. However, in the absence of a comprehensive statement of national need and specific guidance on the application of energy policy to development consents that are provided by the NPS, the IPC would have few benchmarks against which to make recommendations. The IPC would have to attempt to interpret Government policy, but with no guarantee that their interpretation concurred with Government intentions. The IPC might fail to consider wider policy issues.

New nationally significant energy infrastructure could still be built but it is doubtful that some of the benefits of the new consenting regime would be realised.

Further, where there is no designated NPS and the IPC therefore acts as recommending body to the Secretary of State, the IPC should report to the Secretary of State within nine months of accepting an application. The Secretary of State has a further three months to make a decision to grant consent. This means that development consent should be granted in 12 months. However, since the IPC has the power to extend the time it is given to examine the application, it is more likely to need to extend its timetable in the absence of a designated NPS to allow time to consider the questions of need, the suitability of a location or alternative locations without specific guidance on particular issues. It is therefore highly likely that development consent would take longer than if an NPS were designated. This could result in delays in the planning process which would increase uncertainty for energy companies and make new nationally significant energy infrastructure a less attractive option.

The preferred option is Option 4 as this enables the clearest guidance to be given to the IPC on the circumstances in which different forms of energy development will be acceptable and does so in a way that is transparent to other interested parties. This option also helps to ensure that significant effects on the environment, economy and society are duly considered in the decision making process (which may be overlooked or not considered in Option 2). Furthermore, Option 4 includes details of avoidance and mitigation measures that may be adopted by the applicant or the IPC thus enabling the minimisation of potentially detrimental effects. The inclusion of such information is considered to be beneficial as it enables the applicant to see what effects the IPC will be considering and the types of mitigation measures that may be relevant.

The site-specific approach has been undertaken for the Nuclear NPS only, owing to the public interest in where nuclear is sited and in accordance with Parliamentary commitments. However, the Government does not consider it appropriate to use the energy NPSs to attempt at a national level to identify and prescribe specific locations for all of the technologies referred to in the suite of Energy NPSs. Given the range and complexity of technical, legal, environmental, geological and commercial siting issues that are relevant to each of the non-nuclear technologies, a strategic search would significantly delay the publication of the non-nuclear NPSs to the detriment of the timely deployment of new electricity infrastructure (given the urgency and need as set out in the Overarching Energy NPS). In any event, it would be very difficult to accurately predict the number of sites/routes that would be needed. For these reasons, it was not considered a reasonable alternative for the NPS to identify the specific sites for the development of energy infrastructure.

The other alternatives, are identified below in **Table 1** with reasons for them not being included with the NPS identified by DECC.

**Table 1 Alternative Approaches to Implement the NPS**

Alternative Approaches to Implement the NPS	Response to the alternatives (provided by DECC)
<p>The NPS should specify exact locations where electricity networks should be sited; in particular, this should follow the ENSG map.</p>	<p>The ENSG map is based on a range of possible scenarios for transmission reinforcement and not a complete survey of the network requirements in England and Wales. It would not therefore be reasonable to specify sites or routes for electricity networks based on the map. The map also only indicates very broad corridors for these potential reinforcements, which would lead to unnecessary planning blight for large swathes of the countryside. Further, the sites for electricity generating stations are not specified in the NPSs for non-nuclear generation.</p> <p>It would therefore be unreasonable to specify network routes and sites that would necessarily constrain development of electricity generating stations.</p>

## 7. What aspects of the draft NPSs were appraised?

Projects consented under the IPC/NPS process will clearly have a number of direct, indirect and cumulative effects. The AoS identifies and assesses those effects arising as a result of the NPS and this is considered against the baseline (i.e. what's happening now and what's likely to happen in the future). In this way the appraisal assesses the effects of the differences between the current consenting regime ('business as usual') and the IPC/NPS process.

The likely effects of the NPS have been considered across a range of geographic scales (including UK, regional and local). However, with the exception of the Nuclear Power Generation NPS, the Energy NPSs do not prescribe the location for new infrastructure projects and there are limitations in terms of how far appraising effects at a non-spatially specific level can be taken. This is not to exclude the possibility that the effects could be significant; rather, that it will often only be possible to judge whether such effects are significant at the project level.

It is anticipated that relevant receptors and the assessment of project-level effects will be given full consideration at the project level, through for example Environmental Impact Assessment (EIA), Habitats Regulations Assessment (HRA) and other statutory and non-statutory assessments.

The following assumptions have then been used to aid the understanding of the influence of the NPS on the outcome of planning decisions. It is intended that the IPC/NPS process:

- Will help to ensure that decisions are taken consistently, and will increase certainty (and efficiency) for investors.
- Will add greater certainty to the delivery of nationally significant energy infrastructure by making the guidance on decision-making clearer and more transparent.
- Will lead to faster decisions which may lead to more projects being built in the short-term. Faster decisions will improve the UK's security of supply. The guidance to the IPC on the overall level of need for energy infrastructure is relevant in terms of the IPC's understanding of the scale of need when considering individual applications.
- Will not have a significant effect on the proportion or type of energy generating facilities being submitted for consent – i.e. the NPSs focus on the factors that are considered during the decision making process for applications. They do not determine how many applications or the types of applications submitted – this is left to the market to decide or is influenced by Government policy delivered through other means to ensure new infrastructure is available quickly enough to meet demand.
- The Government will monitor the infrastructure to ensure that goals are being achieved and, if necessary, alter the signals it gives to the market to drive development.

These effects have then been used as the basis to assess the implications of the NPS for future planning decisions. The AoS focuses on the material differences to sustainability against the existing planning system for energy infrastructure.

## 8. What approach was taken to the appraisal?

The appraisal of the NPS for Electricity Network Infrastructure has been undertaken using an objectives-led approach. The baseline information, the review of plans and programmes and the key issues identified were used to develop 14 AoS objectives (presented in **Table 2**). Each objective is supported by a series of guide questions (presented in **Section 3.4** of the AoS for EN-1). The AoS objectives cover all of the topics that the appraisal is required to include information on (as set out in the SEA Directive).

The NPS for Electricity Network Infrastructure has been appraised in terms of the extent to which it contributes towards achieving the AoS objective (e.g. Biodiversity) when considered against the baseline set by the existing planning environment. The 'guide questions' have been used to assist the appraisal of the potential effects in a qualitative manner, ensuring consideration is given to relevant influencing factors.



**Table 2 AoS Objectives**

AoS Objective	SEA Topic Requirement
1. <b>Climate Change:</b> To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.	Climate Change
2. <b>Ecology (Flora and Fauna):</b> To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.	Fauna, flora and biodiversity
3. <b>Resources and Raw Materials:</b> To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.	Material assets
4. <b>Economy and Skills:</b> To promote a strong and stable economy with opportunities for all.	Material assets
5. <b>Flood Risk:</b> To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring it is resilient over its lifetime without increasing risks elsewhere.	Climatic factors
6. <b>Water Quality:</b> To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).	Water
7. <b>Traffic and Transport:</b> To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.	Population
8. <b>Noise:</b> To protect both human and ecological receptors from disturbing levels of noise.	Population
9. <b>Landscape, Townscape and Visual:</b> To protect and enhance landscape quality, townscape quality and to enhance visual amenity.	Landscape
10. <b>Archaeology and Cultural Heritage:</b> Protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.	Cultural heritage, including architectural and archaeological heritage
11. <b>Air Quality:</b> To protect and enhance air quality on local, regional, national and international scale.	Air
12. <b>Soil and Geology:</b> To promote the use of brownfield land and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.	Soil
13. <b>Health and Well-Being:</b> To protect and enhance the physical and mental health of the population	Human health
14. <b>Equality:</b> To encourage equality and sustainable communities.	Human health

For each of the objectives against which the NPS has been appraised, the score given was one of the following:

- **Significant Positive:** A very strong positive effect of the proposed NPS on the AoS Objective
- **Minor Positive:** A minor positive effect of the proposed NPS on the AoS Objective
- **No Overall effect:** No overall effects arising from proposed NPS on the AoS Objectives although this may include some very minor or isolated effects (where this is the case these are identified)
- **Minor Negative:** A minor negative effect of the proposed NPS on the AoS Objective
- **Significant Negative:** A very strong negative effect of the proposed NPS on the AoS Objective
- **Uncertain:** An uncertain effect of the proposed NPS on the AoS Objective
- **No Relationship:** There is no relationship between the proposed NPS and the AoS Objective.

In predicting and evaluating the effects of the NPS for Electricity Network Infrastructure, all effects have been

considered, including those that are minor or non-significant, but which could combine to create a significant cumulative or synergistic effect.

## 9. What were the key significant effects (when considered against the existing consenting regime)?

This section presents a summary of the appraisal of the NPS for Electricity Network Infrastructure against the 14 objectives.

**Table 3 Summary of the appraisal of EN-5**

AoS Objective	Assessment	Comment
<p><b>1. Climate Change:</b> To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.</p>	+	<p>EN-1, in combination with the technology-specific NPSs, will improve the speed of the application determination process and as such will result in low carbon energy infrastructure being implemented within a faster timescale. This is anticipated to have a positive contribution towards the realisation of the government's low carbon energy targets and progress towards a low carbon economy. As the electricity networks infrastructure would result in the distribution of this low carbon energy, it would also make a significant contribution to the achievement of this objective. As a consequence, EN-5 is considered to have a significant positive effect on the climate change objective.</p>
<p><b>2. Ecology (Flora and Fauna):</b> To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.</p>	?	<p>In light of the outcome of the HRA carried out in line with the Habitat's Directive (92/43/ECC), the effects on ecology from EN-5 are considered to be uncertain. This is also the case for ecology on sites outside the Natura 2000 network as the need for low carbon energy infrastructure is likely to necessitate development on previously undeveloped areas.</p> <p>Development applications will also be required to accord with advice given within EN-1 and EN-5 and appropriately mitigate and where practical create new habitats of value within the proposed landscaping.</p>
<p><b>3. Resources and Raw Materials:</b> To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.</p>	+ +	<p>No specific effects have been identified within EN-5; however, EN-1 contains generic effects of waste management and resource use. The electricity infrastructure may be used to distribute power created from low carbon technologies, and as such strengthen the existing supply of electricity from low carbon sources as a result support the delivery of secure, clean and affordable energy. In addition, by facilitating the operation of the provision of more decentralised electricity generation this will benefit security of supply. As a consequence, it is considered to result in a significant positive benefit overall.</p>
<p><b>4. Economy and Skills:</b> To promote a strong and stable economy with opportunities for all.</p>	+ +	<p>Whilst EN-5 or EN-1 will not alter the volume of projects coming forward (compared to the present), it is likely to speed up the determination process (the impact assessment references an improvement in application times). As a consequence, whilst there would be no net change in the employment opportunities created (when compared to those resulting from the current planning system), it is anticipated that these employment opportunities are more likely to occur earlier and when they are more likely to be significant to the economy – i.e. during a recession/or emerging from a recession. As a result, the significance of such effects will be greater than in a period of high employment.</p>

AoS Objective	Assessment	Comment
<p><b>5. Flood Risk:</b> To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring it is resilient over its lifetime without increasing risks elsewhere.</p>	0	<p>EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Flood Risk, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 could be considered not significant against this objective.</p>
<p><b>6. Water Quality:</b> To protect and enhance surface (including costal) and groundwater quality (including distribution and flow).</p>	0	<p>EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Water Quality and Resources, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 is considered not to be significant against this objective.</p>
<p><b>7. Traffic and Transport:</b> To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.</p>	0	<p>EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Traffic and Transport, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 is considered not to be significant against this objective.</p>
<p><b>8. Noise:</b> To protect both human and ecological receptors from disturbing levels of noise.</p>	0	<p>EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Noise, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 is considered not to be significant against this objective.</p>
<p><b>9. Landscape, Townscape and Visual:</b> To protect and enhance landscape quality, townscape quality and to enhance visual amenity.</p>	0	<p>EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to landscape, townscape and Visual, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 is considered not to be significant against this objective.</p>
<p><b>10. Archaeology and Cultural Heritage:</b> Protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.</p>	0	<p>EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to Archaeology and Cultural Heritage, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 is considered not to be significant against this objective.</p>
<p><b>11. Air Quality:</b> To protect and enhance air quality on local, regional, national and international scale.</p>	0	<p>EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to air quality, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 is considered not to be significant against this objective.</p>
<p><b>12. Soil and Geology:</b> To promote the use of brownfield land and where this is not possible to prioritise the protection of geologically important sites and agriculturally important land.</p>	0	<p>EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to soil and geology, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 is considered not to be significant against this objective.</p>
<p><b>13. Health and Well-Being:</b> To protect and enhance the physical and mental health of the population</p>	0	<p>EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to health and wellbeing, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 is considered not to be significant against this objective.</p>

AoS Objective		Assessment	Comment	
14. <b>Equality:</b> To encourage equality and sustainable communities.		<b>0</b>	EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to health and wellbeing, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of EN-5 is considered not to be significant against this objective.	
Score Key:	Significant (major) Positive +	Significant (major) negative -	no overall effects <b>0</b>	Uncertain ?
	Minor Negative -	Minor negative -		

Entec provided ongoing commentary on the sustainability effects of the emerging NPSs, and where relevant these points were incorporated in the NPSs. The boxes presented under each of the objectives identify some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

There are a number of topics against which EN-5 does not set out any specific requirements or identify any specific impacts. In these instances, EN-1 sets out the generic impacts, guidance and requirements and EN-5 is not considered to have any additional significant effects. Where the appraisal has not raised any additional issues or recommendations these are excluded from the analysis of EN-5 below. These topics include Traffic and Transport (7); Archaeology and Cultural Heritage (10), Air Quality (11), Soil and Geology (12) and Equality (14).

### Climate Change

**Objective:** *Does the NPS minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change?*

EN-1 details the requirements in relation to and mitigation of any effects on, climate change. EN-1 also describes how electricity networks should be designed to be resilient to such impacts. The effects of climate change are likely to increase risks to the resilience of some electricity infrastructure. EN-1 directs applicants of electricity infrastructure to include climate change resilience measures as part of the relevant impact assessment in the ES accompanying an application and set out how the proposal would be resilient to:

- flooding, particularly for sub-stations that are vital for the electricity transmission and distribution network,
- effects of wind and storms on overhead lines,
- higher average temperatures leading to increased transmission losses; and
- earth movement or subsidence caused by flooding and drought for underground cables.

EN-5 focuses specifically on electricity network infrastructure which may connect to renewable or non renewable energy sources.

**Summary of Appraisal: *Electricity Network Infrastructure:*** EN-5 does not set out any specific requirements or identify any specific impacts relating to climate change, the generic requirements in relation to and mitigation of any effects on climate change are addressed in EN-1.

EN-1, in combination with the technology-specific NPSs, will improve the speed of the application determination process and as such will result in low carbon energy infrastructure being implemented within a faster timescale.

This is anticipated to have a positive contribution towards the realisation of the government's low carbon energy targets and progress towards a low carbon economy. As the electricity networks infrastructure would result in the distribution of this low carbon energy, it would also make a significant contribution to the achievement of this objective. As a consequence, EN-5 is considered to have a minor positive effect on the climate change objective.

*The appraisal indicated that there will be **minor positive effects** on this objective.*

## Ecology

**Objective:** *To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality?*

EN-1 recognises existing national and international designations for wildlife and habitat protection along with a range of potential effects and mitigation measures. EN-5 focuses on electricity networks which comprises the transmission systems and associated infrastructure such as pylons, lines, and substations.

**Summary of Appraisal: Electricity Network Infrastructure:** EN-5 does not set out any specific requirements or identify any specific impacts relating to ecology. The generic requirements in relation to and mitigation of any effects on ecology are addressed in EN-1. The installation of towers and associated infrastructure can cause large scale habitat disturbance either terrestrially or in a marine environment depending on the location of the project. Where the lines are underground there may be specific impacts on animals where they bisect their habitats. However, habitats around towers and along overhead lines can also be reinstated to be of greater biodiversity value than they were previous to the installation and can result in additional wildlife corridors that facilitate species movement.

EN-1 concluded that in light of the outcome of the screening opinion in line with the Habitat's Directive (92/43/ECC), the effects on ecology from the energy infrastructure are considered to be uncertain. Given this conclusion, this view is also considered true for the EN-5 as the need for electricity networks infrastructure is likely to also necessitate development on previously undeveloped areas and as such impact on biodiversity. Development applications will also be required to accord with advice given within EN-1 and EN-5 and appropriately mitigate and where practical create new habitats of value within the proposed landscaping.

*The appraisal indicated that this will have **uncertain effects** on this objective.*

## Material Assets and Resource Use

**Objective:** *To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy?*

EN-1 addresses the generic issues of waste management and seeks to ensure that all development utilises effective waste management practices consistent with the waste management hierarchy. EN-5 focuses on electricity networks which comprises the transmission systems and associated infrastructure such as pylons, lines, and substations.

**Summary of Appraisal Electricity Network Infrastructure:** EN-5 does not set out any specific requirements or identify any specific impacts relating to material assets and resource use. The requirements in relation to and mitigation of any effects on material assets and resource use are addressed in EN-1.

No specific effects have been identified within EN-5; however, EN-1 contains generic effects of waste management and resource use. The electricity infrastructure may be used to distribute power created from low carbon technologies, and as such strengthen the existing supply of electricity from renewable sources as a result support the delivery of secure, clean and affordable energy. In addition, by facilitating the operation of the provision of more decentralised electricity generation this will result in increased security of supply more than in the past within the UK. As a consequence, it is considered to result in a significant positive benefit overall.

*The appraisal indicated that there will be **significant positive effects** on this objective.*

## Economy and Skills

**Objective:** *To promote a strong and stable economy with opportunities for all?*

EN-1 considers this objective under socio-economic effects, and outlines the long term economic benefits of the generation infrastructure. However, it is noted that it does not cover the more short term issues that are likely to arise from the construction of national networks.

EN-1 contributes positively towards improving the vitality and competitiveness of the UK energy market, by providing greater clarity for developers, which can help in terms of planning risks associated with investment. Greater investment certainty would improve the UK's position for inward investment into energy infrastructure creating opportunities for skilled workers. The establishment of the IPC is intended to deliver faster and more transparent decisions on energy infrastructure which should improve the UK's security of supply. The UK economy will benefit from reliable energy supplies.

**Summary of Appraisal *Electricity Network Infrastructure*:** EN-5 does not set out any specific requirements or identify any specific impacts relating to economy and skills. The requirements in relation to and mitigation of any effects are addressed in EN-1.

Whilst EN-5 or EN-1 are not intended to alter the volume of projects coming forward (compared to the present), it is likely to speed up the determination process (the impact assessment references an improvement in application times). As a consequence, whilst there would be no net change in the employment opportunities created (when compared to those resulting from the current planning system), it is anticipated that these employment opportunities are more likely to occur earlier and when they are more likely to be significant to the economy – i.e. during a recession/or emerging from a recession. As a result, the significance of such effects will be greater than in a period of high employment.

*The appraisal indicated that there will be a **significant positive effect** on this objective.*

## Flood Risk

**Objective:** *Does the NPS avoid an increase in flood risk (including coastal flood risk) and avoid siting flood sensitive infrastructure in areas of high flood risk?*

EN-1 identifies generic guidance on flood risk and directs the IPC to assess whether any application that comes forward is permissible in terms of flood risk in accordance with the principles of *Planning Policy Statement (PPS) 25: Development and Flood Risk*.



Notwithstanding these requirements, there may be **exceptional** instances, where an increase in flood risk cannot be avoided or mitigated and in these circumstances, EN-1 states (in Section 4.24) that ‘*the IPC may grant consent if it is satisfied that the increase in flood risk is acceptable and taking account of the benefits of, including the need for, nationally significant energy infrastructure as set out in Part 3...*’. However, there are **exceptional** instances where under the present planning system, projects that will result in an increased flood risk have still been consented. EN-1 therefore represents a continuation of the approach under the current planning system and does not significantly increase or decrease flood risk.

**Summary of Appraisal:** EN-5 does not set out any specific requirements or identify any specific impacts relating to water quality and resources, therefore requirements in relation to and mitigation of any effects on, water quality and resources are addressed in EN-1.

EN-1 and EN-5 represents a continuation of the approach under the current planning system and therefore would not significantly increase or decrease flood risk.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Water Quality and Resources

**Objective:** *To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).*

The NPS states that the IPC should satisfy itself that a proposal has regard to the River Basin Management Plans and the requirements of the Water Framework Directive. Additionally it requires the IPC to consider whether appropriate conditions should be attached to any development consent or planning obligations entered into to mitigate adverse effects on the water environment. The NPS states that where there may be indirect effects (such as on marine ecology) the IPC should refer to relevant guidance within other sections of the NPS. Additionally, it requires that where an effect cannot be mitigated, the applicant provides suitable information to enable the implications of such an effect to be fully understood and that the IPC should seek advice from the relevant statutory bodies.

**Summary of Appraisal:** EN-5 does not set out any specific requirements or identify any specific impacts relating to water quality and resources, therefore requirements in relation to and mitigation of any effects on, water quality and resources are addressed in EN-1.

EN-1 sets out generic impacts, guidance and requirements in relation to water quality and resources. EN-5 does not provide any additional guidance, set out any specific requirements or identify any specific impacts in relation to the construction of new electricity infrastructure. Furthermore, EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to water quality and resources, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Noise

**Objective:** *To protect both human and ecological receptors from disturbing levels of noise.*



EN-1 directs the IPC to consider the effects of noise generated by the proposals against a baseline level of noise and ensure that they are satisfied that the applicants' proposals will avoid significant adverse impacts on health and quality of life from noise and will mitigate and minimise other adverse impacts on health and quality of life from noise. The applicant is also required to, where possible; contribute to improvements to health and quality of life by effective management and control of noise.

Short term effects on noise during construction and decommissioning activities are also covered in EN-1.

**Summary of Appraisal:** EN-5 recognises all high voltage transmission lines have some potential to generate noise under certain conditions. EN-5 seeks to specifically consider the effects of noise generated by the proposals against a baseline level of noise, and require assessments to be taken during dry and wet weather periods. Further detail on the assessment of noise levels, specifically in relation to receptors (both human and ecological) is required to ensure that project level effects are adequately dealt with. The IPC is advised to expect that the applicant considers the positioning of the lines, the size of the conductor, the prevention of damage to the conductor in transit and ensures that the conductors are clean, in order to minimise the level of noise produced.

EN-1 sets out generic impacts, guidance and requirements in relation noise. Furthermore, EN-5 in conjunction with EN-1 does not set out any specific additional requirements or identify any specific impacts relating to noise, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Landscape, Townscape and Visual

**Objective:** *To protect and enhance landscape quality, townscape quality and to enhance visual amenity.*

EN-1 identifies national designations as the key landscape features to protect, in accordance with current landscape guidance.

**Summary of Appraisal:** EN-5 recognises that there are specific landscape and visual effects which apply to electricity networks. EN-5 identifies the Holford Rules as guidelines for the routing of overhead lines, and advise that when the IPC considers the under grounding of lines, it should balance the benefit of the reduction in visual intrusion against the economics and technical challenges of under grounding. To mitigate the impact, EN-5 advises the IPC to expect the applicant to have considered network reinforcement options, the selection of the most appropriate suitable type and design of the support structure and the preferred selection of an appropriate corridor. In addition more specific measures to minimise visual impact include landscape schemes and screening methods.

The table below identifies some of the issues and recommendations which were identified during the appraisal and how they were responded to by DECC.

**Landscape, Townscape and Visual Effects: Key recommendation(s) emerging from the appraisal and how DECC responded**

**Recommendation 9.1:** There is specific guidelines for many projects and these will be relevant to each of the technology-specific NPSs. The focus is almost exclusively on designations. However energy projects can also have significant effects on non-designated areas such as hedgerows, wildlife corridors and the historic landscape. This should be recognised in the NPS.

**Recommendation 9.2:** We suggest the different components of an electricity line are detailed. Information on route components is given in National Grid's publication 'A Sense of Place - Design guidelines for development near high voltage overhead lines' (2003) Download available from <http://www.nationalgrid.com/uk/Senseofplace/Download/pp23> accessed 30 July 2009 Information on tower types is given in National Grid's Publication 'Development Near Overhead Lines' - Planning and amenity aspects of high voltage electricity transmission lines and substations. Download available from [http://www.nationalgrid.com/uk/LandandDevelopment/DDC/devnearohl\\_final/pdf/brochure.htm](http://www.nationalgrid.com/uk/LandandDevelopment/DDC/devnearohl_final/pdf/brochure.htm) Appendix II pp.21-22 accessed 30 July 2009

**Recommendation 9.3:** Correct citation of documents. Ensure that all relevant and up to date citations are included i.e. 'A Sense of Place - Design guidelines for development near high voltage overhead lines' - National Grid (2003) and 'Development Near Overhead Lines' - Planning and amenity aspects of high voltage electricity - National Grid (2008)

**Recommendation 9.4:** Components of electricity line to be defined adequately

**Response 9.1:** EN-1 covers impacts on the historic environment. EN-1 recognises that virtually all energy projects will have effects on the landscape.

**Response 9.2:** A decision was taken to strip all this information out of the NPS as it is available elsewhere.

**Response 9.3:** Development near overhead lines etc is irrelevant here as we are talking about putting the overhead lines in the first place, and these docs are about building AFTER a line has been built. We do have references to undergrounding and Holford Rules, which are relevant.

**Response 9.4:** See 9.2.

EN-1 sets out the generic impacts and mitigating measures that relate to landscape. EN-5 sets out specific additional requirements concerning the impacts on landscape from electricity infrastructure. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this effect. As the range of impacts identified and mitigation measures proposed (and their means of implementation) given in EN-1 and EN-5 do not differ from the existing planning system, the contribution of EN-5 over and above the existing planning system to the achievement of this objective is not considered to be significant.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## Health and Well-Being

**Objective:** *To protect and enhance the physical and mental health of the population*

**Summary of Appraisal:** EN-5 recognises that electromagnetic fields can have direct and indirect effects on human health. Direct effects occur in the form of impacts on the central nervous system and indirect effects occur from electric charges. The balance of scientific evidence over several decades of research has not proven a causal link between EMFs and cancer or any other disease, but the possibility however small, cannot be ruled out. The IPC is advised to ensure that the lines comply with Electricity Safety, Quality and Continuity Regulations 2002.

EN-5 (in conjunction with EN-1) does not set out any specific additional requirements or identify any specific impacts relating to health, above those already considered through the planning process. As a consequence, when compared to the existing baseline, the additional impact of the NPS is not considered significant against this objective.

*The appraisal indicated that there will be **no overall effect** on this objective.*

## 10. What are the cumulative and synergistic effects of the NPS?

The SEA Directive, and its implementing regulations in the UK, requires that secondary, cumulative and synergistic effects are considered as part of the appraisal. These effects were considered in the commentary above.

A number of individual developments may give rise to cumulative effects when they are considered together (rather than in isolation). This is recognised by the Overarching NPS which states that *'the IPC should consider how the accumulation of effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place'* (para 4.2.4). To support this, the NPS states that *'the Environmental Statement should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)'* (para 4.2.3).

## 11. What are the conclusions and key findings of the appraisal?

The NPS is likely to improve business and investor confidence in electricity network infrastructure projects. The NPS is also likely to improve the speed of the application process and as such will result in these projects being implemented in a faster timescale. This is anticipated to have a positive contribution towards the realisation of the government's low carbon targets and progress towards a low carbon economy. However, beyond this there are no significant differences between existing consenting requirements and what will be required under the IPC/NPS system. EN-5 has neither set out additional, more stringent requirements for applications, in terms of identifying, assessing or mitigating the effects nor has it relaxed any requirements. Therefore, and in light of the assumptions (set out in **Section 4.6**) EN-5 is not envisaged to have any significant effects at the national policy level when compared to the existing consenting controls.

## 12. How will any effects be monitored?

It is a requirement of the SEA Directive to describe how the measures envisaged concerning how significant effects of implementing the NPS will be monitored. As ODPM Guidance<sup>103</sup> (ODPM, 2005) notes, *'it is not necessary to monitor everything, or monitor an effect indefinitely. Instead, monitoring needs to be focused on significant sustainability effects'*.

Monitoring should therefore be focussed upon significant effects that may give rise to irreversible damage, with a view to identifying trends before such damage is caused and significant effects where there was uncertainty in the AoS and where monitoring would enable preventative or mitigation measures to be undertaken.

<sup>103</sup> *Practical Guide to the Strategic Environmental Assessment Directive* (ODPM, September 2005).

The effects that should be monitored therefore include:

Uncertain effects on Ecology (AoS Objective 2).

Monitoring measures have also been proposed for positive effects, these include:

Positive effects on Climate Change (AoS Objective 1);  
 Positive effects on Resources and Raw Material (AoS Objective 3); and  
 Positive effects on Economy and Skills (AoS Objective 4).

The measures are identified in the Table 2 (these will be reviewed in light of comments on the significance of effects).

**Table 2 Potential Monitoring Measures**

AoS Objective	Monitoring Measure	Source(s) of Information
1. Climate Change	Emission of greenhouse gases Emission of CO <sub>2</sub> and greenhouse gases from Energy sector	Defra ( <a href="http://www.defra.gov.uk/environment/statistics/globalatmos">www.defra.gov.uk/environment/statistics/globalatmos</a> )
2. Ecology (Flora and Fauna)	Condition reports for designated sites	Natural England; Countryside Council Wales; Scottish Natural Heritage
3. Resources and Raw Materials	Industrial and commercial waste Energy Trends and Prices	Defra ( <a href="http://www.defra.gov.uk/environment/statistics/waste/wrindustry">www.defra.gov.uk/environment/statistics/waste/wrindustry</a> ) National Statistics ( <a href="http://stats.berr.gov.uk/uksa/energy/sa20090827.htm">http://stats.berr.gov.uk/uksa/energy/sa20090827.htm</a> )
4. Economy and Skills	Energy costs	National Statistics ( <a href="http://stats.berr.gov.uk/uksa/energy/sa20090827.htm">http://stats.berr.gov.uk/uksa/energy/sa20090827.htm</a> )

### 13. What are the next steps?

The AoS Report and the consultation on it fulfil the requirements of Stage C and D of the SEA process (see **Section 1.3**). This Non-Technical Summary of the AoS Report for EN-5 provides a summary of the information presented in the AoS Report, which should be referred to for more detailed information.

This AoS Report will be presented for consultation alongside the draft NPS for Electricity Network Infrastructure from 9 November 2009 to 22 February 2010. Feedback received from consultees in relation to the AoS will be documented and considered. The NPS for Electricity Network Infrastructure may be amended and revisions to the AoS may be made. A Post Adoption Statement will be produced to summarise how the AoS and the consultation responses have been taken into account and how environmental considerations have been integrated into the NPS for Electricity Network Infrastructure.