Department for
Business, Energy
& Industrial Strategy

Draft National Policy Statement for Natural Gas Electricity Generating Infrastructure (EN-2)

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Any enquiries regarding this publication should be sent to us at:
enquiries@beis.gov.uk

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1 Introduction

1.1 Background

1.1.1 Electricity generated from unabated natural gas will continue to be needed during the transition to a net zero economy in 2050, and potentially beyond, while we develop and deploy the low carbon alternatives that can replicate its role in the electricity system, ensuring that the system is reliable and affordable.

1.1.2 As set out in EN-1 the government is committed to developing low carbon hydrogen and Carbon Capture and Storage infrastructure, both of which will be critical for meeting the UK's legally binding commitment to achieve net zero by 2050.

1.1.3 This National Policy Statement (NPS), taken together with the Overarching National Policy Statement for Energy (EN-1), provides the primary policy for decisions by the Secretary of State on applications they receive for nationally significant natural gas electricity generating stations as defined at Section 1.6. The way in which NPSs guide Secretary of State decision making, and the matters which the Secretary of State is required by the Planning Act 2008 to take into account in considering applications, are set out in Sections 1.1 and 4.1 of EN-1.

1.1.4 Applicants should ensure that their applications, and any accompanying supporting documents and information, are consistent with the instructions and guidance given to applicants in this NPS, EN-1 and any other NPSs that are relevant to the application in question.

1.1.5 This NPS, and in particular the policy and guidance on generic impacts in Part 5 of EN-1, may be helpful to local planning authorities (LPAs) in preparing their local impact reports.

1.2 Role of this NPS in the wider planning system

1.2.1 In England and Wales this NPS may be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990 (as amended). Whether, and to what extent, this NPS is a material consideration will be judged on a case by case basis and will depend upon the extent to which the matters are already covered by applicable planning policy.

1.2.2 The Secretary of State may also receive applications for variations to existing consents for energy infrastructure under section 36C of the Electricity Act 1989 for which this NPS may be a relevant consideration.

1.2.3 Paragraph 1.2.3 and Section 4.4 of EN-1 provide details of how this NPS may be relevant to the decisions of the Marine Management Organisation (MMO) and how the Marine Policy Statement (MPS) and any applicable Marine Plan may be relevant to the Secretary of State in decision making.

1.3 Relationship with EN-1

1.3.1 This NPS is part of a suite of energy infrastructure NPSs. It should be read in conjunction with EN-1 which covers:

- the high level objectives, policy and regulatory framework for new nationally significant infrastructure projects that are covered by the suite of energy NPSs and any associated development (referred to as energy NSIPs)
- the need and urgency for new energy infrastructure to be consented and built with the objective to ensure our supply of energy always remains secure, reliable, affordable, and consistent with net zero emissions in 2050 for a wide range of future scenarios, including through delivery of our carbon budgets and Nationally Determined Contribution (NDC), and supporting the Government's policies on sustainable development, in particular by mitigating and adapting to climate change
- the need for specific technologies, including the infrastructure covered by this NPS
- key principles to be followed in the examination and determination of applications
- the role of the Appraisal of Sustainability and its outcome in relation to the suite of energy infrastructure NPSs
- policy on good design, climate change adaptation and other matters relevant to more than one technology specific NPS
- the assessment and handling of generic impacts that are not specific to particular technologies

1.3.2 This NPS does not seek to repeat the material set out in EN-1, which applies to all applications covered by this NPS unless stated otherwise. The reasons for policy that is specific to the energy infrastructure covered by this NPS are given, but where EN-1 sets out the reasons for general policy these are not repeated.

1.4 Geographical coverage

1.4.1 This NPS is made under the Planning Act 2008 and applies to all natural gas-fired generation NSIPs, which in England includes generating stations with over 50MW generating capacity and in Wales is limited to natural gas generating stations with over 350MW generating capacity. In England it will also apply to natural gas generation

proposals that are directed into the NSIP regime under section 35 of the Planning Act 2008.

1.4.2 In Scotland, the Secretary of State will not examine applications for nationally significant generating stations. However, energy policy is generally a matter reserved to UK Ministers and this NPS may therefore be a relevant consideration in planning decisions in Scotland.

1.4.3 In Northern Ireland, policy and planning consents for all energy infrastructure projects are devolved to the Northern Ireland Executive, so the Secretary of State will not examine applications for energy infrastructure in Northern Ireland.

1.5 Period of validity and review

1.5.1 This NPS will remain in force in its entirety unless withdrawn or suspended in whole or in part by the Secretary of State. It will be subject to review by the Secretary of State in order to ensure that it remains appropriate. Information on the review process is set out in paragraphs 10 to 12 of the Annex to CLG's letter of 9 November 2009[1] and the MHCLG guidance on Review of NPSs.[2]

1.5.2 For transitional provisions following review, see paragraph 1.6 of EN-1.

1.6 Infrastructure covered by this NPS

1.6.1 This NPS covers onshore natural gas-fired electricity generating infrastructure over 50MW electricity generating capacity in England and over 350MW electricity generating capacity in Wales. In England it will also cover any natural gas-fired generation proposals that are directed into the NSIP regime under section 35 of the Planning Act 2008.

1.6.2 Biomass generating stations are covered in the Renewable Energy Infrastructure NPS (EN-3).

1.6.3 Natural gas-fired generating stations can be configured to produce Combined Heat and Power (CHP) and be Carbon Capture Ready (CCR) and/or have Carbon Capture and Storage (CCS) technology applied. Details of the Government's policy in these areas are set out in EN-1 with further information in this NPS.

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1 https://www.gov.uk/guidance/planning-guidance-letters-to-chief-planning-officers

2 https://www.gov.uk/guidance/planning-act-2008-guidance-on-the-process-for-carrying-out-a-review-of-existing-national-policy-statements

1.6.4 Hydrogen gas-fired electricity generating infrastructure over 50MW electricity generating capacity in England and over 350MW electricity generating capacity in Wales and EN-1 will require consent from the Secretary of State. The guidance that follows in this NPS has been drafted in respect of natural gas-fired electricity generating infrastructure but may also be important and relevant to hydrogen gas-fired electricity generating infrastructure.

1.7 Appraisal of Sustainability and Habitats Regulations Assessment

1.7.1 A All the energy NPSs have been subject to an Appraisal of Sustainability (AoS), as required by the Planning Act 2008. The AoSs also incorporate the analysis of likely significant environmental effects required by the Strategic Environmental Assessment (SEA) Regulations (The Environmental Assessment of Plans and Programmes) 2004.

1.7.2 The purposes and methods of the AoSs are explained in the draft of the AoS for EN-1 (AoS-1) which is published alongside this document. Their primary function is to inform consultation on the draft NPSs by providing an analysis of the environmental, social and economic impacts of implementing the energy NPSs. The key findings from AoS-1 are included in EN-1

1.7.3 In addition to those generic effects identified through the AoS and reported in AoS-1, a number of specific effects relating to EN-2 were identified, due to the type of technology promoted under this NPS.

AoS assessment of EN-2

1.7.4 Key points from the AoS for EN-2 (AoS-2) are:

- Natural gas generating infrastructure development has similar effects to other types of energy infrastructure, resulting from impacts associated with large facilities at single sites; as well as those associated with linear features linked with potential development of CCS infrastructure. Therefore, for the majority AoS objectives, the strategic effects of EN-2 are considered to match those identified in AoS-.1
- However, associated with additional detail provided about the Technologies in EN-2, non-generic effects were considered for four AoS objectives (Carbon Emissions, Biodiversity, Water Environment and Air Quality). The non-generic effects have been found to be negative across short, medium and long terms for all four AoS Objectives linked to construction and operation activities of natural gas generating infrastructure.
- Consistency with the national target of reducing carbon emissions to net zero by 2050 is also considered negative in the long term, reflecting the residual emissions from unabated natural gas plants, unless balanced by negative emissions.

- In the long term, following decommissioning, as discharges and emissions to the air and water would cease, the effect would be neutral for Water Environment and Air Quality.
- It is important to note there is uncertainty over actual effects as this would be dependent upon location and sensitivity of the receiving environment.

1.7.5 EN-1 (informed by AoS-1) includes extensive mitigations to ensure these effects are considered by applicants and the Planning Inspectorate when preparing and determining applications. EN-2 (informed by AoS-2) contains a range of technology specific mitigation measures, along with those proposed in EN-1, which seek to address the range of negative effects identified.

Assessment of alternatives to EN-2

1.7.6 As required by the SEA Regulations, an assessment of reasonable alternatives has also been carried out in respect of EN-2. The two alternatives assessed against EN-2 were:

Plan	Overview
EN-2	EN-2 covers natural gas-fired electricity generating infrastructure over 50 MW electricity generating capacity in England and over 350 MW electricity generating capacity in Wales. EN-1 provides that consent will only be given to new and refurbishing combustion generating stations with a generating capacity at or over 300 MW that are CCR. As a result, EN-2 will consent natural gas-fired electricity generating infrastructure over 50 MW in England that is not CCR, with the CCR requirements only applying at or over 300MW.
Alternative (a)	Only consent low carbon gas plant (i.e. natural gas with CCS or hydrogen-fired)
Alternative (b)	Only consent natural gas generation plants which can demonstrate that they are capable of converting to low carbon alternatives in future

1.7.7 The key differences between alternative (a) and EN-2 are:

- materially beneficial for the achievement of Net Zero due to no emissions from unabated gas
- materially adverse on Security of Supply as reliant on technologies still under development such as Hydrogen and Energy Storage at scale to ensure peak supply and maintain the stability and security of the electricity system

1.7.8 The key differences between alternative (b) and EN-2 are:

- beneficial for the achievement of Net Zero due by ensuring that no new unabated gas plant is 'locked-in' without the capability to convert to low carbon alternatives when ready.
- adverse on Security of Supply, as although it would be less likely to be reliant (than alternative (a)) on yet to be fully proven technologies such as Hydrogen and Energy Storage at scale, there may still be a need for them to ensure peak supply and maintain the stability and security of the electricity system.

1.7.9 It is recognised that alternative (b) could present a more sustainable alternative than the policies set out in EN-1 and EN-2, if implemented in a way which minimises the potential impact on security of supply. As set out in the Energy White Paper, published in December 2020, the government is committed to consult on proposals to update the Carbon Capture Readiness requirements to reflect technological advances, such as conversion to low carbon hydrogen and apply them more broadly, by removing the 300MW threshold and including all combustion technologies within scope. If that consultation leads to changes in the relevant legal or policy framework then those new requirements will apply and this NPS will be updated to reflect any revised requirements ahead of designation

Habitats Regulation Assessments

1.7.10 Habitats Regulation Assessments (HRA) have also been carried out and published for the non-locationally specific NPSs EN-1 to EN-5. As EN-1 to EN-5 do not specify locations for energy infrastructure, the HRA is a high-level strategic overview. Although the lack of spatial information within the EN-1 to EN-5 made it impossible to reach certainty on the effect of the plan on the integrity of any HRA Site, the potential for proposed energy infrastructure projects of the kind contemplated by EN-1 to EN-5 to have adverse effects on the integrity of such sites cannot be ruled out, based on following the precautionary principle. The HRA explains why the government considers that EN-1 to EN-5 are, nevertheless, justified by imperative reasons of overriding public interest, while noting that its conclusions are only applicable at the NPS level and are without prejudice to any project-level HRA, which may result in the refusal of consent for a particular application.

2 Assessment and technology-specific information

2.1 Introduction

2.1.1 Part 4 of EN-1 sets out the general principles that should be applied in the assessment of development consent applications across the range of energy technologies. Part 5 sets out policy on the assessment of impacts which are common across a range of these technologies ('generic impacts'). This NPS is concerned with impacts and other matters which are specifically associated with natural gas electricity generating stations or where, although the impact is generic and covered in EN-1, there are further specific considerations arising from this technology.

2.1.2 The policies set out in this NPS are additional to those on generic impacts set out in EN-1 and do not replace them. The Secretary of State should consider this NPS and EN-1 together. In particular, EN-1 sets out the government's conclusion that there is a significant need for new major energy infrastructure (see summary and conclusion in Part 3 of EN-1). EN-1 Section 3.3 includes assessments of the need for new nationally significant natural gas generation infrastructure. In the light of this, the Secretary of State should act on the basis that the need for the infrastructure covered by this NPS has been demonstrated.

2.2 Factors influencing site selection by developers

2.2.1 Factors influencing site selection by applicants for natural gas NSIPs are set out below. These are not a statement of government policy but are included to provide the Secretary of State and others with background information on the criteria that applicants consider when choosing a site. The specific criteria considered by applicants, and the weight they give to them, will vary from project to project. The choices which energy companies make in selecting sites reflect their assessment of the risk that the Secretary of State, following the general points set out in Section 4.1 of EN-1, will not grant consent in any given case. But it is for energy companies to decide what applications to bring forward and the government does not seek to direct applicants to particular sites for natural gas electricity generating stations.

Land Use

2.2.2 Natural gas generating stations have large land footprints and will therefore only be possible where the applicant is able to acquire a suitably-sized site. The site will also need to be big enough to conform to government policy on CCR, Decarbonisation Readiness (DR) and CCS, set out in Section 4.8 of EN-1 and in Section 2.3 below.

2.2.3 Depending on the processes adopted, CCR, CCS and mitigation measures for emissions by natural gas generating stations may require storage and use of hazardous chemicals regulated under the Control of Major Accident Hazards (COMAH) Regulations 2015, which may have an impact on potential land-use in the vicinity. This in turn may affect the applicant's choice of site.

2.2.4 Development of a CHP generating station may also have an effect on the size of site required and land-use. Details of land-use impacts are set out in Section 5.11 of EN-1.

Transport Infrastructure

2.2.5 New natural gas electricity generating stations need to be accessible for the delivery and removal of construction materials, fuel, waste and equipment, and for employees.

2.2.6 Government policy encourages multi-modal transport and materials (fuel and residues) may be transported by water or rail routes where possible. (See Section 5.14 of EN-1 on transport impacts). Applicants should locate new natural gas electricity generating stations in the vicinity of existing transport routes wherever possible. Although there may in some instances be environmental advantages to rail or water transport, whether or not such methods are viable is likely to be determined by the economics of the scheme. Road transport may be required to connect the site to the rail network, waterway or port. Any application should therefore incorporate suitable access leading off from the main highway network. If the existing access is inadequate and the applicant has proposed new infrastructure, the Secretary of State should satisfy itself that the impacts of the new infrastructure are acceptable as set out in Section 5.14 of EN-1.

Water Resources

2.2.7 Some natural gas electricity generating stations have very high water demands, for example combined cycle gas turbine (CCGT) generating stations. Other technologies, for example open cycle gas turbines and reciprocating engines, have little water demand.

2.2.8 In CCGT generating stations, purified water is needed to produce the steam to drive the generating turbines and additional large volumes of water are needed to condense this steam back to water for reuse. A supply of water will be needed for CCS processes as set out in section 4.8 of EN-1. The amount of water abstraction required and whether discharge is necessary will depend on the applicant's choice of technology, particularly the cooling system, in the proposed design. The volumes required and availability will depend on a number of factors including:

- the extent of the water resource
- the likely flow rate within the body of water
- water supply company management plans
- the visual impact of the chosen system

- the power consumption of the cooling system
- the size of the plant.

2.2.9 High water demands will mean that developers' preferred sites are likely to be coastal, beside estuaries or alongside large rivers. If sufficient quantities of water from natural sources are not available at a site then some use of mains supplies may be necessary, although it should be noted that a water company has no duty to supply water. If a sufficient supply of water is not available, an alternative means of cooling such as air-cooled condensers would be required. The regulation of water abstraction and discharge is described in Section 5.16 of EN-1. The applicant should have investigated the availability of such a supply at an early stage. Any proposals for alternative sites proposed during the application process should demonstrate that an adequate supply of water would be available.

Grid Connection

2.2.10 Natural gas electricity generating stations connect into either the transmission or distribution networks. The technical feasibility of export of electricity from a generating station is dependent on the capacity of the grid network to accept the likely electricity output together with the voltage and distance of the connection.

2.2.11 Applicants will usually have assured themselves that a viable connection exists before submitting the development proposal to the Secretary of State and, where they have not done so, they take that commercial risk. Even if the precise route of a connection has not been identified, in accordance with Section 4.10 in EN-1 any application to the Secretary of State must include information on how the generating station is to be connected and whether there are any particular environmental issues likely to arise from that connection. Further advice on the relationship with grid applications is in EN-1 and the NPS for Electricity Networks Infrastructure (EN-5).

2.3 Government policy criteria for natural gas generating stations

2.3.1 The following criteria must be met before consent for a new fossil fuel generating station can be given.

Combined Heat and Power

2.3.2 The government's strategy for CHP is described in Section 4.7 of EN-1, which sets out the requirements on applicants either to include CHP or present evidence in the application that the possibilities for CHP have been fully explored.

2.3.3 Given the importance which government attaches to CHP, for the reasons set out in EN-1, if an application does not demonstrate that CHP has been considered the Secretary of State should seek further information from the applicant. The Secretary of

State should not give development consent unless it is satisfied that the applicant has provided appropriate evidence that CHP is included or that the opportunities for CHP have been fully explored. For non-CHP stations, where there is reason to believe that opportunities to supply heat through CHP may arise in the future the Secretary of State may also require that developers ensure that their stations are 'CHP ready' and are designed in order to allow heat supply at a later date, as described in Section 4.7 of EN-1 and the guidance on CHP issued by BEIS.[3]

Carbon Capture Readiness[4]

2.3.4 The government's policy and criteria for CCR for new and refurbishing combustion generating stations with a generating capacity at or over 300MW are set out in Section 4.8 of EN-1. If an application does not demonstrate that CCR has been assessed according to this policy, the Secretary of State should seek further information from the applicant. The Secretary of State should not give development consent unless they are satisfied that the proposed development meets all the criteria for CCR set out in EN-1 and is, therefore, CCR.

2.3.5 The Secretary of State should impose requirements on any development consent, requiring operators to:

- retain control over sufficient additional space (whether on or near the site) for the carbon capture equipment
- retain their ability to build carbon capture equipment on this space (whether on or near the site) in the future
- submit update reports on the technical aspects of its CCR status to the Secretary of State. These reports should be required within three months of the date on which a consented station first begins to supply electricity to the grid and every two years thereafter until the plant moves to retrofit CCS

Climate change adaptation

2.3.6 Part 2 of EN-1 covers the government's energy and climate change strategy, including policies for mitigating climate change. Section 4.9 of EN-1 sets out generic considerations that applicants and the Secretary of State should take into account to help ensure that natural gas generating infrastructure is resilient to climate change. Since 2011, there are also Climate Change Risk and Adaptation requirements attached to environmental permits. As natural gas generating stations are likely to be proposed for coastal or estuarine sites or inland rivers and climate change is likely, for

3 https://www.gov.uk/guidance/combined-heat-and-power

4 The Energy White Paper, published in December 2020, committed to consult on proposals to update the Carbon Capture Readiness requirements to reflect technological advances, such as conversion to low carbon hydrogen and apply them more broadly, by removing the 300MW threshold. If that consultation leads to changes in the relevant legal or policy framework then those new requirements will apply and this NPS will be updated to reflect any revised requirements ahead of designation. In the meantime, CCR policy remains as set out in this section.

example, to increase risks from flooding or rising sea levels, applicants should in particular set out how the proposal would be resilient to:

- coastal changes and increased risk from storm surge
- effects of higher temperatures, including higher temperatures of cooling water
- increased risk of drought leading to a lack of available cooling water

2.3.7 Section 4.9 of EN-1 advises that the resilience of the project to climate change should be assessed in the ES accompanying an application. For example, climate change impacts on cooling water as a result of higher temperatures should be covered in the impact assessment section on water quality and resources.

Consideration of 'good design' for energy infrastructure

2.3.8 The Planning Act 2008 requires the Secretary of State to have regard, in designating an NPS, to the desirability of good design. Section 4.6 of EN-1 sets out the criteria for good design that should be applied to all energy infrastructure.

2.3.9 Applicants should demonstrate good design particularly in respect of landscape and visual amenity as set out in Section 2.6 below, and in the design of the project to mitigate impacts such as noise and vibration, transport impacts and air emissions.

2.4 Impacts of natural gas generating stations

Introduction

2.4.1 Part 5 of EN-1 contains policy for the Secretary of State when assessing potential impacts of energy infrastructure projects (identified as 'generic impacts'). It also contains information to assist the interpretation of the impact sections of all of the energy NPSs (see Section 5.1). When considering impacts for natural gas electricity generating stations, all of the generic impacts covered in EN-1 are likely to be relevant. This NPS has additional policy on:

- Air emissions
- Landscape and visual impacts
- Noise and vibration
- Water quality and resources

2.4.2 The impacts identified in Part 5 of EN-1 and this NPS are not intended to be exhaustive. Applicants are required to assess all likely significant effects of their proposals (see Section 4.2 of EN-1) and the Secretary of State should therefore consider any impacts which it determines are relevant and important to its decision.

2.5 Air quality and greenhouse gas emissions

Introduction

2.5.1 Generic air emissions impacts other than CO2 are covered in detail in EN-1. In addition, there are specific considerations which apply to natural gas electricity generating stations as set out below.

2.5.2 Operational CO2 emissions are a significant adverse impact of natural gas electricity generating stations. Although a carbon assessment will be provided as part of the ES, the policies set out in Part 2 of EN-1 will apply. As set out in section 5.3 of EN-1, the Secretary of State does not, therefore, need to assess individual applications for planning consent against operational carbon emissions and their contribution to carbon budgets, net zero and our international climate commitments.

2.5.3 Natural gas generating stations are likely to emit nitrogen oxides (NOx). To meet the requirements of Defra's legislation on industrial emissions[5], natural gas generating stations must apply a range of mitigation to minimise NOx and other emissions.

2.5.4 These emissions are regulated by the Environment Agency (EA) and Natural Resources Wales (NRW) through the Environmental Permitting Regulations, which require developers to obtain an Environmental Permit (EP) before commencing operation of a new natural gas generating station. Details of the EP regime are set out in EN-1, Section 4.11.

Applicant's assessment

2.5.5 The applicant should carry out an assessment as required in EN-1, consulting the EA, NRW and other statutory authorities at the initial stages of developing their proposals, as set out in EN-1 Section 4.2. If the applicant requests a scoping opinion from the Secretary of State before an application is submitted, any views received from the EA should be made known to the Secretary of State so that they can take account of the EA's advice on potential emissions.

Mitigation

2.5.6 Mitigation will depend on the type and design of a generating station. However, Selective Catalytic Reduction (SCR) – which reduces NOx by the injection of a suitable reagent into flue gas over a catalyst – will have additional adverse impacts for noise and vibration, release of dust and handling of potentially hazardous materials, for example the ammonia used as a reagent.

2.5.7 In line with Section 5.2 of EN-1 the Secretary of State, in consultation with EA and NRW, should be satisfied that any adverse impacts of mitigation measures for

5 https://www.gov.uk/guidance/industrial-emissions-standards-and-best-available-techniques

emissions proposed by the applicant have been described in the ES and taken into account in the assessments.

Secretary of State decision making

2.5.8 In considering whether to grant consent, the Secretary of State should take account of likely environmental impacts resulting from air emissions and that in the case of NOx or particulates in particular, it follows the advice in EN-1 on interaction with the EA and NRW's regulatory processes.

2.6 Landscape and visual

Introduction

2.6.1 Generic landscape and visual impacts are covered in detail in EN-1, Section 5.10. When considering landscape and visual impacts, the Secretary of State should have particular regard to the impacts on National Parks, the Broads and Areas of Outstanding Natural Beauty as set out in EN-1. In addition to the impacts described in EN-1, there are specific considerations which apply to natural gas generating stations as set out below.

2.6.2 The main structures for a natural gas generating station, including the turbine and boiler halls, exhaust gas stacks, storage facilities, cooling towers, and water processing plant, are large. They will have an impact on the surrounding landscape and visual amenity. The overall size of the development will inevitably be dependent on technology and design. Night-time lighting for continuous operation will also have an impact on visual amenity.

Applicant's assessment

2.6.3 The applicant should include a landscape and visual impact assessment as part of the ES, as set out in Section 5.10 of EN-1.

2.6.4 The applicant should also consider the design of the plant, including the materials to be used, and the visual impact of the stack, as set out in Section 5.10 of EN-1 in the context of the local landscape.

Secretary of State decision making

2.6.5 It is not possible to eliminate the visual impacts associated with a natural gas electricity generating station. Mitigation is therefore to reduce the visual intrusion of the buildings in the landscape and minimise impact on visual amenity as far as reasonably practicable.

2.6.6 Applicants should design natural gas electricity generating stations with the aim of providing the best fit with the existing local landscape so as to reduce visual impacts.

This may include design of buildings to minimise negative aspects of their appearance through decisions in areas such as size, external finish and colour of the plant as far as compliance with engineering and environmental requirements permit. The precise architectural treatment will need to be site-specific.

2.6.7 Reduction of visual impacts may often involve enclosing buildings at low level as seen from surrounding external viewpoints. This makes the scale of the plant less apparent, and helps conceal the lower level, smaller scale features of the plant. Earth bunds and mounds, tree planting, or both may be used for softening the visual intrusion and may also help to attenuate noise from site activities. Where the existing landscape is more industrial, design may involve other forms of visual impact mitigation.

2.6.8 As stated in EN-1, the applicant should have undertaken an appropriate landscape and visual assessment using recognised methodologies and have taken measures to minimise the effects of the natural gas electricity generating station on landscape and visual amenity as far as reasonably practicable. In considering whether the measures proposed are sufficient to achieve these objectives the Secretary of State should take advice from the relevant statutory consultees.

2.6.9 In requiring any design adjustments to minimise adverse effects, the Secretary of State needs to be aware of the statutory and technical requirements that inform plant design and may require the incorporation of certain design details for example chimney stack height, as set out in Section 5.10 of EN-1.

2.6.10 For the reason given in paragraph 2.6.5 above if, having regard to the considerations in respect of other impacts set out in EN-1 and this NPS, the Secretary of State is satisfied that the location is appropriate for the project, and that it has been designed sensitively (given the various siting, operational and other relevant constraints) to minimise harm to landscape and visual amenity, the visibility of a natural gas electricity generating station should be given limited weight.

2.7 Noise and vibration

Introduction

2.7.1 Generic information on the assessment of noise and vibration impacts are covered in detail in Section 5.12 of EN-1. In addition, there are specific considerations which apply to natural gas electricity generating stations as set out below. Sources of noise and vibration from natural gas generating stations may include:

- the gas and steam
- the gas and steam turbines that operate continuously during normal operation
- external noise sources such as externally-sited air-cooled condensers that operate continuously during normal operation

Applicant's assessment

2.7.2 The ES should include a noise assessment as described in Section 5.12 in EN-1.

Mitigation

2.7.3 As described in EN-1, the primary mitigation for noise from natural gas electricity generating stations is through good design, including enclosure of plant and machinery in noise-reducing buildings wherever possible and to minimise the potential for operations to create noise. Noise from gas turbines should be mitigated by attenuation of exhausts to reduce any risk of low-frequency noise transmission.

2.7.4 Noise from apparatus external to the main plant may be unavoidable. This can be mitigated through careful plant selection.

Secretary of State decision making

2.7.5 The Secretary of State should consider the noise impacts according to Section 5.12 in EN-1. It should be satisfied that noise will be adequately mitigated through requirements attached to the consent. The Secretary of State will need to take into consideration the extent to which operational noise will be separately controlled by the EA or NRW.

2.7.6 The Secretary of State should not grant development consent unless it is satisfied that the proposals will meet the aims set out in paragraph 5.12.10 in EN-1.

2.8 Water quality and resources

Introduction

2.8.1 Generic water quality and resource impacts are set out in Section 5.16 of EN-1. The design of water cooling systems for natural gas electricity generating stations will have additional impacts on water quality, abstraction and discharge. These include:

- discharging water at a higher temperature than the receiving water, affecting the biodiversity of aquatic flora and fauna
- use of resources may reduce the flow of water courses, affecting the rate at which sediment is deposited, conditions for aquatic flora and potentially affecting migratory fish species (for example salmon)
- 'fish impingement and/or entrainment' – i.e. being taken into the cooling system during abstraction
- chemical anti-fouling treatment of water for use in cooling systems may have adverse impacts on aquatic biodiversity

Applicant's assessment

2.8.2 Where the project is likely to have effects on water quality or resources the applicant should undertake an assessment as required in EN-1 Section 5.16. The assessment should particularly demonstrate that appropriate measures will be put in place to avoid or minimise adverse impacts of abstraction and discharge of cooling water.

Mitigation

2.8.3 In addition to the mitigation measures set out in EN-1, design of the cooling system should include intake and outfall locations that avoid or minimise adverse impacts. There should also be specific measures to minimise fish impingement and/or entrainment and excessive heat from discharges to receiving waters.

Secretary of State decision making

2.8.4 The Secretary of State should be satisfied that the applicant has demonstrated measures to minimise adverse impacts on water quality and resources as described above and in EN-1.

3 Glossary

This glossary sets out the most frequently used terms in this NPS. There is a glossary in each of the energy NPSs. The glossary set out in EN-1 may also be useful when reading this NPS.

Abbreviation	Definition
AoS	Appraisal of Sustainability
Associated infrastructure	Development associated with the NSIP as defined in Section 115 of the Planning Act
BEIS	Department for Business, Energy and Industrial Strategy
Biomass	Material of recent biological origin derived from plant or animal matter
CCGT	Combined Cycle Gas Turbine
CCR	Carbon Capture Readiness
CCS	Carbon Capture and Storage
CHP	Combined Heat and Power
Co-firing	Use of two fuel types in a thermal generating station
Defra	Department of Environment, Food and Rural Affairs
DfT	Department for Transport
DR	Decarbonisation Readiness
EA	The Environment Agency
EIA	Environmental Impact Assessment
EN-1	Overarching NPS for Energy
EP	Environmental Permit issued by the EA
ES	Environmental Statement
FGD	Flue Gas Dispersion, a technique for reducing emissions from fossil fuel generating stations.
Generic Impacts	Potential impacts of any energy infrastructure projects, the general policy for consideration of which is set out in Part 5 of EN-1
HRA site	One of the sites set out in paragraph 5.4.8 of EN-1 for which an HRA will assess the implications of a plan or project
MHCLG	Ministry of Housing, Communities & Local Government
MMO	Marine Maritime Organisation established under the Marine and Coastal Access Act 2009
MPS	Marine Policy Statement
NDC	Nationally Determined Contribution
NOx	Nitrogen oxides

Abbreviation	Definition
NPS	National Policy Statement
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
OCGT	Open Cycle Gas Turbine
SCR	Selective Catalytic Reduction
SEA	Strategic Environmental Assessment (under the Environmental Assessment of Plans and Programmes Regulations 2004)
Thermal Generating Station	Electricity generating station that uses a heat source (combustion of fuel or nuclear) to create steam that drives a generating turbine or which uses gas directly to drive a generating turbine

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