Department for
Energy Security
& Net Zero

Consultation Response | Planning for New Energy Infrastructure

Draft National Policy Statements for energy infrastructure

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Introduction

Introduction

This document provides a summary of the responses to the government consultation *Draft National Policy Statements - Planning for new energy infrastructure,* which ran from 6 September to 29 November 2021.

The Energy White Paper published by BEIS in December 2020 announced that the government would review the suite of energy National Policy Statements (NPSs) to reflect the policies and broader strategic approach set out in the white paper and ensure that the government continues to have a planning policy framework which can support the infrastructure required for the transition to net zero.

NPSs are designated under the Planning Act 2008 to provide guidance for decision-makers on the application of government policy when determining applications for development in relation to Nationally Significant Infrastructure Projects (NSIPs). Their function is to clearly state an established need for the infrastructure in question and how existing policy applies to development consent, removing discussion of the merits of government policy from the examination process so that decisions can be made based on planning considerations alone.

The draft NPSs have been revised, where appropriate, to take account of consultation responses and recommendations from Parliamentary scrutiny.

National Policy Statements

The NPSs sets out government policy in relation to each type of infrastructure that is designated as being nationally significant. The main purpose of an NPS is to set out the need for infrastructure and how the impacts can be mitigated to an acceptable level. The NPS provide the primary basis for Planning Inspectorate (PINS) assessment of an application and its recommendation on whether the Secretary of State (or the delegated Minister) should grant or withhold development consent.

It is anticipated that the future pipeline for NSIP projects could consist of significant numbers of energy projects coming forward over the next few years. As such, an updated suite of energy NPSs will ensure that future development consent applications are considered against a robust, useable up-to-date policy framework which takes into account the country's need for energy infrastructure.

A period of consultation and parliamentary scrutiny is required before an NPS can be designated. Alongside the consultation, the draft energy NPSs were subject to parliamentary scrutiny between 6 September 2021 to 28 February 2022 as set out in the Written Ministerial Statement issued in the Commons on 20 September and on 11 October 2021 in the House of Lords.

The BEIS Select Committee launched an inquiry into the draft Energy NPS on 3 November 2021, inviting written evidence from stakeholders alongside two oral evidence sessions on 7 December 2021 and 18 January 2022.

The energy NPS subject to consultation comprise the overarching National Policy Statement for energy (EN-1) alongside several technology-specific National Policy Statements (EN-2 to EN-5) first published in 2011:

- Draft EN-1: Overarching NPS
- Draft EN-2: Fossil fuel electricity generating infrastructure
- Draft EN-3: Renewable Energy infrastructure
- Draft EN-4: Gas supply infrastructure & gas and oil pipelines
- Draft EN-5: Electricity Networks Infrastructure
- Appraisals of Sustainability (AoS) for the revised draft NPSs
- Habitats Regulations Assessments (HRAs) for the revised draft NPSs

EN-1 sets out the ‘need case’ for energy infrastructure projects, and planning guidance on assessment criteria that are common across a number of technologies. EN-2 to EN- 5 refer to the need case in EN-1 and include planning guidance on assessment of technology specific criteria.

EN-6 sets out the planning and consents regime for nuclear project deployable after 2025. A review of EN-6 concluded that it will not need to be amended as there are no changes material to the limited circumstances in which it will have effect. As such it was not part of the NPS review consultation. A new NPS for nuclear generation infrastructure after 2025 will be developed in due course to reflect the changing policy and technology landscape for nuclear.

Consultation responses

Responses came from a wide range of respondents including individual members of the public, companies involved in the energy industry, Non-Governmental Organisations (NGOs) including local campaigning groups, regulators such as the Environment Agency (EA) and local authorities.

Whilst all responses have been considered, this document does not attempt to set out the government's response to every single point raised. Instead, it concentrates on the key themes which arose from the consultation and explains how they have been taken into account in shaping the revised draft NPSs and associated documents.

This government response is organised into sections following the numbering of the consultation questions. We have set out the questions asked, a summary of the key themes identified in the responses, and the Government's response to these.

Occasionally, where it has been appropriate to do so, responses are treated under a different question from the one under which they were made. This may mean that a respondent raised a point under, for instance, the Renewable NPS (EN-3), but it was more relevant to the Overarching NPS (EN-1) and so it has been dealt with in the response to EN-1.

There were also a number of key issues that were raised across all the NPSs. These have been dealt with in the responses to questions on EN-1.

Where points were raised that were not directly relevant to the consultation questions listed, but we have felt it appropriate to answer, these have been dealt with under "Other Issues".

A full list of the questions asked is available in Appendix A.

Draft Overarching Energy NPS (EN-1)

Overview of Responses

We received 143 responses to questions relating to the draft Overarching National Policy Statement for Energy (EN-1) from a diverse range of stakeholders which provided a varied opinion on the proposed text.

Areas with notable support included the update on the need for alternatives to new electricity infrastructure, and further considerations on the generic impacts in Part 5. The new sections on marine environment, biodiversity and net gain were also welcomed.

There were several comments calling for EN-1 to be further updated to:

- strengthen the need case for energy infrastructure and align further with the net zero commitment
- being more specific in certain areas for example, being clearer on how an energy mix could potentially look in the future, and how proposed NSIPs will be given priority to help meet net zero targets
- bring the NPS's in line with current policies, strategy documents and acts e.g., Environment Act 2021.

We have provided more detail on our responses to the questions asked in the consultation below.

1. **Does the draft Overarching Energy NPS (EN-1) provide suitable information to those engaged in the process for development consent (e.g., Secretary of State, the Planning Inspectorate, applicants) for nationally significant energy infrastructure?**

    a) **on the government's energy and climate policy (Part 2)?**

    b) **on the need and urgency for certain types of infrastructure (Part 3)?**

    c) **to inform decision making?**

    d) **to inform examinations?**

Summary of responses

Need Case: Strengthen, Limits and Targets

It was agreed that the review of the suite of NPSs including EN-1 provides a timely opportunity to align the government's energy, climate and infrastructure planning policies and, in doing so, to place the government's strong commitment to achieve net zero by 2050 at the heart of all relevant decision making.

The majority of respondents felt that a closer alignment can and should be achieved between the net zero targets and the energy infrastructure planning policy in order to allow rapid deployment of low carbon technology at scale. Furthermore, respondents fed back that the government needs to differentiate between the need for different types of energy technology to

be able to balance all energy objectives & align with the NZS and provide further clarity on limits and targets for decision making in the NPS. Respondents argued that there was no clear indication of how the Secretary of State should prioritise NSIPs contributing to net zero targets and that simply setting out the net zero and climate targets did not go far enough.

Energy Demand

Whilst there was support to the commitment to net zero and a low carbon state, a few respondents felt that current policy relied too heavily on technology 'unproven at scale' and that we should place a greater emphasis on energy demand reduction and distributed/decentralised energy production as considered in Section 3.

Updates to reflect Net Zero Strategy, Hydrogen Strategy, BESS

Many respondents argued that the revised EN-1 does not reflect the strategic direction laid out in the NZS and is therefore outdated before it is implemented. Furthermore, respondents argued that there was very little reference to other government policy documents such as the Industrial Decarbonisation Strategy, and Hydrogen Strategy and how they have informed the NPSs.

Evolving Policy

There were a few comments from respondents who recognised that the NPSs have been updated against a rapidly evolving policy backdrop and believe therefore that it will be critical for government to ensure that the draft NPS continue to be developed in alignment with other policy and cross departmental reform that is already underway (for example the Offshore Transmission Network Review (OTNR), or evolving policy on Marine Net Gain). Respondents recommended that the suite of NPS are regularly reviewed and updated.

Consistent regimes: Devolved Administrations, local

A few respondents said there were inconsistencies with national and local planning policies in the suite of NPS creating considerable uncertainty for developers and the wider community.

Carbon Capture Usage and Storage (CCUS)

The significance of the NZS to CCUS and other technologies included in the NPS was mentioned by many stakeholders responding to this consultation.

A number of respondents expressed a desire for a standalone CCUS NPS to be created, or for the restructuring of existing NPSs to give more weight to certain applications for carbon capture, or to set specific targets for this technology. Some respondents also reflected on the need for co-ordination across the CCUS value chain and with other industries seeking planning approval through the NSIP regime.

Within responses to EN-3 several respondents highlighted the need to consider the interaction between offshore CO_2 storage sites and associated CCUS infrastructure with other users of the marine environment.

Several respondents expressed a desire for greater clarity on the requirements for generating stations to be carbon capture ready with additional information being included within the NPSs.

Some stakeholders expressed a desire for the NPS to explicitly acknowledge that different parts of the CCS network will be developed, operated, and regulated separately. Stakeholders also emphasised the need to avoid, where applicable, the duplication of regulatory assessments across the CCS network. Finally, some respondents requested for more clarity in relation to the pipelines associated to these transport and storage networks.

Government response

Need Case: Strengthen, Limits and Targets

The need case for all technologies covered by the NPS is already given substantial weight. It is not feasible to strengthen the need case without removing the ability to balance this appropriately against adverse impacts.

It is the role of the planning process to make a judgement about the balance between the substantive need for such infrastructure in delivering our energy objectives, including decarbonisation, and the specific impacts of any energy infrastructure project. It is not for the planning system to set limits and targets for the reasons given in 3.3.79-3.3.85 in EN-1 (essentially greater numbers of consented plant can drive competition).

Draft EN-1 has been updated to introduce a new policy presumption known as a critical national priority (CNP) for offshore wind, and supporting onshore and offshore network infrastructure, and related network reinforcements and this is being consulted on in the document published alongside this response.

This new policy means that, subject to any legal requirements, the urgent need for offshore wind to achieving our energy objectives, together with the national security, economic, commercial, and net zero benefits, will in general outweigh any other residual impacts not capable of being addressed by application of the mitigation hierarchy.

Energy Demand

Support for demand reduction and decentralised energy is outside the scope of the energy NPS but will obviously affect the amount and type of infrastructure built. The market will react to policies in this area when determining whether to bring forward NSIPs.

Updates to reflect Net Zero Strategy, Hydrogen Strategy, BESS

The draft revised NPSs could only reflect government policy or legislation that was in place at the point of publication. We have updated the draft revised NPS to reflect new policies or legislation which has come into force in the interim.

Evolving Policy

The NPSs can only reflect government policy that is in place ahead of designation. Policy will always be evolving, and guidance can be issued after the NPS have been designated and be taken into account as a material consideration in the planning process as long as it is not contradictory to what is contained within the NPS. We have also updated the period of validity and review section of the document to give further clarification on expected review requirements.

Consistent regimes: Devolved Administrations, local

The NPS only provides guidance for projects which fall within the NSIP regime. Those projects which fall within other regimes, whether local planning, or planning under the remit of devolved administrations should be governed by the rules and regulations pertaining to those regimes.

Wales considerations

Following detailed comments from the Welsh Government a number of edits have been made to better reflect the status of planning policy and related guidance in Wales across all of the NPS.

The importance of CCUS

In October 2021, the UK Government published its NZS[1] which reaffirmed the importance of deploying CCUS in reaching the UK's target of net zero carbon emissions by 2050 and acknowledged the importance of CCUS, along with other technologies, in tackling climate change. The NZS also outlined our ambition to capture 20-30Mt of CO_2 per year by 2030.

It is important that decision makers in the planning system are aware of these ambitions and their relevance for future applications. It is vital that the planning system can support and respond to the anticipated growth of CCUS, and that developers, associated industries and local stakeholders have confidence in both local and national planning regimes. In recognition of this, key references to the NZS have now been incorporated within EN-1.

CCUS is a nascent industry which is in the early phase of development and will involve a range of technologies and infrastructure in a variety of locations across the UK. The NSIP regime and any associated NPSs must recognise the scope for change and not inadvertently stifle growth and innovation. The role that the local planning regime will continue to play in many infrastructure projects associated with the development of CCUS clusters must also be acknowledged.

The Climate Change Committee's decarbonisation pathways demonstrate the critical need for CCUS and highlights there are limited alternatives to the development of new CCUS infrastructure for delivering net zero by 2050 and as such, the need for CCUS infrastructure as expressed in EN-1 remains consistent with delivering our energy objectives.

Creating a standalone CCUS NPS

Government's view is that it is premature to restructure existing provisions and that the current NPS provides sufficient clarity to stakeholders, and we do not believe that the absence of a dedicated CCUS NPS has created any barriers to development plans to date. This is demonstrated by several CCUS applications currently going through the NSIP process.

Furthermore, setting specific targets within an NPS could constrain development and would not be the most effective way of ensuring that the planning system is able to support the growth of what is envisaged to be a multi-faceted industry with a diverse user base. However, as the technology and project landscape evolve, and we understand more about commercial scale deployment we will reconsider the need to develop a technology specific NPS for CCUS infrastructure.

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1033990/net-zero-strategy-beis.pdf

Coordination across the CCUS value chain

As described in EN-1, the UK is looking to harness its vast offshore CO_2 storage capacity to achieve the targets set within the NZS. To facilitate this, the correct infrastructure must be in place and appropriately assessed in a timely manner through the planning system. Infrastructure developers must take responsibility for demonstrating how they have co-ordinated their proposals with other CCUS users in the system and consulted with other interested parties as set out within Section 4.8 of EN-1, providing relevant evidence to decision makers, and seeking to mitigate any future conflicts.

CCUS infrastructure includes CO_2 transport and storage networks which provide the ability to transport CO_2 emissions removed at their source and permanently store this CO_2 in subsurface geological formations. These networks are integral to the efficient and cost-effective decarbonisation of our economy and, are vital to transforming hard to abate sectors such as steel, cement, and chemical sectors, which lack viable alternatives to achieve deep decarbonisation and will help create world-leading low carbon manufacturing clusters.

These storage locations are positioned offshore and can sometimes be close to other users of the marine environment. We note queries from respondents and are closely working with other marine based technologies to ensure that all technologies, which are key to the commitments of HMG, can be deployed effectively with minimum disruption.

Requirements for generating stations to be carbon capture ready

Further details on this have been added into the NPS within paragraph 4.8.28. These changes will complement our ongoing policy work on Decarbonisation Readiness for which we are expecting to launch a consultation later this year.

Clarity on CCUS networks

We agree that CCUS networks are likely to develop and evolve in a variety of ways. The current guidance acknowledges this and paragraph 4.8.16 of EN-1, for example, highlights that it is likely Development Consent Order (DCO) applications may not include an application for consent for the full CCUS chain (including onward transport and storage of CO_2) from the outset. Paragraph 4.8.17 is also clear that those applicants seeking consent for CCUS infrastructure will require a range of consents from different regulatory bodies alongside relevant planning approvals.

Turning to transport and storage networks our view is that the current wording within EN-4 allows for sufficient flexibility around CO_2 pipelines. As previously mentioned, CCUS technology is in the early stages of development and for this reason government will provide detailed guidance as the technology progresses. Throughout the coming months and years, government will continue to work with industry stakeholders to ensure the policy environment supports this critical enabling infrastructure.

2. **Do you agree with the amendments made to EN-1 Part 4 on assessment principles, including new guidance on the marine environment, and biodiversity and net gain?**

Summary of responses

Biodiversity and Net Gain

The majority of comments in this section related to the principles of Biodiversity Net Gain and its consistency with the Environment Act 2021. Respondents argued that it was essential that the principles of biodiversity net gain within the NPS are consistent with 2021 Act so that energy development maximises its contribution to net gain. Respondents additionally called for the inclusion of a clear definition of Environmental Net Gain as distinct from Biodiversity Net Gain.

Several respondents were pleased to see the inclusion of biodiversity net gain but would welcome further clarity on implementing the net gain requirements, in particular, in the marine environment. Some respondents commented that it was unclear whether this was a mandatory requirement or an optional objective.

Many respondents highlighted that the referenced biodiversity metric should be updated. Other respondents voiced concerns that the new proposals regarding Biodiversity Net Gain and Environment Net Gain may create an unknown burden for projects at this stage as metrics and dedicated guidance are still emerging. Encouragement towards a metric with recognised deficiencies which does not yet have clear outcomes is not appropriate to include so explicitly in such policy.

Others argued that wording around enhancements/environmental net gain should be stronger and more in line with the National Planning Policy Framework (NPPF) and that that stronger framing is required on biodiversity, specifically the dual challenge of the climate and biodiversity crises.

Marine Net Gain

Given that there is currently no dedicated guidance for Marine Net Gain respondents commented that it would be better if this was clarified before obligations are placed on NSIPs or wording is included in the NPS, as otherwise it could lead to ambiguity for developers. The Environment Act 2021 includes an amendment to the 2008 Planning Act which when commenced would require the Secretary of State to reject a DCO application unless satisfied that the biodiversity gain objective contained in a biodiversity gain statement is met in relation to the development to which the application relates. This amendment potentially covers terrestrial and marine developments. For terrestrial and intertidal developments there are published metrics (the intertidal is currently as a draft) to allow the value of existing and developed habitats to be calculated. However, there are no UK metrics for sub tidal habitats and no timeline for when or how they will be produced. A requirement to apply Marine Net Gain in the absence of a methodology or a schedule for the publications of a methodology is an additional risk and hence a disincentive for developers.

Government response

Biodiversity and Net Gain

The section has been reviewed and amended to reflect the requirements that are now contained in Schedule 15 of the Environment Act 2021 with respect to NSIPs and reflects current policy. The section also starts with a clear definition of what is Environmental Net Gain and Biodiversity Net Gain.

Further clarity on how the biodiversity metric should be used has been provided as well as clarification that Wales should follow separate guidance set out in Section 6.4 of Planning Policy Wales and the relevant policies in the Wales National Marine Plan.

Marine Net Gain

We have not updated the text on this section as the guidance is still in development. However, this does not prevent applicants from considering whether there are opportunities for biodiversity gains in the meantime.

Carbon, Capture and Storage

There were several comments on this section by respondents, the government response has been covered in Q1a.

3. Do you agree with the amendments made to EN-1 Part 5 on the generic impacts of new energy infrastructure?

Summary of responses

Greenhouse Gas Emissions (GHG)

There were many respondents that welcomed the new section on GHG emissions as an assessment topic. One of the key comments made related to the Secretary of State's decision-making section where it states that the Secretary of State does not need to assess individual applications for planning consent against operational carbon emissions and their contribution to carbon budgets, respondents argued that it was critical for it to be considered.

Biodiversity and Geological Conservation

Comments on this section are addressed in Question 2 under the Biodiversity and Net Gain section.

Ancient Woodland, Veteran Trees and other irreplaceable habitats

There were few comments by respondents relating to the title and the need to use up to date terminology such as 'irreplaceable habitats.' Other comments related to strengthening the protection in the case of any loss or deterioration of irreplaceable habitats as and when a nationally significant energy infrastructure is needed.

Flood Risks

We received a number of comments on flood risks, with a few respondents stating that further detail could be added to the section on mitigating flood risks. In addition, further detail was requested on on-site and off-site compensatory storage in an event of an increased flood risk, and how guidance contained within the NPS will be able to adapt and stay relevant given that flood risk and climate change are two of the most rapidly changing sectors in terms of policy.

Aviation

There were several comments on aviation ranging from information for aerodrome safeguarding considerations including Instrument Flight Procedures (IFPs) safeguarding, bird strike risk in relation to environmental mitigation, building induced turbulence, and thermal plume turbulence.

Government response

GHG

Following comments received, we have broadened the assessment for proposals for energy infrastructure projects to include a GHG assessment as part of the Environmental Statement rather than a carbon assessment, to allow for a wider analysis of the impact of the energy infrastructure.

Habitats Regulations

To improve robustness of development plans, the text in section 5.4.25 of EN-1 has been updated to clarify that applicants need to engage with Statutory Nature Conservation Bodies at pre-application stage. We have further clarified the importance of applicants needing to consider compensation as early as possible in the design process as 'retrofitting' compensatory measures will introduce delays and uncertainty to the consenting process. Following comments from respondents, the text has been updated so that it is consistent with EN-3 and has been moved from section 4 to section 5.

Ancient Woodland, Veteran Trees and other irreplaceable habitats

We have updated the section by adding the 'other irreplaceable habitats' in the title and added further clarification on the terminology in the first paragraph following respondent's comments. We have also re-worded the section to be clearer on the test for granting any development consent that would result in a loss or deterioration of irreplaceable habitats and the need for a suitable mitigation strategy.

Traffic and Transport

Section 5.14 Traffic and Transport has been updated to reflect current policy. Additions have been made following discussion with DfT to reflect commitments and ambitions set out in Decarbonising Transport: A Better, Greener Britain published in July 2021. The revisions enable consideration and mitigation of transport impacts to better contribute to the decarbonisation of the transport network, reduce the overall need to travel, and facilitate behavioural change to sustainable modes through the provision of genuine modal choice.

Aviation

Scope of the aviation section has been extended in line with comments which have been addressed in the draft and will be consulted on in due course.

4. Do you have any other comments on the amendments to EN-1?

Summary of responses

Most respondents did not comment on this question. Those who did used it as an opportunity to reiterate suggestions and considerations they made in previous sections of the consultation.

Draft EN-2

5. **Do you agree that the amendments to EN-2 (in combination with EN-1) provide clear planning policy to support the government's position on the use of fossil fuels in electricity generation and the phase out of coal and large-scale oil?**

6. **Do you agree with the way the amended EN-2 deals with the emerging potential for the use of low carbon hydrogen in electricity generation?**

7. **Do you have any other comments on the amendments to EN-2?**

Summary of responses

There was significant overlap between the responses to the three questions, therefore we have summarised the responses to Questions 5, 6 and 7 together, grouped into themes.

Hydrogen

A number of respondents requested that more detail on hydrogen be included in EN-2, specifically on the following:

- Clarity on whether EN-2 applies to hydrogen and requests for a separate chapter on hydrogen.
- Guidance on hydrogen infrastructure including transport and storage
- Guidance on hydrogen blending with natural gas
- Guidance on different types of hydrogen, including green and blue
- References to the UK Hydrogen Strategy

Carbon capture readiness / decarbonisation readiness

A number of respondents requested that the text on carbon capture readiness in both EN-1 and EN-2 be updated to reflect the expansion that has been proposed by government (Decarbonisation Readiness).

The future role of natural gas generation

Some respondents requested EN-2 to be updated to set out the future role of natural gas generation and ensure consistency with the NZS.

CCUS

Some respondents requested that EN-2 be updated to include more detail on CCUS infrastructure, including references to policy on industrial clusters and references to CO_2 transportation and storage infrastructure.

Combined heat and power

Some respondents requested that more detail on CHP be added to both EN-1 and EN-2, including an update on CHP readiness to ensure consistency with the 2021 call for evidence that BEIS held on CHP.

Other

There were several other responses received to Questions 5,6 and 7:

- A few respondents wanted the NPS to be required to be used by local planners as well as by the Secretary of State.
- A few respondents thought that the scope of EN-2 should be expanded to cover all combustion technologies including bioenergy with carbon capture and storage (BECCS), energy from waste, biomass, hydrogen and CCUS.
- Many detailed comments were provided on the specific wording of clauses in EN-2.

Government response

Hydrogen

The case for hydrogen technologies in the context of net zero is now clearly set out in section 3.4 of EN-1. Section 1.6 of EN-2 already sets out how EN-2 relates to hydrogen combustion plants. As such, we do not consider it necessary to make any further amendments to EN-2 related to hydrogen given the read across between EN-1 and EN-2.

Carbon capture readiness / decarbonisation readiness

Regarding alignment with BEIS 2021 call for evidence on an expansion to Carbon Capture Readiness / Decarbonisation Readiness requirements[2], we agree with the comments made by respondents, and have amended the relevant sections in both EN-1 (4.8) and EN-2 (2.4) to provide an update on the potential expansion of the requirements. We intend to consult on formal proposals for the expansion in 2023.

The future role of natural gas generation

Regarding the future role of natural gas generation, we agree that EN-2 should be consistent with the wording of the NZS. We have inserted new text into 1.1.2 of EN-2 to clarify the future role of unabated gas generation, which mirrors additions to 3.3.17 of EN-1.

CCUS

In relation to the comments received on CCUS in EN-2, see Section Q1a of this document for our response to the feedback on CCUS throughout the NPS.

Combined heat and power

[2] https://www.gov.uk/government/consultations/decarbonisation-readiness-call-for-evidence-on-the-expansion-of-the-2009-carbon-capture-readiness-requirements

To take account of the comments on CHP, amendments have been made to section 4.7 of EN-1, to reflect the latest policy.

Other

In relation to comments on the use of the NPS by local planners, we consider that the text in Section 1.2 of EN-1 already sufficiently covers this, so no amendments have been made.

In response to comments on the scope of EN-2 we do not agree with suggestions for change and EN-2 will continue to cover natural gas-fired generation only. Other generation technologies, including CCUS, hydrogen, biomass, energy from waste and CHP will continue to be covered in other NPSs (EN-1 or EN-3) where relevant.

We have reviewed the many detailed comments provided on the specific wording of sections in EN-2 and amended the wording where appropriate. These can be seen in the amended version of EN-2.

Draft EN-3

Overview of Responses

We received 135 responses to questions relating to the draft EN3, from a diverse range of stakeholders, including statutory bodies, LAs, developers and trade bodies, who provided a varied opinion on the proposed text.

Respondents for biomass were largely concerned with the sustainability of biomass and CCUS and decarbonisation readiness. EfW specific responses dealt with the renewable nature of EfW, GHG emissions, the Waste Hierarchy, and waste capacity.

For offshore wind, respondents were largely supportive of the changes made. Alongside specific concerns in sections of the NPS, key themes for discussion for stakeholders included net zero, marine spatial prioritisation, especially in relation to coexistence with CCUS, and floating offshore wind.

Respondents were generally very supportive of the inclusion of a new section on solar and made a number of detailed technical comments on the solar section of the NPS text as well as proposing some drafting changes. Key areas for discussion for stakeholders focussed on the need case for large scale solar, siting of solar on agricultural land, impacts of glint and glare on aviation and the methodology for measuring the capacity threshold of projects.

Respondents were highly supportive of the inclusion of specific guidance for tidal stream. However, some responses revealed an ambiguity in the text on environmental impact monitoring. Other respondents, while welcoming guidance for tidal stream, questioned why there was no specific guidance for tidal range.

We have provided more detail on our responses to the questions asked in the consultation below.

Question 8. Do you agree that the amendments to EN-3 (in combination with EN-1) provide clear planning policy to support the government's position on renewable energy infrastructure?

Summary of responses

The majority of respondents provided general comments and/or suggestions for further clarifications, with many also duplicating responses given to the separate technology questions. Some respondents used this question to comment in detail on the biomass and energy from waste NPS text and to provide additional comments on offshore wind.

Key cross cutting points raised related to the perceived lack of reference to the climate emergency and the need to update the text to reflect the recently published net zero and hydrogen and industrial decarbonisation strategies as well as Wales's National Plan 2040.

Some respondents considered that a separate technical guidance section on onshore wind should be included, although a few supported its omission. Several respondents were

concerned about lack of separate guidance for tidal range and a few suggested that the NPS should also provide technical guidance on roof top solar, storage and green hydrogen.

Biomass sustainability

A number of respondents highlighted sustainability concerns over biomass combustion in biomass plants and in EfW, including around the GHG impacts related to the importation or transportation of feedstocks and carbon emissions from biomass combustion, as well as impacts on biodiversity from biomass sourcing, limited amounts of sustainable feedstocks, and visual impacts of energy crop cultivation. A small number of respondents were concerned about what would happen to waste biomass feedstocks when current subsidy schemes come to an end. It was suggested that the guidance in EN-3 was used to inform guidance on anaerobic digestion plants smaller than 50 MW, highlighting concerns over impacts on soil and transportation distances.

Re-categorising EfW in the NPS

Some respondents suggested that the NPS was restructured into new categories to represent thermal, and non-thermal generation.

Offshore wind

Alongside similar net zero comments noted above, there were two key themes of marine spatial prioritisation (MSP) and floating offshore wind. MSP was a point of interest for over half of the respondents to the offshore wind section, with most of them calling for further guidance on how the NPS will guide and avoid spatial conflict. Key areas raised included: impacts on CCUS industry; protection of biodiverse environments in any strategic spatial planning; and effects of transmission infrastructure. Respondents also welcomed the inclusion of floating wind, although a few argued that the targets for floating wind needed to be more ambitious. One respondent also noted that more information needs to be given regarding how the government intends to plan and deliver these wind farms.

Government Response

The overarching need case set out in the EN-1 document is clear that there is an urgent requirement for new electricity infrastructure and that renewables will play a key part in meeting government's commitments on net zero and energy security. The introductory sections of EN-3 have been updated to reflect relevant policy documents published after publication of the consultation.

In terms of the lack of specific technical guidance on onshore wind it should be noted that onshore wind was removed from the NSIP regime in 2016 through amendments to the 2008 Planning Act. This means that all planning applications for onshore wind turbines in England are made to the Local Planning Authority (or to the Welsh Government in Wales). As NPSs are statutory guidance, and as onshore wind is now not included in the 2008 Act, it is no longer appropriate for the NPSs to provide specific policy in relation to onshore wind.

The comments around the omission of tidal range, small- scale solar, hydrogen and battery storage from EN-3 were also raised in the responses to questions 11 and 12 and the government position is set out in the responses to these questions.

On *biomass sustainability* we have acknowledged the concerns raised relating to biomass sustainability and have referenced the upcoming Biomass Strategy in the NPS EN-3 section 2.7. Sustainable biomass has played a vital role in UK's decarbonisation efforts and is an important part of UK's renewable energy mix. The UK only supports biomass which complies with strict sustainability criteria for land and GHG emissions, and generators only receive subsidies for compliant biomass.

The forthcoming Biomass Strategy, due to be published in late 2022, will detail the government's position on future biomass use and outline the policies needed to support biomass use across the economy in meeting net zero. The strategy will set out how biomass should be best utilised to achieve net zero targets, including any updates to the UK's biomass sustainability criteria for new installations. Future iterations of the NPS may take account of updates presented in the Biomass Strategy and reference any new sustainability criteria or legislation relating to biomass use.

*In terms of re-categorising EfW in the NPS, c*onsideration was given to restructuring the NPS to group biomass and EfW along with other combustion technologies. However, moving biomass into EN-2 might suggest a change of position. This is not the intention, as the government views biomass as a renewable, low carbon energy source. It is recognised that a proportion of material in the EfW stream is not renewable, and this is signposted accordingly in section 3.3.37 of EN-1.

*For Offshore wind t*he government recognises that marine spatial prioritisation (MSP) is a key area of work. The NPSs are not spatially explicit in nature and therefore cannot perform the function of MSP. A cross-government Marine Spatial Prioritisation Programme has been established, led by the Defra, and will consider a holistic 2050 vision for the future use of our seas. Similarly, the government announced the new Offshore Wind and CCUS Co-location Forum, which is a Crown Estate-led group where government and industry will work together to provide strategic coordination of co-location research and activity.

Floating wind will play an important part in our future energy system. The Government committed in the BESS to increase our ambition from 1GW to 5GW by 2030 and has also announced up to £160m to invest in ports and manufacturing infrastructure to support the development of the floating wind supply chain and drive down costs.

Question 9 - Do you agree with the amendments made to EN-3 guidance on offshore wind?

<u>Summary of responses</u>

Most respondents to this question provided technical comments and proposed specific amendments to the draft text in the offshore wind guidance. The government response below addresses specific queries and identifies where we have been unable to make additional changes. For clarity, information has been organised in line with the structure of the sections and subsections in the offshore wind chapter of the NPS.

<u>Offshore Consenting Process</u>

Most respondents requested further clarification on Marine Licences (ML) and deemed MLs in relation to Welsh Waters.

Government Response

The government has amended the text relating to ML in Welsh waters. Any DCO granted by the Secretary of State may include provision deeming the grant of a ML for operations carried out wholly in England and English waters or offshore Welsh waters. Welsh Ministers, through National Resource Wales (NRW) are responsible for issuing marine licences for operations in Welsh waters.

Influencing Site Selection and Design by Applicant

There were several responses to this section, largely relating to Strategic Environment Assessment (SEA), marine spatial prioritisation, seabed leasing, and grid connection.

In relation to section 2.8.25 on SEAs, respondents raised concerns that the SEAs do not address the challenges in site selection, especially in relation to mitigation and compensation. Respondents also cited that the UK has not achieved Good Environmental Status (GES) and a lack of knowledge relating to environmental headroom.

Government Response

The government acknowledges that the offshore energy SEA does not directly address site selection challenges. The conclusions of the SEA are valid at a plan or programme level, with the stated caveat that site and topic specific mitigation measures are put in place, such as the preference to use low noise techniques to remove unexploded ordnance (UXOs).[3] The OESEA4 environmental report is now out for consultation, and the government welcomes stakeholder views.[4]

In relation to the comments on GES, the government is committed to achieving GES. The UK Marine Strategy's (UKMS) 'UKMS Part One update,'[5] shows the good progress made towards achieving GES in some areas and what further action is necessary to achieve that ambition.

Marine spatial prioritisation (MSP)

Alongside calls for better MSP, some respondents noted that references to marine plans were insufficient in resolving conflicts, and a framework for how conflicting usage could be resolved should be developed. Respondents also raised concerns that MSP should be considered alongside biodiversity protection. Some emphasised the need to have further clarity on how they should best collaborate on compensation measures.

Government Response

At present, marine plans aim to provide a clear, evidence-based approach to inform decision-making by marine users and regulators on where, when, or how activities might take place. They help to ensure the management of different and potentially competing activities contributes to the achievement of sustainable development and optimal use of the marine area's natural capital.

[3] https://www.gov.uk/government/publications/marine-environment-unexploded-ordnance-clearance-joint-interim-position-statement/marine-environment-unexploded-ordnance-clearance-joint-interim-position-statement
[4] https://www.gov.uk/government/consultations/uk-offshore-energy-strategic-environmental-assessment-4-oesea4
5 https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status

The government recognises that further guidance is required relating to compensation, and Defra will be updating their guidance as a result of their recent consultation.[6] This emerging guidance should be considered by applicants and once finalised, it can be reflected in future iterations of the NPSs.

Offshore-onshore connection

There were many responses for the grid connection sub-section (2.8.46), with many referencing the ongoing Offshore Transmission Network Review (ONTR) and the need for stronger policy support and clarity to encourage coordination. A few responses identified the importance of brownfield sites, such as disused power stations, with most of these arguing that these areas should have priority over new greenfield agricultural sites. Finally, a few respondents also referred to Multi-Purpose Interconnectors (MPIs), noting that consideration must be given to the status of MPIs, both from an implementation perspective and regarding regulations.

Government Response

The OTNR is a process of reform in parallel with the revisions to the NPS. Further clarity on the policy for offshore transmission is provided in the revised NPS. The 'Horlock Rules' are referred to in EN-5 of the NPS regarding the consideration of locations to site the substations for the onshore connection points for offshore wind. These include a reference to taking account of Planning Policy Guidance which refers to brownfield sites. MPIs are a new type of infrastructure project and their status in terms of planning, consenting and the regulatory framework is the subject of ongoing work by government and other bodies including Ofgem.

Technical Considerations for the Secretary of State

Grid comments and micrositing and microrouting

In relation to this section, (2.8.89), most respondents argued that the NPS should avoid presuming outcomes of the OTNR; should cater for possible outcomes; and should provide a steer for how the likely outcomes will be considered in decision making. A few respondents also noted that micrositing requirements should also relate to onshore cable corridors, not only offshore and that high-resolution survey work should be completed to inform micrositing and microrouting, with provisions for investigative work.

Government Response

The OTNR is an ongoing process of reform of the way offshore transmission is delivered, as referenced above. Further clarity on policy for offshore transmission is provided in the revised NPS, including on the onshore transmission and onshore connection points for offshore transmission.

Rochdale Envelope

A few respondents raised concerns regarding the Rochdale Envelope, including that DCOs should be more flexible when relating to co-ordinated projects, such as optionality for cable

[6] https://consult.defra.gov.uk/marine-planning-licensing-team/mpa-compensation-guidance-consultation/

routes, and that the Rochdale Envelope currently results in mitigation hierarchy being pushed into the post-consent stage, prompting delays.

Government Response

The 'Rochdale Envelope' concept is regularly used to ensure that there is flexibility in the final design. Applicants can set out the broad range of options and then carry out an assessment based on the realistic worst-case scenario for each of those options, providing a higher level of certainty relating to environmental effects. Where a 'Rochdale Envelope' approach incorporates sufficient flexibility for cable route options that would allow the final option to be confirmed post consent.

Repowering

Some respondents noted that repowering (2.8.93) should be given greater policy support in locations where offshore wind already exists, as developers would already have a good understanding of the location, thereby potentially speeding up applications. They also stated that the increase of impacts from a repowered wind farm should be balanced again reduced impacts in other impacts, such as lower seabed impacts.

Government Response

The government recognises that repowering will play an important part in delivering its ambitions. However, as repowering will likely involve enhancing (such as new blades or motors) or replacing individual turbines, there may be additional environmental or visual impacts that are more severe than the original installation and which require additional assessment. As a result, the government cannot currently prioritise these over other applications. They should be considered by the Secretary of State on their individual merits.

Future monitoring

In section 2.8.96, several respondents asked that Statutory Nature Conservation Bodies (SNCBs) accept regional and non-site-specific data (with suitable caveats to ensure ecological protection is not reduced). Furthermore, some stakeholders noted that future monitoring should be more proportionate given the relative maturity of offshore wind.

Government Response

Despite the relative maturity of offshore wind in relation to other offshore industries, such as CCUS, offshore wind technology continues to develop at pace, with associated uncertainty as to the impacts (such as noise levels). Such monitoring will be specific to each individual project. Therefore, it is not appropriate to constrain monitoring within the overarching NPS. Work is ongoing in relation to collaborative strategic monitoring (including standardised monitoring and targeting specific evidence gaps). Once policies are finalised, they can be reflected in future iterations of the NPSs.

Government Response

The NPS has been updated to include reference to the Environment Act 2021. See section 4.5 in EN-1 for further information on Environmental and Biodiversity Net Gain. Regarding the concern over conflating compensation and net gain, this is noted. Defra are currently developing the specific policy on Marine Net Gain and this work is separate to compensation

and strategic compensation work streams. There were also comments relating to this in EN1 Q2, please see govt response above.

Biodiversity

We have created a new section for the Offshore Wind Environmental Standards (2.8.103) in light of BESS. There is the opportunity to consult on this in the consultation.

Some respondents called for stronger policy relating to the use of existing data to inform assessments (e.g., use of data from other areas), and a standardisation for methods of assessment, such as modelling. Several respondents also noted that this was particularly important, as impacts have already gone above identifiable thresholds for some species.

Similarly, respondents indicated the need for further consideration on the implications of an adaptive management process and that it was more likely to be implemented for compensation rather than general mitigation measures.

A large number of respondents had comments or suggestions concerning compensation. Most respondents highlighted the need for future guidance to address how a collaborative and strategic approach could be used for compensation.

Government Response

The government acknowledges the need for further standardisation of assessment methodologies. Once strategic monitoring is in place, it will be increasingly possible for SNCBs to transfer the collective learning from one site to another. Furthermore, the joint BEIS (now DESNZ)/Defra Offshore Wind Enabling Actions Programme has a work stream on 'better data,' which is looking at the best use and standardisation of existing data.[7]

With regard to mitigation and monitoring text is left as drafted, as the need for adaptive management does not relate to compensation only. This could similarly be applied to the need for additional mitigation in certain circumstances (e.g., where underwater noise levels risk being breached).

Concerning compensation, alongside the text added to the NPS, Defra are designing a strategic compensation policy, to help streamline the current project specific process and to maintain or enhance environmental protections and benefits with the acceleration of offshore wind deployment. Defra will provide additional guidance in the coming months.

Fish

There were a few responses to this section overall concerning Electro-Magnetic Fields (EMF). Alongside questioning whether rock armouring was an effective mitigation for EMF, most respondents questioned why EMF was included in the applicant's assessment since there was a lack of evidence that EMF caused population level impacts.

Government Response

[7] https://naturalengland.blog.gov.uk/2022/04/13/offshore-wind-best-practice-advice-to-facilitate-sustainable-development/

While armoured cables are thought to insulate against EMF impacts, it is unknown whether exposure to multiple cables and/or larger capacity cables may have a cumulative impact on sensitive species. Therefore, monitoring EMF emissions may provide the evidence to inform future Environmental Impact Assessments (EIAs). In the case of floating wind, the cables may hang freely in the water and may require alternative monitoring and mitigation. Regarding the use of rock armouring, this was an error. The text should have referred to external cable protection. It has been corrected.

Marine mammals

Responses on this section concerned the need for additional protections under the Habitats Regulations; entanglement risks and anchoring impacts from floating wind; including UXO in project applications; cumulative underwater noise impacts and management; and timing on requesting additional mitigation

Government Response

The wording in the NPS is a general statement of protection under the Habitats Regulations and is not meant to be all encompassing as to where that protection falls.

In relation to entanglement, until there is evidence of entanglement either having an impact or not, the NPS text will remain as drafted. DESNZ notes and agree with the comments concerning the potential for noise from anchoring systems for floating wind farms, however, it considers that the term ‘construction noise assessment’ encompasses both floating and fixed bottom projects.

The disposal of UXOs is not included in the overarching project DCO because the Marine Management Organisation (MMO) consider that such an activity needs to be assessed, managed, and determined in its own right.

In relation to cumulative underwater noise assessment, how developers individually undertake their EIA should not be prescribed (aside from legislative requirements etc) by the NPS. It is very challenging for developers to submit an assessment at the examination phase that can cumulatively assess all the potential projects and activities that might cause an in-combination impact on any protected site or species. The Examining Authority can note any uncertainty in their report, which the SoS will weigh up against other evidence in making their decision.

The need for mitigation is presented as part of the applicant’s assessment, and additional wording has been added to recommend this forms part of the application. However, it is a decision for developers as to when they explore the potential need for additional mitigation (i.e., at the scoping stage or later during development of the environmental statement).

Birds

Many respondents sought further clarity on ‘ornithological headroom’ and how headroom would be assessed, released, and managed (both in the future and historically). Some of the respondents had concerns about the term ‘satisfactory’ with regards to assessments and requested greater clarity on what would compromise a satisfactory assessment.

Government Response

'Headroom' has already been used as the term for securing as-built parameters in The Crown Estate funded, legal review "Headroom in Cumulative Offshore Windfarm Impacts for

Seabirds". DESNZ is maintaining consistency with this term for the purposes of the NPS and the ongoing workstream and policy development. Should alternative terminology be developed in the future, DESNZ will update the text in a subsequent iteration of the NPS. Ornithological headroom is an area of policy development, with work ongoing to ensure the release of historical headroom. Once the policy is developed, the text will be updated in a future iteration of the NPS.

It is not possible for the NPS to define what is 'satisfactory', as this will be unique to the project, location, impact, and receptor under assessment. The NPS flags the requirement to discuss scope, effort and methods required with the relevant SNCB. The Secretary of State will weigh up and balance in their decision what they think is sufficient to make their decision.

Subtidal habitats and species

There were a variety of comments made relating to whether a marine license is needed for all projects, especially with cabling; why the cumulative assessment paragraph only focussed on cable routes rather than cable array infrastructure; and whether coordinated cabling and connection would reduce the number of cables (and therefore the environmental effects on subtidal habitats and species).

Government Response

All work associated with cable installation including trenching, laying, surface protections are licenced through the deemed Marine Licenses (DML)/Development Consent Orders (DCO). In all offshore windfarm cases, the operation and maintenance of cables after construction requires new licences. The point on cumulative assessments is noted, but this is not the only section related to cumulative impacts. See 2.8.248 on mitigation, including surveying and micrositing or re-routing of the turbines, export, and inter-array cables.

Co-ordination of offshore transmission infrastructure from multiple wind farms should reduce the overall amount of transmission cabling required. In some cases, a cable corridor may for example hold two cables rather than one. With careful siting of such corridors this could still reduce the overall environmental impacts (and effects) on subtidal habitats and species.

Commercial fisheries and fishing

All the respondents noted the need for improved mutual engagement between impacted parties, such as developers, fishing industry representatives and the MMO, with an expectation for all parties to collaborate positively to supply information and provide support. Most respondents cited the risk of disruption and requirements surrounding coexistence. Floating wind also poses additional concerns, especially in relation to underwater hazards. Finally, some respondents sought further clarification on the definition of 'prime fishing grounds' and queried whether it should be included.

Government Response

The government recognises the importance of collaboration and communication between the fishing and offshore wind industries and the NPS has been updated accordingly. Displacement of fishing during construction and operation is something that is considered during the siting and application stage of a wind farm (e.g., changes to turbine layouts and density). The government recognise the need to increase understanding of the interaction between floating wind and fisheries and develop to policy appropriately. Furthermore, Defra and MMO and other

partners are looking at how they can combine existing and new sources of data to provide a more complete picture of the spatial use of the marine space by the fishing sector.

Navigation and shipping

There were conflicting views regarding the interaction between offshore wind and recognised sea lanes. Half of the respondents noted the difficulty in meeting the UK Government's offshore wind targets whilst also avoiding shipping routes. The others cited concern that offshore applications can have an unacceptable impact on navigation after all mitigation measures have been adopted. Some respondents also argued that the use of ALARP ("as low as reasonably practicable") in the navigation section could be confusing to applicants, as it conflates commercial matters with safety of navigation.

Finally, some respondents had concerns with the requirement for recreational vessel buffer zones, suggesting that implementing them in areas where recreational traffic was infrequent would reduce the sea space available for siting of turbines or impact the efficiency of windfarm layout.

Government Response

The government is committed to meeting our ambitions whilst minimising the impact of offshore wind on navigation and shipping. See our response in Question 8 relating to Defra's Marine Spatial Prioritisation Programme. Maritime navigation is one of many economic interests that are considered by the Crown Estate and Crown Estate Scotland when seeking to identify optimal locations for future offshore windfarms. The whole process provides robust and repeatable evidence that accounts for the multitude of economic, environmental, and social marine interests including the navigation sector.

The government notes the comments relating to recreational vessel buffer zones. However, we consider that the text needs to be broad enough to allow the Secretary of State to consider buffer areas as mitigation where recreational vessel traffic is high, and balance such mitigation against project requirements, where recreational traffic is moderate or low. This will form part of the consenting process and Secretary of State decision making.

Other offshore infrastructure and activities

Many respondents noted that the section should further clarify possible interactions, impacts, and requirements for offshore wind developments with potential sites for CCUS. This is to ensure the deployment of offshore wind does not negatively impact the delivery of CCUS, noting that potential CCUS sites will be restricted to certain geological formations and its essential role in achieving net zero.

Government Response

Both government and industry are facilitating work to identify the key challenges and opportunities associated with the co-location of these two technologies, in addition to exploring options for resolving the deployment challenges that co-location creates for them. See Question 8 for information on the Offshore Wind and CCUS Co-location Forum.

Seascape and visual effects

Proposed changes to or criticism of the section generally consisted of detailed drafting and/or the need to refer to various industry publications and guidance. There was also the concern from a few that economic viability of a wind farm project might override its visual impact.

Government Response

The government notes the concern regarding 'economic viability.' However, visibility issues are considered when reviewing applications. Wind farm applications have been rejected due to their impact on visibility.

Question 10: Do you agree with the new guidance added to EN-3 on pumped hydro storage?

Summary of responses

We received a few responses to this question, with around 70% of respondents agreeing with the new guidance on pumped hydro storage. The remaining respondents didn't disagree with the principle of the guidance but had specific comments and suggested amendments. For example, some stakeholders set out that pumped hydro storage can be either closed or open loop systems but that the current guidance did not adequately account for closed loop systems. This same set of stakeholders highlighted that in terms of noise impacts, where penstocks and generation equipment is located underground there is no noise during operation, they requested this was reflected in the guidance.

A few stakeholders also outlined that they would like to see more detail set out on the importance of pumped hydro storage for achieving net zero and related to this, one stakeholder raised concerns that EN-3 doesn't set out how much pumped hydro storage will be deployed and where. A couple of stakeholders wanted the NPS to acknowledge that whilst pumped hydro storage can be a net consumer of electricity, this is not a material consideration for the planning regime, given it is a key technology for achieving net zero. Related to this a couple of stakeholders outlined that water runoff can in fact result in the reservoir being filled without pumping, meaning it is not a net consumer.

Other points raised by individual stakeholders included a request for further detail on the potential impacts on soil, recognition that pumped hydro schemes could attract species of birds that are hazardous to aircraft and a concern that the guidance is not clear enough on potential impacts and mitigations for the historic environment.

Government response

We have amended the NPSs to address some of the feedback that we received through the consultation. For example, we have made some amendments to ensure the guidance better reflects closed loop pumped hydro storage systems, as well as clarified the wording around pumped hydro storage being a net consumer. With regards to the comments from stakeholders on the need to set out the importance of pumped hydro storage, EN-1 sets out the strategic need case for electricity storage and its importance for meeting net zero. However, we have also added some information on the importance of electricity storage for meeting net zero in the introduction to the section on pumped hydro storage in EN-3. With regards to specifying targets for electricity storage in the NPS, the purpose of the NPS is to set out the need for and importance of technologies as well as the primary policy for decision making by the Secretary of State. This will inevitably influence which sites are suitable for particular technologies and

developers should ensure they are designing projects in line with this guidance however, the purpose of the NPS is not to set targets for technologies and dictate exactly where they should be sited.

We have not added any further information in this section on impacts to the historic environment or to aviation, as this is covered in EN-1 and applies across all technologies.

Q11. Do you agree with the new guidance added to EN-3 on solar?

The majority of respondents welcomed the inclusion of a new specific section on solar in EN-3. Many also provided technical comments and proposed specific amendments to the draft text. Please see the tracked changes in the solar section of EN-3 to see where relevant changes have been made. The government responses below address specific queries and explain where we have been unable to make additional changes. For clarity, information has been organised in line with the structure of the sections and subsections in the draft solar chapter of the NPS.

Introduction

A number of respondents suggested that the case for solar should be strengthened and a target for deployment, consistent with net zero ambitions, included in the text. Conversely some respondents considered the guidance too permissive. Several fundamentally disagreed with the approach of siting large solar in rural areas and suggested that government focus should instead be shifted to encouraging rooftop solar and demand side response (i.e., storage).

A few respondents suggested that there should be recognition that green hydrogen production and battery storage facilities could be situated alongside solar projects. Several respondents highlighted the importance of signalling that the information provided about typical solar panel size, output and land space required per MW installed capacity is not definitive and may change as solar technology evolves.

Government Response

In the recent British Energy Security Strategy, the government committed to a number of policy interventions which could enable up to a five-fold increase in total solar deployment (up to 70GW generating capacity) by 2035. We have updated the introductory paragraph to refer to this ambition.

We will need to see increased deployment of all types and scales of solar, including rooftop projects, to meet our objectives. The government is supporting the installation of solar PV panels on the roofs of domestic, commercial, and public sector buildings through a range of measures, including the Smart Export Guarantee, fiscal incentives, and grant schemes for certain energy efficiency measures. However, we do not consider it appropriate to include rooftop solar in the NPS. Individual projects are very unlikely to be deployed at a scale large enough to constitute NSIPs. Government recognises that accelerated deployment of large scale solar, in common with other large infrastructure projects, will have impacts on land-use, landscape and the local environment. It is the role of the planning process to manage these

impacts and balance any local effects against the wider need for secure clean, green energy for the future.

We have updated the NPS text to specify that electrolysers associated with low carbon hydrogen production and battery storage may be located alongside solar projects. Further detail on the need for new infrastructure to support hydrogen production, transport and storage is also set out in EN-1. We agree that the illustrative parameters set out for typical solar projects will vary on a case-by-case basis and over time and have amended the text to clarify this.

Factors influencing site selection by applicant

Measuring capacity threshold

The majority of stakeholders who commented on this section welcomed clarification that the 50MW capacity threshold for determining whether solar projects are consented under the Town and Country Planning Act (TCPA) or NSIP route should be measured in Alternating Current (AC) rather than Direct Current (DC). However, a few expressed concerns that as drafted, the text was not consistent with the requirements of the Engineering Recommendation (EREC) G99 Regulations and could inadvertently limit the maximum registered capacity of the generator to less than 50 MW (measured in AC)[8]. A few developers and industry organisations suggested that the clarified capacity definition should be applied retrospectively to projects consented prior to the designation of the NPS.

Although not directly relevant to the guidance, several respondents asked that consideration be given to increasing the capacity threshold for solar projects determined under NSIP regime to reflect the increased size in solar projects over recent years and to enable more larger projects to be determined by Local Planning Authorities (LPAs) through the Town and Country Planning Act route. Others disagreed and argued that the 50MW should be maintained to avoid placing additional pressure on LPAs.

Grid connection

Many respondents considered that grid was one of the most important factors influencing site selection and suggested that in addition to availability of a connection point, the distance and type of environment that connecting cables are required to cross will impact on the feasibility of sites.

Agricultural land classification and land type

Comments on this section were polarised. Some respondents, whilst accepting the need to prioritise non-agricultural and brownfield land, suggested that the text should be clearer that NSIP scale solar projects are very likely to need to be sited at least in part on some higher quality agricultural land, because of a lack of suitable brownfield sites. Some also suggested

[8] These Regulations require the capacity of the inverters to be higher than the registered capacity of the generating station. This means that if the capacity of the invertors is limited to 50MW(AC), the corresponding capacity of the generating station will need to be set at less than 50MW (AC).

that greater weight should be given to sites where solar is co-located, for example with farming or other technologies. They recommended that the text be strengthened to highlight the positive impacts that solar can have on biodiversity and soil health, particularly on land which has previously been intensely farmed. Conversely some respondents suggested that lower grades of agricultural land should be offered the same protection as higher quality land. They did not agree that animal grazing could be successfully combined with solar.

One statutory body flagged some inaccuracies in the detailed references to the Agricultural Lands Classification (ALC) system and Defra Construction Code used to identify soil type and inform soil management.

One respondent suggested that this section should include detailed guidance on siting solar in Green Belts. Another questioned the absence of any reference to developers needing to consider the location of nationally designated landscapes when selecting sites.

Government Response

We have updated the NPS text on measuring the capacity threshold so that it is now consistent with the requirements of the Engineering Recommendation (EREC) G99 Regulations. We do not agree that the clarified definition for measuring projects on an AC basis should be applied retrospectively. Existing solar projects consents may have been assessed and granted based on a DC threshold (with associated land footprint and site-specific implications). It would not be appropriate to amend these permissions without re-assessing the impacts of the project now developing on an AC basis. We have noted the range of comments submitted about the appropriateness of the level of the current 50MW capacity threshold for projects determined under NSIP. Whilst not directly relevant to the current updates to the NPS guidance (and any changes to the threshold would require legislative amendments), we will continue to engage with stakeholders on this matter.

In the section on grid, we have updated the text to further highlight the importance of grid connection in site selection and clarify that the route and type of terrain traversed by the cabling linking the solar project to the grid connection may have an impact on the project's viability.

On agricultural land use, we consider that the provisions in the guidance as drafted strike the right balance between protecting our most versatile and high-quality agricultural land and enabling the sustained increases in the development of large-scale solar capacity needed to meet our net zero targets and energy security goals. Projects should, where possible, seek to deploy on previously developed or lower value land. However, given the range of factors that need to be considered in selecting viable sites for solar generation, including vicinity of grid and topography, and the limited availability of suitable brownfield land at the scale needed for NSIP projects, we expect that some projects (or parts of projects) may need to deploy on higher grade agricultural land. In these cases, applicants will be required to explain their site selection. As flagged in some of the responses, well-designed solar projects can also enhance biodiversity (over and above the requirements of biodiversity net gain) and be co-located with agriculture and other low carbon technologies, such as onshore wind and storage, maximising land use efficiency. We have expanded the text to clarify that these factors should be considered when proposing siting solar on agricultural land.

We have updated the text to address the comments about inaccuracies in the references to ALC and soil management processes. We have not included a separate section on Green Belts or nationally designated landscapes, as EN-1 already provides overarching details of the factors to be addressed when considering siting energy infrastructure within these areas.

Technical considerations

Project lifetimes

A few respondents suggested the guidance should provide a supportive policy for solar PV repowering and system upgrades which they considered were unlikely to have significant environmental impacts.

A cross section of respondents considered that the information about typical project lifetimes and time limits for consents (around 25 years) was out of date, as most solar panels now have a design life of up to 40 years and some developers may seek consents without time limits. Conversely a number of respondents considered that consents should be limited to a maximum of 20 to 25 years to provide an opportunity to re-evaluate land use requirements.

Some respondents suggested that the guidance on decommissioning should set out details of how to recycle solar panels and components at end of life.

Flexibility

A number of respondents welcomed the flexibility in consents on panel type and site layout and argued that this should be extended to the project's MW capacity, as this may fluctuate, for example if panels are replaced with more efficient models during lifetime of the consent or if storage is subsequently installed.

Government Response

We agree that repowering will play an important part in ensuring that we can maintain, increase, and maximise the efficiency of generating capacity across a range of technologies, including solar. To date, only two solar projects in England have received DCOs and are yet to become operational so we would not expect to see requests for repowering of NSIP solar projects in the near term. It would therefore be premature to set out specific policy or technical guidance on solar repowering in the NPS at this stage but we will continue to monitor and consider the case for including in future updates.

We have updated the references to typical project lifetimes and time limited consent orders to reflect the latest evidence indicating that solar panels can now have a design life of up to 40 years. We do not agree that DCOs for solar projects should be limited to a maximum specified period. As with other infrastructure projects, the length of consent should be determined on a case-by-case basis considering the specific circumstances of individual projects.

Solar panels generally do not cause significant waste and evidence suggests that 85-95% of the materials used can be recycled.[9] However, we do not consider that it is appropriate to include further detailed guidance on recycling solar equipment in the NPS. There is separate legislation in place – the Waste Electrical and Electronic Equipment Regulations 2013 – which governs the sustainable disposal of electrical equipment, including solar panels and components.

Biodiversity and ecological conservation

A number of respondents flagged that several references in the text on biodiversity would need to be updated to reflect the new requirements for biodiversity net gain. A few respondents suggested that the requirement for ecology assessments to consider the impacts of mobile arrays or trackers on animals should be removed as this is not an issue with modern panel design.

Some respondents recommended that the text on the flood risk assessments should be expanded to clarify the likely beneficial impacts of solar panels on drainage and provide clearer direction to the Secretary of State to approve sites where the impacts are minimal and/or can be mitigated. They considered that a full Flood Risk Assessment may not always be necessary and suggested that proposing to locate a site in an area of flood risk should not be considered as a reason for refusal of consent, if mitigation is possible.

Government Response

We have updated the text to ensure that the guidance on environmental and biodiversity net gain aligns with ambition set out in the 25 Year Environment Plan and any relevant measures and targets, including statutory targets in the Environment Act. We have assessed the points made about impacts of trackers and mobile arrays on wildlife and agree the risk of animals getting stuck in equipment is very low.

We have considered carefully the points made about providing additional detail on the potential positive impacts of solar on drainage. Many of the points raised are already implicit in the text which is clear that the impact of solar on drainage will not in general be significant and can often be mitigated. However, it is not appropriate to provide a generic steer on how applications should be determined; the case for locating projects in or near flood plains should continue to be assessed on a case-by-case basis.

Landscape, visual and residential amenity

Some respondents suggested that the guidance should place greater emphasis on using trees to mitigate visual impacts, with a few going further and recommending that tree and woodland planting should be required as a landscape and biodiversity mitigation/enhancement measure.

[9] 'Renewable Recyclability – Fact or Fiction?', *Bernstein Energy and Power* (Oct 2020) Source: Lunardi, M., Alvarez-Gaitan, J., Bilbao, J. and Corkish, R., 2018. *A Review of Recycling Processes for Photovoltaic Modules*. [online] ResearchGate. Available at: <https://www.researchgate.net/publication/326372301_A_Review_of_Recycling_Processes_for_Photovoltaic_Modules

Government Response

We have noted the benefits of using trees and woodland as a means of mitigating and/or enhancing biodiversity and landscape impacts and have added this to the list of examples of possible screening options. However, given that the local environment of individual projects will vary, it is important to maintain flexibility so we do not agree that the guidance should prescribe any particular type of mitigation measure.

Glint and Glare

We received several detailed and conflicting comments from a range of stakeholders. Some respondents considered that the requirements in the guidance were quite onerous. It was suggested that the text in this guidance should specify that any requirements for glint and glare assessments be proportionate, taking into account the irradiance absorption design of current solar panels and the specific site context, particularly where there are no nearby receptors. Some respondents also considered that the requirement for the use of anti-reflective panels was unnecessary as, high efficiency anti-reflective coatings are standard on all commercially available panels. They suggested that solar panels posed no risk to aviation and flagged evidence from existing glint and glare assessments suggesting that solar panels have significantly less reflectivity than many other common construction materials.

Conversely, other respondents strongly disagreed with the reference in the text to there being no evidence that glint and glare from solar farms interferes with aviation navigation or pilot and aircraft visibility or safety. They provided documentation and case studies to support their argument, which showed that in some circumstances mitigation was required to avoid unacceptable glare arising and interfering with aviation.

Government Response

To provide further clarity we have included additional detail in the NPS text on the requirements for glint and glare assessments and to highlight that in most cases solar panels are designed with anti-reflective glass or are produced with anti-reflective coating and have a reflective capacity that is generally equal to or less hazardous than other objects typically found in the outdoor environment. However, our technical analysis suggests that, despite this, it may in some cases still be possible for panels to reflect the sun’s rays, at certain angles, causing glint and glare. We have expanded the text to explain how these impacts may be mitigated using screening and/or adjustments to the alignment and elevation tilt angle of panels.

We acknowledge that there is some evidence that glint and glare from solar farms can be experienced by pilots and air traffic controllers in certain conditions, although this does not in our view suggest that this results in significant impairment on aircraft safety. We have updated the NPS to clarify that when determining applications, the Secretary of State should consider the impacts of glint and glare on aviation infrastructure (including aircraft departure and arrival flight paths) as well as the impacts on other receptors.

Cultural heritage

One respondent suggested that the guidance should specifically acknowledge that impacts on heritage can arise from solar projects developed on brownfield as well as greenfield sites. Some respondents supported the wording around the need for investigative field work to be proportionate but suggested that further guidance was needed on what any field studies were expected to cover and how 'proportionate' should be defined.

Government response

We agree that as is the case with other infrastructure projects impacts on heritage can occur irrespective of whether developments are sited on greenfield or brownfield sites, but do not consider it is necessary to spell this out in the solar guidance. EN-1 contains overarching guidance on assessing impacts on the historic environment of energy infrastructure in any location and the criteria do not differentiate between land type. We have updated the text to clarify that the extent of investigative work should be proportionate to the sensitivity of, and extent of proposed ground disturbance in, the associated study area**.**

Other points raised on the solar section

A few respondents suggested that the guidance should be expanded to cover the impacts of noise from solar during operation, community benefit packages and the safety of battery storage.

Government Response

We do not consider that it is necessary to include additional guidance on these issues in the NPS. Although solar panels are silent, as with other energy and grid infrastructure, there may be some noise impacts from the invertors used to convert the low-voltage direct current electricity into a high voltage alternating current electricity suitable for injection into the electricity grid. Relevant guidance on assessing the impacts of noise in these situations is set out in overarching EN-1 and in EN-5.

Whilst the government is clear that communities should be able to participate in and benefit from developments in their area, it is not appropriate to include guidance on community benefits and ownership in the NPS, as these are not a material part of the planning process.

We do not consider it appropriate to include guidance on storage safety in the NPS. A robust health and safety regime is already in place with appropriate provisions to ensure that battery storage at all scales can be operated safely in a range of environments.

Q12. Do you agree with the new guidance added to EN-3 on tidal stream energy?

Lack of Technology-Specific Guidance for Tidal Range

Summary of response

Several respondents questioned the lack of technology-specific guidance for tidal range developments. Respondents wondered in particular whether this approach was in tension with the inclusion, in EN-1, of tidal range among the basket of technologies for which the question of need has been presumptively answered.

Government response

The government considered the question of technology-specific guidance for tidal range during our initial drafting, and we have not been persuaded by the consultation responses. Our position remains that it would be unwise to impose, before the fact that could be drafted under these conditions of uncertainty would end up being poorly suited to the task.

It is important to note however that the lack of technology-specific guidance for tidal range does not preclude tidal range proposals from seeking a DCO under the NSIP regime, nor present any procedural disadvantage or prejudicial implication during the assessment stage. Under the present arrangements, a prospective tidal range development would simply be assessed in light of the generic principles established in EN-1.

To further clarify the Government's position on tidal range, we include at Appendix C a detailed specification of the kind and quality of evidence that the Government expects to see before giving any consideration to a specific tidal range proposal.

Environmental Monitoring Requirements for Tidal Stream

Summary of response

Several responses, taken together, revealed an ambiguity in the draft language on environmental monitoring requirements for tidal stream, with some contributors reading the policy as recommending blanket monitoring of all possible impacts, and others reading it as adopting a relatively constrained approach to monitoring.

Government response

We have clarified our policy on this point, namely that although there is presently some uncertainty about the environmental impacts of large-scale, supra-100MW tidal stream arrays, by the time that such projects apply for planning consent, a number of intermediate-scale projects will have been developed, and substantial real-world evidence will have been gleaned from the monitoring requirements imposed on those projects as a condition of their marine licences.

In view of this, our policy is that applicants must demonstrate clearly how their project design, siting, and mitigation approaches have been shaped by – and are proportionate to – any impact potential revealed in this real-world evidence base. Crucially, the Secretary of State retains the discretion to require that applicants carry out additional monitoring, and make the results of that monitoring publicly available, if he is satisfied that intermediate-scale deployments have not provided adequate monitoring data in respect of a particular impact or receptor.

Our view is that this approach balances our twin commitments to securing a net zero power sector on the one hand, and to environmental stewardship and safeguarding on the other, insofar as it allows the monitoring requirements to be placed on successful applicants to reflect the robustness of an evolving real-world evidence base.

Q13. What further changes do you think might be necessary to EN-3 and the nationally significant infrastructure projects (NSIP) regime more broadly in the longer term to

deliver our de-carbonisation and other objectives including to deliver the scale of deployment needed for Carbon Budget 6 and Net Zero?

Summary of responses

Responses were received from a range of stakeholders and contained a mixture of generic and technology specific points. A few suggested that more focus was needed on improving community engagement across all technologies and one organisation suggested that priority should be given in the NPS to the development of small hydroelectric power systems

Responses to this question on offshore wind specifically, related to environment, mitigation, and compensation; planning, consent, and licencing; hydrogen and CCUS; and fishing. Regarding compensation, the key area of concern was the risk of project-level compensation being 'used up,' with many calling for a more strategic approach to compensation. Similarly, a few respondents suggesting that guidance be produced to ensure developers engage with local communities and resolve issues ahead of a DCO being granted. Several respondents also stressed the importance of technologies for the future energy mix which are not included in the draft NPS. Some stated that the NPS should not favour the deployment of offshore wind at the detriment other technologies important to achieving net zero.

Government response

The government recognises the importance of ensuring that the voices of local communities are heard to secure successful outcomes from NSIPs both from a local and national perspective. We encourage all developers to actively participate in meaningful engagement with communities at the early stages of the planning process to deliver better outcomes for communities and will deliver any necessary changes to the NSIP regime through the National Infrastructure Planning Reform Programme.

The government acknowledges the valuable contribution of hydropower to the UK energy mix over many decades. However, planning applications for any new hydro projects coming forward are likely to be less than 50MW capacity and as such would be considered outside of the NSIP regime.

Our responses to the specific points raised in relation to offshore wind are as follows. The compensation text has been strengthened and agreed with Defra. In addition, there is ongoing government work to develop policies around strategic compensation which will be reflected in separate guidance alongside the NPS once completed. The current guidance (compensation guidance developed by Defra) is referred to in the text.

Q14. Do you have any other comments on the amendments to EN-3?

Summary of responses

We received responses from a range of stakeholders, again covering a mixture of generic as well as technology specific issues.

Some respondents suggested that a national land use strategy should be considered to ensure developments are directed to the most appropriate places and suggested that further weight should be given to local considerations. A few respondents were concerned that insufficient

emphasis is given in EN-1 and EN-3 to significant impacts on visual amenity and health and well-being arising from large infrastructure.

On biomass and energy from waste the following points were made:

A number of respondents took the opportunity to raise concerns addressed in Question 8 around sustainability and recategorising EfW in the NPS. The importance of combining carbon capture with EfW and biomass technologies was highlighted as a priority by some respondents, referencing the contribution this could make to net zero targets, and the need for BECCS to deliver genuine GHG emission savings over appropriate timescales was noted. Several respondents also noted the need to update the NPS to reflect the forthcoming expansion to Carbon Capture Readiness (also known as Decarbonisation Readiness), which will bring certain biomass and waste combustion plants within scope of the policy. In addition, there were concerns about the discharge of cooling water from biomass combustion plants as a risk to water quality.

A number of responses questioned the position of Energy from Waste (EfW) within EN-3 alongside other renewable forms of energy. There were conflicting views expressed about whether EfW is better than landfill in carbon terms. Some respondents highlighted that EfW is not low carbon. Some responses urged that priority should be further up the hierarchy – on recycling and reducing residual waste arising. Several responses questioned the inclusion of waste capacity in EN-3 as a consideration that should influence site selection. Additionally, responses pointed out a perceived contradiction between this consideration and the principle set out in EN-1, which states that it is not the government's intention to propose limits on any new electricity infrastructure that can be consented in accordance with the energy NPSs. Some respondents also expressed a view that additional EfW capacity was urgently required, whilst others expressed a conflicting view that there is over-capacity for EfW and called for a moratorium.

Offshore wind

There were a few responses relating to offshore wind, which covered the need for a co-ordinated approach between interested parties; repowering and decommissioning; and visual impacts. Several of the responses reiterated the need for good collaboration. This included developers working together in the event of cumulative impacts, especially in relation of biodiversity. A few of the respondents also questioned how repowering and decommissioning would be managed, with calls for a consistent 'baseline' situation that the applicant could compare their project to, to determine their future course of action.

Government Response

The government considers that there are already satisfactory arrangements in place for considering local considerations in decisions on NSIP infrastructure. Under the NSIP process, relevant local authorities will be consulted on both the proposal and how the local community should be consulted at the pre application stage.

EN-1 and the relevant technology sections of EN-3 set out the potential impacts of energy infrastructure on visual amenities and health and wellbeing and provide clear guidance on how these should be taken into account by the Secretary of State when assessing applications.

Our responses to the various comments raised about biomass and energy from waste are set out below:

On biomass and CCUS & Decarbonisation Readiness**,** we have acknowledged the concerns raised relating to biomass and BECCS and, as set out previously (question 8), we have referenced the upcoming Biomass Strategy in the NPS EN-3, in section 2.7. The strategy will also establish the role which BECCS can play in reducing carbon emissions across the economy and set out how the technology could be deployed.

On water, we have acknowledged concerns about diurnal profiles in relation to biomass and we have added to EN-3, para 2.7.58, to say that any installation that leads to discharge of excessive heat to receiving waters should consider discharge profiles that minimise the impact on temperature and resultant dissolved oxygen levels.

On the renewable nature of EfW and the Waste Hierarchy, we have clarified that EfW is only partially renewable due to the presence of fossil-based carbon in the waste. Only the energy contribution from the biogenic portion is counted towards renewable energy targets (and, therefore, eligible for renewable financial incentives). If the waste is pre-treated to separate out the biogenic fraction, then this can be considered wholly renewable.

EN-3, 2.7.47 states that an assessment of the proposed waste combustion generating station should be undertaken that examines the conformity of the scheme with the waste hierarchy. We have not revised this further. As recognised by the Government's Resources and Waste Strategy energy from waste (even in electricity-mode only) is a better option for processing municipal waste than landfill in terms of carbon dioxide equivalent emissions. If heat from the energy from waste process is utilised, EfW is an even better option. Waste policy is devolved and all governments across the UK have policies in place to reduce the amount of waste produced, increase recycling, and reduce the amount of residual waste sent for treatment.

On capacity accordance with the energy NPSs is a prerequisite for the application of this ‘no limits’ principle: This means in practice that there is no limitation on EfW plants that can be consented under the NPSs, if they comply with the waste hierarchy and do not lead to over-capacity as set out in EN-3. The government’s policy position remains that the primary function of EfW is to treat waste. Electricity generation is a secondary function of EfW, and consideration should be given during planning to making the most efficient use of the energy produced by EfW, including through heat offtake. More broadly, the capacity consideration in EN-3 does not imply that sufficient EfW capacity has already been attained, does not constitute a moratorium on new EfW plants, nor does it imply additional waste treatment capacity is urgently required in England. The consideration aims to ensure that new EfW plants remain appropriate in context of national waste management policy ambitions and proportionate in context of local waste management needs.

We have not revised the text to include details of required waste management capacity – as set out in EN-3 2.7.43, national strategies provide policy expectations for waste management.

On offshore wind, the government recognises that collaboration between affected and interested parties is important. Please see the responses given in Question 9, where collaboration has been addressed in more detail. The government has produced guidance for

industry regarding decommissioning,[10] with developers to submit their final decommissioning plans no later than six months before construction. Developers are strongly encouraged to enter early discussions with DESNZ on decommissioning proposals well in advance of these dates to ensure that they understand their decommissioning obligations and can take account of them from an early stage.

[10] https://www.gov.uk/government/publications/decommissioning-offshore-renewable-energy-installations

Draft EN-4

15. **Do you agree that the amendments to EN-4 (in combination with EN-1) provide clear planning policy to support the government's position on gas supply infrastructure and gas and oil pipelines?**

16. **Do you agree with the way the amended EN-4 deals with the emerging need for low carbon hydrogen?**

17. **Do you have any other comments on the amendments to EN-4?**

Overview of responses

For questions 15, 16 and 17, we received varying responses relating to the respective questions, a number of respondents agreed with the revisions made within this NPS, with many focusing on the consideration for the development of hydrogen and CCUS. A small number of those consulted did not respond specifically to these questions. We have provided a summarised breakdown of views below, as well as Government's response to each question.

We thank respondents for drawing our attention to updates required to ensure the document reflected existing responsible departments/bodies since the last NPS was published. These include, those relating to the Crown Estate, the National Resources Wales. We also made further changes to sections of the document to reflect those suggestions. Noticeable changes can be seen in sections 1 and 2 of EN-4, respectively.

15. Do you agree that the amendments to EN-4 (in combination with EN-1) provide clear planning policy to support the government's position on gas supply infrastructure and gas and oil pipelines?

Summary of responses

As stated above, many felt that EN-4 should include guidelines on pipelines and infrastructure for hydrogen and CCUS with some stakeholders questioning how government will meet net zero carbon target if it continues to make the case for natural gas infrastructure. Some respondents suggested that EN-4 also include a more tailored timeline to meeting the net zero agenda with one respondent suggesting the need to consider the case for amending section 2.12 (LNG facilities) to allow for the import or export of either liquified hydrogen or liquified carbon dioxide. A lot of respondents drew our attention to the need to update responsible government bodies/organisations. We also received comments around changing specific sections for instance Hazardous Substance and the historic environmental impact assessment sections.

Government response

In relation to comments around how government will meet its net zero target if it continues to make the case for natural gas as well as the need to include a case for hydrogen (including liquified hydrogen), and CCUS section 3.5 of EN1 and 1.1.2 of EN4 clearly details government's continued ambition to meet its net zero target. However, given the changing

nature of the energy landscape, we cannot be certain on the precise role of natural gas, or gas infrastructure, in the future. Therefore, the approach we take must remain consistent with our energy objectives. A number of respondents highlighted the need to include guidelines on pipelines and infrastructure for hydrogen. Section 3.4 of EN-1 clearly sets out the importance of hydrogen transportation and storage ("T&S") infrastructure for connecting hydrogen producers with consumers and aligning mismatches in supply. Our view is that the current wording within EN-4 allows for sufficient flexibility around hydrogen T&S infrastructure for now, to not inadvertently stifle growth or development. Government will provide detailed guidance as this technology develops and will continue to work with industry stakeholders to ensure the policy environment supports this critically enabling infrastructure.

16. Do you agree with the way the amended EN-4 deals with the emerging need for low carbon hydrogen?

Summary of responses

For this question, many respondents felt that EN-4 adequately deals with the need for low carbon hydrogen and the key role this will play in the transition of the energy system to achieve net zero by 2050. Where many also agreed, they highlighted the need to see further policy and strategies come forwards which also take environmental impacts into consideration with clear reference to existing policies. Some respondents mentioned the need for consultation and subsequent update to the Carbon Capture Readiness requirements to reflect technological advancements. Some respondents felt that EN-4 does not go far enough to ensure the document is directly applicable to Hydrogen and CO_2 pipelines.

Government Response

As detailed in section 2.3.3 of EN-1, our objectives for the energy system are to ensure our supply of energy always remains secure, reliable, affordable, and consistent with meeting our target to cut GHG emissions to net zero by 2050. Meeting these objectives necessitates a significant amount of energy infrastructure, both large and small-scale. We will need to dramatically increase the volume of energy supplied from low carbon sources and reduce the amount provided by fossil fuels. As policies to facilitate these changes continue to be developed at pace, we are still too early in these advancements to provide guidance. Government will provide detailed guidance as these technologies develop and will continue to work with industry stakeholders to ensure the policy environment supports critically enabling infrastructure.

17. Do you have any other comments on the amendments to EN-4? Please write your response here.

Summary of response

There was a lot of overlap with feedback on this question and those for questions 15 and 16, in particular, the need for hydrogen pipeline and infrastructure. We also received specific comments and suggestions on the LNG import Facilities section, the Biodiversity, Landscape and Visual Section and the section relating to Gas and Oil Pipelines.

Government Response

Based on feedback, we have further updated specific sections of EN-4 to align with other NPS documents and wider planning requirements.

We acknowledge comments made regarding actions required to ensure we meet the net zero agenda. As stated in our response to questions 15 and 16, this remains this government's priority. Meeting these objectives necessitates a significant amount of energy infrastructure, both large and small-scale. We will need to drastically increase the volume of energy supplied from low carbon sources and reduce the amount provided by fossil fuels.

Draft EN-5

Overview of responses

We received a few responses to questions relating to the draft NPS for Electricity Networks Infrastructure (EN-5) from a range of stakeholders including: transmission network operators, distribution network operators, environmental non-governmental organisations, offshore wind developers, local authorities, environmental consultancies, advisory groups, and individuals. The broad range of respondents provided a rounded opinion on the proposed text.

Overall, the majority of respondents were positive about the changes which have been made to update EN-5 and consider that they will help deliver the infrastructure needed to meet net zero. Areas with notable support included the new starting presumption to underground overhead lines in Areas of Outstanding Natural Beauty and National Parks and the inclusion of a new section to consider the offshore to onshore connection.

There were a number of comments requesting the use of stronger language around the need case for energy infrastructure and linking this back to net zero targets, as well as clarifying the use of specific planning terminology. There were also suggestions to align the document with other government planning policies, such as the NPPF. We have provided more detail on our responses to the questions asked in the consultation below.

18. Do you agree that the amendments to EN-5 (in combination with EN-1) provide clear planning policy to support the government's position on electricity networks infrastructure?

Summary of responses

As discussed above, most respondents were pleased to see the changes which have been made to EN-5 (in combination with EN-1) and said the changes provided clearer planning guidance to developers and decision makers. However, there were some areas which were highlighted as needing further clarity to ensure that the guidance could be interpreted clearly.

Some respondents asked for references to net zero targets to be made within the text of EN-5, arguing this would help to strengthen the need case for network infrastructure. Additionally, respondents requested that EN-5 better reflect the urgency to connect more renewables to the network. We also received comments that, notwithstanding the need to achieve net zero, the need case for a particular project should not be untested and that this would need to be made clear within the text.

Regarding visual impacts from network infrastructure, respondents had noted how these could be mitigated through strategic planning if overall infrastructure could be reduced or infrastructure could be clustered. Some respondents also asked for Holistic Network Design to be referenced. Respondents questioned the use of the term 'macro location', with a suggestion that the 'initiating' and 'terminating' points would be more appropriate when discussing the route and site selection of network infrastructure. Finally, respondents questioned the use of the term 'community constraints' within the text, asking for further clarity on what this would mean in practice.

Government response

To address these comments, the government has included additional wording to highlight the critical role of the electricity network in enabling the net zero transition and in ensuring increasing quantities of renewable generation can connect to the network at an accelerated rate. Regarding the need case for individual projects, the government believes that the text is clear that each application for development consent will be considered carefully, and that across the suite of energy NPSs, all applications will need to demonstrate how impacts have been considered, avoided, and mitigated. As requested, we have now added references to the Holistic Network Design, as well as including broader references to strategic planning across the whole onshore electricity network. We agree that it is useful to include these references within the text.

In response to the suggestion of the use of 'initiating' and 'terminating' points, we agree that this terminology is clearer, so have amended the text to include these terms. We have also amended the wording 'community constraints' to 'community impacts', bringing this section in line with similar references made elsewhere within the text. We have also reflected that wider siting constraints such as engineering and environmental impacts can also affect the route for transmission infrastructure.

19. Do you agree with the new guidance added to EN-5 dealing with land rights and interests?

Summary of responses

Many respondents welcomed the amendments made regarding land rights. Some respondents asked for a stronger position on seeking permanent land rights, however, in contrast, other respondents emphasised that it was important to retain some flexibility over whether permanent land rights were sought.

Government response

We believe the current text is clear and balanced on land rights, so no significant changes have been made, other than to add that developers 'should try to' seek a voluntary agreement where they do not own the land in question. As there were conflicting views on permanent land rights, the text has not been amended and still states that permanent land rights are the preferred option.

Additionally, we have clarified that an applicant may seek to compulsorily acquire land rights, in addition to compulsorily acquiring land, for visual impact mitigation purposes, or for the creation of Biodiversity Net Gain enhancements. We have also corrected a sentence which could be interpreted as stating that Biodiversity Net Gain enhancement is a form of mitigation. This has been edited to make the distinction between mitigation and Biodiversity Net Gain schemes as separate activities.

20. Do you agree with the new guidance added to EN-5 incentivising more coordination in the design and delivery of electricity transmission infrastructure associated with offshore wind?

Summary of responses

A large proportion of the total respondents to EN-5 responded on offshore transmission with most of these supportive or very supportive of the co-ordination of transmission. Some respondents were keen to see more references to the work of the OTNR. A few considered that the NPS should await the outcomes of the review.

Some respondents identified that radial routes to shore should still be an option and sought clarity on when and where this should be the case. A few respondents raised concerns about the potential impact of policy to coordinate on ongoing projects causing delays. A few respondents requested evidence demonstrating how projects have been coordinated and confirmation of the body responsible for demonstrating co-ordination.

Some respondents requested that the need case be made stronger. Related to this some requested that the strategic planning for transmission or networks be undertaken, also that implementation of strategic planning mechanisms would reduce the community and environmental impacts and result in less network infrastructure development being needed. A number of respondents identified a strong preference for the Holistic Network Design to be referenced in the NPS.

Some respondents referred to the lack of alignment between the policy requiring transmission co-ordination and regulatory changes needed to support this. A few respondents also referred to the challenges of bringing forward co-ordinated transmission projects for wind farms being developed by different developers for example in terms of joint CfD bids.

The inclusion of Multi-Purpose Interconnectors (MPIs) was supported by a number of respondents with some seeking clarity on the scope of their application and the current regulatory uncertainty. The matter of cross-boundary alignment of permitting regimes and consenting decisions for any interconnectors or MPIs in the NSIP regime was identified as important.

A few responses on environmental considerations identified that more regard should be given to environmental sensitivities offshore when looking at onshore location options, also that a clear steer should be provided on following the mitigation hierarchy.

Government response

To address these comments, we have included more policy text on the OTNR recognising that this is an ongoing process of reform to the way offshore transmission is delivered, also that given the significance of the changes underway it is possible that further policy guidance on the co-ordination of transmission may be needed over the next few years, once the OTNR has progressed further.

We have added details clarifying where radial routes to shore should be an option and on the OTNR short and medium terms workstreams (‘Early Opportunities’ and ‘Pathways to 2030’) under which different bodies lead transmission co-ordination proposals. Details on the relevance of draft NPS policy in decision making are set out in EN-1 to clarify the relevance to current projects. We have clarified that the work of others including National Grid Electricity Transmission Operator should be drawn upon in support of an applicant’s proposal.

We have included references to recognise the importance of strategic planning including the Holistic Network Design. We have referred to this forming the need for the infrastructure identified in the Holistic Network Design and recognising the work undertaken including up front consideration of community and environmental impacts.

We have included reference to recognise the regulatory changes underway to support co-ordination; this reference is in EN-3 which also includes some policy text on offshore transmission. On the challenges of bringing forward co-ordinated transmission projects for

wind farms being developed by different developers, these are matters being progressed as part of the OTNR's work.

On the cross-boundary matters relating to interconnectors or MPIs, these are matters being considered or progressed as part of the OTNR's work.

Regarding environmental considerations, the Holistic Network Design work considered the environmental sensitivities of offshore areas in conjunction with consideration of the onshore connection points. We have ensured reference to the environmental mitigation hierarchy throughout the NPS.

21. Do you agree with the amendments made to EN-5 to reflect priorities to minimise the landscape and visual impacts of new electricity network infrastructure including recognition of the 'Horlock Rules' and undergrounding in National Parks and Areas of Outstanding Natural Beauty?

Overview of responses

Most respondents welcomed the inclusion of undergrounding as a starting presumption for National Parks and Areas of Outstanding Natural Beauty, and the inclusion of the Horlock rules, which provide guidance on how and where substations should be placed to minimise environmental and visual impacts. Some respondents asked that the text recognise how undergrounding can have negative environmental impacts in certain contexts, as this would be important when infrastructure projects are being reviewed.

One respondent also asked that the areas where undergrounding is the starting presumption should be widened to include Sites of Special Scientific Interest (SSSI). Respondents requested that the terminology within EN-5 be more aligned with the NPPF, including changing the wording from 'proximity' to 'settings' when discussing the location of a designated area.

There were also comments stating that the text does not include references to ancient woodland and its protection. Other respondents welcomed that the text asks that developers consider 'good design' and site selection, before moving to mitigation measures. Finally, some respondents requested that community benefits, such as compensation, should be recognised within EN-5.

Government response

We believe that it is clearly stated within the draft text that developers should consider the environmental implications from undergrounding when planning their project, so we have not made any further amendments.

Regarding the suggestion of including additional areas under the starting presumption for undergrounding, it already states within the text that other areas can also be considered for undergrounding within the planning process, and because consideration of how to treat SSSI's is covered within EN-1, we have not made this change. We have amended the text to reflect comments made on the need to use language, which is consistent with the NPPF, as we agree that this terminology should be aligned.

Regarding ancient woodlands and how these areas should be treated, EN-5 now includes the Horlock rules, which covers the need to consider ancient woodland in planning applications and the effect a development can have on such areas. Additionally, ancient woodland is also

covered under EN-1, as their protection is a consideration for all technologies, so no specific change has been made to EN-5.

Finally, we have not added any wording relating to community benefits within the text of EN-5, but the BESS, published in April 2022, committed to review community benefits for onshore network infrastructure.

22. Do you have any other comments on the amendments to EN-5?

Overview of responses

Some respondents used this question as an opportunity to emphasise points they had made in previous responses including, for example, environmental considerations, mitigation measures and biodiversity net gain enhancements, stating that these areas should be clearly defined within the text.

Respondents also used this question to ask that the language used across the suite of energy NPSs should be consistent for clarity, including the use of terms which could be interpreted in different ways such as ‘significant’. Finally, some respondents used this question to highlight the need to consider aviation and specifically the placement of electricity infrastructure in relation to airports.

Government response

Where points have been raised to emphasise the importance of comments made elsewhere, we will not respond to these comments again in this section, to avoid repetition. In reviewing the documents, we have ensured that the terminology used is consistent across all NPSs.

Because the treatment of aviation is discussed in EN-1, we did not think it was necessary to include additional wording in EN-5 on this issue.

Assessment of Sustainability and Habitats Regulation Assessment EN-1 to 5

23. Do you have any comments on the AOS findings for the following draft NPSs?

a. **The draft Overarching NPS for Energy (EN-1)?**

b. **The draft NPS for Natural Gas Generating Infrastructure (EN-2)?**

c. **The draft NPS for Renewable Energy Infrastructure (EN-3)?**

d. **The draft NPS for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

e. **The draft NPS for Electricity Networks Infrastructure (EN-5)?**

24. Do you have any comments on the HRA findings for the following draft NPSs?

a. **The draft Overarching NPS for Energy (EN-1)?**

b. **The draft NPS for Natural Gas Generating Infrastructure (EN-2)?**

c. **The draft NPS for Renewable Energy Infrastructure (EN-3)?**

d. **The draft NPS for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

e. **The draft NPS for Electricity Networks Infrastructure (EN-5)?**

Overview of responses

The AoS fulfils the requirements of the Environmental Assessment of Plans and Programmes Regulations 2004 (as amended), known as the Strategic Environmental Assessment (SEA) Regulations and the Planning Act requirement that NPSs must be the subject of an AoS before they are designated. The scope of such an appraisal is similar to that of an environmental report under the SEA Regulations, but with more emphasis on social and economic impacts, and informed overall with the principles of sustainable development (often summarised as ensuring that development meets the needs of the present without compromising the ability of future generations to meet their own needs).

The Habitats Regulations Assessment (HRA) report presents the HRA methodology and findings for the HRA of the revised energy NPSs under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended).

Both assessments are required under law to describe and evaluate the significant effects which the implementation of the energy NPS are likely to have on the environment (AoS) or protected sites (HRA). In both cases it is difficult for the reports to be particularly specific about impacts because the energy NPSs do not specify where such energy infrastructure will be built. However, both recognise that the significant amount of energy infrastructure required to

deliver our carbon budgets and net zero target have the potential to have adverse effects on some aspects of the environment and protected sites. Neither of the reports contain any policy which is not included with the NPSs.

Atkins consultancy have prepared the reports and they have confirmed that there were no major differences in assessment findings as a result of the changes we have made to the NPSs. The government have been able to show that the commitments in the British Energy Security Strategy (BESS) to more offshore wind and nuclear in the energy mix, and the amendments to the NPSs with regards to developers obligations and the role of the Secretary of State are supporting the NPSs in sustainability terms by; strengthening some requirements, providing clarification on a number of issues and additional context to the how energy schemes will be brought forward under the NPS. Please see Annex C - Draft Final AoS Appendices Vol I document for a more detailed response.

Other Comments

Overview of Responses

We received several responses to questions relating to the structure of the draft NPS documents and how accompanying guidance can better be presented to aid usability.

Comments were made by a range of stakeholders including: operators, developers, environmental non-governmental organisations, local authorities, environmental consultancies, advisory groups, and individuals. This provided good insight into how the documents could be improved to support accessibility for a wide range of users.

Overall, the majority of respondents agreed with our approach with suggestions focused on how the presentation of the documents and related guidance could be enhanced. We have provided more detail on our responses to the questions asked in the consultation below.

25. To maintain consistency and ensure an efficient transition to the updated NPS, the drafts adopt the same structure as the existing suite of NPS. Do you agree with this approach?

Summary of responses

Most respondents did not respond to this question and those who did mostly showed agreement with the approach.

Respondents indicated that maintaining the same structure was a sensible approach, ensuring consistency between NPSs and assisting a smooth transition for the DCO process, whilst also allowing for easier identification of the status of directions or requirements during the transitional period.

A few stakeholders suggested the structure of the documents should be updated to align to the structure of other government planning policies, such as the NPPF. Further comments were received about the accessibility of the documents and the need to ensure consistency and navigability across the suite.

Although the formal transitional arrangements were said to be clear, the status of the Secretary of State's discretion to take account of emerging policies introduced in the revised NPS as 'important and relevant considerations in the decision-making process' before they are designated was queried and it was suggested that projects which have already been designed and consulted upon under the 2011 suite of NPSs should be excluded.

Government response

We have not made any fundamental changes to the structure of the NPS given support for maintaining a consistent approach with the existing suite of energy NPS. We have however considered how the structure could be improved, taking account of more recent publications and the advice of the Department for Levelling Up, Housing and Communities, making several improvements to how the text is presented so it is easier to identify policy requirements. We have also reviewed the documents to ensure consistency for example the order of sections and headers.

Transitional arrangements

While the review is undertaken, the current suite of energy NPS (or for nuclear development the position set out in the Written Ministerial Statement of 7 December 2017) remain relevant government policy and EN-1 to EN-5 have effect for the purposes of the 2008 Act.

The Secretary of State has decided that for any application accepted for examination before designation of the updated energy NPSs, the original suite of energy NPS should have effect. The amended energy NPSs will therefore only have effect in relation to those applications for development consent accepted for examination after the designation of the updated energy NPSs. However, any emerging draft energy NPSs (or those designated but not having effect) are potentially capable of being important and relevant considerations in the decision-making process. The extent to which they are relevant is a matter for the relevant Secretary of State to consider within the framework of the Planning Act and with regard to the specific circumstances of each development consent order application.

26. The NPS direct the reader to relevant additional policy and regulations that should be reflected in the submission and consideration of applications for development consent. Such guidance could be periodically updated or changed. How can we improve the way that the NPS signpost existing and future guidance?

Summary of responses

Most respondents did not provide a view for this question, although those who did mostly raised the significance of considering the accessibility and user journey to additional policy, regulation, and guidance in the revised NPS.

Respondents highlighted the rapidly evolving nature of the energy sector, and some questioned the frequency of NPS reviews to keep on top of these changes.

Respondents provided several suggestions to mitigate the risk of out-of-date and obsolete references including transitioning to a digital format, using hyperlinks, and creating an easy to find, single source of guidance that could be updated at more regular intervals. The approach taken for the NPPF Planning Policy Guidance was cited as an example of where this works well.

Some suggested that further clarification is needed within the NPS on which material counts as a requirement rather than best practice considerations.

Government Response

Reflecting the Department for Levelling Up, Housing and Communities guidance[11] on the Review of NPSs, further clarification has been added to EN-1 Section 1.5 on the time period within which a review of the NPS should be announced.

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

As set out in our response to Question 25 we will be presenting the final designated NPS in a digital format to enhance usability and accessibility. In terms of guidance hyperlinks are included as footnotes.

The Planning Act 2008 sets out a process for the review of NPSs, including consultation and Parliamentary scrutiny. This means that we cannot easily provide updates to the NPS themselves without redesignating them. We acknowledge that this can create a challenge for ensuring references to guidance and relevant documents are kept up to date. Therefore, we have identified within the draft where guidance may be subject to change and provided flexibility for the most up-to-date guidance to be considered. We do not agree that any further change is required to this approach.

27. Do you have any comments on any aspect of the draft energy NPSs or their associated documents not covered by the previous questions?

Summary of responses

Most respondents did not comment on this question. Those who did used it as an opportunity to reiterate suggestions and considerations they made in previous sections of the consultation.

Some Local Government and industry-specific respondents reflected upon the language used within the NPS, asking for greater clarity and directness around what should be considered as part of applications, minimising debate during consultation, negotiation, and Examination processes - to support streamlining the NSIP process. Comments were also made about using stronger language to reinforce the need for urgency.

Some respondents were concerned that the proposed revisions add to the complexity and number of documents to be submitted.

Some expressed views that EN-6 Nuclear Power Generation should have been subjected to the same review. Respondents recommended the inclusion of technologies such as Spherical Tokamak Energy Production (STEP) and Small Modular Reactors into EN-1 in the absence of a review of EN-6 information and guidance.

Respondents also answered this question to propose that the Government commit to a more regular review of the energy NPS although, there was no overall shared recommendation on frequency amongst consultation responses.

Government Response

To provide greater certainty to developers and those involved in the planning application process we have reviewed the language used throughout the NPS and strengthened where appropriate.

Whilst we acknowledge concerns about the complexity of the planning regime for NSIPs the Government does not agree with the interpretation that proposed revisions and new requirements create undue burden. Requirements such as compensation plans, the appointment of design champions, coordinated transmission proposals and biodiversity net gain

considerations are important features of the planning regime that ensure new infrastructure is designed and built in a way that meets our energy needs, whilst also ensuring improved coordination and appropriate consideration of local communities and habitats.

As set out in the National Infrastructure Strategy published in November 2020[12] Government is committed to reforming the NSIP regime, including taking steps to accelerate and improve infrastructure delivery. The British Energy Security Strategy published in April 2022 reiterated this commitment for renewables, emphasising the importance of reform that will reduce consent time from up to four years down to one year, whilst also ensuring environmental protections. This suite of updated NPSs is part of the reform package.

We do not agree that EN-6 should be updated as part of this review. As set out in the Written Ministerial Statement of 7 December 2017[13] there are no changes material to the limited circumstances in which it will have effect. EN-6 will continue to have effect for any nuclear electricity generation infrastructure deployable before 2025, or for applications to amend development consent for such generation. It also provides information, assessments and statements which may continue to be important and relevant for projects which will deploy after 2025. A new NPS for nuclear electricity generation infrastructure deployable after 2025 is proposed and will be developed to reflect the changing policy and technology landscape for nuclear and support the transition to net zero. This will be subject to the usual process of public consultation and parliamentary scrutiny in the usual manner, in due course.

As set out in our response to Question 20 we commit to making a decision whether to review the NPS at regular intervals in line with the Department for Levelling Up, Housing and Communities guidance.[14] We acknowledge the importance of ensuring the NPS are fit for purpose and where policy changes will look to review the NPS to ensure they remain relevant.

[12] https://www.gov.uk/government/publications/national-infrastructure-strategy
[13] https://questions-statements.parliament.uk/written-statements/detail/2017-12-07/HCWS321
[14] https://www.gov.uk/guidance/planning-act-2008-guidance-on-the-process-for-carrying-out-a-review-of-existing-national-policy-statements

Next Steps

Given several of the changes made to the NPS following the British Energy Security Strategy are material, we are holding a public consultation before we can progress to designation.

As the NPS have already been subject to consultation and parliamentary scrutiny, this second consultation will be shorter and targeted specifically towards those changes which reflect new policy.

This second consultation has been launched alongside this response, before progressing towards designation in 2023.

Appendix A – Questions asked in the consultation exercise

Draft EN-1

1. Does the draft Overarching Energy National Policy Statement (EN-1) provide suitable information to those engaged in the process for development consent (e.g. the Secretary of State, the Planning Inspectorate, applicants) for nationally significant energy infrastructure:

a. on the government's energy and climate policy (Part 2)?

b. on the need and urgency for certain types of energy infrastructure (Part 3)?

c. to inform decision making?

d. to inform examinations?

2. Do you agree with the amendments made to EN-1 Part 4 on assessment principles, including new guidance on the marine environment, and biodiversity and net gain?

3. Do you agree with the amendments made to EN-1 Part 5 on the generic impacts of new energy infrastructure?

4. Do you have any other comments on the amendments to EN-1?

Draft EN-2

5. Do you agree that the amendments to EN-2 (in combination with EN-1) provide clear planning policy to support the government's position on the use of fossil fuels in electricity generation and the phase out of coal and large-scale oil?

6. Do you agree with the way the amended EN-2 deals with the emerging potential for the use of low carbon hydrogen in electricity generation?

7. Do you have any other comments on the amendments to EN-2?

Draft EN-3

8. Do you agree that the amendments to EN-3 (in combination with EN-1) provide clear planning policy to support the government's position on renewable energy infrastructure?

9. Do you agree with the amendments made to EN-3 guidance on offshore wind?

10. Do you agree with the new guidance added to EN-3 on pumped hydro storage?

11. Do you agree with the new guidance added to EN-3 on solar PV?

12. Do you agree with the new guidance added to EN-3 on tidal stream energy?

13. What further changes do you think might be necessary to EN-3 and the NSIP regime more broadly in the longer term to deliver our de-carbonisation and other objectives including to deliver the scale of deployment needed for Carbon Budget 6 and Net Zero?

14. Do you have any other comments on the amendments to EN-3?

Draft EN-4

15. Do you agree that the amendments to EN-4 (in combination with EN-1) provide clear planning policy to support the government's position on gas supply infrastructure and gas and oil pipelines?

16. Do you agree with the way the amended EN-4 deals with the emerging need for low carbon hydrogen?

17. Do you have any other comments on the amendments to EN-4?

Draft EN-5

18. Do you agree that the amendments to EN-5 (in combination with EN-1) provide clear planning policy to support the government's position on electricity networks infrastructure?

19. Do you agree with the new guidance added to EN-5 dealing with land rights and interests?

20. Do you agree with the new guidance added to EN-5 incentivising more coordination in the design and delivery of electricity transmission infrastructure associated with offshore wind?

21. Do you agree with the amendments made to EN-5 to reflect priorities to minimise the landscape and visual impacts of new electricity network infrastructure including recognition of the 'Horlock Rules' and undergrounding in National Parks and Areas of Outstanding Natural Beauty?

22. Do you have any other comments on the amendments to EN-5?

Appraisal of Sustainability and Habitats Regulations Assessment for EN-1 to EN-5

23. Do you have any comments on the Appraisal of Sustainability findings for the following draft NPSs:
    a. The draft Overarching NPS for Energy (EN-1)?

b. The draft NPS for Natural Gas Generating Infrastructure (EN-2)?

c. The draft NPS for Renewable Energy Infrastructure (EN-3)?

d. The draft NPS for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?

e. The draft NPS for Electricity Networks Infrastructure (EN-5)?

Habitat Regulation Assessment

24. Do you have any comments on the HRA findings for the following draft NPSs:

a. The draft Overarching NPS for Energy (EN-1)?

b. The draft NPS for Natural Gas Generating Infrastructure (EN-2)?

c. The draft NPS for Renewable Energy Infrastructure (EN-3)?

d. The draft NPS for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?

e. The draft NPS for Electricity Networks Infrastructure (EN-5)?

Other Comments

25. To maintain consistency and ensure an efficient transition to the updated NPS, the drafts adopt the same structure as the existing suite of NPS. Do you agree with this approach?

26. The NPS direct the reader to relevant additional policy and regulations that should be reflected in the submission and consideration of applications for development consent. Such guidance could be periodically updated or changed. Is there a way we can improve how the NPS signpost existing and future guidance?

27. Do you have any comments on any aspect of the draft energy NPSs or their associated documents not covered by the previous questions?

Appendix B – List of organisations that responded to our consultation exercise

Adam Smith Institute	Alfanar Energy Ltd
AGS Energy	Arcadis UK
Airfields Operator Group	Association for Renewable Energy and Clean Technology
Atkins	Airport Operators Association (AOA)
Banks Renewables	BayWare r.e UK Limited
Bioenergy Infrastructure Group	Barton Willmore LLP
Bassetlaw District Council	Blackwater Against New Nuclear Group (BANNG)
British Sugar Plc	British Hydropower Association
Bundesamt fur Naturschutz	BP Plc
Cambridge Power Ltd	Cadent Gas Ltd
CARE Suffolk CIC	Canal and River Trust
ClientEarth	Carbon Capture Storage Association
CPRE, the countryside charity	Cory Group
CoGen	Cumbria County Council
Cumnore Parish Council	Cyrrus Limited
Cwmni Egino	Deptford Neighbourhood Action
Dedham Vale AONB and Suffolk Coast & Heaths AONB Team	Dalton Warner Davis LLP
Devon Branch of The Campaign to Protect Rural England CIO	Ecotricity
East Anglian Alliance of Amenity Groups	Energie Baden-Württemberg AG
East Suffolk Council	Enfinium
EDF Energy	Environment Agency
Energy UK	Equinor UK
Enso Energy	European Subsea Cables Association
Environmental Services Association	Essex County Council
Friends of the Lake District	Friends of the Earth
Forestry Commission	Gatwick Airport Ltd
Greenpeace UK	GRIDSERVE Sustainable Energy Ltd
Hitachi Energy	Heathrow Airport Ltd
Institute of Acoustics	Historic England
Intelligent Alternatives Limited	Institution of Civil Engineers
Isle of Anglesey County Council	JBM Solar
Joint Nature Conservation Committee (JNCC)	Kent Downs AONB Unit
Landscape Institute	Lancashire County Council
Liverpool City Region Combined Authority	Law Society
Lightsource BP (Lightsource bp renewable energy developments Ltd)	Maritime and Coastguard Agency
Marine Management Organisation	Maldon District Council
Ministry of Defence (MOD)	Manchester Airport Group
National Grid ESO	Met Office

National Grid	National Trust
Natural Resource Wales	National Federation of Fishermen's Organisations
New Nuclear Local Authorities Group (NNLAG)	National Infrastructure Planning Association
Norfolk County Council	Natural England
Nuclear Free Local Authorities	Newcastle University
Northern Ireland Department for Agriculture, Environment and Rural Affairs (DAERA)	NNB Generation Company (SZC) Ltd
North Kevestan District Council	Oil and Gas UK (OGUK)
Orsted	Offshore Electricity Grid Taskforce (Offset)
Office for Health Improvement and Disparities	Origin Power Services Limited
Outer Dowsing Offshore Wind	Parents Concerned About Hinkley
Public Power Solutions	Progressive Energy
Regen	Reconnoitre Ltd
Protect Coastal England	Renewable UK
Rolls Royce SMR	Royal Town Planning Institute
RSPB	RWE (RWE Generation UK plc, RWE Renewables UK Ltd and related UK Group companies)
Sacks Consulting	Scottish Power Renewables
SSEN Transmission	Shell U.K. Ltd
Sembcorp Energy UK Ltd	Society for Underwater Technology
South East Waste Authority Planning Advisory Group (SEWPAG)	Solar Energy UK
Snailwell Parish Council	South Gloucestershire Council
Solar 21	SSE (SSE Renewables, SSE Thermal and SSE Distributed Energy)
South Downs National Park Authority	Suffolk County Council
SP Energy Networks	Surrey County Council
Statkraft UK Ltd	Stop Portland Waste Incinerator
Syn2gen ltd	Suffolk Energy Action Solutions (SEAS)
The Corporation of Trinity House of Deptford Strond	The Federal Maritime and Hydrographic Agency
The East Beach Residents Association (EBRA) and The Littlehampton Society (TLS)	The Wood Recyclers' Association (WRA)
The Crown Estate	The Wildlife Trust
Together Against Sizewell C	UK Power Networks
UK Centre for Ecology and Hydrology	United Kingdom Without Incineration Network (UKWIN)
UK100	Velocys PLC
Vattenfall Wind Power Ltd	West Lindsey District Council
Wessex Archaeology	Wildlife and Countryside Link
West Mersea Town Council	Western Power Distribution PLC
Wildlife and Countryside Link	Woodland Trust

Appendix C – Guideline Criteria for a 'Well-Developed' Tidal Range Proposal

1.1 This appendix details the kind and quality of evidence that Government expects tidal range developers to provide in order to demonstrate that their project is well-developed.

1.2 The criteria set out here are published for indicative purposes only, and do not constitute a definitive or exhaustive list of requirements.

1.3 Moreover, these criteria specify only the minimum level of detail necessary for Government to give initial consideration to a proposed development. Satisfaction of these criteria – either in whole or in part -- will not guarantee the Government's entry into negotiations, whether financial or otherwise.)

1.4 So far as is reasonably practicable, all information supplied to Government in connection with the criteria set out here should be supported by robust evidence and/or verification by independent third parties.

Table – Guideline Criteria for a 'Well-Developed' Tidal Range Proposal

Thematic Criterion	Evidence Required
1. Demonstration of Energy System Benefits.	Detailed modelling of energy system costs/benefits, including e.g. any effect on electricity system balancing costs, transmission costs, system inertia, and security of supply.
	Detailed information on the expected generation profile of the station, to be verified by an independent engineer. This should be expressed in terms of a high/low range of outputs, and should be periodised to the smallest useful time-interval. The expected average output plus expected standard deviation should also given.
	Detailed information on the turbines to be used, including likely manufacturer and/or supplier.

	Where the proposal depends on commercially unproven technology, developers should provide: 1. Evidence of commitment from a turbine manufacturer and any associated information of relevance concerning patents and intellectual property. 2. Evidence of plans to move from concept stage to commercialisation, including in-situ testing. 3. Information from testing, including on a full size prototype in a comparable environment (for example with the range of fish species expected), to inform realistic predictions of turbine operations, including energy output. 4. Detailed summary of lessons on viability and feasibility of the technology gleaned from testing, such as lessons on blade survivability in the marine environment. 5. Evidence of contingency plans for system failing to meet predicted performance after full scale testing.
	Detailed assessment of the whole-life carbon impacts of the project.
2. Demonstration of Credible Environmental Impact Mitigation Strategy.	Evaluation of potential flood impacts throughout the lifecycle of the project. (Impacts should be quantified in absolute terms, and also expressed in terms of impacts on standards of protection and life of existing defences, so as to enable third parties to make judgements on the significance of the impacts.)
	An environmental scoping and impact report to include the following: 6. A description of the proposed development, including the physical characteristics, land use requirements and build materials. 7. A specification of the site selection criteria and the main alternatives considered, taking into consideration the potential environmental impacts. 8. Realistic modelling of potential environmental impacts, including detailed assessment of likely impacts on fish populations; habitats and fisheries; birds; and water quality. 9. Assessment of the above impacts, as well as impacts on wider fauna and flora, air, water, soil, climate, heritage, landscape, and any interrelationship between these receptors. 10. Assessment of any pertinent indirect, secondary, and/or cumulative impacts

	In light of the above, detailed plans on how environmental impacts will be avoided, reduced, mitigated and (if required) compensated for, including statement of approach to biodiversity net gain
	Evidence of extensive environmental stakeholder engagement, ideally including letters of support from relevant stakeholders.
3. Demonstration of Value for Money.	Detailed funding strategy including specific information on expected sources of debt and/or equity during the design, construction and operation phases. Ideally to include views and feedback from specific potential investors.
	Where the project depends on commercially unproven technologies, an analysis of how project costs could vary as those technologies move from concept to commercialisation.
	Visibility of the project's financial model on an open book basis in order to test all relevant assumptions.
	Supply chain management strategy including critical path analysis and information on how inputs have been cost-benefit evaluated and will be secured throughout project life. This should include a construction plan describing in detail the necessary programme of works, associated risks, and timeline for their completion.
	End of asset life strategy, including rationale for leaving infrastructure in situ or costed plans for decommissioning. Where applicable tinclude statement of options for repowering.
	Evidence that relevant data can be made available to enable a value for money assessment to be undertaken, according to the relevant value for money framework.
4. Demonstration of Socio-Economic Impacts and Benefits.	Substantiation of the project's claimed economic benefit, including e.g. a statement of expected capital and operational spend in the UK, and independently audited net and gross job creation projections.
	A cost-benefit report to include: 11. Analysis of impacts on relevant local industries (such as commercial and recreational fisheries; aggregates). 12. Analysis of impacts on ports and navigation. 13. Plans for any mitigation or compensation required in light of the above.

	Evidence of extensive stakeholder engagement (including with local communities and any affected industries). Letters of support from relevant stakeholders should ideally be included.
	Evidence and accounting of any additional benefits, including e.g. coastal erosion protection, flood defence, recreation, tourism and broader community benefits.

1.5 Additionally, developers should provide a detailed project delivery plan including the anticipated timetable for securing all necessary leases, consents and grid connections. A post-construction plan for operational monitoring and maintenance should also be given.

1.6 Such a plan should also include documentation of the potential delivery risks and associated mitigation actions, as well as a summary of the project's governance arrangements. A holistic assessment of delivery confidence in the project as a whole should also be given.

This consultation is available from: www.gov.uk/government/consultations/planning-for-new-energy-infrastructure-review-of-energy-national-policy-statements

If you need a version of this document in a more accessible format, please email alt.formats@beis.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.