Department for Energy Security & Net Zero

Consultation on a new National Policy Statement for Fusion Energy:

The UK Government's response to the consultation on the proposed approach to siting fusion energy facilities

Consultation conducted 8th May 2024 – 17th July 2024

July 2025

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Foreword

The global fusion landscape is developing rapidly. It is clear that the promise of clean, abundant, safe, baseload energy is getting ever closer whilst the near-term economic opportunities from jobs, innovation and R&D are considerable. The UK has recognised this, announcing record funding of over £2.5bn over five years to accelerate fusion R&D and maintain our global leadership. This includes progressing our world-leading Spherical Tokamak for Energy Production (STEP) fusion plant in West Burton, Nottinghamshire, which will support thousands of jobs, transform a former coal-fired power station and revitalise a former industrial heartland.

This investment will mean that fusion will play an important role in our Plan for Change and supporting two of the Government's five missions – Kickstarting Economic Growth and making the UK a Clean Energy Superpower. Through fusion, we are demonstrating our commitment to decarbonisation and supporting green technologies where the UK holds a competitive advantage. Fusion offers the prospect of zero carbon electricity, with the UK building up decades of R&D expertise ready to be commercialised now for both fusion and adjacent sectors. Fusion can also help secure long-term energy security, global decarbonisation and true energy justice as energy demand increases across the world.

Global deployment is the ultimate goal of fusion, but the Government doesn't just see the benefits as long-term. Innovation is key for economic growth, and this is an area where the UK excels. The spin-off technology generated by the UK fusion private sector and the UK Atomic Energy Authority (UKAEA) as well as the potential to revitalise former industrial heartlands by delivering new highly skilled jobs and infrastructure, demonstrate that fusion promises benefits to the UK taxpayer now.

It is clear that the international community sees the same potential, with G7 nations launching a fusion working group and the International Atomic Energy Agency (IAEA) launching its World Fusion Energy Group last year.

With countries around the world increasing support and investment into fusion, the UK's expertise and global standing cannot be allowed to atrophy. That is why the UK Government has backed fusion R&D and commercialisation. I have visited the UKAEA's campus at Culham to see the groundbreaking technologies being developed and apprentices who will be at the forefront of a future fusion industry. I have spoken to fusion companies who will be the ones to deliver clean, safe abundant energy for generations to come. This is a foundation that we must build on to maximise the benefits of fusion for the UK and the world.

Regulatory clarity is an important part of building a thriving fusion sector, and the planning process is crucial for delivering energy generating infrastructure. A consultation was launched in May 2024 to start the process of developing a Fusion Energy National Policy Statement (NPS), EN-8, to streamline the process and provide clarity on the planning of fusion power plants.

This Government will continue the development of EN-8 to provide certainty on timescales and process for developers. We will reassure regulators and the public that fusion power plants will be sited with the utmost consideration for the environment and the safety, security and operational needs of the facility.

Our goal is to enable the realisation of the many significant economic, environmental and social benefits of fusion for local communities across the UK. This NPS will be a world first for fusion and another demonstration of the UK's commitment to the deployment of fusion power.

Kerry McCarthy MP

Minister for Climate

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1. Background

Fusion

Fusion has the potential to provide an abundant source of zero carbon energy by replicating the process which occurs at the centre of stars and powers the sun. Light atomic nuclei, of elements such as hydrogen, fuse together to form heavier ones, such as helium, and a large amount of energy is released. To do this, fuel is heated to very high temperatures forming a plasma in which fusion reactions take place.

Fusion can be achieved using different technologies and several of these are the basis of plans to design commercially viable fusion energy facilities in the coming decades. There are currently two main approaches to fusion in the UK, magnetic confinement and inertial confinement.

In magnetic confinement fusion, extreme heat strips electrons from nuclei to form charged ions as a plasma. To keep this very hot plasma from touching the sides of the machine, and to make the plasma more dense, powerful external magnetic fields confine and control the plasma where fusion occurs. The magnets allow the fuel to be confined for very long periods.

Inertial confinement fusion is an approach to fusion which relies on reaching very large pressures rather than confining the fuel for long periods. It is a pulsed process, comparable to an internal combustion engine. At the heart of inertial fusion is a millimetre sized fuel pellet. This fuel pellet is made to implode through a rapid delivery of energy. As the fuel is rapidly squashed, it is heated and compressed, reaching fusion conditions and releasing a huge pulse of energy.

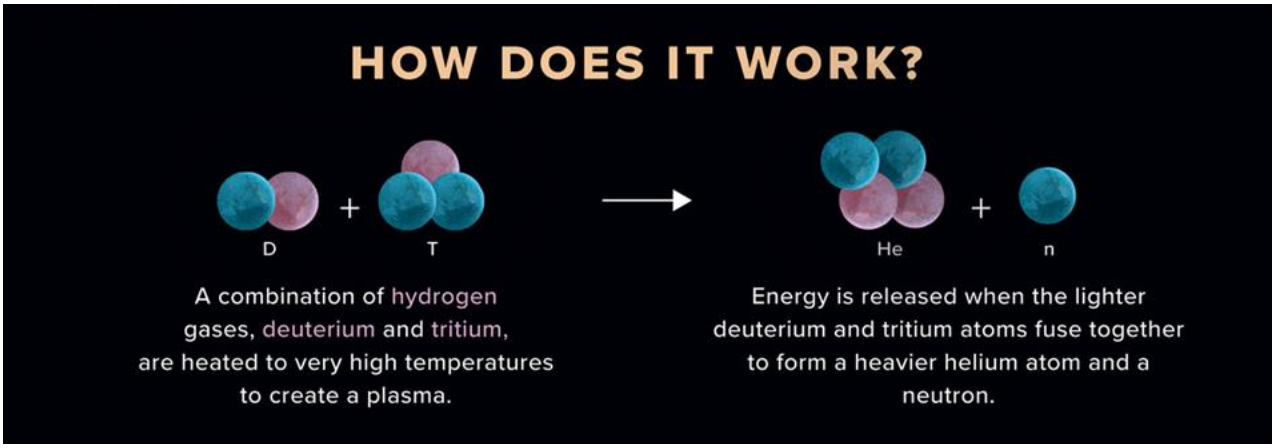

Figure 1 - The process of deuterium and tritium fusion

Both approaches could be globally transformative, green energy solutions offering the following key benefits:

- **Fuel abundance.** Fusion could deliver a single person's energy needs for 60 years from one bathtub of sea water and the lithium in two laptop batteries.
- **High fuel density**. Fusion power could create nearly four million times more energy for every kilogram of fuel than burning coal, oil, or gas.
- **Zero carbon emissions.** The production and processes of fusion fuel do not produce carbon emissions.
- **Continuous**. Fusion has the potential to provide a crucial steady state baseload of energy to the grid to complement renewables.
- **No fissile materials.** Unlike nuclear fission, the processes that drive fusion do not produce a chain reaction, as such, there are no materials present that could cause nuclear accidents.
- **No high-level radioactive waste from the reaction.** Consequently, fusion waste is easier and cheaper to store and manage.
- **Future co-production of other clean fuels.** As fusion energy will be continuous there is potential for co-production of hydrogen, synthetic fuels, medical isotopes, the de salinisation of water and heat to drive industrial decarbonisation or provide district heating to homes.

Fusion also offers a multitude of spillover technologies that can benefit UK R&D and reaching Net Zero. For example, robotics for fusion have applications for nuclear decommissioning and space, and magnet technology can be used for transport, medicine and defence.

National Policy Statements

Nationally Significant Infrastructure Projects (NSIPs) require a type of consent known as 'development consent' under procedures governed by the Planning Act 2008. For such a project, the Planning Inspectorate (PINS) examines the application and will make a recommendation to the relevant Secretary of State, who will make the decision on whether to grant or to refuse development consent. The Wales Act 2017 devolves competence for the consenting of electricity generating stations up to 350 MW both on and offshore to the Welsh Ministers.

Infrastructure outside of the scope of the NSIP process are consented through the Town and Country Planning Act 1990 (TCPA). Planning applications under the TCPA are considered by the relevant local authority in England and Wales.

The energy National Policy Statements set out national energy policy and form the framework for decision-making on applications for development consent for energy Nationally Significant Infrastructure Projects. They ensure that infrastructure of significant importance to the

economy, energy mix or other national needs are assessed balancing different national plans and policies.

The overarching National Policy Statement for Energy, EN-1, sets out the need case for certain energy infrastructure and general assessment principles, whilst the other five NPSs set out technology specific assessment principles. The proposed EN-8, a fusion energy NPS, in conjunction with EN-1 would set out the assessment principles and general impacts that applicants will have to address when considering the siting of their fusion energy facilities.

Background to the proposed EN-8

Fusion supports the UK's Plan for Change, Industrial Strategy and two of the Government's five missions – Kickstarting Economic Growth through innovation, highly skilled jobs, and tech transfer and Making the UK a Clean Energy Superpower by contributing technology for fusion and wider energy (and adjacent) sectors, supporting the acceleration to net zero in the longer-term.

The UK has a genuine global strategic advantage in fusion and is recognised as a world leader in the most promising fusion energy technologies. If the UK is to maintain its global leadership, the Government must take a proactive stance by establishing a stable regulatory and planning environment that supports and encourages fusion development.

Following a review of responses to a consultation on fusion regulation[1], it became clear that the currently assumed planning process for fusion energy facilities in England and Wales would be inefficient and make fusion an outlier compared to other complex technologies that generate electricity. It was also clear that a fusion specific NPS would provide certainty to developers and accelerate the planning process for fusion energy.

The need for an efficient planning process is becoming more pressing as private industry is planning to build commercial facilities in the 2030s, requiring siting and construction to start this decade. Consequentially, companies are already starting to identify potential sites for these facilities. In response, proposals for EN-8 were published in May 2024 to provide certainty to industry, regulators and the public regarding the planning process and policy for fusion energy development.

[1] https://www.gov.uk/government/consultations/towards-fusion-energy-proposals-for-a-regulatory-framework

Proposals

The consultation for the scope of EN-8 set out the following proposals:

- The UK takes a technology agnostic approach to supporting fusion in the UK and a Fusion NPS would encompass all fusion technologies.
- Using an open-sited or developer-led approach to put the developer at the forefront of site selection. This aimed to empower developers to undertake site characterisation based on the criteria and considerations set out in the NPS and scrutinised by regulators (where applicable). These criteria encompassed radiological safety and security, environmental protection, and operational requirements.
- Including all fusion electricity-producing stations in England in the NSIP regime by removing the 50 MW minimum threshold in the Planning Act 2008, providing developers with greater certainty on the planning process.
- Amending the Planning Act 2008 to clarify that the output of an energy producing facility includes both electrical and thermal output for the purposes of the NSIP process. Fusion may have a large role in producing high-grade heat for other industrial processes such as hydrogen production or desalination.
- Not to apply a deadline to fusion energy facility deployment as this would be unnecessarily constrictive. Fusion energy facilities are not yet deployable in the UK and although the public and private sector have set out timelines for deployment, there is not enough certainty to apply a deployment deadline.

Devolution

National Policy Statements set out planning policy in England and Wales for NSIPs as defined by the Planning Act 2008 although not every NPS covers both nations. This means that EN-8 would apply in England and Wales with Scotland and Northern Ireland able to set their own planning policy for large energy infrastructure.

All decisions within this document apply to England and Wales except for the decisions relating to amendment to the Planning Act 2008. Any amendments to the thresholds for NSIPs in the Planning Act in 2008 would apply to England only. The current 350 MW threshold in Wales will still apply and any fusion facilities below this threshold sited in Wales will be decided by the Welsh local planning authority. Inclusion of fusion facilities for heat co-generation within the definition of NSIPs would only apply to England.

Decisions in this document do not affect the Welsh First Minister's powers to grant consent to new energy projects with a generating capacity of between 50 MW and 350 MW. Applications for generating stations in Wales with an output above 350 MW are examined by PINS and consented by the relevant Secretary of State. Applications for generating stations in Wales with an output between 50 MW and 350 MW are made directly to Welsh Ministers and examined by an Independent Planning Inspectorate outside of the NSIP process.

2. Analysis of Consultation Responses

The Government is extremely grateful to all those who responded to the consultation 'New National Policy Statement for fusion energy: proposed approach to siting fusion energy facilities'. The consultation ran from 8th May 2024 to 17th July 2024. 46 responses were received. The table below summarises the breakdown of responses received.

Table 1: Categorisation of the 46 respondents to the consultation.

Category	Responses
Company (energy, engineering or technology)	9
Private Individual	5
Public Body (environmental, heritage, energy or R&D)	7
Fusion Company	8
Regulator	3
Pressure Group	5
Local Authority	4
Industry Body	5

Respondents shared unique perspectives which has been very helpful for DESNZ as we develop a fusion energy NPS framework. The Government will continue to engage with stakeholders, including those who were not able to respond to the consultation.

Methods of analysis

Written consultation responses were analysed using mixed methods. Closed questions were analysed with standard quantitative techniques. Open ended questions were analysed using qualitative techniques involving breaking the text down into thematic categories, also taking into account positive or negative sentiments. Those thematic categories were then grouped and consolidated into a framework to draw out common perspectives among the respondents.

The categorisation of respondents in Table 1 will be used to illustrate the breakdown of responses for each question.

Consultation responses

Question 1. Do you agree that the planning process for fusion energy facilities should be aligned and maintained with other complex energy generation facilities?

Summary of feedback: A large majority of respondents agreed with the proposal to introduce a specific National Policy Statement for Fusion Energy to provide clarity on the planning process for fusion energy facilities. These respondents noted that there are inherent differences between fusion and fission technologies which mean that inclusion within EN-7 would be inappropriate and that clarity for developers is crucial for enabling the development of fusion. Some respondents were unsure of timing developing an NPS considering the nascent stage of the technology and suggested developing an NPS when fusion technology is more mature.

Of the 40 responses received to this question, **78% agreed with this position, 2% disagreed and 7% did not know.**

Table 2 – Responses to Question 1

Category	Yes	No	Don't know
Company	8	0	1
Private Individual	3	1	1
Public Body	6	0	0
Fusion Company	7	0	1
Regulator	2	0	0
Pressure Group	3	0	0
Local Authority	3	0	0
Industry Body	4	0	0

The Government's response and intended next steps: The Government welcomes the support by respondents for the planning process for fusion energy facilities to be aligned with other complex energy generation facilities. Aligning fusion in this way, through a new standalone NPS, will provide private industry, STEP[2], local communities and potential developers with the clarity on the planning framework for fusion energy facilities. The fundamental technological differences between fusion and fission mean a different regulatory approach is needed, but the Government recognises that there may be some similar considerations for planning approval and the nature of risks to people and the environment, even if they are of very different magnitudes. This will also be true of fusion and other energy

[2] Spherical Tokamak for Energy Production. The Government's plan to build a prototype fusion power plant by 2040 in West Burton, Nottinghamshire.

generating facilities covered by other NPSs. Going forwards, the Government will begin developing the draft Fusion NPS for consultation.

Question 2. Do you agree with the proposal to include all fusion technologies in the NSIP process?

Summary of feedback: A large majority of respondents agreed with the proposal to include all fusion technologies within the scope of EN-8. Respondents noted the variety of technologies that are being developed, which could all reach commercialisation and that including only some technologies within EN-8 would disadvantage those technologies that are excluded. Respondents also noted that including all technologies ensured that all fusion developments are robustly scrutinised. Other respondents who were unsure on the proposals cited that some technologies could be advantageous for small scale development which may be more suited for scrutiny by local planning authorities.

Of the 40 responses received to this question, **78% agreed with the proposal, 4% disagreed and 4% did not know.**

Table 3 – Responses to Question 2

Category	Yes	No	Don't know
Company	9	0	0
Private Individual	2	2	1
Public Body	5	0	0
Fusion Company	8	0	0
Regulator	2	0	0
Pressure Group	3	0	0
Local Authority	2	0	1
Industry Body	5	0	0

The Government's response and intended next steps: The Government welcomes the support of respondents to the proposal of including all fusion technologies in the NSIP process. The Government is aware that companies are aiming to develop commercial fusion facilities in the UK using a range of technologies, and as the Government takes a technology agnostic approach to supporting fusion within the UK, the EN-8 will encompass all fusion technologies.

Question 3. Do you agree with the proposal to take an open-sited approach in the fusion NSIP process?

Summary of responses: Most respondents agreed with a 'developer led' or 'open-sited' approach due to the increased flexibility of fusion sites that could be proposed. This flexibility was important for respondents because government identified sites may not be suited to a

developer's specific technology. The nascency of fusion means that a flexible approach can allow for uncertainty on design choices and new technologies. Respondents also agreed that this flexibility would allow for a greater number of fusion sites to be identified by developers as well as communities who want to pro-actively identify potential sites.

Those who disagreed with a developer led approach noted proposals for a Strategic Spatial Energy Plan (SSEP) that will identify optimal locations for different energy technologies and that this would be contrary to an open-sited approach. Some respondents also noted that there may be overlap between appropriate fusion and fission sites and an open-sited approach could produce uncertainty on Government's preferences for technologies at these sites.

Of the 40 responses received to this question, **65% agreed with the proposal, 13% disagreed and 9% did not know.**

Table 4 – Responses to Question 3

Category	Yes	No	Don't know
Company	9	0	0
Private Individual	3	0	2
Public Body	4	0	0
Fusion Company	6	2	0
Regulator	1	0	0
Pressure Group	0	4	1
Local Authority	3	0	0

The Government's response and intended next steps: The Government welcomes the views of respondents on this proposal and notes that the majority of the respondents support the developer-led open-sited approach in the fusion NSIP process. The Government believes that identifying sites for future fusion energy facilities could be unnecessarily restrictive and it would be difficult to apply a standard approach without disadvantaging some technologies and stifling innovation. In addition, the Government believes that identifying specific sites in EN-8, would bias developers towards areas of the UK where local support for fusion is currently higher. On the other hand, an open sited approach retains the opportunity to unlock fusion in new communities.

This open-sited developer-led approach will put the developer at the forefront of site selection and empower them to undertake site characterisation based on the criteria and considerations in EN-8 and scrutinised by regulators (where applicable). The criteria and considerations for an open-sited approach will follow precedent in other energy NPSs encompassing environmental protection and share some similarities with the open-sited approach taken in the new nuclear NPS (EN-7) encompassing operational requirements (e.g. access to cooling water, size of site). However, the difference in regulatory approach and technical requirements between fusion and fission means that the detail of these criteria or considerations are likely to be different and will be proportional to the risk of fusion.

Question 4. Do you agree with the proposal to include all fusion energy facilities in England, independent of capacity, in the fusion NSIP process?

Summary of responses: The majority of respondents agreed with this proposal. They suggested that it would ensure consistency in assessing planning applications for future fusion energy facilities, especially when the electrical and thermal output of FOAK (First Of A Kind) facilities is not defined. Respondents recognised the potential burden for local authorities, who may not have the capability to assess applications for fusion facilities, which could delay approval of these applications.

However, many respondents who agreed noted that this option would reduce flexibility in the planning process for small developers and that their agreement is dependent on a well-resourced PINS (Planning Inspectorate). Respondents that disagreed with the proposal raised questions on the role of the local planning authorities in the siting of smaller fusion energy facilities under this new proposal, as well as raising concerns regarding the burden for developers of smaller facilities, having to meet all the procedural and information requirements of the NSIP process, compared to the local planning process.

Of the 38 responses received for this question, **65% agreed with the proposal, 10% disagreed and 3% did not know.**

Table 5 – Responses to Question 4

Category	Yes	No	Don't know
Company	9	0	0
Private Individual	2	3	0
Public Body	4	0	0
Fusion Company	6	1	1
Regulator	1	0	0
Pressure Group	3	0	0
Local Authority	2	0	1
Industry Body	3	1	1

The Government's response and intended next steps: The Government welcomes responses to the proposal to include all fusion energy facilities in England, independent of capacity, in the NSIP process. Since commercial fusion facilities are yet to be constructed, the range of electrical and thermal outputs of FOAK facilities is not definite. At present, under the Planning Act 2008, for facilities producing less than 50 MW the responsibility for examining planning applications would fall to local authorities through local planning routes.

The Government acknowledges that there was mixed and often caveated support to amend the 50 MW NSIP threshold in the Planning Act 2008 when considering the detailed qualitative responses.

For example, in response to this consultation, the Fusion Industry Association said: *"FIA broadly agrees with this intention [to remove the 50 MW NSIP threshold], with some modest caution.*

Agreement is based on the fact that a tried and tested DCO approval process – delivered by a well-resourced PINS [The Planning Inspectorate] – is likely to provide a stable and certain route to consent for any fusion project.

Caution is based on the fact that in closing down any potential for a small fusion unit to be consented under the Town and Country Planning Act (TCPA), Government is reducing the optionality for project developers, vs a scenario where small units can be consented under either TCPA or DCO, as is the case for some other technologies.

There is a link here to Question 6 and the definition of a commercial vs research facility, and the need to ensure proportionality in the arrangements, recognising that we cannot predict nor foresee all future needs of developers."

Accordingly, the proposal in Question 4 to include all fusion energy facilities in England, regardless of capacity, in the fusion NSIP process will not be taken forward. The Government will not amend the Planning Act 2008 to remove the 50 MW threshold in England at this time. Based on the consultation responses, the Government's preferred approach is to allow fusion energy facilities generating less than 50 MW to be consented under the Town and Country Planning Act 1990 (TCPA). The Government is confident that, over time, local planning authorities will gain the necessary knowledge and expertise on consenting sub-50 MW fusion energy facilities planning applications through the local planning route.

As a result of the consultation, the Government's preferred approach will expand options for project developers, allowing them to use the TCPA to obtain planning consent for smaller units (i.e. under 50 MW), similar to the process for other technologies. EN-8 will reflect the national need for fusion energy and the need to maintain consistency throughout the country even when planning consent takes place through the TCPA. As set out in the National Planning Policy Framework, national policy statements form part of the overall framework of national planning policy, and may be a material consideration in preparing plans and making decisions on planning applications through the TCPA.

The Government considers that this new approach will introduce greater flexibility into the planning process for developers, both now and in the future. Given the uncertainty surrounding the designs that may be proposed by industry, developers of small fusion facilities have the flexibility to apply for planning consent under the TCPA for projects with an output of less than 50 MW in England. Alternatively, they can seek consent under Sections 35 and 35ZA of the Planning Act 2008. Through this mechanism, developers can request that their projects be considered as NSIPs for which Development Consent is required. The relevant SoS may agree to this request if they are satisfied the project meets necessary criteria. One of these criteria is providing justification for why the development is of national significance. The proposed EN-8 will emphasise the importance of small-scale demonstrators as precursors to large scale development that have clear national significance.

The Government also believes this approach allows more flexibility as Section s77 of the Town and Country Planning Act 1990 will also allow the Secretary of State for MHCLG to 'call in' projects and so small scale developments are not locked into the local planning route if it is in the national interest for these developments to proceed.

The Government is committed to ensuring the planning process is as efficient as possible and so will consider the appropriateness of the NSIP threshold for as part of the required periodic review of EN-8 once it is designated. If it is determined that the threshold is no longer fit for purpose for the development of fusion, the Government would legislate to amend the threshold. The Government will also facilitate the building of fusion knowledge of statutory stakeholders, working with fusion experts and potential applicants. This collaboration aims to create an efficient local planning route for small scale developments and national planning route for larger developments.

The Government has decided that it will not include fusion research facilities within the NSIP process. The Planning Act 2008 defines what *energy* infrastructure is nationally significant and there is no such category for research infrastructure. To include fusion research facilities within the national planning process, a new category of infrastructure would need to be created within the Planning Act 2008 and a separate Fusion Research NPS would need to be designated.

This would likely delay designation of EN-8 and create more uncertainty for fusion developers during this period. The priority of the Government is to designate a Fusion Energy NPS to enable development of commercial facilities and realise the social, environmental and economical benefits of commercial fusion.

Fusion research facilities are however crucial precursors to commercial fusion facilities without which fusion could not be commercialised. The importance of developing fusion research facilities, as well as small scale demonstrators as previously mentioned, to enabling fusion commercialisation will be reflected within EN-8 as part of the national policy of delivering fusion energy.

Question 5. Do you agree with the proposal to include both thermal and electrical facilities in the fusion NSIP process?

Summary of responses: A large majority of respondents agreed with the proposal to include both thermal and electrical facilities in the fusion NSIP process. Although electricity generation remains the most likely initial route to commercially viable fusion energy, a number of respondents commented on the additional potential applications of fusion in desalination and hydrogen production due to the high-grade heat generated from the process. Many of the respondents agreed that considering both types of facilities in the NSIP process would give clarity to the industry.

Of the 40 responses received for this question, **78% agreed with the proposal, 4% disagreed and 4% did not know.**

Table 6 – Responses to Question 5

Category	Yes	No	Don't know
Company	9	0	0
Private Individual	2	2	1
Public Body	4	0	1
Fusion Company	8	0	0
Regulator	2	0	0
Pressure Group	3	0	0
Local Authority	3	0	0
Industry Body	5	0	0

The Government's response and intended next steps: The Government welcomes the support for including both thermal and electrical facilities in the fusion NSIP process. Since fusion has the potential to produce a significant amount of high-grade heat for use in different industrial processes, the Government intends to amend the Planning Act 2008 to clarify that the MW threshold for fusion, are inclusive of both electrical and thermal output combined for fusion energy facilities to ensure consistency in the planning process.

Question 6. Do you think the definition of a fusion energy facility, as provided in the Energy Act 2023, is suitable for distinguishing between a fusion energy facility and/or fusion research facility for the purpose of this NPS?

Summary of responses: Respondents agreed that the Energy Act 2023 clearly distinguishes between a fusion energy facility and a nuclear fission facility. However, the definition within this Act, for the purpose of distinguishing between a commercial or prototype fusion facility and a research fusion facility is not clear and further clarification is needed. Of the 38 responses to this question, **11 (24%) agreed that the definition of a fusion energy facility, as provided in the Energy Act 2023, was suitable for distinguishing between a fusion energy facility and/or a fusion research facility for the purpose of this NPS. However, 16 responses (34%) disagreed with this question, and 11 responses did not know (24%).**

Table 7 – Responses to Question 6

Category	Yes	No	Don't know
Company	1	6	2
Private Individual	2	1	2
Public Body	1	1	2
Fusion Company	3	5	0
Regulator	2	0	0
Pressure Group	0	0	2
Local Authority	1	0	2

Industry Body	1	3	1

The Government's response and intended next steps: The Government welcomes the feedback from respondents regarding this question, and understand that in its current format, there is ambiguity in the definition of a fusion energy facility to distinguish between a commercial energy generation facility and a research facility. However, noting the Government's decisions in response to questions 4 and 5 to amend the output thresholds in the Planning Act 2008 to include thermal output but not to amend the 50 MW threshold, the Government believes that this threshold will clearly distinguish between fusion research and fusion energy facilities.

Question 7. Do you agree with the proposal to not set a deployment deadline for fusion energy facilities?

Summary of responses: The majority of respondents agreed with the proposal to not set a deployment deadline for fusion energy facilities, recognising the issues for developers if they felt under pressure to meet specific deployment deadlines set by Government. They cited the uncertainty in fusion development timescales which meant that a deployment deadline would not be likely to accelerate development. Those who disagreed, stated that a deployment deadline would give certainty to investors and industry and would set a target to create impetus.

Of the 38 responses received for this question, **76% agreed with the proposal, 4% disagreed and 2% did not know.**

Table 8 – Responses to Question 7

Category	Yes	No	Don't know
Company	9	0	0
Private Individual	4	1	0
Public Body	3	0	1
Fusion Company	7	1	0
Regulator	2	0	0
Pressure Group	2	0	0
Local Authority	3	0	0
Industry Body	5	0	0

The Government's response and intended next steps: The public and private sector have set out timelines for deployment of fusion energy facilities, which are typically in around a decade's time (though investment decisions will need to be taken much sooner). The Government shared the views of respondents and agrees that applying a deadline would

unnecessarily constrict their deployment and is unlikely to speed up development. Therefore the Government will not set a deployment deadline for fusion energy facilities.

Question 8. Should developers consider any other factors in assessing reasonable alternatives for fusion energy facilities?

Summary of responses: Most respondents who thought other factors should be considered suggested additional criteria for the strategic siting assessment which will be addressed in response to questions 9 and 10. Those who thought that the factors listed in assessing reasonable alternatives was sufficient thought that EN-1 gave sufficient advice on assessing reasonable alternatives.

Of the 37 responses received for this question, **20 (43%) agreed that developers should consider other factors in assessing the reasonable alternatives for fusion energy facilities. However, 14 (30%) respondents disagreed with the question and 3 respondents (7%) did not know.**

Table 9 – Responses to Question 8

Category	Yes	No	Don't know
Company	5	3	1
Private Individual	3	1	1
Public Body	3	0	0
Fusion Company	2	6	0
Regulator	2	0	0
Pressure Group	1	1	1
Local Authority	1	2	0
Industry Body	3	0	1

The Government's response and intended next steps: The Government will consider suggested criteria as part of questions 9 and 10.

Question 9. Do you believe that the proposed criteria cover all aspects necessary for assessing the suitability of sites for fusion energy facilities?

Question 10. Are there any additional criteria that should be considered in the assessment process?

The overlap in responses between questions 9 and 10 means that Government will consider these questions together.

Respondents provided a range of criteria that could be added to those proposed in the NPS scoping consultation which the Government has duly noted. The criteria selected and set out in

Table 12 can be categorised as under one of the following themes: environmental protection, safety and security, operational requirements and developmental impacts. Many companies who responded deemed the criteria suggested as appropriate for capturing the planning considerations for fusion which resulted in an overall split in opinion in respondents.

Summary of responses: Of the 40 responses received for question 9, **19 (41%) agreed with the question 9, 16 (35%) disagreed and 5 responses did not know (11%).**

Table 10 – Responses to Question 9

Category	Yes	No	Don't know
Company	6	2	1
Private Individual	2	0	3
Public Body	0	4	0
Fusion Company	6	2	0
Regulator	0	1	0
Pressure Group	0	4	1
Local Authority	3	0	0
Industry Body	2	3	0

Summary of responses: Of the 40 responses received for question 10, **24 (60%) agreed with the question, 10 (23%) disagreed and 7 responses did not know (18%).**

Table 11 – Responses to Question 10

Category	Yes	No	Don't know
Company	2	3	3
Private Individual	2	1	2
Public Body	5	0	0
Fusion Company	3	4	1
Regulator	2	0	0
Pressure Group	3	0	1
Local Authority	3	0	0
Industry Body	4	1	0

The Government's response and intended next steps: The Government has considered the criteria suggested by respondents and has redrafted criteria to be taken forward in the draft NPS.

Environmental Protection

Many respondents suggested additional environmental criteria to better reflect Government policy, including Biodiversity Net Gain (BNG). EN-1 provides a comprehensive and robust guide for developers to assess environmental aspects of development and the Government does not consider there to be any fusion-specific aspects that fall outside the scope of what is already addressed, either in EN-1 or within the criteria set out in EN-8. However, the Government recognises the value in signposting the relevant sections of EN-1, to ensure that developers are aware of the environmental considerations that they must take into account at an early stage. This approach will not create any additional burden on developers but should ensure that environmental protection remains an important part of site selection.

To do this, the Government will make the following changes to the strategic siting criteria for EN-8:

- Including any BNG requirements for all site and habitats within one criterion. This criterion will also include provisions relating to national and international sites of ecological importance. The Government is currently consulting on BNG requirements for NSIPs, and EN-8 will reflect currently government policy at the time of publication.
- 'Water quality and impact on the marine environment' and 'Access to cooling' will be made separate criteria so that mitigating impacts to marine environments and water use for operational requirements are considered separately.
- 'Landscape change' will be introduced as a criterion to consider how any body of water near a fusion facility used for cooling may change over a facility's lifetime. Fusion facilities will not be as restricted to coastal locations as large-scale nuclear facilities so this criterion will include but not focus on coastal change.
- Brownfield sites will be prioritised for development to minimise impacts to the greenbelt. This will not restrict fusion development to these kinds of sites but encourage developers to first consider those that have been previously developed.

Aligning planning and regulatory processes

The Planning Inspectorate will provide a recommendation to the Secretary of State on whether to grant development consent for NSIPs but some planning considerations also overlap with permits and authorisations given by safety and environmental regulators.

For example, the location of a site could make ensuring its security impractical. The assessment of whether a site is secure would be undertaken by the relevant regulator and form an important part of the decision made by the Secretary of State. By including criteria that have both planning and regulatory considerations within EN-8, the planning and regulatory processes will be aligned, and their interactions will be formalised. The relevant regulator will advise the Planning Inspectorate before PINS advise the Secretary of State to ensure that developers cannot start construction without being able to obtain the subsequent relevant permits.

The Government has identified the following areas as having both planning and regulatory considerations and will be included as criteria within EN-8:

- Seismic Activity
- Storage and processing of waste
- Emergency Planning
- Security of site
- Human health and wellbeing

Local Impacts

Part of the Government's mission to kickstart economic growth is to revitalise industrial heartlands. The STEP (Spherical Tokamak for Energy Production) programme will demonstrate this by transforming the site of a former coal power station in West Burton Nottinghamshire, into a prototype fusion power plant by 2040, providing clean energy and thousands of jobs.

To maximise the benefit to the local economy and population as well as protect the countryside, EN-8 will include a criterion on socioeconomic impact and as stated above, a criterion to prioritise brownfield sites for development. The socioeconomic impact criterion will also consider nearby developments which could be complementary to fusion power generation such as AI data centres or industry.

So that developers consider how to mitigate the negative impacts to the local population, the Government will introduce a Local Impacts criterion instead of a Land Use Planning criteria to consider impacts on agricultural soil, traffic, rights of way.

Table 12 – * denotes a change or addition from the proposed criteria

Theme	Criteria	Discretionary or Exclusionary
Environment	**Flooding**	**Discretionary**
	Landscape change*	**Discretionary**
	Biodiversity and geological conservation*	**Discretionary**
	Areas of amenity, cultural heritage and landscape value	**Discretionary**
	Water quality and impact on the marine environment*	**Discretionary**
	Brownfield sites*	**Discretionary**
Safety and Security	**Seismic activity***	**Discretionary**
	Emergency planning*	**Discretionary**

	Security of site*	**Discretionary**
	Storage and processing of waste*	**Discretionary**
	Human health and wellbeing*	**Discretionary**
	Proximity to military activities	**Partly discretionary and partly exclusionary**
	Proximity to major hazard sites	**Discretionary**
	Proximity to civil aircraft and spacecraft movements*	**Discretionary**
Operational requirements	**Size of site**	**Discretionary**
	Access to cooling	**Discretionary**
	Grid connection	**Discretionary**
Development impacts	**Socioeconomic impacts***	**Discretionary**
	Local impacts*	**Discretionary**

Status of criteria

The consultation on the scope of the proposed EN-8, described criteria as discretionary or exclusionary depending on if there were rigid criteria that would exclude sites if they were not met. The Government recognises that describing criteria as discretionary could be misleading, implying that developers are not required to consider these criteria. The draft EN-8 will not use these terms and instead make clear whether a developer is required to justify how they have mitigated the impacts related to a criterion (previously described as discretionary) or have complied with the criterion that must be met in a particular way (previously described as exclusionary).

Question 11. Do you think there should there be a separate set of criteria for different fusion technologies?

Summary of responses: Those who thought there should be a separate set of criteria for different fusion technologies sited the differences between magnetic and inertial confinement fusion and stated that there would be different requirements for these different technologies. Those who were in favour of a common set of criteria for all fusion technologies cited that it would make the criteria easier to understand and justify site selection against. They also stated that the criteria suggested would be applicable to all fusion technologies. Of the 37 responses received for question 11, **3 (8%) suggested separate criteria, 29 (78%) suggested common criteria and 5 respondents did not know (14%).**

Table 13 – Responses to Question 11

Category	Yes	No	Don't know
Company	0	8	1
Private Individual	1	3	1
Public Body	0	4	0
Fusion Company	2	6	0
Regulator	0	1	0
Pressure Group	0	1	1
Local Authority	0	1	2
Industry Body	0	5	0

The Government's response and intended next steps: The Government is confident that the criteria as set out in response to questions 9 and 10 suitably cover the planning considerations for all fusion technologies and so will have one set of criteria covering all fusion technologies.

Although some criteria may be more significant for some fusion technologies, this would be considered during the planning process. By taking an open-sited approach, it will be for the developer to justify their site against the strategic siting criteria and if a criterion is not relevant, that is for the developer to justify. This approach will ensure that EN-8 remains suitable for all fusion technologies and will not need to be updated if new technologies are developed or there are differences between the same broad areas of technology e.g. different fuels.

Question 12. Do you agree with the proposed model for implementation of the Fusion NPS?

Summary of responses: The majority of respondents were supportive of the proposed model for implementation of the Fusion NPS, aligning the planning process of this new technology with other energy generating technologies. Several respondents noted the importance of early engagement between relevant stakeholders in the process of site selection, to enable developers to discuss and demonstrate the performance of sites against policy criteria. However, it was also noted that further detail was required on the statutory consultees that potential developers should be engaging with and in what circumstances this may be needed. For respondents who did not agree with the proposal, suggestions were made regarding a greater degree of iteration and flexibility is required in the process of implementation of the Fusion NPS, whilst this technology continues to mature towards commercialisation. Of the 37 responses received for this question, **63% agreed with the proposed model of implementation, 11% disagreed and 7% did not know.**

Table 14 – Responses to Question 12

Category	Yes	No	Don't know
Company	9	0	0
Private Individual	2	2	1
Public Body	2	1	0
Fusion Company	7	0	1
Regulator	1	0	0
Pressure Group	1	2	0
Local Authority	2	0	1
Industry Body	5	0	0

The Government's response and intended next steps: The Government welcomes the feedback and is pleased most respondents agree to that proposed model of implementation of the Fusion NPS. The Government also recognises the comments by respondents in relation to the importance of early engagement between developers and statutory consultees. The Government will set out further information on how the criteria of EN-8 will be implemented in a draft EN-8 which will include clarification on roles and responsibilities regarding criteria that will need to be considered by the relevant regulators.

Question 13. Have there been any omissions of policies, plans or programmes relevant to the scoping of the AoS (Appraisal of Sustainability)?

Summary of responses: Respondents who believed some policies, plans or programmes had been omitted provided a wide range of suggestions covering areas such as planning, environmental, radiation and Welsh Government policies, plans and programmes of relevance. Of the 17 responses received for this question, **53% of respondents did not believe that there were any omissions of policies, plans or programmes, 35% believed there had been omissions and 29% did not know.**

Table 15 – Responses to Question 13

Category	Yes	No	Don't know
Company	0	4	0
Private Individual	0	1	1
Public Body	2	1	1
Fusion Company	1	2	0
Regulator	2	0	0
Pressure Group	0	0	0
Local Authority	0	1	0
Industry Body	1	0	0

The Government's response and intended next steps: The Government will consider the relevant suggested policies, plans or programmes during the development of the Appraisal of Sustainability for EN-8.

Question 14. Do you agree that the baseline data that have been, or will be collected, are relevant and of sufficient detail to support the AoS?

Summary of responses: Respondents who disagreed that the baseline data was sufficient suggested technical changes to descriptions of terms used to describe areas of wildlife or landscape and encouraged the use of data on existing sites, particularly relating to sensitive areas for noise. Of the 20 responses received for this question, **55% of respondents agreed that the baseline data is relevant and of sufficient detail to support the AoS, 10% believed this baseline data is not of sufficient detail or relevance and 35% did not know.**

Table 16 – Responses to Question 14

Category	Yes	No	Don't know
Company	4	0	1
Private Individual	2	1	1
Public Body	2	0	1
Fusion Company	2	0	2
Regulator	0	0	0
Pressure Group	0	0	0
Local Authority	1	0	1
Industry Body	0	1	1

The Government's response and intended next steps: The Government will update the baseline data collected, or data that it will collect, with the most recent terms and designations. The Government believes that the data set out in this consultation is sufficient for the AoS and will follow the approach aligned to EN-1.

Question 15. Do you agree with the selection and definition of key sustainability issues?

Summary of responses: Respondents who disagreed with the selection and definition of key sustainability issues suggested including climate change as a risk to nature recovery, assessing biodiversity impacts at a landscape scale and clarification that agricultural soil rather than all soil is graded. Of the 20 responses received for this question, **50% of respondents agreed with the selection and definition of key sustainability issues to support the AoS, 15% did not agree with this and 35% did not know.**

Table 17 – Responses to Question 15

Category	Yes	No	Don't know
Company	3	0	2
Private Individual	1	2	1
Public Body	2	1	0
Fusion Company	2	0	2
Regulator	0	0	0
Pressure Group	0	0	0
Local Authority	1	0	1
Industry Body	1	0	1

The Government's response and intended next steps: The Government will accept the relevant suggestions raised by respondents as set out above. The Government is committed to ensure the environment is protected and the development of fusion energy does not conflict with this commitment.

Question 16. Are there any key baseline data available that have not been identified that are, or could be, use in support of the issues?

Summary of responses: Respondents provided additional data sources relating to biodiversity, air quality, infrastructure and soils. Of the 20 responses received for this question, **30% of respondents thought that all key baseline data available had been identified, 10% believed there is additional data that could support the AoS and 60% did not know.**

Table 18 – Responses to Question 16

Category	Yes	No	Don't know
Company	0	1	4
Private Individual	0	1	3
Public Body	1	2	0
Fusion Company	0	1	3
Regulator	0	0	0
Pressure Group	0	0	0
Local Authority	0	1	1
Industry Body	1	0	1

The Government's response and intended next steps: The Government will consider relevant additional sources of information where relevant when carrying out the AoS.

Question 17. Do you agree with the implications and opportunities that have been identified for the emerging NPS EN-8?

Summary of responses: Respondents who disagreed highlighted the impact on biodiversity, landscapes, air quality and marine environment, amongst others, as possible implications of EN-8. Those who agreed also raised additional considerations including that although the production of energy via fusion is zero carbon, construction of a facility may not be zero carbon considering the UK's offsetting market. Of the 19 responses received for this question, **47% of respondents agreed that the implications and opportunities of EN-8 were correct, 11% disagreed and 42% did not know.**

Table 19 – Responses to Question 17

Category	Yes	No	Don't know
Company	3	0	2
Private Individual	1	1	2
Public Body	2	1	0
Fusion Company	1	0	2
Regulator	0	0	0
Pressure Group	0	0	0
Local Authority	1	0	1
Industry Body	1	0	1

The Government's response and intended next steps: The Government will consider the implications highlighted by respondents and ensure that the AoS considers environmental protection. The Government can confirm that although the construction of a fusion power plant is not required to be carbon neutral, it should be compatible with the Government's 2050 Net Zero target and carbon emissions should be mitigated or offset where possible. When operational fusion power plants will generate zero carbon baseload electricity that will help the UK and the world secure decarbonisation.

Question 18. Do the AoS objectives and decision-making questions provide a sound framework against which to assess the sustainability performance of the emerging NPS EN-8?

Summary of responses: Respondents who disagreed suggested to include greater reference to biodiversity, irreplaceable habitats, protecting marine habitats amongst other considerations. Of the 19 responses received for this question, **52% of respondents agreed with the AoS objectives and decision making questions, 11% disagreed and 37% did not know.**

Table 20 – Responses to Question 18

Category	Yes	No	Don't know
Company	4	0	1
Private Individual	1	0	2
Public Body	2	1	0
Fusion Company	2	0	2
Regulator	0	0	0
Pressure Group	0	0	0
Local Authority	1	0	1
Industry Body	0	1	1

The Government's response and intended next steps: The Government believes that the objectives and decision-making questions set out are appropriate for EN-8 align with the AoS for other technologies covered by other NPSs. The Government will take forward for the AoS objectives and decision-making questions that were set out in its consultation.

Question 19. Do you agree that aligning the assessment scale of the emerging NPS EN-8 with that of the AoS of EN-1 to EN-5 is a reasonable approach?

Summary of responses: The respondent who disagreed was opposed to the development of fusion energy while those who agreed did not provide explanations. Of the 20 responses received for this question, **50% of respondents agreed with the AoS objectives and decision making questions, 5% disagreed and 45% did not know.**

Table 21 – Responses to Question 19

Category	Yes	No	Don't know
Company	2	0	3
Private Individual	1	1	2
Public Body	3	0	0
Fusion Company	2	0	2
Regulator	0	0	0
Pressure Group	0	0	0
Local Authority	1	0	1
Industry Body	1	0	1

The Government's response and intended next steps: The Government will continue to align the assessment scale of EN-8 with that of the AoS of EN-1 to EN-5.

Question 20. Do you have further suggestions regarding the scope of the AoS and its proposed assessment of NPS EN-8 on fusion energy?

Summary of responses: In addition to other suggestions raised in previous questions, some respondents noted that as no fusion powerplant has yet been constructed, some concerns and considerations of previous AoSs may not be relevant to fusion and may not reflect the first of a kind materials used. Respondents also highlighted that AoS considerations must consider factors relevant to both England and Wales.

The Government's response and intended next steps: The Government will consider best practice from the UKAEA's operation of the Joint European Torus (JET) relevant to the environmental protection aspects of developing, operating and decommissioning of a fusion facility. The Government recognises that fusion facilities developed under this NPS will be first of a kind and so will remain flexible in the iterative process of developing the draft NPS and AoS. This NPS will be applicable to England and Wales and so the Government will ensure that it covers all suitable policies and considerations that will be relevant to England and Wales.

3. Overview of the Government's decisions

Table 22 – NPS Questions and the Government's Decision

No	NPS Question	The Government's Decision
1.	Do you agree that the planning process for fusion energy facilities should be aligned and maintained with other complex energy generation facilities?	The Government will continue to develop the Fusion Energy NPS (EN-8) to align fusion with other comparable technologies to streamline the planning process, ensure suitable site selection, and minimise environmental and community impacts.
2.	Do you agree with the proposal to include all fusion technologies in the NSIP process?	Consistent with the UK Government's technology agnostic approach to supporting fusion within the UK, the EN-8 will encompass all fusion technologies excluding fusion-fission hybrids.
3.	Do you agree with the proposal to take an open-sited approach in the fusion NSIP process?	The Government will adopt a 'developer-led' approach for fusion energy facilities, giving developers flexibility to select suitable sites based on their technologies and applications. Site selection will be guided by established criteria and so will be open-sited.
4.	Do you agree with the proposal to include all fusion energy facilities in England, independent of capacity, in the fusion NSIP process?	The Government will not carry forward the proposal to include fusion energy facilities generating <50MW in the NSIP regime to increase flexibility for developers. Fusion research facilities will be acknowledged in EN-8 as having an important role in the development of commercial fusion.

No	NPS Question	The Government's Decision
5.	Do you agree with the proposal to include both thermal and electrical facilities in the fusion NSIP process?	The Government will amend the Planning Act 2008 to ensure that both thermal and electrical outputs of fusion power plants fall under EN-8, keeping a 50 MW threshold in England for electrical output and introducing a 50MW threshold for thermal or combined thermal and electrical output.
6.	Do you think the definition of a fusion energy facility, as provided in the Energy Act 2023, is suitable for distinguishing between a fusion energy facility and/or fusion research facility for the purpose of this NPS?	The Government has decided not to include research facilities within the scope of EN-8 and is not amending the 50 MW NSIP threshold in the Planning Act 2008. Therefore, a definition of a fusion energy facility is not necessary to distinguish between research and commercial facilities.
7.	Do you agree with the proposal to not set a deployment deadline for fusion energy facilities?	The Government will not introduce a deployment deadline for fusion energy as this would introduce new risk to fusion development and potentially stifle innovation.
8.	Should developers consider any other factors in assessing reasonable alternatives for fusion energy facilities?	The Government will introduce new criteria to make explicit the requirements of developers to consider the environment and socioeconomic factors when assessing sites and designing facilities. These considerations were already required under the generic impacts of EN-1 but will be included within EN-8 in addition to this, ensuring clarity and early adoption. The Government will also include new criteria to align regulatory processes that are assessed by environmental and health & safety regulators with the planning process.
9.	Do you believe that the proposed criteria cover all aspects necessary for assessing the suitability of sites for fusion energy facilities?	
10	Are there any additional criteria that should be considered in the assessment process?	

No	NPS Question	The Government's Decision
11.	Do you think there should there be a separate set of criteria for different fusion technologies?	The Government will not create separate criteria for different technologies to allow more flexibility without prejudicing or favouring any technology.
12.	Do you agree with the proposed model for implementation of the Fusion NPS?	The Government will set out further information on how the criteria of EN-8 will be implemented in a draft EN-8 which will include clarification on roles and responsibilities regarding criteria that will need to be considered by the relevant regulators.
13.	Have there been any omissions of policies, plans or programmes relevant to the scoping of the AoS?	The Government will incorporate relevant suggested policies, plans or programmes into the Appraisal of Sustainability for EN-8 and will consider these in its development of the NPS.
14.	Do you agree that the baseline data that have been, or will be collected, are relevant and of sufficient detail to support the AoS?	The Government will update the baseline data collected, or data that it will collect, with the most recent terms and designations. The Government believes that the data set out in this consultation is sufficient for the AoS and will follow the approach aligned to EN-1.
15.	Do you agree with the selection and definition of key sustainability issues?	The Government accepts the relevant suggestions raised by respondents and will incorporate these into the development of EN-8.
16.	Are there any key baseline data available that have not been identified that are, or could be, use in support of the issues?	The Government will consider these additional sources of information where relevant when carrying out the AoS.

No	NPS Question	The Government's Decision
17.	Do you agree with the implications and opportunities that have been identified for the emerging NPS EN-8?	The Government will consider the implications highlighted by respondents and ensure that the AoS considers environmental protection as part of implications of the EN-8.
18.	Do the AoS objectives and decision-making questions provide a sound framework against which to assess the sustainability performance of the emerging NPS EN-8?	The Government considers the objectives and decision-making questions outlined for EN-8 to be appropriate and consistent with the AoS frameworks used for other technologies under existing NPSs. These objectives and questions, as proposed in the consultation, will be adopted for EN-8's AoS.
19.	Do you agree that aligning the assessment scale of the emerging NPS EN-8 with that of the AoS of EN-1 to EN-5 is a reasonable approach?	The Government will continue to align the assessment scale of EN-8 with that of the AoS of EN-1 to EN-5.
20.	Do you have further suggestions regarding the scope of the AoS and its proposed assessment of NPS EN-8 on fusion energy?	The Government recognises that fusion facilities developed under this NPS will be first of a kind and so will remain flexible in the iterative process of developing the draft NPS and AoS. This NPS will be applicable to England and Wales and so the Government will ensure that it covers all suitable policies and considerations that will be relevant to England and Wales.

Annex A. Consultation responses

Annex A provides all responses received to the Government's consultation on the proposals for a regulatory framework for fusion energy with permission to be published. This is available as a separate document at: www.gov.uk/government/consultations/fusion-energy-facilities-new-national-policy-statement-and-proposals-on-siting

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