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Strategic Spatial Energy Plan (SSEP)

Spatial evaluation feedback summary

NESO
National Energy System Operator

Introduction

The Strategic Spatial Energy Plan, or SSEP, is a new future energy plan for England, Scotland, and Wales. The plan will map potential zonal locations, quantities and types of electricity and hydrogen generation and storage needed by Great Britain from 2030 to 2050.

In this summary, we show how stakeholders helped to shape a part of the SSEP called the spatial evaluation framework.

We are grateful for everyone's time and contributions. Their input helped to inform, influence and challenge our work as we develop the first SSEP for GB.

Alice Etheridge
Head of Strategic Spatial Energy Planning
National Energy System Operator (NESO)

November 2025

Spatial evaluation explained

The SSEP considers what types of energy are important to our future system and when and where they are needed.

We use **spatial evaluation** to ensure that the generation we are saying needs to happen can be delivered taking into account key spatial indicators we call exclusions, constraints and opportunities. Spatial evaluation covers four key areas:

- *Environment* - how environmental factors may prevent or limit different energy types in various locations
- *Society* - how things like air quality, visual impact or employment may prevent or limit different energy types
- *Other spatial uses* - looking at competing land and sea uses, such as fishing, agriculture, shipping, and housing
- *Engineering design* - what is needed to build energy infrastructure (for example, nuclear energy needs to be close to a water source for cooling).

Spatial evaluation is vital to the SSEP. The work goes hand-in-hand with economic modelling, which looks at the costs of building and operating the energy system to minimise costs to the consumer. All the decisions we make – and the reasons behind them – is part of a framework that supports the plan's development.

We will use the results to identify how much energy can be generated and stored across GB, whilst minimising negative impacts on the environment, land and sea use and society.

That means the final SSEP will be as effective and deliverable as possible – not just in the energy system, but for wider society too.

Stakeholder input

Stakeholders are critical to the SSEP's success.

The UK, Welsh and Scottish governments, public organisations, industry experts and other key stakeholders are helping to shape the plan. Their feedback, challenge and data ensure the information we use is fair, robust and stands up to scrutiny.

We've used a range of tools to gather feedback, including expert working groups, workshops, and meetings with individual organisations. Stakeholders have influenced how we assess spatial evaluation, the datasets we use and how we score different criteria.

Expert working groups

To support the SSEP's development, we created four expert working groups. These groups brought together specialists in the environment, land use, marine and industry. These groups fed into, challenged and reviewed our approach.

Environment

- GB land and marine environment experts
- Formed in May 2024

Land use planning

- Government and public organisation experts with planning knowledge and land use data
- Formed in May 2024

Marine use planning

- Government and public organisation experts with planning knowledge and marine use data
- Formed in May 2024

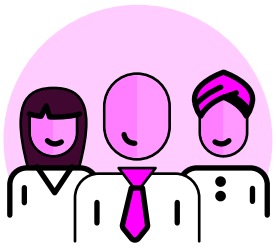
Industry

- Energy experts - network operators, trade bodies, suppliers and academics
- Formed in November 2024

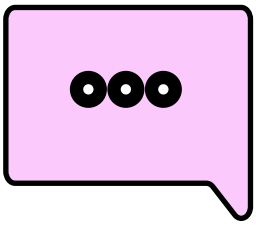
Read Appendix 2.1 to the SSEP methodology to learn more about these groups

Feedback received

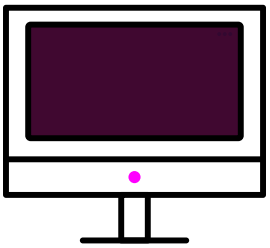
Since the first working groups were set up in May 2024 to the finalisation of the spatial evaluation framework, we have:



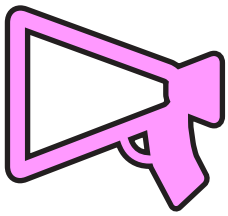
Hosted **20 working group** meetings



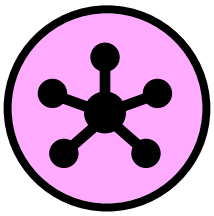
Held **11 feedback rounds**



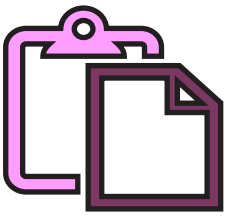
Led three working group webinars, with **298 attendees**



Received **1,655 individual feedback comments**



Held **meetings with 119 organisations**



Shared information with 188 people in 37 organisations.

From May 2024 and throughout 2025, the working groups helped us design and develop the SSEP spatial evaluation framework. Their input:

- Influenced how we score the impact of spatial constraints and opportunities
- Helped identify areas that are not possible for future development
- Provided detailed data sets which were used as the foundation for our evaluation.

Key feedback themes

Stakeholder input helped to shape our thinking in a range of ways, including:

Evaluation method

- Working groups helped choose our final method, from a range of five options
- We then further amended the method to reflect their feedback, using an approach called modified multi-criteria analysis

Assessment scoring

- Working group members helped to shape which key spatial exclusions, constraints and opportunities to add to or exclude from our framework, and which data sets to use
- Scoring of the spatial factors is a key part of our spatial evaluation to identify the most optimum areas for development

National policies

- Stakeholders emphasised that we needed to apply things differently between nations, where policies differ across England, Scotland and Wales

Buffers

- We spoke with a range of stakeholders about how to apply additional buffer zones to some constraints in our spatial evaluation. This feedback helped us decide not to add extra buffers where they can't be supported by clear policy wording and legal guidance

Spatial co-location

- Stakeholders urged us to define spatial co-location clearly; *'where multiple energy developments, activities or users co-exist in the same place by sharing the same footprint or area'*
- Their input meant we broadened the scope of the technologies considered for spatial co-location, further optimising the use of land

Energy infrastructure

- Working groups helped us to identify extra technologies that would be beneficial to include in our spatial evaluation, such as Liquefied Air Energy Storage (LAES), interconnectors and data centres
- We also updated our descriptions, footprint sizes, density and reference values for several technologies to make them more precise – including offshore wind, nuclear and hydrogen – due to stakeholder input

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