



Department for  
Energy Security  
& Net Zero

# Strategic Spatial Energy Plan

Commission to the National Energy System  
Operator

October 2024



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## Executive Summary

The UK, Scottish and Welsh governments are jointly commissioning the National Energy System Operator (NESO) to create a Strategic Spatial Energy Plan (SSEP) for the energy system, land and sea, across Great Britain (GB).

This first iteration of the SSEP will focus on electricity generation and storage, including hydrogen assets. In the future, the SSEP will be updated regularly and could include other types of energy, like natural gas.

The commission sets out the process for producing the first SSEP only:

- NESO will set up a governance structure, including a SSEP Committee which will be responsible for setting strategic direction, with members from NESO, the UK, Scottish and Welsh Governments, and the energy regulator, Ofgem.
- NESO will develop and consult on a methodology for the SSEP, which will set out more detail on how the SSEP will be produced, including on the underpinning economic modelling, environmental assessments (including the production of a Strategic Environmental Assessment throughout the development of the SSEP) and public consultation. This should be developed by the end of 2024 and shared with the governance structures set out in this commission, including Scottish and Welsh governments. This methodology is subject to approval by the Secretary of State for Energy Security and Net Zero (“UK Energy Secretary”) and Ofgem.
- NESO will develop several “pathway options” – options for how the energy system could look in the future and present them to the UK Energy Secretary following consultation with SSEP governance groups, including Scottish and Welsh governments. The UK Energy Secretary will select one pathway for NESO to use for a habitats regulations assessment (HRA) and public consultation and will be the 'draft plan' for the purposes of the Strategic Environmental Assessment (SEA) Environmental Report, before finalising the SSEP.
- Our ambition is for the UK, Scottish and Welsh governments and Ofgem to endorse the final SSEP alongside its publication. A key principle underlying the SSEP is to seek consensus between organisations, ensuring maximum alignment and to enable effective delivery of a the SSEP and its objectives.

The SSEP will be used to help plan the future of the energy system for the whole of GB. It will sit alongside and grow with future government policy and market-led interventions; it is intended to be complementary to these, providing a more strategic approach to spatial planning, and become part of the framework of planning systems across GB. The SSEP’s outputs will directly feed into, and be published in time for, the Centralised Strategic Network Plan (CSNP): a plan for transmission network infrastructure which NESO is also developing.

NESO is also producing 2030 Clean Power Advice for the UK government. Whilst independent of the SSEP, it is expected that recommendations given as part of the 2030 advice will be relevant to the SSEP and should be considered in the methodology and development of the plan.

# Strategic Spatial Energy Plan: Commission to the Electricity System Operator

## Background and Purpose

The UK government is on a mission to speed up the transition away from fossil fuels and towards clean energy; a mission that is shared by the Scottish and Welsh governments. The objectives are to deliver clean power by 2030 and accelerate towards net zero, to boost energy independence, protect consumers, and support jobs across the country. This will involve significantly increasing the amount of low carbon electricity generation in the system, as well as new energy sources like hydrogen, while building the associated infrastructure that will enable the system to function. NESO has been commissioned by the UK government to produce independent advice for delivery of Clean Power by 2030, with expert analysis of the location and type of new investment and infrastructure needed to deliver it.

The challenge does not end in 2030. There is also an important opportunity to develop a long-term GB-wide spatial strategy for energy infrastructure that provides clarity and prioritisation to inform decision-making on land and sea so we can embrace the prospects the clean energy transition represents. This Strategic Spatial Energy Plan (SSEP) will unlock a faster and better planned energy transition, upgrading Great Britain to ensure long-term energy security. The benefits come from examining the geography of the future energy system from several angles: a modelled optimum, public preferences, the relationship with other infrastructure, environmental considerations and industry input. This should yield a robust plan that the public and industry can get behind, which should allow us to increase the pace of building the electricity generation that Great Britain needs and unlocking our tremendous untapped advantages.

The SSEP is focused on the generation and storage of electricity and hydrogen, and this will also enable better planning of the power grid. The SSEP will act as a blueprint from which future plans will flow, such as the CSNP which will set out the transmission infrastructure choices needed to facilitate our energy transition.

This more coordinated approach will allow the UK, Scottish and Welsh governments, regulators and industry to have a more holistic understanding of what is in the best interest of customers when planning for clean and affordable energy for the long-term across the whole GB energy system.

## Goal

The overall goal of the SSEP is to help accelerate and optimise the transition to clean, affordable and secure energy across Great Britain. This goal, and the objectives that support it, will be achieved via a partnership between the UK government, Scottish and Welsh governments, Ofgem, NESO and private industry. It will be supported in achieving these goals through work including the CSNP and regional energy plans produced by Regional Energy Strategic Planners (RESPs).

## Objectives

The SSEP will contribute to achieving this goal by providing greater clarity to industry, investors, consumers and the public on the shape of our future reformed energy system. It will also support conversations with stakeholders and the public towards building consensus on how the GB energy system needs to change to enable clean and affordable energy for the future.

Following production of the plan, our intention is for the SSEP to become part of the framework of planning systems across GB; we will explore whether and how it is appropriate, for example, to amend the UK government's National Policy Statements (NPS) in the future to incorporate the SSEP or its spatial outputs. However, amendment of NPSs will only happen once the SSEP has been produced and endorsed by the UK government, and such amendments will remain subject to the processes set out in the Planning Act 2008.

Following publication of the SSEP, the Scottish Government will consider whether it would be appropriate to amend the National Planning Framework 4, National Marine Plan or sectoral adopted marine plans. The Welsh Government will explore the relationship between the SSEP and *Future Wales: The National Plan* and the Welsh National Marine Plan and, where appropriate, incorporate the SSEP into future iterations of those plans. Any proposed amendments to Scottish and Welsh national policy would be subject to all relevant statutory and other impact assessment requirements, and the relevant statutory procedures.

## Deliverables

The SSEP will assess the optimal<sup>1</sup> locations, quantities and types of energy infrastructure required, across a range of plausible futures<sup>2</sup>, to meet future energy demand with the clean, affordable and secure supply that we need. It will take into account public views, environmental considerations and cross-sectoral demands on land and sea.

This will be expressed as a spatial energy plan, allowing us to understand the spatial requirements of GB's future energy system more accurately so that future decisions on land and sea use can better reflect energy requirements and support future

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<sup>1</sup> Locations, quantities and types of energy infrastructure that balance all the SSEP's objectives by being resilient, low-carbon, affordable, and taking into account cross-sectoral demands on land and sea.

<sup>2</sup> In this context, plausible futures are futures that could reasonably be expected to occur and exclude extreme unexpected events.

decision-making by the UK government, Scottish and Welsh governments, local decision-makers, and markets. Taking into account current and planned infrastructure, including that required for existing leasing rounds, the first SSEP will map the potential locations, quantities and types of electricity generation and storage infrastructure over time, modelled across a range of plausible futures and based on known constraints and assumptions. Hydrogen assets will also be considered in this first iteration of the SSEP, given their potentially important role in electricity generation and storage, while future iterations could consider additional elements of GB's energy system.

It will provide a guide for industry and the public as to the likely shape of our future energy system, forming a pathway from which more granular plans will be able to flow. This will help accelerate and optimise GB's energy transition by providing the foundation for holistic, cost-effective system planning; facilitating early engagement with the supply chain; and setting out a clearer position with respect to planning processes across GB.

These objectives and deliverables form part of the strategic framework for the SSEP found at Annex B. We expect NESO to conduct the activities and produce the deliverables listed in this framework, while the objectives and overall goal are the joint responsibility of the UK government, Ofgem and NESO. The objectives in the strategic framework carry equal weight and are not in priority order.

While producing these deliverables, NESO must have due regard to the need to achieve the objectives set out by the public sector equality duty (PSED) under s149 of the Equality Act 2010.

## Scope

Ultimately, we anticipate that the SSEP will cover the whole energy system, land and sea, across GB. This will support the UK, Scottish and Welsh governments and regulators, in tandem with energy markets, to assess the optimal locations, quantities and types of energy infrastructure needed to transition to low carbon energy.

However, producing a comprehensive multi-vector plan that effectively meets our future energy needs will, naturally, take time to get right. The UK, Scottish and Welsh governments are taking a partnership approach to the SSEP and as such jointly commissioning the SSEP to help ensure we not only have the right infrastructure to meet our energy demands but we transition towards clean energy in a way which takes into account the views of both rural and urban communities, other affected interests, and environmental impact.

We are, therefore, jointly commissioning NESO to produce a first iteration of the SSEP, covering infrastructure for electricity generation and storage (including relevant hydrogen assets) so we can foster a more efficient electricity system design, promoting anticipatory network investment to enable the reduction of waiting times for generation and storage projects to connect to the grid.

The time horizon for the SSEP should be set out by NESO in their methodology document. The economic modelling underpinning the SSEP should have a ~25-year time horizon.

We expect that the SSEP will be updated regularly – and future iterations could incorporate other energy vectors (for example, natural gas) – taking into account lessons learned from this first iteration and wider UK, Scottish and Welsh government policy. We expect these updated iterations of the SSEP will complement future refreshes of the CSNP.

NESO should work with UK, Scottish and Welsh government officials to determine the exact technologies that will be in scope of this first SSEP. This should be clearly set out in NESO’s methodology (as set out in the “Roles, Responsibilities and Governance” section of this document).

## Uncertainty

We recognise that the future of energy system transformation is by no means certain, and it is critical that the SSEP takes a flexible and adaptive approach to navigate the complexities of the evolving energy landscape. The production of the SSEP will, therefore, be underpinned by economic modelling which can identify infrastructure needs common to most future scenarios, as well as those unique to just a few scenarios. The former could represent “low regrets” choices for governments and industry to take whereas the latter could present “higher risk”.

Furthermore, producing the SSEP will be an iterative process, allowing the UK, Scottish and Welsh governments, NESO and industry to respond to advances in environmental knowledge and understanding, technological advancements and future policy decisions. This will allow the SSEP to sit alongside and grow with future government policy and market-led interventions. It is intended to be complementary to these; aiming to provide further clarity to investors and communities by providing a more strategic approach to spatial planning.

## Within a Wider Landscape

### Devolved Governments

The SSEP is being created for all Great Britain and as such must account for the nature of devolved and reserved policies. In GB, the general position is that energy policy is reserved in relation to Scotland and Wales, whilst planning systems are devolved<sup>3</sup>. With regards to the consenting of individual energy infrastructure projects, there is a complex mix of reserved and devolved competencies. Hence, we are jointly commissioning for a GB-wide plan that will work for devolved consenting regimes. Ministers from the UK, Scottish and Welsh governments agree that a GB-

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<sup>3</sup> The island of Ireland has its own electricity grid, separate to the electricity grid in GB. Both planning and energy policy are broadly transferred to Northern Ireland.



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wide plan will contribute to a more cost-effective and future-proofed electricity system.

While developing the SSEP, NESO should regularly consult with the UK, Scottish and Welsh governments, as outlined in the “Roles, Responsibilities and Governance” section of this document. NESO should take account of the policy ambitions and directions of each of these governments while developing the SSEP.

## Cross-sectoral

The SSEP is not intended to be a cross-sectoral plan, but we understand that assessments of land and sea use for energy cannot be taken in isolation. We are ensuring that, in its development, the SSEP considers wider demands on land and sea, including (but not limited to) food production, transport, water supply, nature recovery, fisheries, tourism and military. While this is an energy plan, the SSEP does not seek to prioritise energy over competing sectoral demands. It will not make site-specific recommendations, nor will it prescribe or authorise individual projects, but it will offer a guide to their spatial characteristics from an energy perspective.

## Environment

The UK, Scottish and Welsh governments are committed to protecting our environment. The SSEP will therefore give due consideration to environmental impacts and government’s environmental commitments, statutory duties and targets, throughout its production. This will include incorporating environmental data sets, a robust governance framework and inclusion of the SEA process – or an equivalent assessment under the Environmental Outcomes Report system if implemented – and a plan-level HRA. The UK Energy Secretary will also have due regard to the Environmental Principles Policy Statement when exercising their duties on the SSEP, as required by the Environment Act 2021.

## Wider Strategic Planning

When developing the SSEP, NESO must give appropriate consideration to the impact on wider strategic energy plans and consider how to ensure suitable alignment with the CSNP and the plans created by the RESPs.

The plan should be compatible with existing spatial plans, including statutory Marine Plans, spatial plans created by the Scottish and Welsh governments, and incorporate The Crown Estate’s Whole of Seabed Programme evidence base and other relevant datasets. The SSEP should also take into account the outputs of UK government programmes for England such as Marine Spatial Prioritisation Programme and the Land Use Framework.

NESO must ensure that the outputs of the final energy pathway produced in the SSEP allows for the strategic network planning that will be expressed in the CSNP. The outputs of the SSEP will feed directly into the CSNP which will set out, in detail, the network requirements needed to deliver on the generation and storage requirements identified by the SSEP.

## Roles, Responsibilities and Governance

### Overview

The SSEP will be developed and published by NESO, reflecting its new role as the strategic planner for the whole energy system. It is important that the SSEP is aligned with wider UK government objectives for the energy system, and Scottish and Welsh government objectives including those where the plan intersects with devolved competence and policy. Throughout the process, there will be several moments where the UK Energy Secretary will make decisions to steer NESO in the production of the SSEP. To ensure this is a plan that works for all of GB, we expect close working to continue at all levels between DESNZ, Scottish and Welsh governments, NESO and Ofgem throughout the development of the SSEP. We expect consensus to be gained via close collaboration and governance throughout development of the SSEP. Views of Scottish and Welsh ministers and any disagreements should be escalated to the UK Energy Secretary ahead of key decision points.

### Key Decision Points

- Following receipt of this commission, NESO should implement the relevant governance structures as detailed below.
- NESO should develop a methodology, clearly setting out how the SSEP will be developed and consulted upon. This should be produced in consultation with UK, Scottish and Welsh governments and Ofgem, taking views through the governance groups as set out below. The methodology should be developed by the end of 2024.
- The final methodology documents should be shared with the SSEP Committee and Scottish and Welsh energy ministers for comment before being submitted to Ofgem and the UK Energy Secretary for approval. The views of Scottish and Welsh energy ministers along with any disagreements at this stage should be escalated to the UK Energy Secretary alongside this advice.
- Upon completion of initial modelling, NESO should prepare advice on SSEP pathway options, informed by a SEA alternatives assessment, and environmental, community and technical appraisals. This should be provided to the SSEP Committee for a steer, and SSEP advisory groups (detailed below in this commission), prior to submission to the UK Energy Secretary by NESO.
- NESO's advice on pathway options should also be shared with Scottish and Welsh energy ministers prior to submission to the UK Energy Secretary by NESO. Their views along with any disagreements at this stage should be escalated to the UK Energy Secretary alongside this advice.

- Following the SSEP Committee and Scottish and Welsh energy ministers' assessment of NESO's advice on SSEP pathway options to the UK Energy Secretary, Ofgem may provide formal representation and independent advice. This advice may consider the impact of the pathways on the consumer interest, as per Ofgem's primary objective.
- Following receipt of the options, views of organisations and respective governments and advice, the UK Energy Secretary will formally confirm to NESO which pathway should be taken forward for public consultation. This is the pathway NESO will use for the HRA and will be the 'draft plan' for the purpose of the SEA Environmental Report.
- Close working and governance (as set out in this commission) should continue throughout this phase to oversee the plan as it develops.
- Upon completion of the SEA, HRA and public consultation, the final proposal for publication should be shared with the SSEP Committee for steers and Scottish and Welsh energy ministers for comment, and subsequently shared with the UK Energy Secretary prior to publication.
- Our ambition is for the UK, Scottish and Welsh governments and Ofgem to endorse the final SSEP alongside its publication; this must be in time to inform the development of the CSNP.
- NESO and Ofgem will monitor and evaluate the SSEP against the stated objectives. These will inform the approach to future iterations of the SSEP.

## Governance

Given the scale of energy infrastructure that is likely to be indicated by the SSEP; the potential impacts on both rural and urban communities, cultural heritage and the environment; and wider demands on GB's land and sea, it is important that effective governance is in place throughout the development of the SSEP. This will ensure accountability and that the SSEP is underpinned by a clear, democratic mandate while fully respecting NESO's operational independence.

A key principle underlying this governance process is to seek consensus between organisations, ensuring maximum alignment and to enable effective delivery of the SSEP and its goal to accelerate and optimise the transition to clean affordable and secure energy across Great Britain.

NESO should implement a governance structure, which at a minimum should include:

- A **SSEP Committee** that will be responsible for setting strategic direction and overseeing development of the SSEP. This committee should be chaired by NESO and be represented by senior officials from NESO, DESNZ, Ofgem, Scottish Government and Welsh Government.
- A **Devolved Administration Advisory Group**, chaired by NESO, including representatives from the Scottish and Welsh governments to provide strategic

direction and advice into the SSEP and ensure relevant devolved issues are properly considered when developing the SSEP. The Scottish government will run an advisory group, to seek strategic direction and advice for the SSEP from across Scottish government departments.

- A **UK Government Advisory Group**, chaired by DESNZ, to provide strategic direction and advice into the SSEP from across UK government departments, and ensure representation for wider sectoral demands on land and sea.
- An **Expert Advisory Group**, chaired by NESO, including relevant bodies with an interest in land and marine use, involved with the production and use of geospatial data. We expect this to include four categories of groups: environment, geospatial, industry, and societal interest.
- An **Analytical Evidence Advisory Group**, chaired by NESO, including DESNZ, NESO, Scottish Government, Welsh Government and Ofgem analysts, to provide reassurance in the rigour of the modelling and opportunities to advise on analytical issues.

NESO should enable these groups to work together to provide the best quality advice by sharing relevant information with multiple groups or between groups as needed.

In addition to this robust governance framework, stage-gate decision points will be incorporated into the development of the SSEP. This includes a requirement for the UK Energy Secretary and Ofgem to approve NESO's SSEP Methodology, and a decision by the UK Energy Secretary on the single SSEP pathway option that will be used to produce the final plan. This will ensure that NESO's work is underpinned by an appropriate degree of democratic oversight and accountability from government.

## Producing the SSEP

### Overview

To produce the SSEP, we expect that NESO will conduct economic modelling to identify potential cost-effective locations for future GB electricity and hydrogen infrastructure, within energy security, decarbonisation, and environmental constraints. This economic modelling must take a whole systems approach and co-optimize electricity generation, storage and transmission (including GB interconnector capacity) and hydrogen production, storage and transportation to ensure outputs are compatible with the wider energy system.

Alongside this economic modelling, NESO must engage experts and stakeholders to understand the implications of the modelling results on the environment and cross-sectoral demands, through the governance framework set out above. NESO must use the economic modelling, environmental assessment and expert engagement to create a set of "SSEP pathway" options. These must include at least one "low regret" pathway option, showing future infrastructure that will be robust across most or all

plausible futures, and other “higher risk” pathway options that show additional infrastructure that will be present in some (but not all) plausible futures.

The pathway options must be presented to the SSEP Committee for review, with the UK Energy Secretary taking the final decision on which of these options should be used as the basis for the SEA Environmental Report, HRA and public consultation. NESO must use the findings from the environmental assessments and public consultation to produce the final SSEP pathway which will be published.

More information on the HRA can be found in the “Environmental Assessments” section of this document. More information on the public consultation can be found in the “Public and Stakeholder Engagement” section of this document.

## Economic Modelling

The economic modelling in the SSEP should identify potential cost-effective locations for future GB electricity and hydrogen infrastructure, co-optimising the electricity and hydrogen systems and high-level network needs to minimise total energy system cost.

To ensure the results of the economic modelling are realistic and align with wider UK government objectives, the modelling must be subject to certain constraints. At a minimum, these must include robust energy security constraints; net zero-consistent emissions constraints; and so-called “hard” constraints on the use of land and sea (i.e. areas where it would be physically or legally impossible to build).

NESO must also use a range of data of competing demands for land and sea and environmental considerations alongside initial findings from the SEA (or an equivalent assessment under the Environmental Outcomes Report system if implemented), and take advice from experts and key stakeholders, including other government departments and Scottish and Welsh governments via the SSEP governance structures. This will enable them to consider the implications of wider constraints on the use of land and sea and ensure the SSEP is considered within a landscape of competing cross-sectoral demand, environmental considerations and nature recovery (which are referred to as soft constraints in this document). Given the substantial uncertainty around the exact shape of a future GB energy system that achieves net zero, NESO should design their modelling approach so that it is resilient to energy system uncertainties.

To achieve this, NESO should model various scenarios of future versions of the energy system and conduct associated sensitivity testing. Key areas of uncertainty that should be assessed through these scenarios and associated sensitivity testing include:

- Ranges for future electricity and hydrogen demand (including high/low annual demand, high/low peak demand, electrification of heat vs hydrogen for heat, high/low demand side response, variations of system storage capacity, variations in the geographic distribution of demand)
- Ranges for build costs (including variation in the relative cost of build costs for different technologies) and build rates

- A variety of “soft” land and sea use constraints
- Security of supply standards, including a 3-hour Loss of Load Expectation (LOLE) standard and accounting for extreme winters
- Extensive weather profiling to help explore the impact of extreme short and longer-term weather patterns on demand and supply (including storage needs)
- Specifying the UK, Scottish and Welsh governments’ ambitions for the level of generation and/or capacity for certain technologies
- Varied assumptions around technological availability (allowing for innovation and/or delay)
- Ranges for key economic assumptions (including fuel prices)

## Pathway Options

NESO should use the result from the economic modelling to create a set of SSEP pathway options. We anticipate that NESO will develop between four and six SSEP pathway options. These should range from at least one “low regret” pathway option which shows future infrastructure that will be robust across most/all plausible futures, to other pathway options that show additional infrastructure that will be present in some (but not all) plausible futures. These pathway options should be based on insights drawn from the economic modelling exercise as a whole, rather than reflecting specific modelling runs.

It will be for NESO to decide what these alternative pathways should represent, based on what the economic modelling exercise reveals about the uncertainties that will have the greatest impact on potential future infrastructure and key trade-offs.

The SSEP pathway options should be provided to the SSEP Committee for review, alongside commentary of explaining what each option represents (when and where infrastructure should be built in each SSEP pathway option); how this differs between pathway options; and the key factors that drive these differences, including how a “low regret” and alternative pathway has been defined with respect to the underlying modelling. It should also include information on the overall cost of the pathway option; the environmental implications of the pathway option; and discussion of how the pathway options align with UK, Scottish and Welsh government policies, plans and targets. The pathway options should be shared with Welsh and Scottish energy ministers for their views. The UK Energy Secretary will then take the final decision on which pathway should be taken forward to the SEA and HRA and for public and stakeholder consultation.

NESO should produce a detailed methodology for the modelling of the SSEP which should reflect the requirements specified in this commission. This methodology should be provided to the Analytical Evidence Advisory Group and the SSEP Committee for review, and the UK Energy Secretary and Ofgem for sign off. Any changes made to the methodology later in the production of the SSEP should be reviewed and agreed by the SSEP Committee.

DESNZ will work with NESO to agree the modelling inputs that should be used in the SSEP, ensuring core assumptions are consistent with DESNZ modelling. NESO

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should keep a clear record of the modelling inputs used in each of the SSEP modelling runs.

## Quality Assurance

NESO should clearly set out their proposed quality assurance process in the SSEP methodology. This should align with Aqua Book guidance and make use of the DESNZ quality assurance and modelling assumptions logs.

Quality assurance documents should be regularly reviewed by the Analytical Evidence Advisory Group.

## Environmental Assessments

An SEA – or an equivalent assessment under the Environmental Outcomes Report system if implemented – is a systematic process for identifying, reporting, proposing mitigation or enhancement measures, considering reasonable alternatives, and monitoring significant environmental effects of plans, programmes and strategies. The aim of this process is to ensure that environmental issues are taken into account at every stage in the preparation, implementation, monitoring and review of plans, programmes and strategies of a public nature.

As part of developing the SSEP, NESO is to conduct an SEA, in accordance with relevant legislative requirements. As part of developing the SSEP, the UK government has committed to a plan-level HRA that NESO will carry out. This will be done in accordance with the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Habitats and Species Regulations 2017. The SEA and HRA process will include consultations as required by their respective regulations to ensure views are appropriately considered. More detail on how these processes will be carried out will be set out in NESO's methodology.

## Public and Stakeholder Consultation

We want to put the views of local rural and urban communities at the heart of this strategy. For the SSEP to be durable, it needs to have public support. The SSEP will therefore be informed by engagement with the British public and interested parties, including industry bodies, NGOs and relevant local government associations. The purpose of this exercise is to ensure that the resulting publication reflects not only technical, environmental and economic considerations, but also takes account of dialogue with a wide range of stakeholders. This will include consideration of the cumulative impact of energy infrastructure build on each region. This process will be an opportunity to listen and discuss the shape of the future energy system and refine the plan where appropriate. It will seek societal engagement on the SSEP and will help set the context for the public's understanding of the other plans that will flow from it.

Once the SSEP pathway has been chosen, this engagement exercise will move to a consultation stage at which NESO will consult the public, industry and statutory bodies to seek feedback on the chosen pathway.

NESO will conduct this public and stakeholder consultation with the following objectives:

- To listen to the views of the public and interested parties as the SSEP is developed and ensure that these are taken into account where appropriate
- To create an opportunity for the public to learn about and discuss the options for achieving GB's energy transition, including potential impacts on and benefits to local communities
- To seek societal consent for strategic spatial energy planning in support of GB's transition to clean, secure, affordable homegrown energy

The approach to engaging and consulting throughout will include a range of methods of communication which might include roundtables, workshops, targeted events, online seminars and surveys. NESO will explore options to use innovative techniques of engagement – including through the use of technology and social media – to reach and generate useful engagement with a wide range of interested people. When possible, NESO should draw on relevant UK and devolved government consultations to inform their work.

## Producing the Final SSEP

After the above elements have been completed, we expect NESO to combine and weigh all the evidence gathered when turning to producing the final product. This will reflect the outputs of the economic modelling, the SEA and HRA processes and public and stakeholder consultation; as well as expert views and input from the SSEP Committee. By integrating and analysing multiple criteria, we expect NESO to produce a final SSEP that strikes the best balance between these inputs and the necessary trade-offs to deliver a product best aligned with the SSEP's overall goal and objectives.

NESO will use geospatial analysis to integrate data which accounts for public views, environmental considerations, and cross-sectoral demands on land and sea to assess the potential for energy infrastructure within the agreed SSEP zones. This analysis will be informed by the technical expertise and advice of the governance bodies set out in this document.

## Monitoring and Evaluation

Given the potential impact of the SSEP on the energy system, and plans to publish future iterations, the SSEP should be adequately monitored and evaluated (M&E).

From a process perspective, the objective would be to identify and synthesise lessons about producing a SSEP to inform processes for future iterations of the SSEP. From an outcome/impact perspective, the objective would be to understand how the SSEP is performing against stated objectives, identify any unintended consequences, and learn lessons for maximising the impacts of future iterations.

A plan for monitoring and evaluating the SSEP will be agreed between NESO, UK, Scottish and Welsh governments and Ofgem post-commission. This will include, for example, questions to be explored, timelines, and roles and responsibilities of each



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organisation. This will be reviewed by the Analytical Evidence Board and signed off by the SSEP Committee, alongside the methodology.

## Public Sector Equality Duty

The PSED is a statutory duty on listed public authorities and other bodies carrying out public functions. It ensures that those organisations consider how their functions will affect people with different protected characteristics.

Whilst producing the SSEP, NESO must have due regard to the need to:

- eliminate unlawful discrimination, harassment, victimisation and any other unlawful conduct prohibited by the Equality Act 2010
- advance equality of opportunity between people who share and people who do not share a relevant protected characteristic
- foster good relations between people who share and people who do not share a relevant protected characteristic

NESO must consider the impacts on all parts of society, ensuring that the SSEP promotes equality and avoids discrimination. Due regard needs to be had at all stages of development, but particularly when presenting pathway options to the UK Energy Secretary, during the public and stakeholder consultation, and when developing and publishing the final SSEP pathway.

## Annex A – Summary of Governance Groups

Governance will be implemented and managed by NESO and DESNZ. At a minimum, this should include:

### *Strategic Spatial Energy Plan Committee*

- **Role and Function:** Senior body responsible for overseeing development of the SSEP, including reviewing and providing steers on inputs, methodology, outputs, and recommendations to the UK Energy Secretary on the SSEP methodology and pathway. Any proposed amendments to the methodology should be agreed by this committee.
- **Chair and Secretariat:** NESO
- **Membership:** NESO, DESNZ, Ofgem, Scottish Government and Welsh Government

### *Devolved Administration Advisory Group*

- **Role and Function:** Provide strategic direction and advice to ensure the SSEP works across devolved territories.
- **Chair and Secretariat:** NESO
- **Membership:** NESO, DESNZ, Scottish Government, Welsh Government

### *UK Government Advisory Group*

- **Role and Function:** Responsible for providing wider strategic advice and input into the SSEP and representation for wider sectoral demands on land and sea. This group should provide advice on the potential impact of the SSEP on wider UK government policy and GB-wide spatial requirements, escalating issues to the SSEP Committee, as appropriate.
- **Chair and Secretariat:** DESNZ
- **Membership:** NESO, DESNZ, Ofgem, Defra, DLUHC, MoD, Scotland Office, Wales Office, DfT, Chief Planner

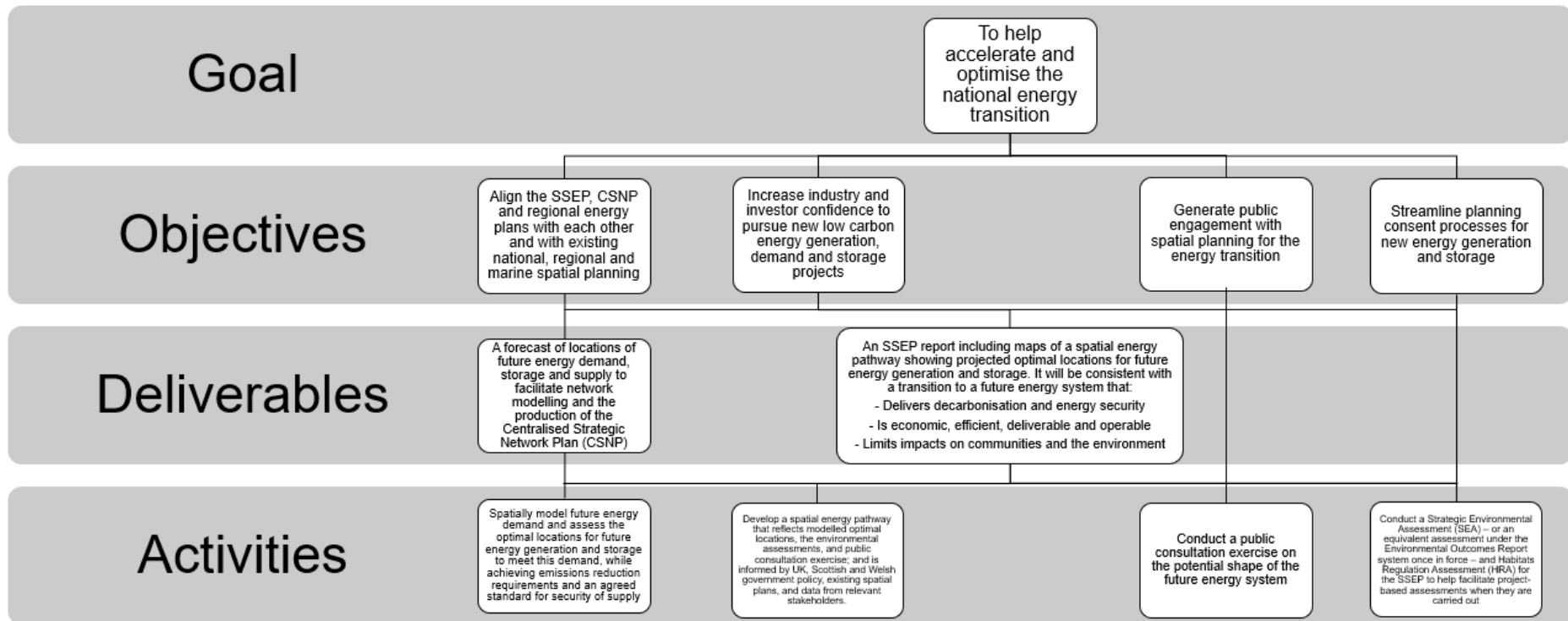
### *Expert Advisory Group*

- **Role and Function:** This group will have an advisory role and should provide technical insight and advice to the NESO on the development of the SSEP.
- **Chair and Secretariat:** NESO
- **Membership:** NESO, DESNZ, Ofgem, DAs, experts from four categories of expertise: environment, geospatial, industry, and societal interest.

### *Analytical Evidence Advisory Group*

- **Role and Function:** This group would have an advisory role, providing oversight on analytical elements of the SSEP, including modelling inputs, methodology, and quality assurance.
- **Chair and Secretariat:** NESO
  - **Membership:** DESNZ, NESO, Ofgem, the Scottish Government, the Welsh Government

## Annex B – Strategic Framework for the SSEP<sup>4</sup>



<sup>4</sup> The UK, Scottish and Welsh governments expect NESO to conduct the activities and produce the deliverables listed in this framework; the objectives and overall goal are the joint responsibility of the UK, Scottish and Welsh governments, Ofgem and NESO.

<b>SSEP Strategic Framework</b>	
<b>Goal:</b> to help accelerate and optimise Great Britain's energy transition	
<b>Objectives</b>	
<b>O1</b>	Increase industry and investor confidence to pursue new low carbon energy generation, demand and storage projects.
<b>O2</b>	Streamline planning and consenting processes for new energy generation and storage, respecting devolved competencies.
<b>O3</b>	Generate public engagement with spatial planning for the energy transition.
<b>O4</b>	Align the SSEP, CSNP and regional energy plans with each other and with national, regional and marine spatial planning.
<b>Deliverables</b>	
<b>D1</b>	A SSEP report including maps of a spatial energy pathway, showing projected optimal locations for future energy generation and storage. It will be consistent with a transition to a future energy system that: <ul style="list-style-type: none"> <li>- Delivers decarbonisation and energy security</li> <li>- Takes account of communities and protects the environment</li> <li>- Is economic, efficient, deliverable and operable</li> </ul>
<b>D2</b>	A forecast of locations of future energy demand, storage and supply that will facilitate network modelling and the production of the Centralised Strategic Network Plan (CSNP).
<b>Activities</b>	
<b>A1</b>	Spatially model future energy demand and assess the optimal locations for future energy generation and storage to meet this demand, while achieving emissions reduction requirements and an agreed standard for security of supply.
<b>A2</b>	Conduct a public consultation exercise on the potential shape of the future energy system.
<b>A3</b>	Conduct a Strategic Environmental Assessment (SEA) – or an equivalent assessment under the Environmental Outcomes Report system if implemented – and Habitats Regulation Assessment (HRA) for the SSEP to help facilitate project-based assessments when they are carried out.
<b>A4</b>	Develop a spatial energy pathway that reflects modelled optimal locations, the environmental assessments, and public consultation exercise; and is informed by UK, Scottish and Welsh government policy, existing spatial plans, and data from relevant stakeholders.

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