

Strategic Energy Planning

Publications Webinar
17 December 2024
10:30 – 12:00

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Draft Methodology Publications Webinar

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Agenda

1. Introduction: NESO, Strategic Energy Planning Role & Methodology Publications
– Aled Rowlands (10 minutes)
2. Strategic Spatial Energy Plan Methodology
– Alice Etheridge (20 minutes)
3. Transitional Centralised Strategic Network Plan 2 Refresh Methodology
– Paul Wakeley (10 minutes)
4. Centralised Strategic Network Plan Methodology Principles
– Paul Wakeley (20 minutes)
5. Q&A (30 minutes)

Strategic Energy Planning

Aled Rowlands

The National Energy System Operator

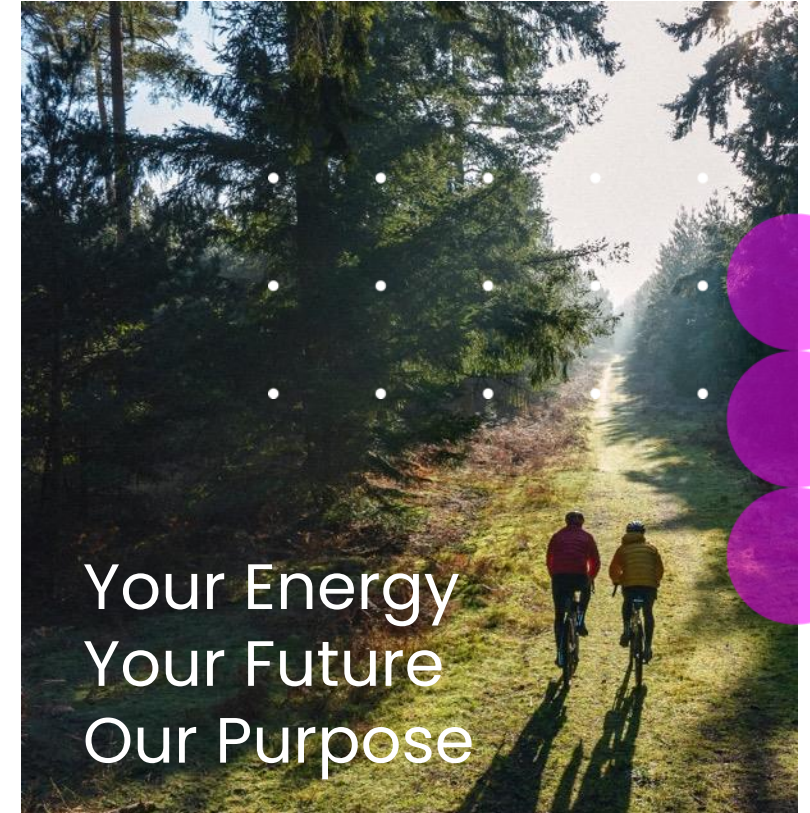
The National Energy System Operator, NESO, is an independent, public corporation at the centre of the energy system taking a whole system view to create a world where everyone has access to **reliable, clean and affordable energy**.

Our work will be the **catalyst for change** across the global community, forging the path to a **sustainable future for everyone**.

The challenge

Tackling climate change is truly the challenge of our generation; addressing energy security, sustainability and affordability for everyone is at the forefront of the global agenda and drive to meet net zero.

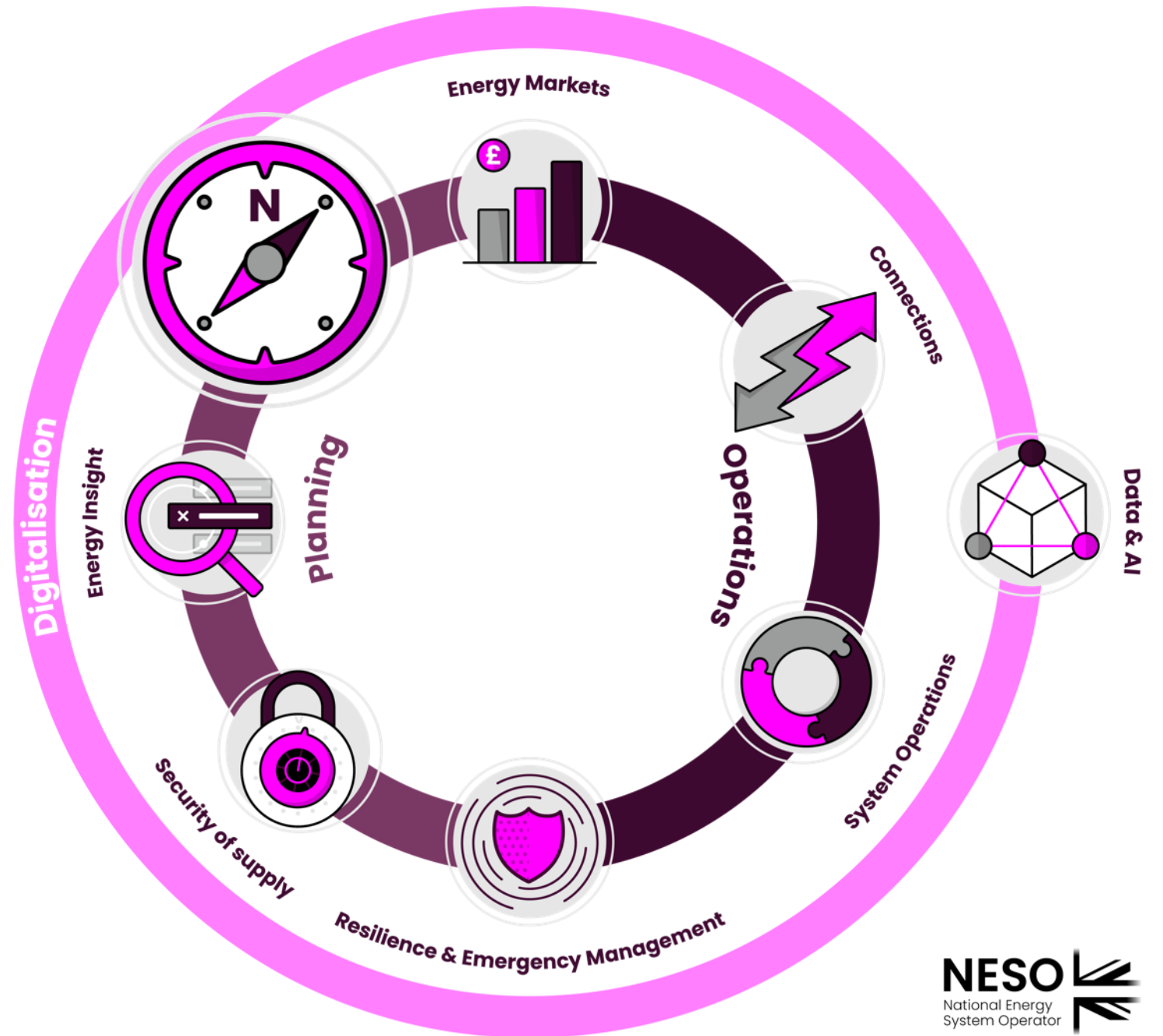
It is our job to transform the whole energy system to meet these challenges and transition to a low-carbon future, embracing new technologies and cleaner generation sources, always with the cost to the consumer in mind.



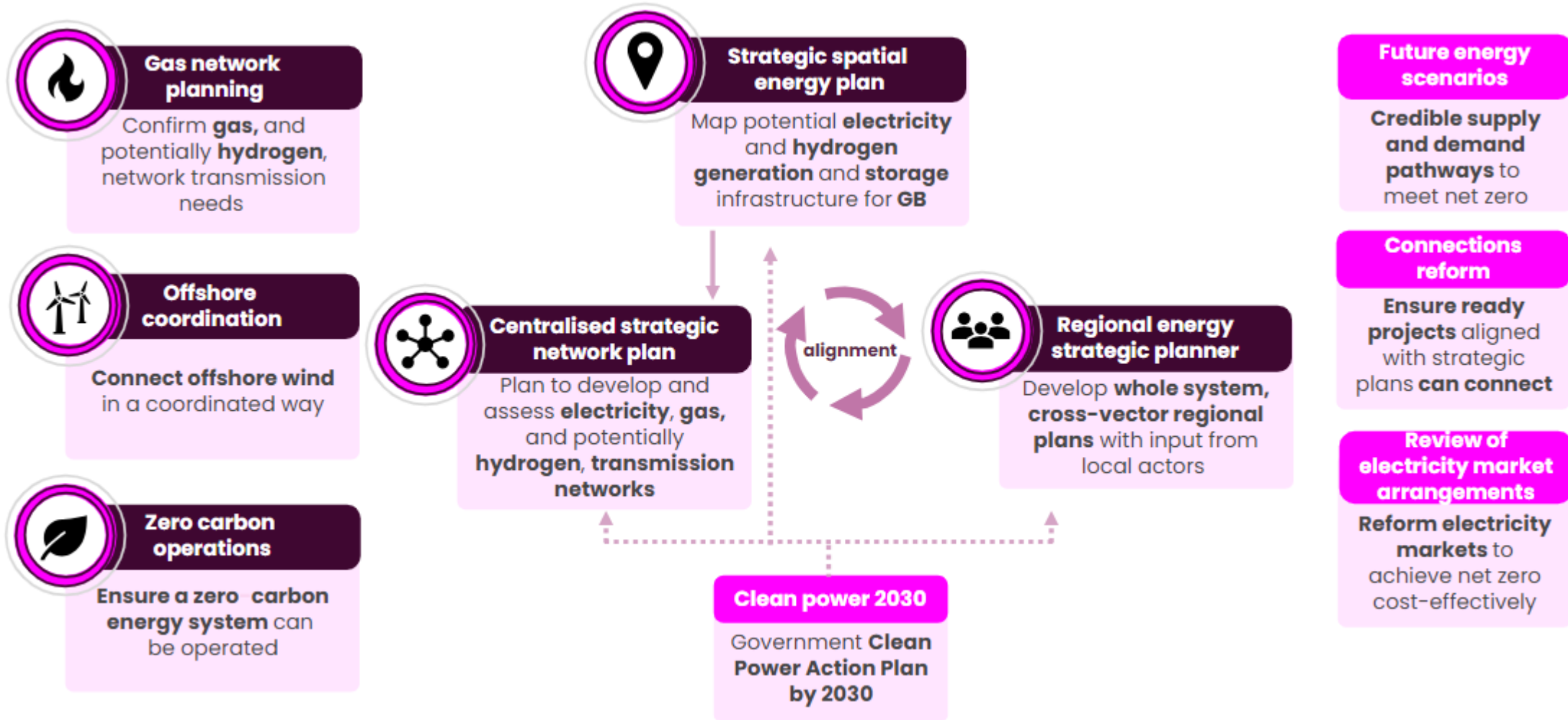
What We do

Strategic Planning

We take a long-term approach to planning, that identifies whole energy system needs and ensures that the system can be designed and built accordingly.



Strategic energy planning



Overview

Strategic Energy Planning is a new role for NESO, which includes

- **Strategic Spatial Energy Plan**
- **Transitional Centralised Strategic Network Plan 2**
- **Centralised Strategic Network Plan**

These plans have individual forward looking aims from 2030 and together create a whole picture that will enable us to contribute to achieving **net-zero by 2050**.

The draft methodologies for these plans are **interlinked and aligned**. We have delivered the three together, so you only have to respond to one consultation. We published these on 09 December.

This webinar is focused on providing an understanding of the draft methodologies to **facilitate consultation responses**.

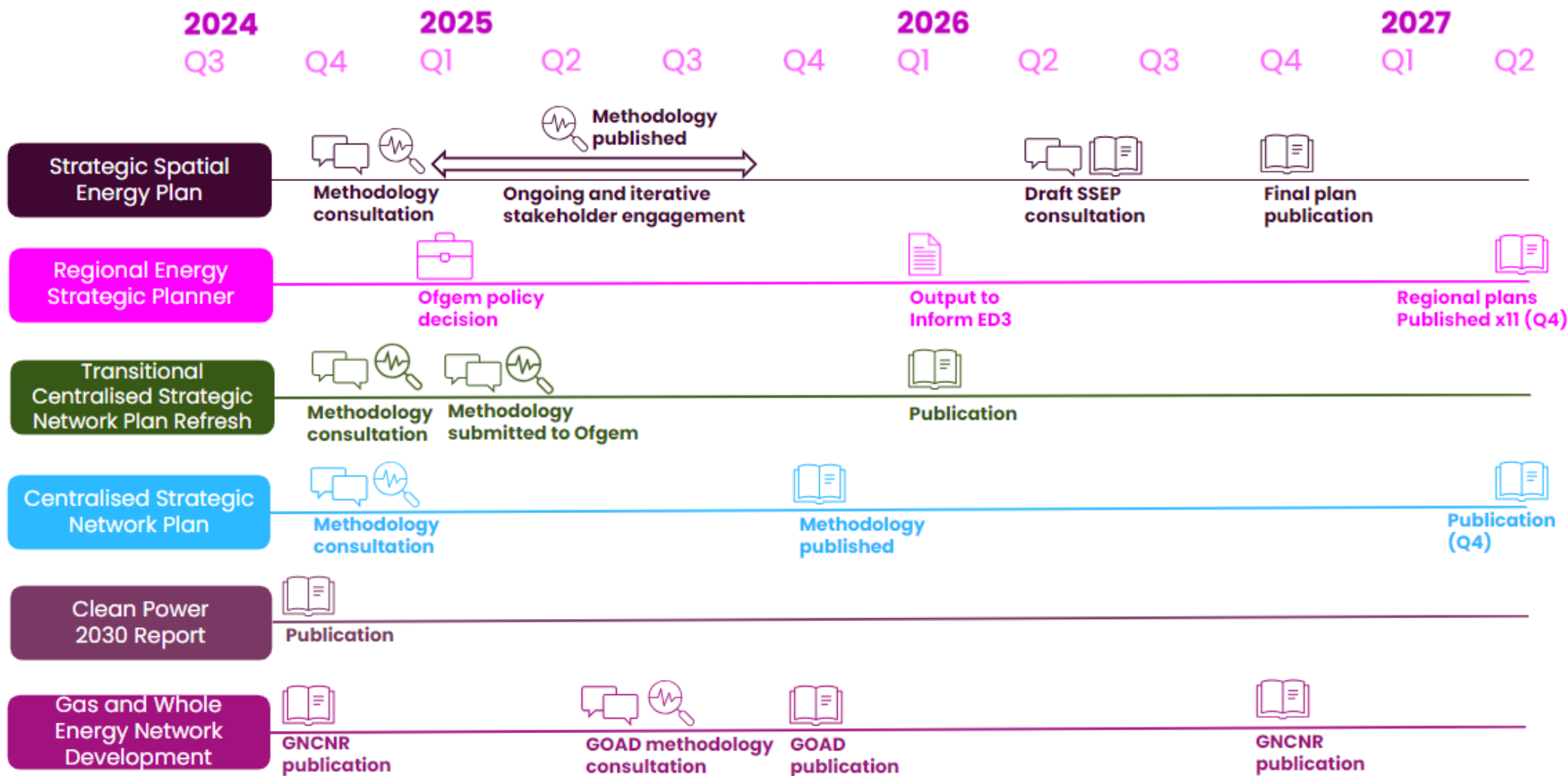
At the end of each section, we will provide an overview of the relevant consultation questions. Please respond to our consultation by **11:59pm 20 January 2025**.

Speech bubbles contain questions we are asking you in our consultation



High level milestones*

*These are indicative dates and subject to change.



Strategic Spatial Energy Plan (SSEP)

Alice Etheridge

SSEP explained

What is the SSEP?

A GB-wide plan that will map potential zonal locations, quantities and types of electricity and hydrogen generation and storage over time, modelled across a range of plausible futures.

What is its purpose?

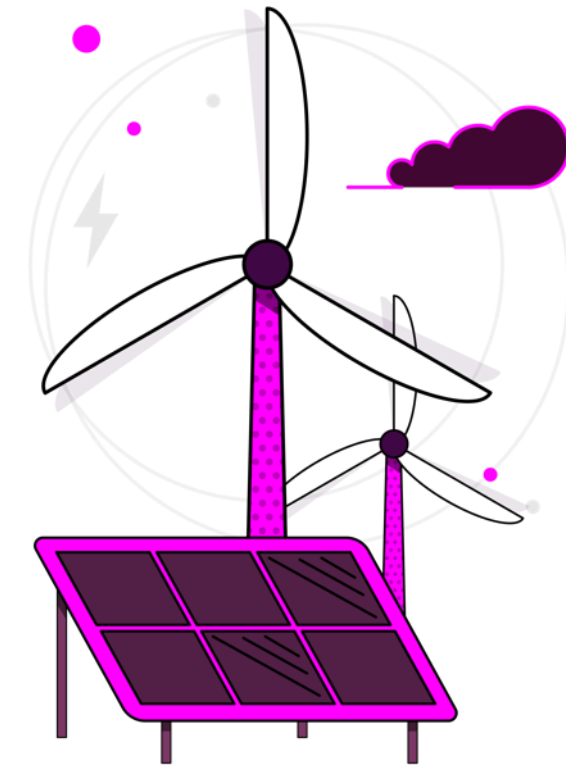
The SSEP will help accelerate and optimise the transition to **clean, affordable** and **secure energy** in Great Britain. It is part of a set of strategic energy plans that will help us achieve **net zero by 2050**. The SSEP was recommended in the Electricity Network Commissioner's 2023 Report.

Commission

We were jointly commissioned by UK, Scottish and Welsh governments in October to create an SSEP for the energy system, land and sea, across Great Britain.

Pathway Options

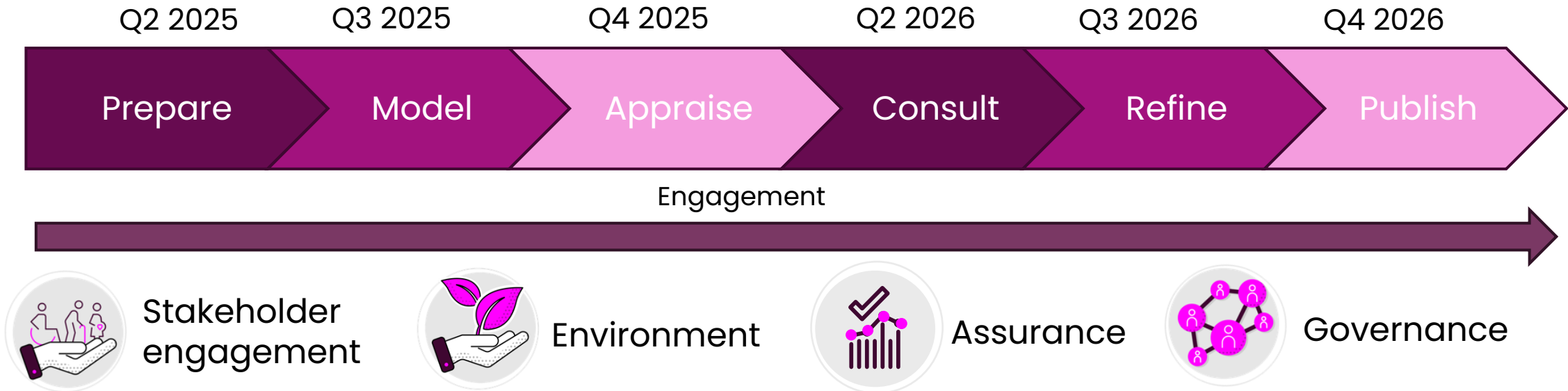
We will develop 4-6 options for how the energy system could look in the future. These will be presented to the UK Secretary of State of Energy Security and Net Zero, who will confirm to NESO which pathway should be taken forward for public consultation.





How we will deliver the SSEP

The SSEP will be delivered through a phased approach across a two-year period and will be underpinned by our delivery principles to ensure robust and comprehensive engagement, assurance and governance.



Methodology - Overall, does the methodology feel appropriate and cover the requirements for the SSEP?

Prepare

Data centres - Out of the options set out in section 3.4.5, which option do you feel is best for the SSEP?

Baseline:

Government's Clean Power 2030 Action Plan used as starting point

Policy Scenarios:

- Agree key policy questions we want to explore through SSEP modelling
- Also model 'unconstrained' scenarios to optimise demand delivery

Data inputs:

- Determine datasets and agree treatment of technologies and other spatial plans

Economic Modelling:

utilising the policy scenarios and data inputs, including conducting uncertainty testing / sensitivity analysis

Development of the SSEP methodology



Stakeholder collaboration and other plans and policies

Some strategic plans and policies we're considering:

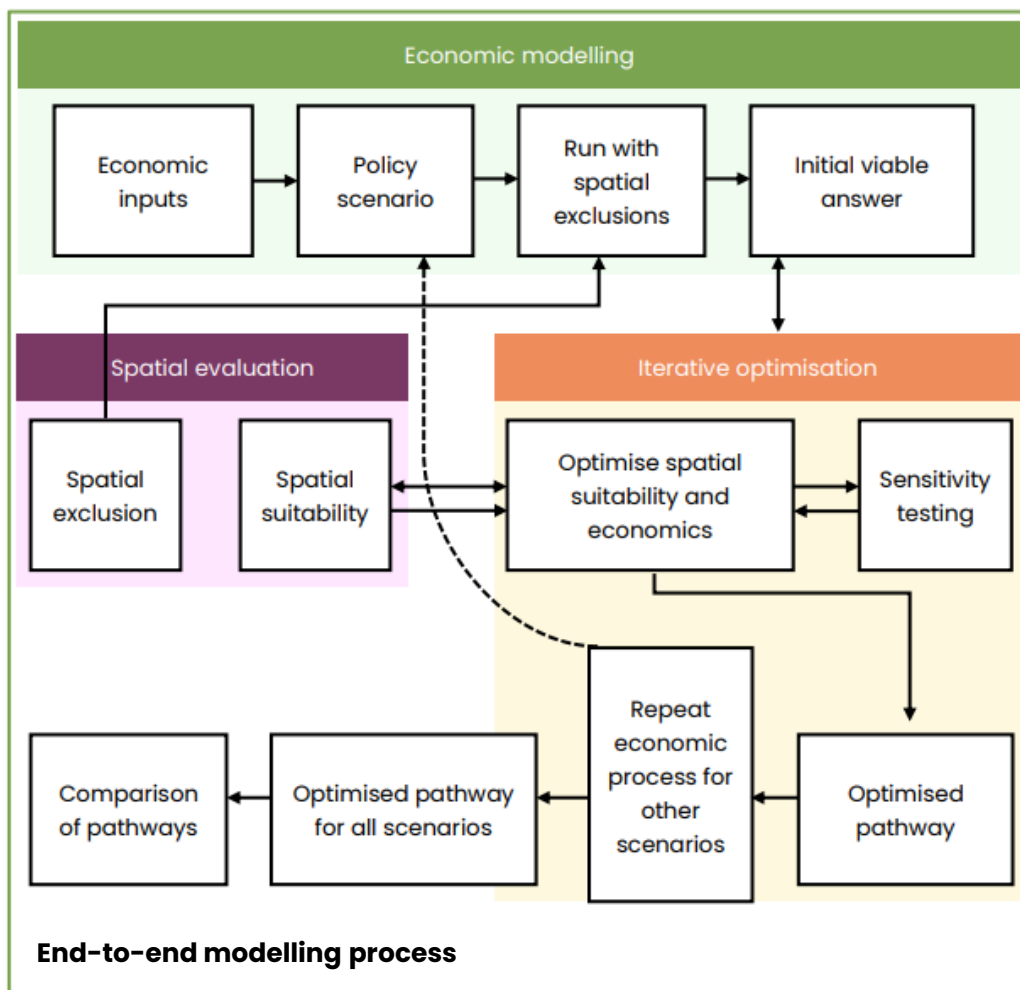
- The National Planning Policy Framework
- National Planning Framework 4
- Planning Policy Wales
- Sectoral Marine Plan for Offshore Wind
- The Land Use Framework
- The UK Marine Policy Statement
- The Marine (Scotland) Act 2010
- Scotland's National Marine Plan (2015)
- Welsh National Marine Plan (2019)

- We have stakeholder working groups across environment, industry and spatial planning along with governance advisory groups.
- Spatial offshore analysis for the SSEP will be supported by The Crown Estate's Whole of Seabed modelling capability, which will cover Scottish, English and Welsh waters.
- We will use overlays to provide essential context to the modelling and spatial evaluation, including overlaying national spatial plans.



Other plans or policies - Are there any other plans or policies we should consider that could potentially interact with the SSEP?

SSEP model



- **Pathway options** developed through the **integration and iteration** of **economic** and **spatial** evaluation modelling
- **Spatial evaluation** assesses environmental, societal, other uses of the land and sea and technical engineering considerations

Economic modelling
Do you agree with our economic modelling approach?

Modelling external markets
Do you have any views on how we should model external markets?

Prepare

Model

Appraise

Consult

Refine

Publish

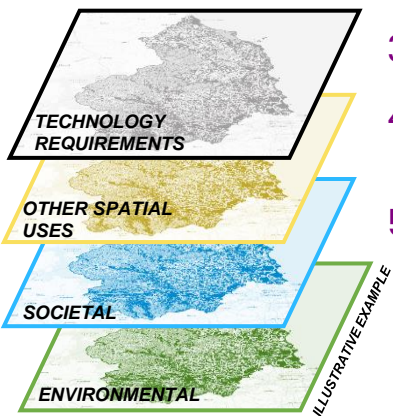
Spatial Evaluation

Spatial evaluation - Do you agree with our spatial evaluation approach?

Spatial Exclusion

We will identify spatial factors that preclude the potential for development of in-scope energy infrastructure due to relevant physical, legal and land and sea use restrictions and remove these areas from analysis.

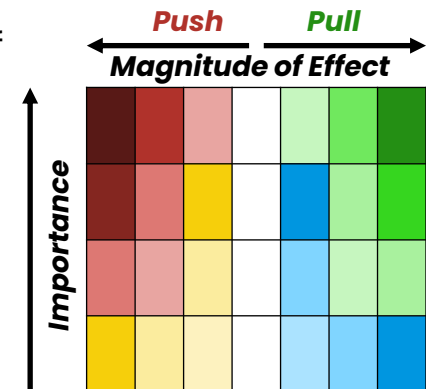
1. Establish the evidence base
2. Identify spatial factors that preclude development of in-scope technologies
3. Map spatial exclusions
4. Calculate **potential developable area**
5. Output maximum generation per zone and convert "potential developable area" as **input to economic modelling**



Multi-Criteria Analysis – Spatial Constraints and technical considerations

The SSEP Spatial Evaluation Framework will use a modified-Multi-Criteria Analysis (MCA) method to identify, compare and combine a vast number of spatial factors across the pillars.

1. Establish the evidence base
2. Evaluate **importance** and **magnitude** of effect of in-scope technologies
3. Collate spatial constraints (push factors) and technical considerations (pull factors), aggregating MCA scores & scrutinise through policy reviews, literature review and stakeholder engagement.
4. Output **spatial suitability maps**
5. Integrate spatial exclusion economic modelling outputs and heatmaps to identify a balanced cut-off of spatial constraint and technical considerations
6. Convert "**spatially optimised developable area**" to inputs for next iteration of Economic Modelling.



Multi-criteria analysis scoring approach

Environment in SSEP



Strategic Environmental Assessment (SEA): strategic assessment of the output of the SSEP, evaluating likely environment effects of the proposals. Agreed in the Transmission Acceleration Action Plan (TAAP) and part of the SSEP commission from UK, Scottish & Welsh Govt.



Habitats Regulation Assessment (HRA): assessment of the likely effects of the plan on European Designated sites. A key agreement in the TAAP. SSEP commission from UK, Scottish and Welsh Govt commits to an HRA on SSEP.

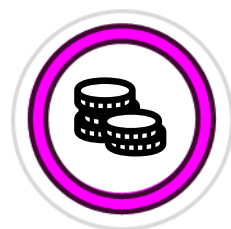


Spatial Evaluation Framework: identifying and scoring relevant environmental constraints ('push' factors) to determine the optimal spatial location of in-scope energy infrastructure.

***Environment** - Do you agree with our environmental approach, including how we have integrated SEA and HRA into the SSEP?*

Appraise: Principles & Process

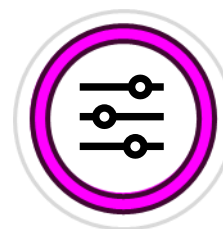
The **principles** guiding the evaluation and selection of pathway options are:



Affordability



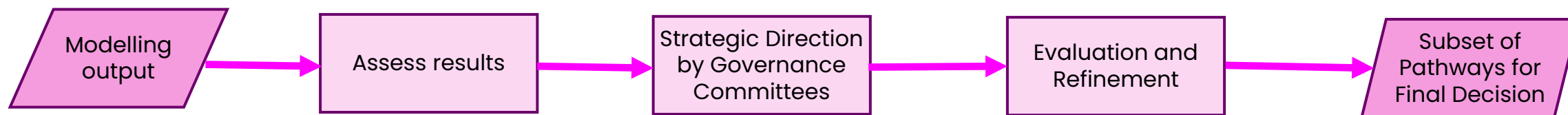
**Minimising
spatial impact**



**Fulfilment of
policy scenarios**

Our goal is to generate a range of options that represent different levels of fulfilment for each principle, while striving to achieve the highest possible fulfilment for each of them.

The **appraisal process** will be structured as follows:



Consult

Stakeholder engagement - Do you agree with how we are engaging stakeholders and wider society throughout the development of the plan?

Formal consultation

- **Narrative** on the development of the pathway
- **Mapping** what the selected pathway means for GB
- **Webinars**
- **Regional** engagement, events and activity
- **Ongoing engagement** with industry, environmental and spatial stakeholders via our established Working and Advisory Groups throughout the SSEP development.

Societal Engagement

- **Societal Opinion:** Opinion Survey or Focus Groups
- **Societal 121s**
- **Societal Forums**

Host Areas

- **Evolve and continue the conversation:** with political, societal, developer and community stakeholders so communities understand what the SSEP says, and why, and explore continued engagement for the process beyond SSEP.

Environmental Assessment

- 'Prepare' - SEA Scoping Report and HRA Evidence Gathering Report consultation
- 'Appraise' - HRA Report to Inform Appropriate Assessment (RIAA) consultation
- 'Consult' - SEA Environmental Report consultation

Prepare

Model

Appraise

Consult

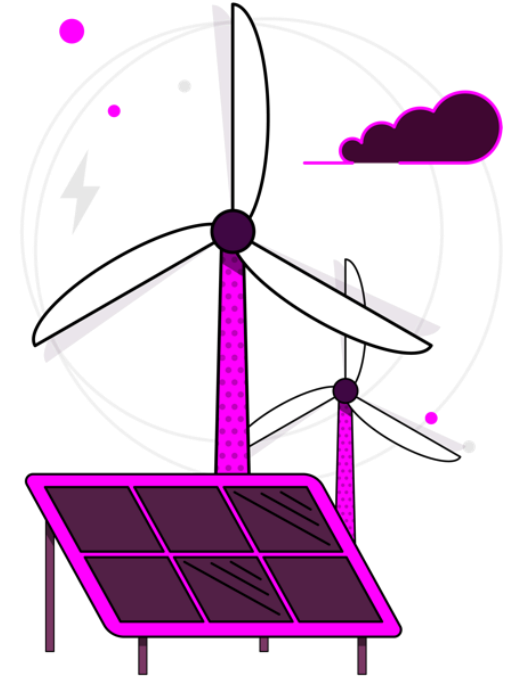
Refine

Publish

Refine

The refinement phase is an opportunity to improve the final SSEP through stakeholder feedback and insights, guided by the principles of inclusivity, coherence, continuous learning, transparency and collaboration.

- We will work closely with governance forums, technical experts and relevant stakeholders to evaluate proposed changes and ensure their effective implementation
- We will maintain an **open approach** to feedback and lessons learned, incorporating where this benefits the overall quality and effectiveness outputs
- Changes made during the refinement process will be carefully balanced to ensure that the plan remains **robust and aligned** with its objectives
- Feedback on this consultation will be shared with stakeholders in the final SSEP methodology document, where we will explain how we've considered and addressed these



Publish

Accessibility - We continually look at ways to present information in a more accessible and engaging way. Is there anything we can do to make our future publications more accessible and interactive?



- The SSEP will be published by the end of 2026
- We will explain how we have considered and acted on stakeholder feedback themes to inform the development of the SSEP.
- The SSEP will be accompanied by documentation for the Strategic Environmental Assessment and Habitats Regulation Assessment.

Prepare

Model

Appraise

Consult

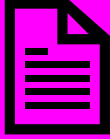
Refine

Publish

SSEP Methodology Consultation



Consultation
deadline is
23:59 on
20 January



One form
covers SSEP,
tCSNP2
Refresh and
CSNP
consultations



Visit [our website](#) to find
out more

SSEP Methodology Consultation Questions

- **Methodology** - Overall, does the methodology feel appropriate and cover the requirements for the SSEP?
- **Stakeholder engagement** - Do you agree with how we are engaging stakeholders and wider society throughout the development of the plan?
- **Environment** - Do you agree with our environmental approach, including how we have integrated SEA and HRA into the SSEP?
- **Other plans or policies** - Are there any other plans or policies we should consider that could potentially interact with the SSEP?
- **Economic modelling** - Do you agree with our economic modelling approach?
- **Data centres** - Out of the options A, B, and C, set out in section 3.4.5, which option do you feel is best for the SSEP?
- **Modelling external markets** - Do you have any views on how we should model external markets? Please provide any views in relation to section 3.4.11 and appendix 6.2.
- **Spatial evaluation** - Do you agree with our spatial evaluation approach?
- **Accessibility** - We continually look at ways to present information in a more accessible and engaging way. Is there anything we can do to make our future publications more accessible and interactive?

TCSNP2 Refresh Methodology

Paul Wakeley

Context

Overview of Strategic Network Design

This year in March, we published the **Beyond 2030 report** - the second transitional CSNP (known as tCSNP2)

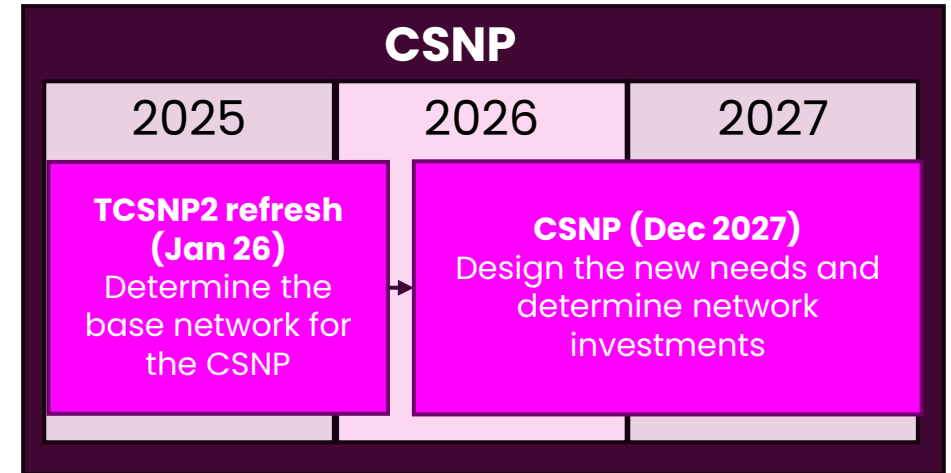
The purpose of tCSNP2 Refresh is to **reassess these projects** following further development due to their low maturity.

The CSNP will need a baseline for the future network to be designed upon. We plan to use the tCSNP2 Refresh to **identify which projects are of sufficient maturity so they can enter the delivery pipeline***

The Centralised Strategic Network Plan (CSNP) aims to **reform the network planning process**

The SSEP is a key input into the CSNP network planning cycle and will also build on the baseline provided by Clean Power 2030

*In CSNP, projects within the *delivery pipeline* are not subject to reassessment unless there is a significant change to either the system conditions or the project scope.



Key changes since Beyond 2030 methodology

Delivery pipeline

Establish baseline network for the first delivery pipeline leading into the enduring CSNP



Meeting options' design criteria

Outlines how options that enter the delivery pipeline, will be expected to meet the design criteria if funding is to be granted

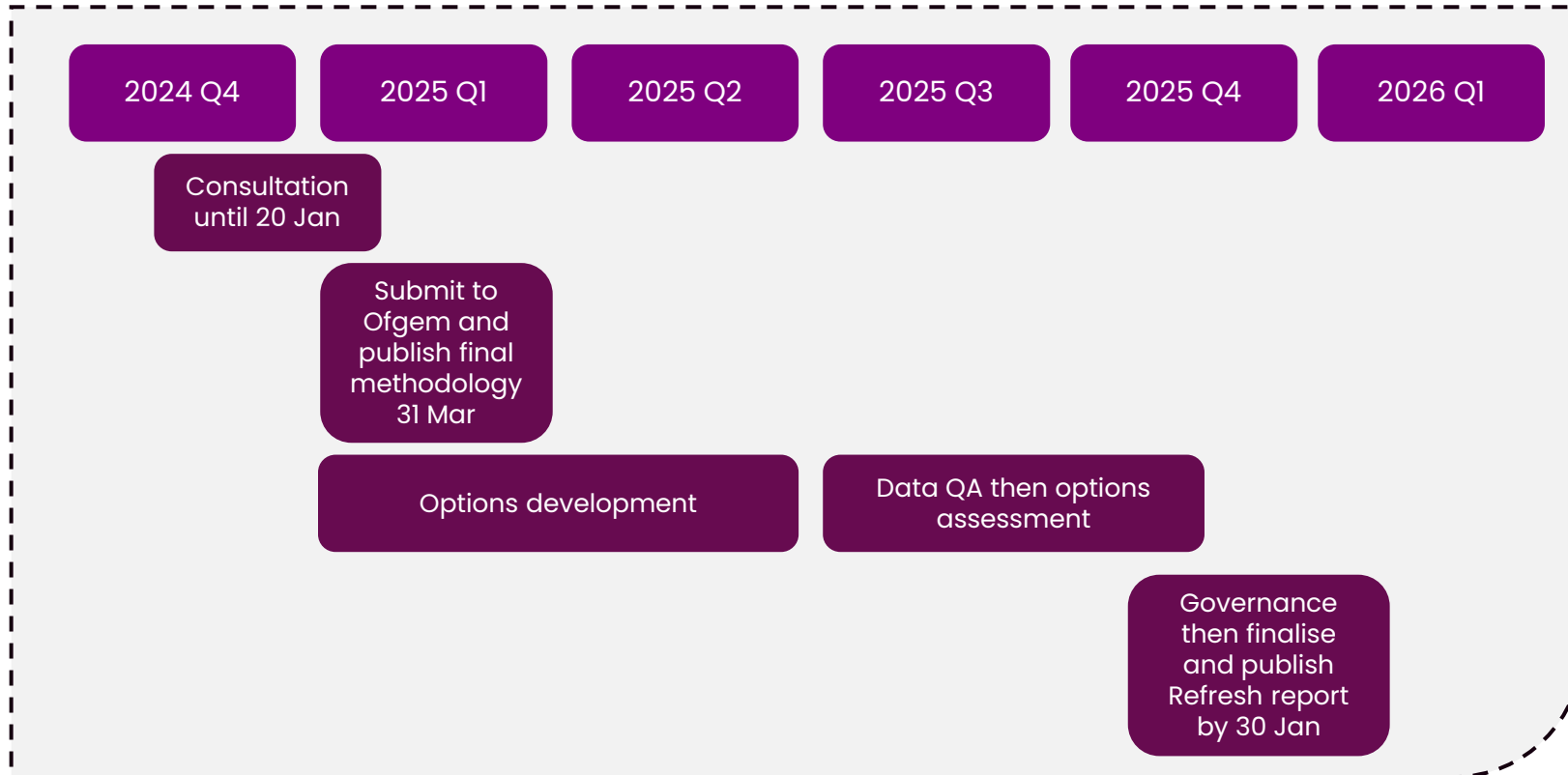
Methodology new format

Concise, high-level explanation of the tCSNP2 refresh process with separate annexes and appendices

Analysis background

Based on a range of scenarios based on the energy mix from Future Energy Scenarios

tCSNP2 Refresh timeline



How to get in touch

We're very keen to hear from you to find ways to improve the tCSNP2 Refresh methodology. Please do use the [online form](#) to provide feedback or email us on Box.SEP-Portfolio@nationalenergyso.com.

tCSNP2 Refresh Methodology Consultation



Consultation
deadline is
23:59 on
20 January



One form
covers SSEP,
tCSNP2
Refresh and
CSNP
consultations



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tCSNP2 Refresh Methodology Consultation Focus

- Summary methodology to **improve readability and accessibility** – are our publications appropriately accessible?
- Is our proposal to produce a **main tCSNP2 Refresh publication, detailed report and workbook** helpful?
- Is there **anything you would change or include** in our main publication or technical report?
- How effective is our methodology at **identifying the optimal course of development** of the national electricity transmission system?
- Your rating of **how effective the methodology is at identifying the right way to develop the national electricity transmission system**
- **General comments** on the tCSNP2 Refresh methodology

Centralised Strategic Network Plan (CSNP)

Paul Wakeley

CSNP framework

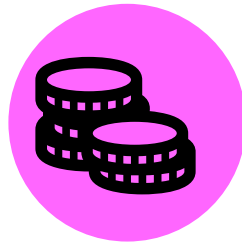
Our vision

Provide an **independent, coordinated, and longer-term approach to wider network planning** in GB to help meet the government's net zero ambitions

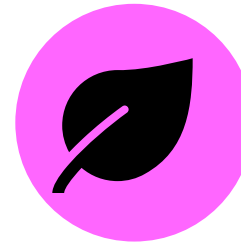
Provides a **network blueprint for the country**, mapping demand and optimal locations for onshore and offshore transmission infrastructure to support a decarbonised energy grid.



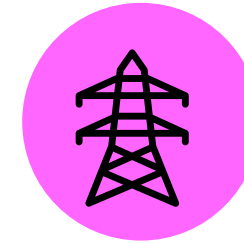
25-year horizon, on a three-year cycle



Co-ordinate reinforcements and anticipate investments ahead of infrastructure delivery



Balance development against **environment/community impacts** to maximise benefits



Understand transmission infrastructure needed for **onshore/offshore electricity transmission** and **interconnectors**

The CSNP's four key principles:



Plan strategically ahead of need to enable necessary investments required for net zero.



Ensure efficiency by taking a holistic view across the onshore and offshore networks in GB in the interests of consumers.



Robust and transparent assessment of a broad range of options considering multiple assessment criteria.

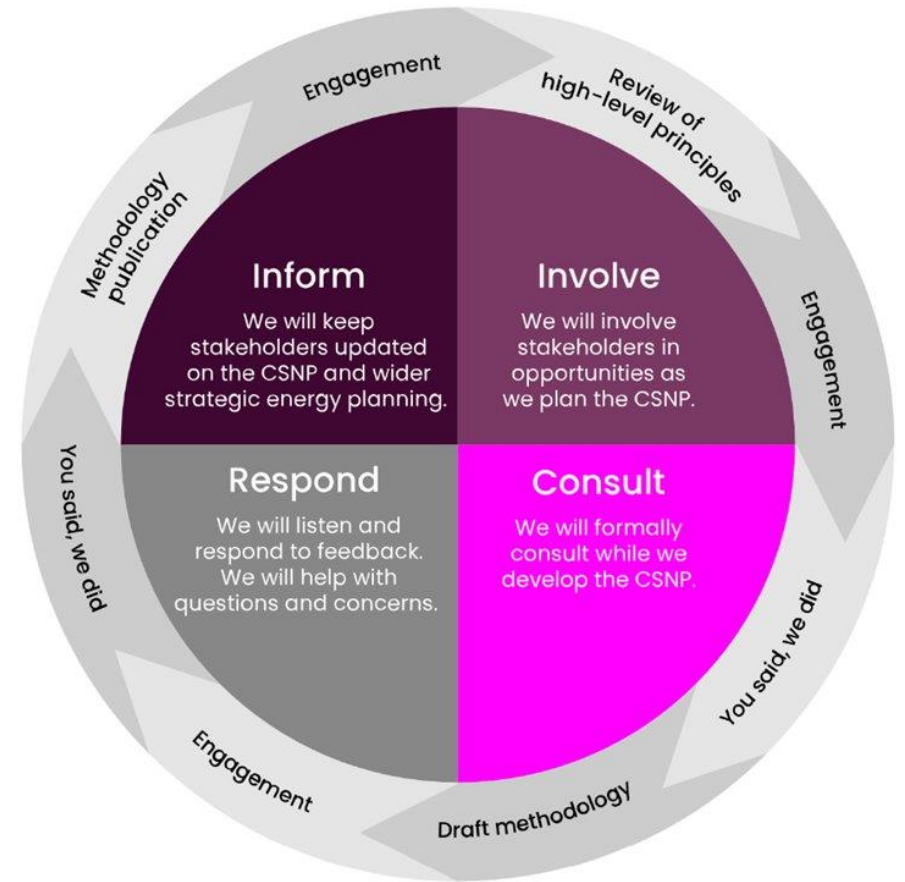


Accelerate delivery by providing certainty on options to support regulatory and planning processes.

Our approach to engagement

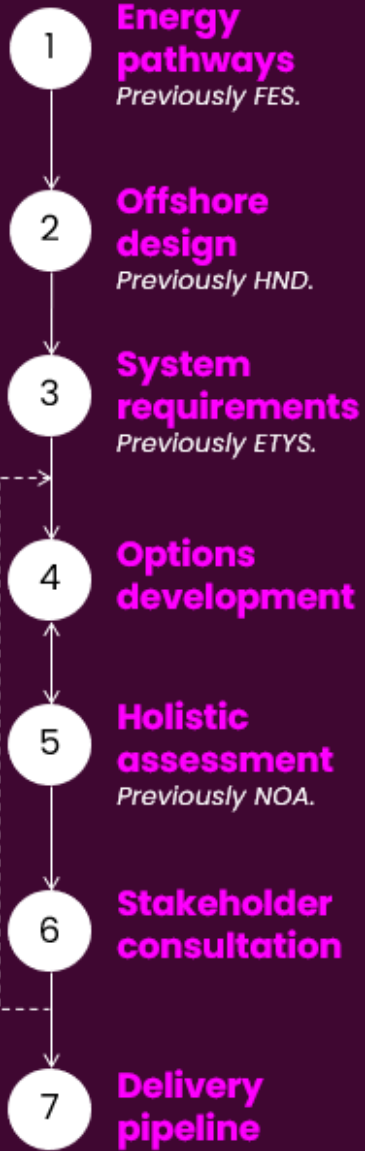
What can we do differently to make it easier for you to participate?

Our approach:



High-level engagement timeline:





Long-term options will be developed through multiple cycles as they further develop and approach delivery pipeline.

Underpinning all the framework steps will be continuous stakeholder engagement.

Are you supportive of our proposal to conduct an indicative offshore design exercise ahead of and further refined through the CSNP?

What are your views on the proposed approach to system requirements?

An SEA and HRA plan will also be undertaken

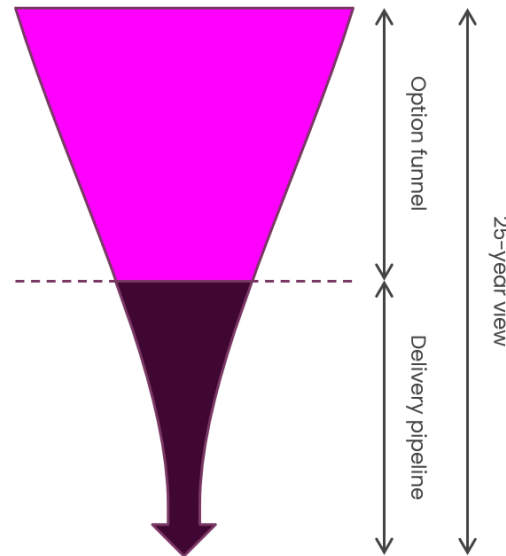
How can NESO most effectively support the optioneering process through creation of independent options?

Framework steps

Indicative timeline and options development

We will consider a breadth of potential options which will be developed through desktop assessment and will form a funnel of options spanning 25 years.

This will enable further optioneering and timely signals to supply chains and investors.



Projects will transition from the options funnel into the delivery pipeline following lead times of similar projects and with sufficient time for the early network competition process.

We will work with stakeholders to agree appropriate lead times for each project type. As far as possible, nearer-term options should be considered alongside longer-term options before progression into the delivery pipeline. All projects entering the delivery pipeline will need to meet an agreed level of development.



Overview

Key message: We will robustly assess all the proposed options against a range of assessment criteria and effectively integrate them for comprehensive evaluation. We will conduct strategic environmental assessment (SEA) and habitats regulations assessment (HRA) to ensure environmental issues are appropriately considered and consulted on.

In the assessment stage, our focus will be on evaluating the options received using a multi criteria assessment (MCA) approach. The criteria will include considerations of economic efficiency, environmental and community impacts, as well as deliverability and operability.

How should we bring each of the different assessment criteria together to make the final recommendations?

We recognise that the options assessed will have different maturity levels within one CSNP cycle and we propose to balance the assessment criteria differently depending on option maturity.

| Economic efficiency | Deliverability | Operability | Environment | Community |
|---|--|--|---|--|
| Utilise economic assessment tools for optimal design and customer value | Consider supply chain, construction timeframes, and consenting challenges for practical delivery | Consider operability challenges associated with network design options | Identify and address the environmental impact of the plan | Engaging with communities, and to consider how they are impacted |

- 1** Stakeholder consultation

We have published our high-level principles that we are proposing to undertake within our methodology. We are interested in your opinions on what we are proposing.
- 2** Analyse feedback

We will review the feedback received and identify where changes can be made to our methodology.
- 3** You said, we did

We will produce a "you said, we did" publication, indicating the themes that were provided as part of the feedback, and how we have used this to refine the methodology.
- 4** Publish our draft methodology

We will publish our draft methodology based on the feedback received and further work undertaken.
- 5** Stakeholder consultation

We will carry out a further stakeholder consultation to understand your thoughts on the more detailed, updated methodology.
- 6** You said, we did

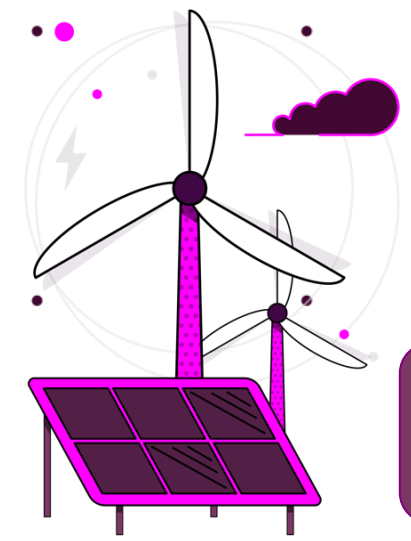
We will publish an additional "you said, we did" publication to explain what we have done with feedback received during the second consultation.
- 7** Methodology submitted to Ofgem

Our methodology will be submitted to Ofgem to be formally accepted and agreed.

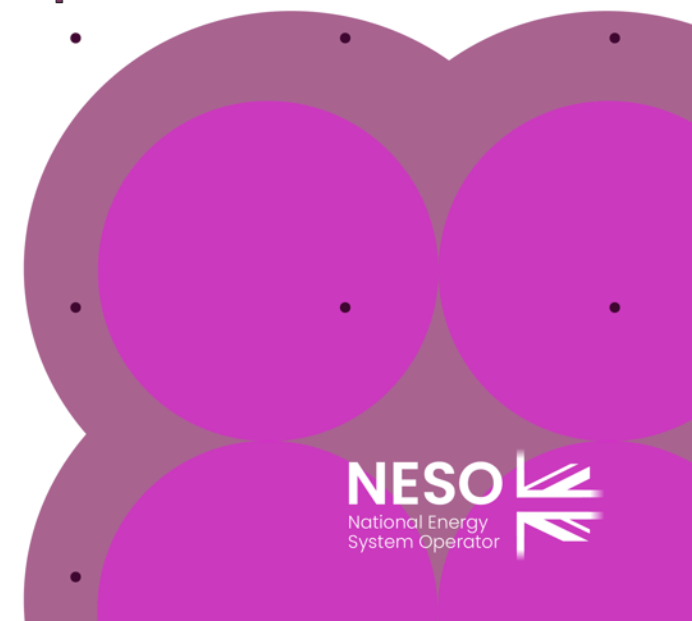


Underpinning all the steps will be continuous stakeholder engagement.

Next Steps



Please respond to the consultation by 20 January 2025.



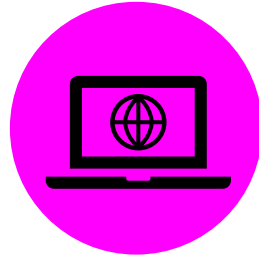
CSNP Methodology Consultation



Consultation
deadline is
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tCSNP2
Refresh and
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out more

CSNP Methodology consultation focuses on:

- Our approach to stakeholder engagement
- CSNP (electricity)
- Integrating Offshore Exercise
- System requirements
- Options development
- Assessment criteria

Q&A

Please ask questions about our draft methodology publications via sli.do code: **#SEP2024**

We will publish an FAQ using questions asked today



Thank you

Thank you for your time today

Please respond to our consultation by 11:59pm
20 January 2025

Scan the QR code to submit your response
through the consultation form

You can contact the team by emailing
box.sep-portfolio@nationalenergyso.com

