

NESO Strategic Energy Planning Forum

June 2026

Agenda topics

- Welcome and introduction to the RESP teams
- Opening remarks
- Panel sessions and Q&A with NESO and national and local stakeholders
- Latest updates in Strategic Energy Planning
- Regional Energy Strategic Plan table discussion
- Strategic Spatial Energy Plan table discussion
- Close and next steps

Opening remarks



The National Energy System Operator

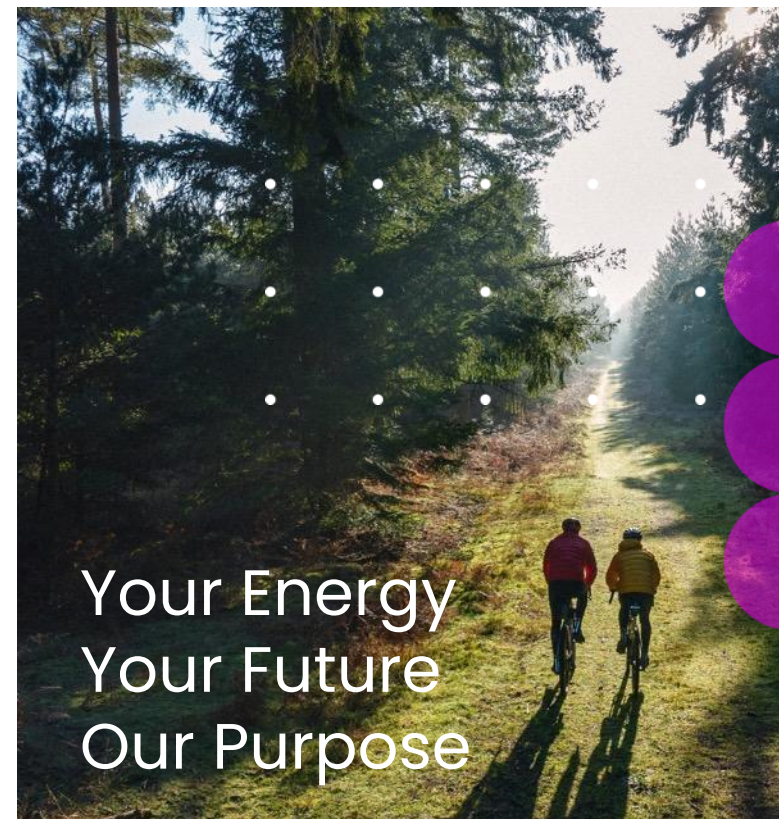
The National Energy System Operator, NESO, is an independent, public corporation at the centre of the energy system taking a whole system view to create a world where everyone has access to **reliable, clean and affordable energy**.

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.

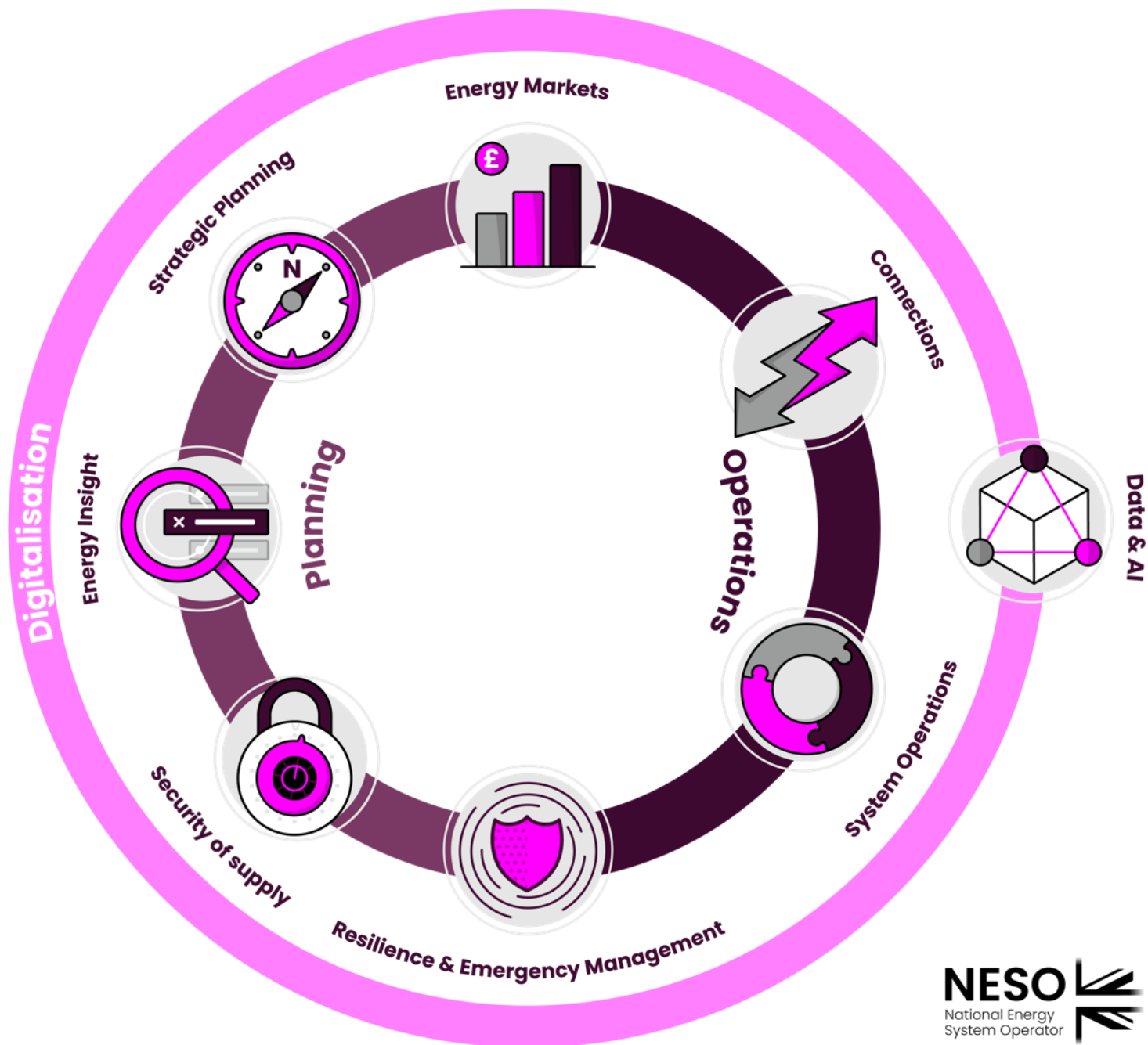
It is our job to transform the whole energy system to meet these challenges and transition to a low-carbon future, embracing new technologies and cleaner generation sources, always with the cost to the consumer in mind.



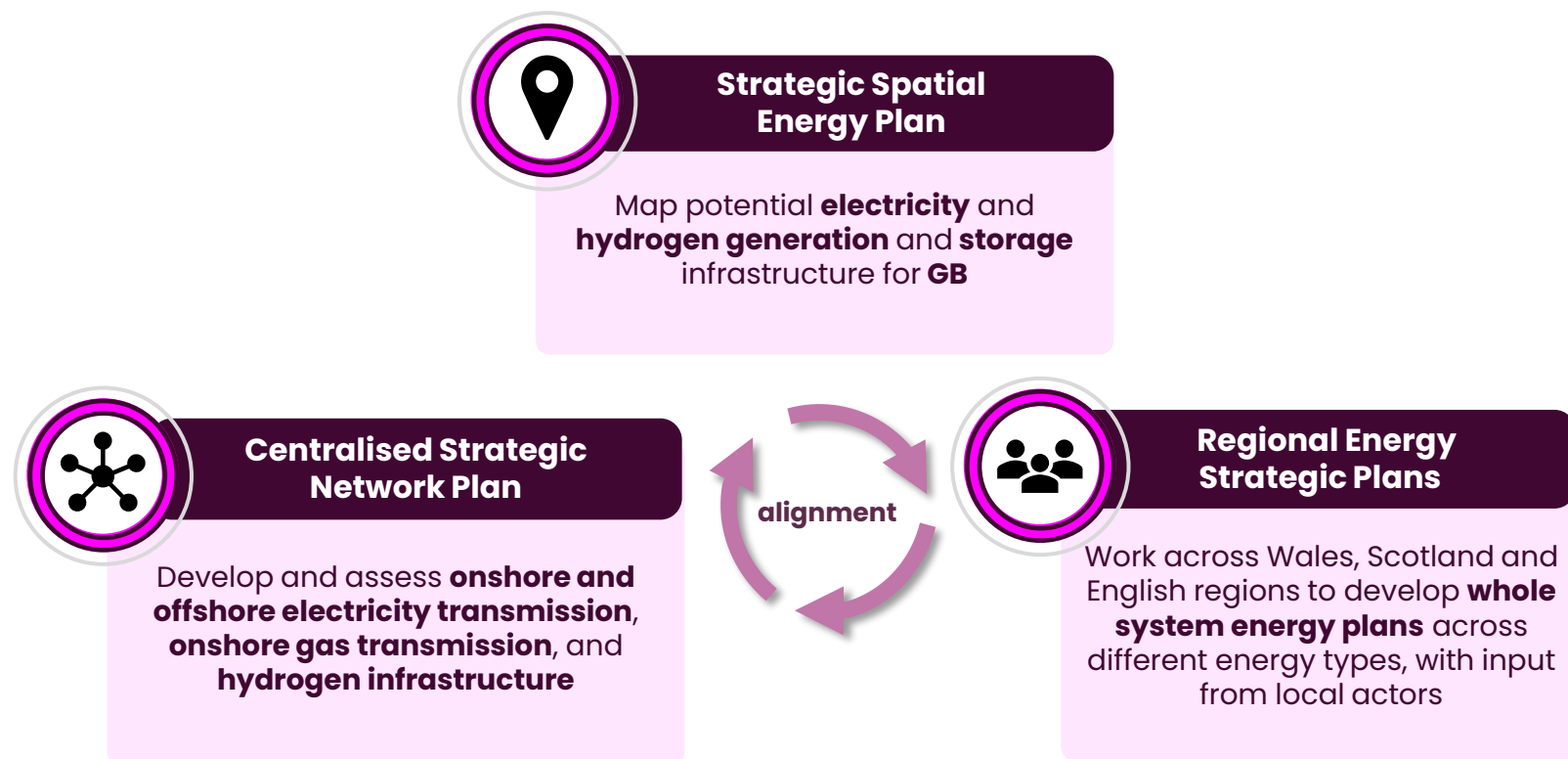
What We Do

We bring together eight activities required to deliver the plans, markets and operations of the energy system of today and the future.

Bringing these activities together in one organisation encourages holistic thinking on the most cost-efficient and sustainable solutions to the needs of our customers.



Strategic Energy Planning



Strategic Energy Planning: Latest updates

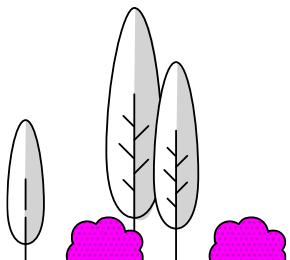
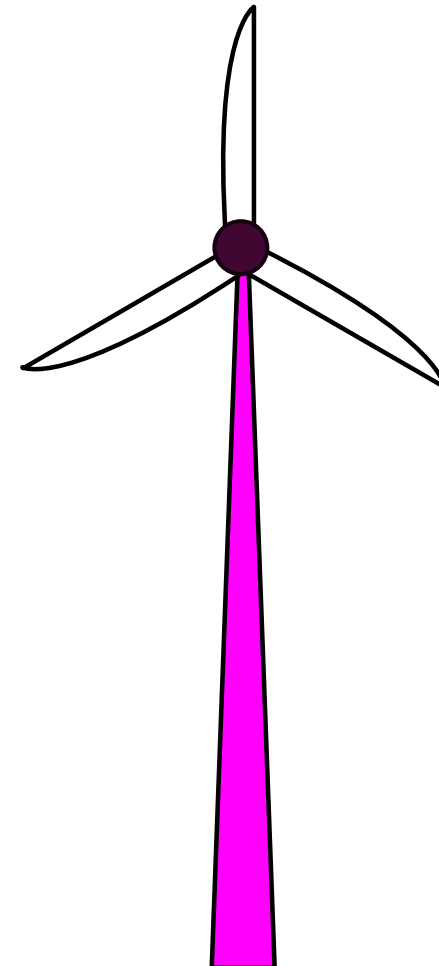


Strategic Spatial Energy Plan

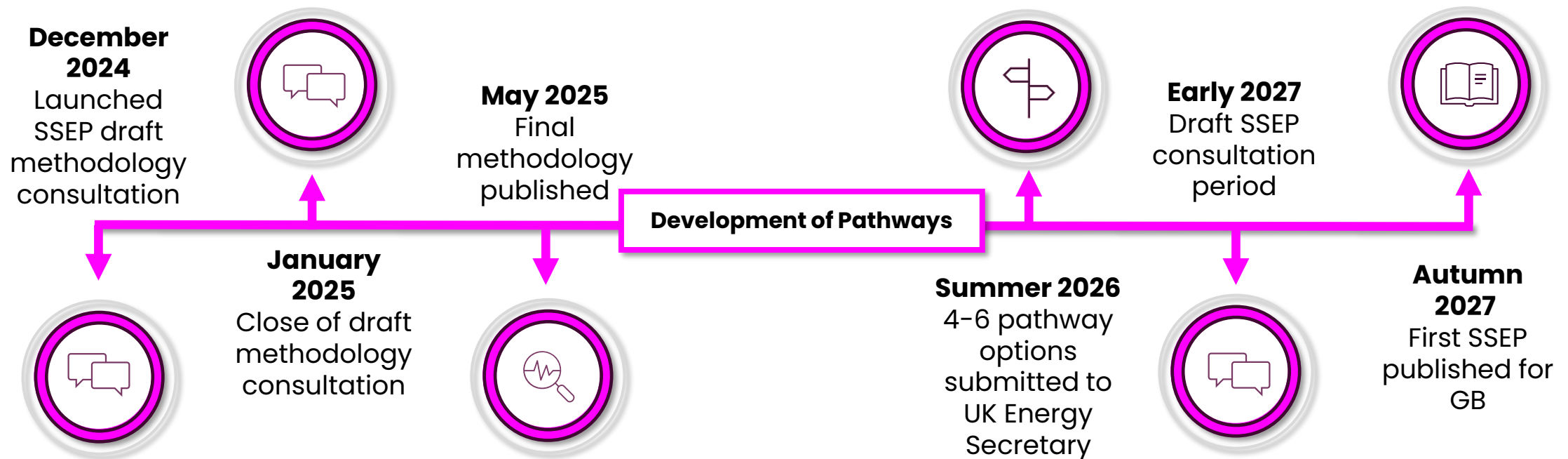
The SSEP will accelerate **clean, affordable and secure energy** through greater certainty.

The plan will assess the **locations for electricity generation, and storage of electricity and hydrogen** on a zonal basis.

This will provide **a government and Ofgem-endorsed plan** that firmly sets the context for the nation's energy requirement.



SSEP Key Dates and Milestones



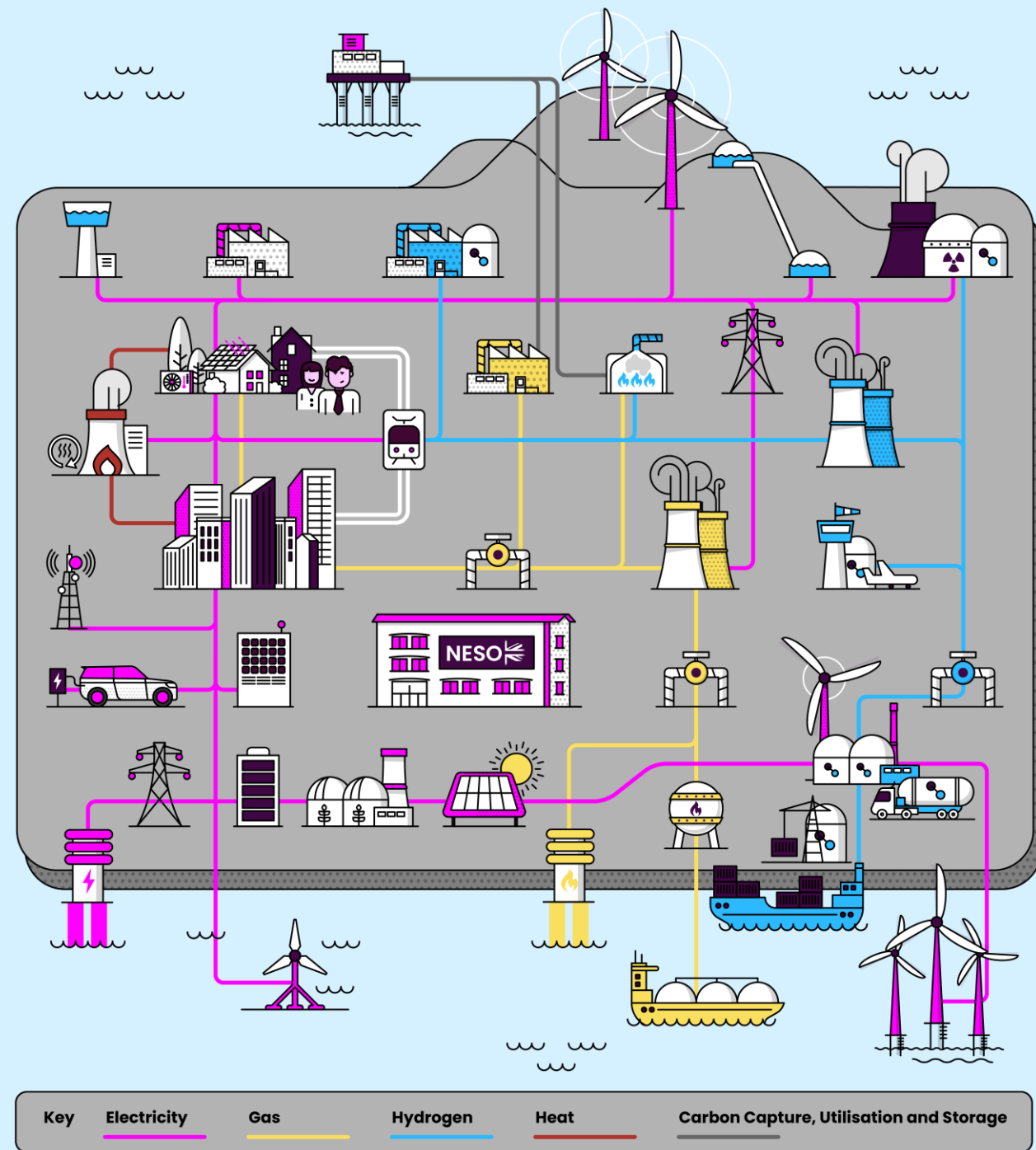
⁹ *Dates subject to the timing of the UK Energy Secretary's decision on the preferred pathway

Centralised Strategic Network Plan

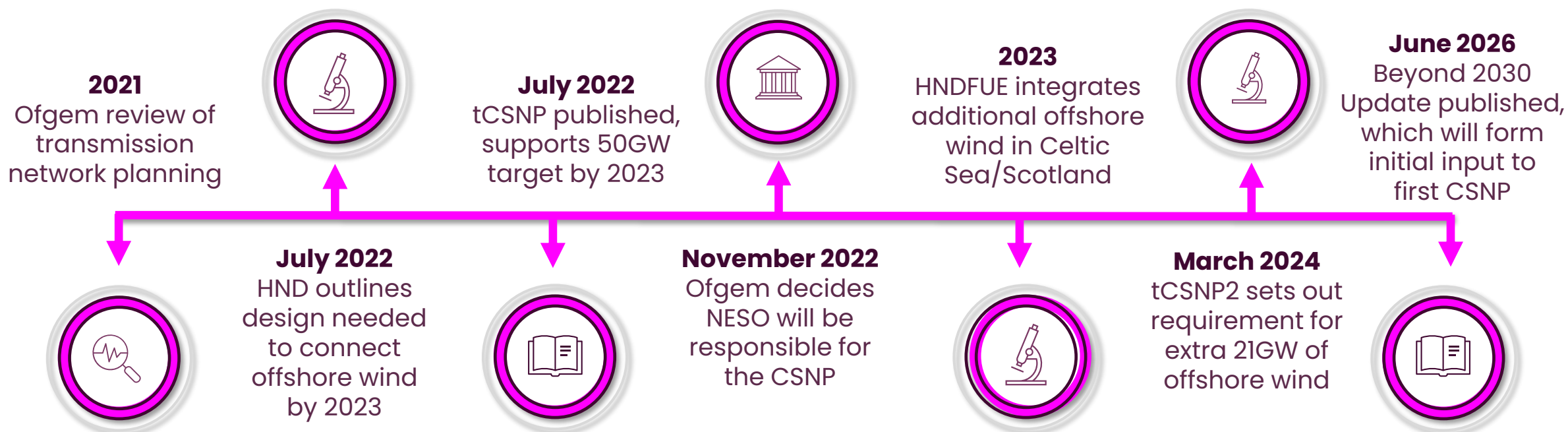
The requirements of the electricity, gas and hydrogen networks will change as we use energy differently to meet future energy needs.

- The **electricity network** will need to continue to grow
- The use of **gas networks** will change
- **Hydrogen networks** may begin to emerge

The **Centralised Strategic Network Plan** is a single framework that will propose the transmission energy networks of the future.



Transition to the CSNP



HND – Holistic Network Design

tCSNP – Transitional Centralised Strategic Network Plan

HNDFUE – Holistic Network Design Follow Up Exercise

Regional Energy Strategic Planning

Working with the GB nations and regions to produce **eleven Regional Energy Strategic Plans (RESPs)**, to ensure that local areas get the energy infrastructure they need to help meet local and national goals.



Why do we need them?

1

Local voices and needs – ensure that local voices and needs are at the heart of the way we plan the energy system, paving the way to a **sustainable energy future**

2

To drive investment – ensure local areas get the **secure energy system** they need to realise local goals

3

Ensure efficient network investment – that **drives consumer value** by keeping bills low by looking at the whole energy system



RESP methodology

Consultation

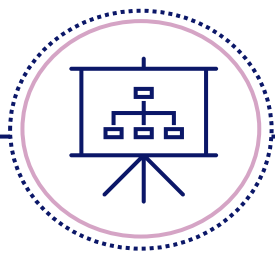
- Consulted in November 2025
- *217 responses received*

Methodology Submission

- Preparing response for approval
- Expect approval in Summer 2026.

Methodology Explainer

- *Who* we engaged with and how
- *'You Said, We did'* with responses and what we've done.



External Governance

Strategic Board

- One for each RESP nation or region.
- Required to approve their RESP.

Working Groups

- Input to RESP development and advise Strategic Board.
- One national technical working group.
- Four thematic working groups within each nation and region.

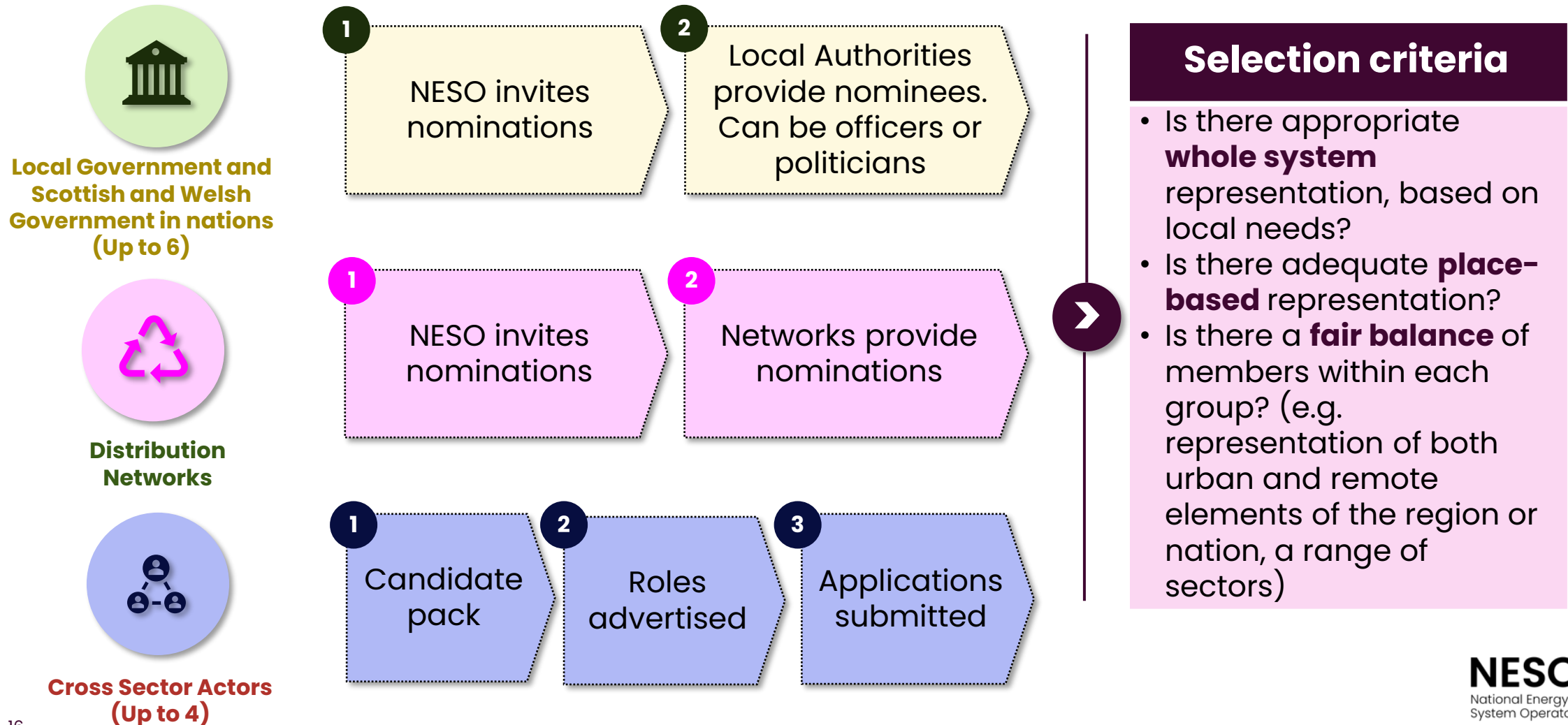
GB Steering Committee

- Strategic oversight, expert advice, coordination

What you can expect to see in final methodology

- **Clearer Decision Authority and roles**
- **A stronger focus on building consensus**
- **Strategic representation**
- **GB wide governance**

Appointment of Members to Strategic Boards



Working Groups

Minimum of four thematic working groups in each nation and region.



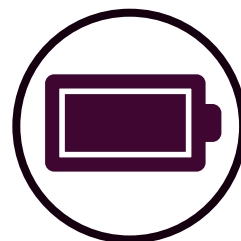
**Local
Government**

We will write to each
Local Authority, inviting
a named
representative

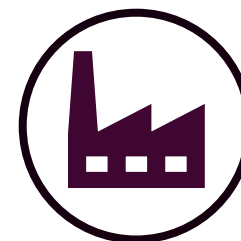


**Domestic &
Consumer**

We will issue a call for expressions of interest

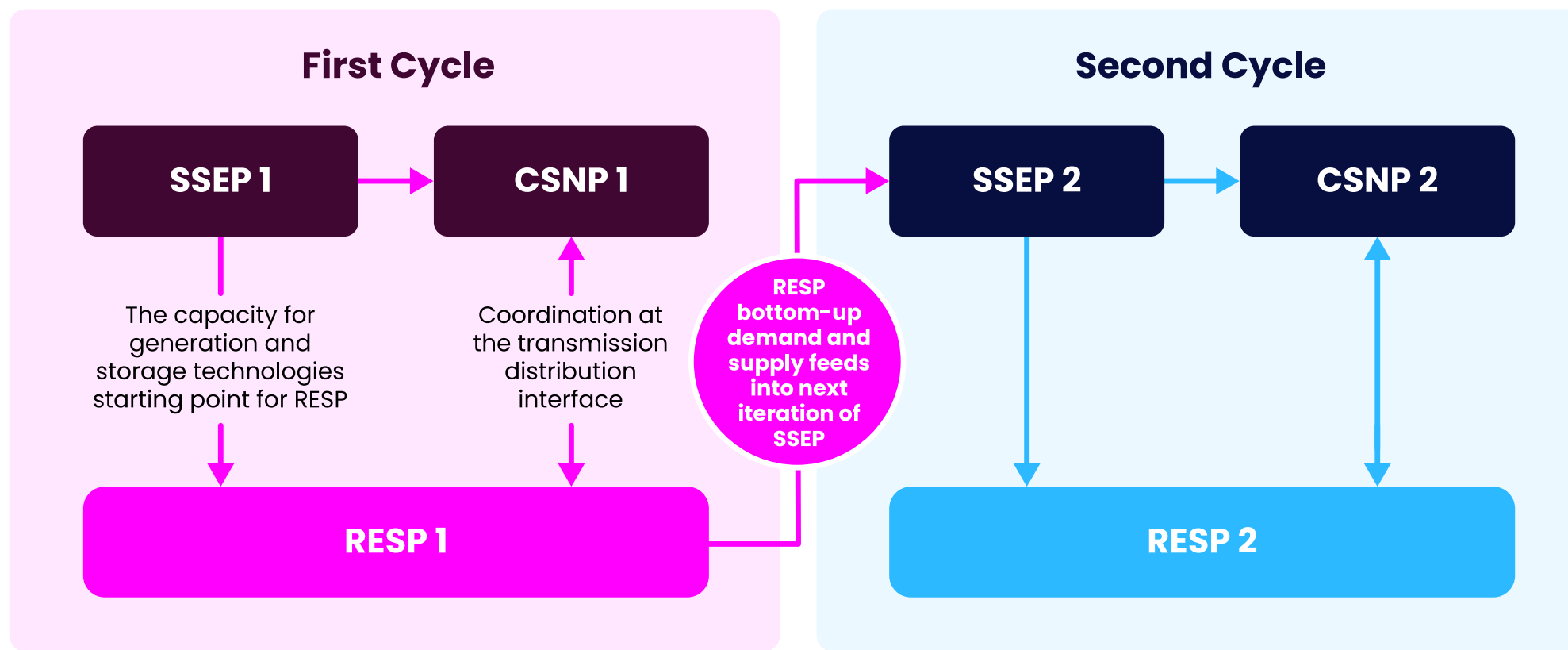


**Generation &
Storage**



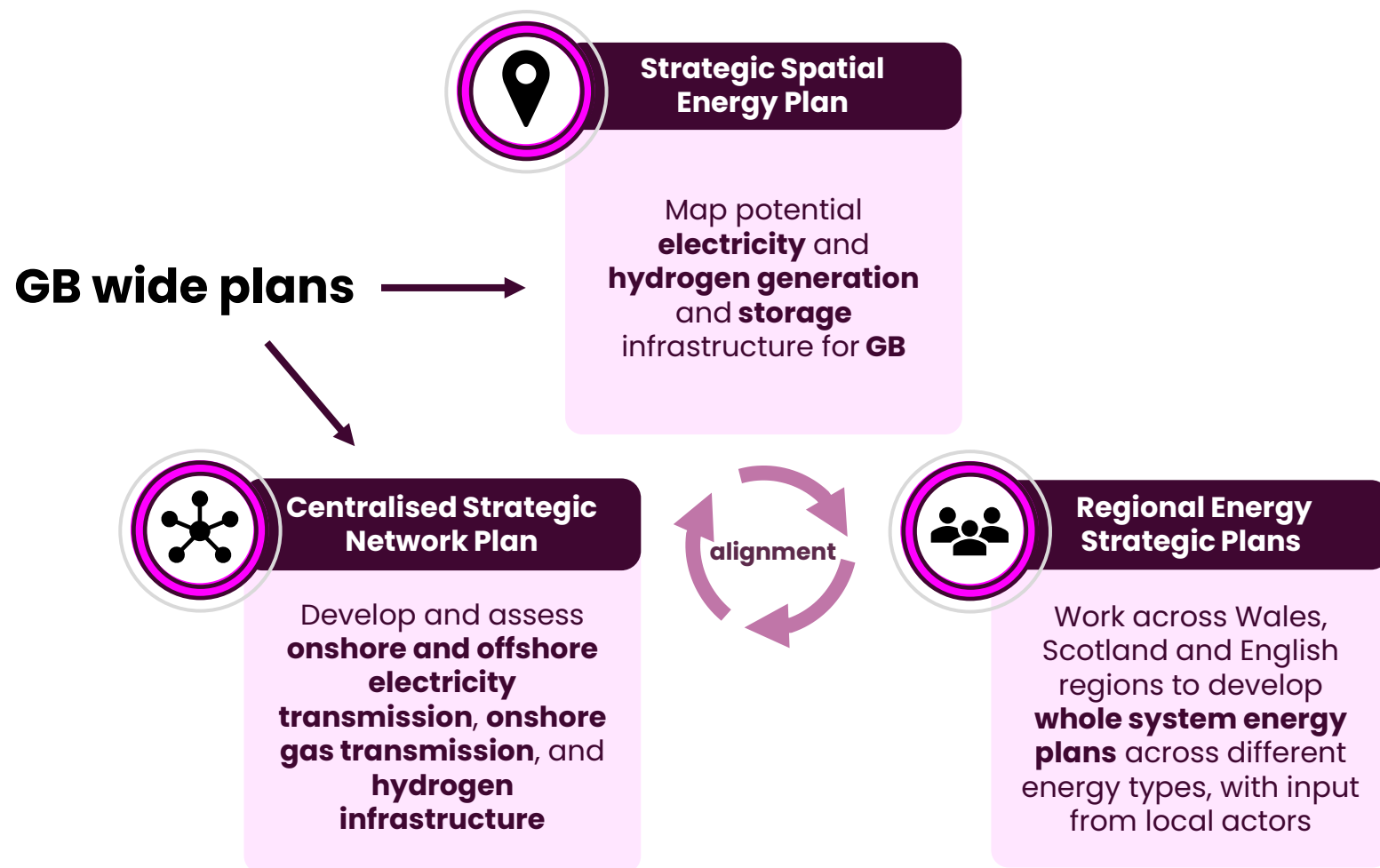
**Industrial &
Transport**

Strategic energy planning interaction



SSEP table discussion: GB plans, local impact

Strategic Energy Plans

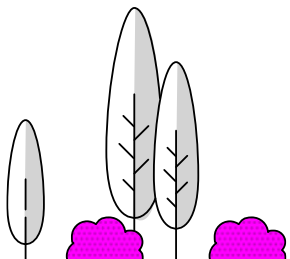
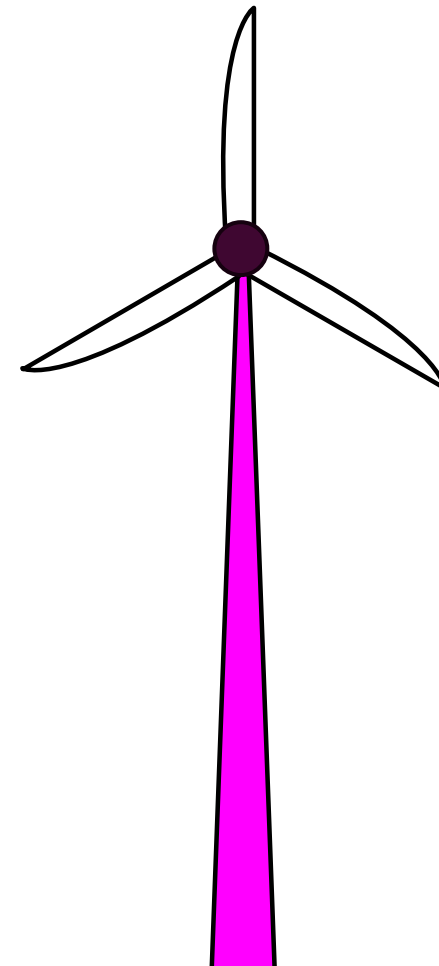


Strategic Spatial Energy Plan

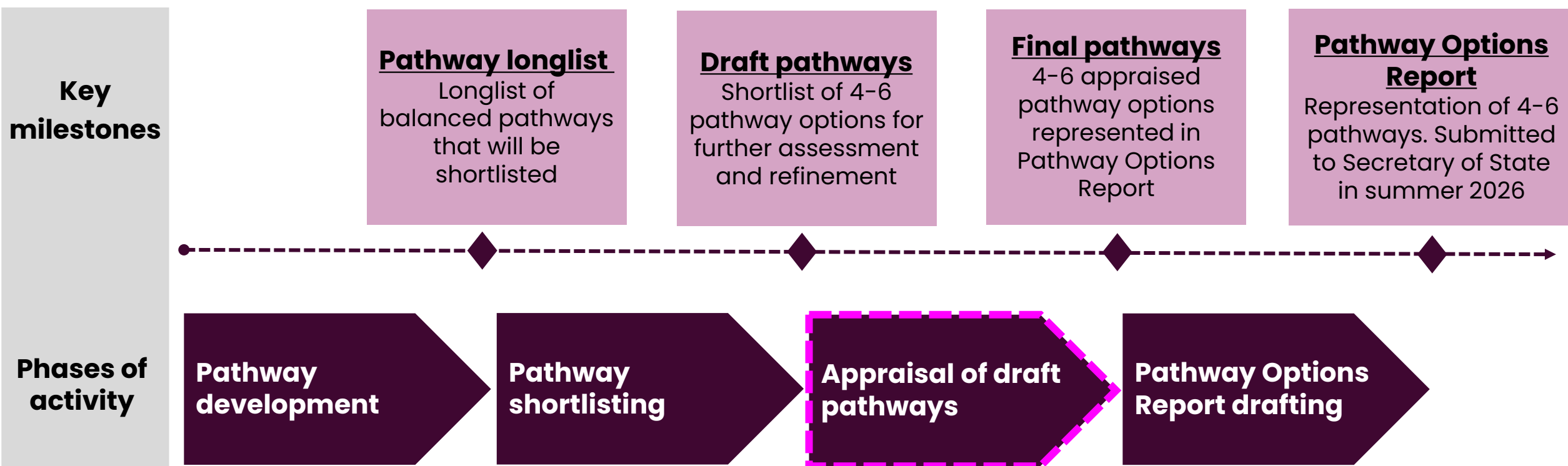
The Strategic Spatial Energy Plan (SSEP) will accelerate **clean, affordable and secure energy** through greater certainty.

The plan will assess the **locations for electricity generation, and storage of electricity and hydrogen** on a zonal basis.

This will provide **a government and Ofgem-endorsed plan** that firmly sets the context for the nation's energy requirement.



Modelling and Pathways Development



Modelling in the SSEP

The SSEP uses economic modelling and geospatial assessments to assess the best zonal location to put new electricity and hydrogen generation and storage technologies.

Economic

Simulates and analyses the operation and evolution of the energy system based on cost

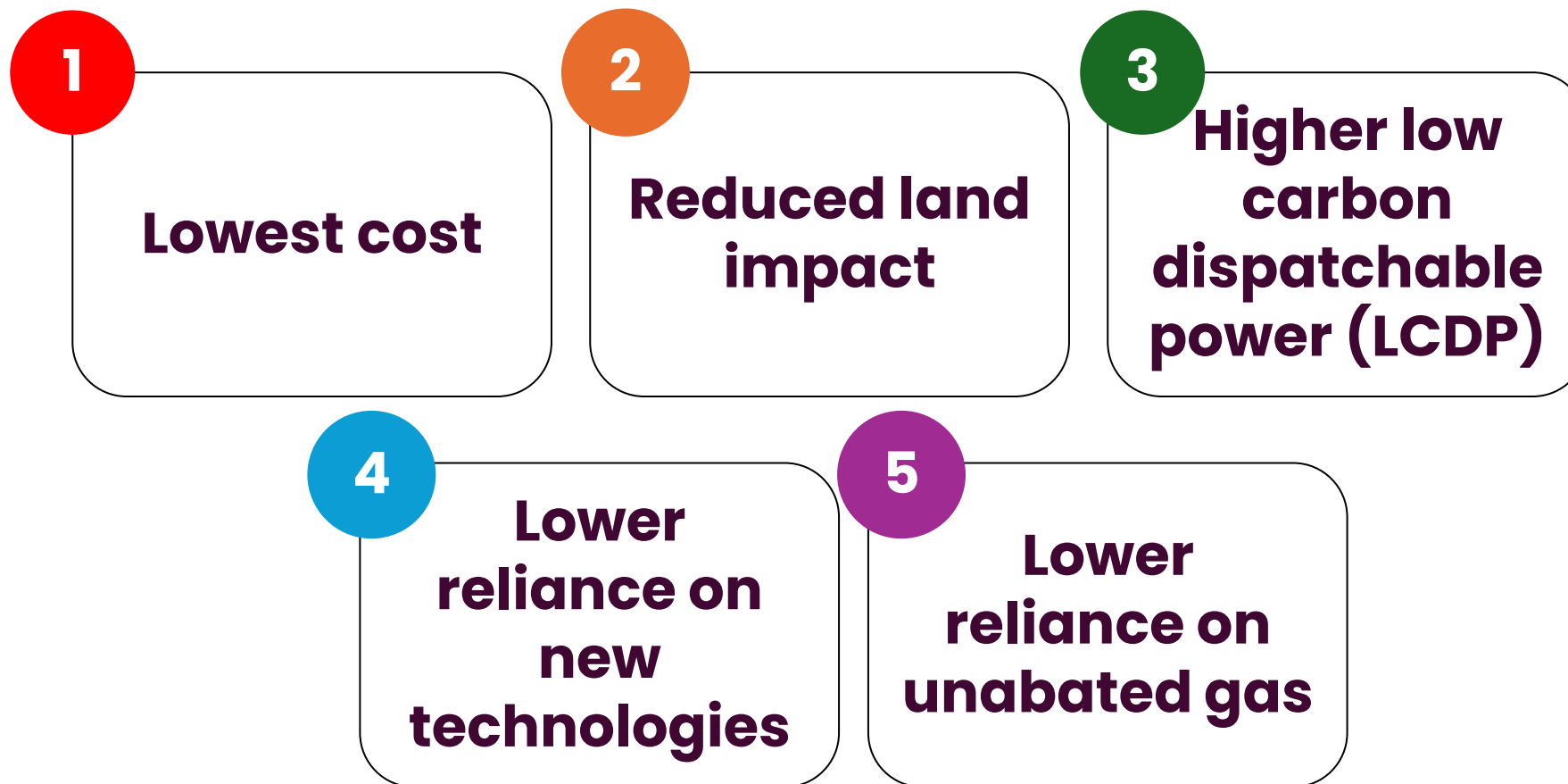
Geospatial

Maps spatial constraints and opportunities to identify potential areas for development.

Throughout the modelling process, Economic and Geospatial assessments are iterated to deliver a balanced plan and potential pathways.

Initial Pathway Themes

Evolved based on stakeholder feedback that was used to shape pathway development.



Trade-offs across pathway themes

Choices between pathway themes have real implications for where and how energy generation and storage is built

1. Lowest cost

Low overall system cost

=

Higher land use (onshore renewables)
Lower use of new technologies and LCDP

2. Reduced land impact

Reduced land impact (more offshore)

=

Higher cost and higher reliance on new technology and LCDP

2. Higher low carbon dispatchable power

More firm, dispatchable low carbon power

=

Wide variation in cost and technology choices

4. Lower reliance on new technologies

Lower reliance on emerging technologies

=

Trade-offs in cost and land depending on alternatives

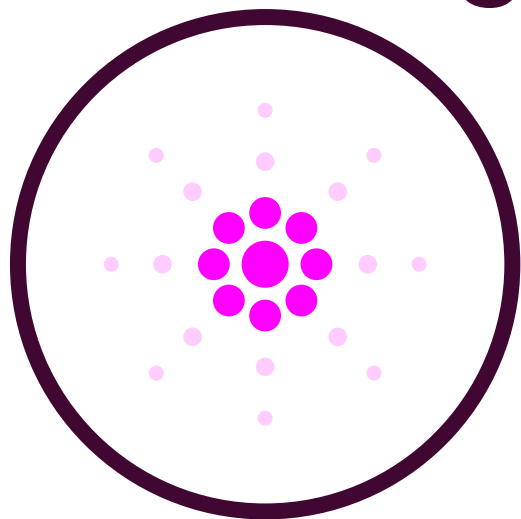
5. Lower reliance on unabated gas

Lower reliance on unabated gas

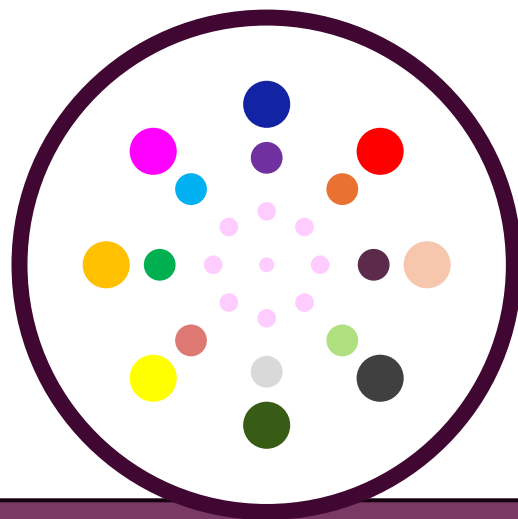
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Higher costs and more infrastructure. Varied land impacts. Lower use of new technologies

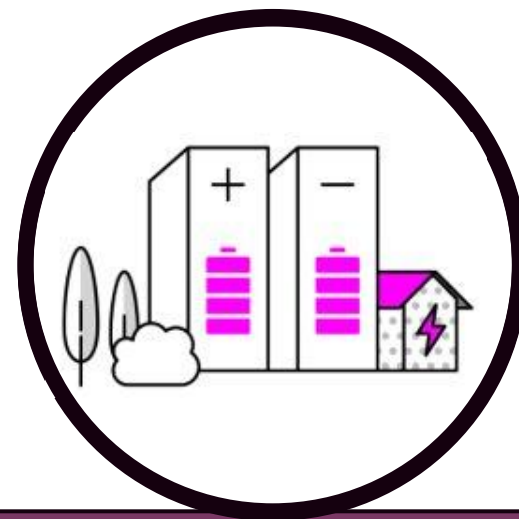
Modelling findings and insights



Across all pathways, the **energy system uses the same core generation technologies**. This includes **renewables, batteries and nuclear** – the differences sit at the margins.

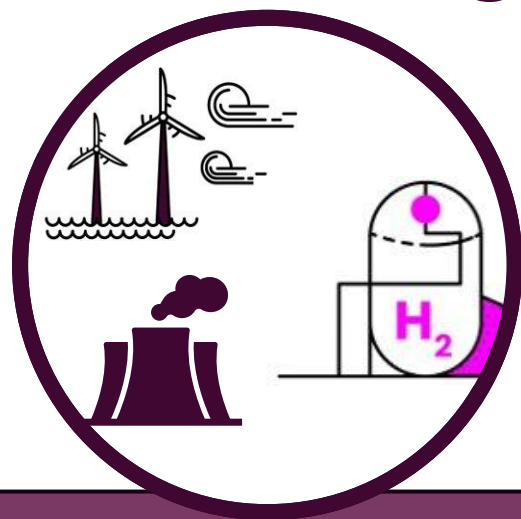


10% of generation comes from a diverse mix of other technologies. This includes Long Duration Energy Storage, Hydrogen-to-Power and Gas Carbon Capture & Storage.

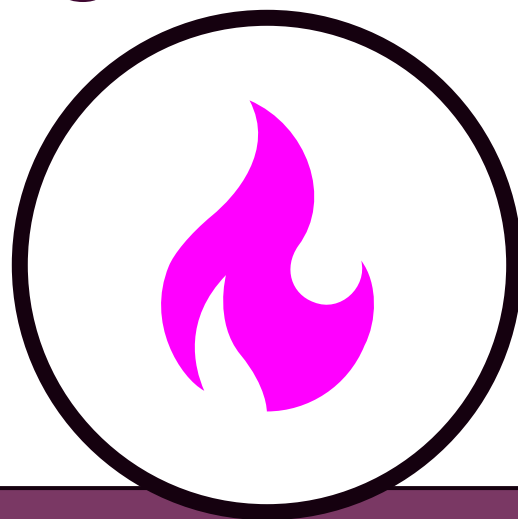


Long Duration Energy Storage begins to scale up through the 2030s, with **batteries further expanding from the 2040s onwards**. **Salt cavern storage** expands as Hydrogen-to-Power becomes more common.

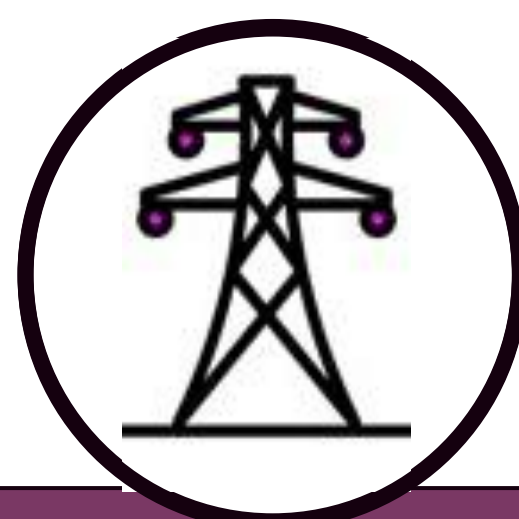
Modelling findings and insights



As existing **Gas units** retire, they are replaced by new ones to ensure security of supply. Other low carbon dispatchable sources such as **Nuclear Small Modular Reactors** come online in early 2040s.



If we choose to use less **interconnection with other countries**, it results in more build out of **Hydrogen-to-Power and other Hydrogen infrastructure** to provide dispatchable power.

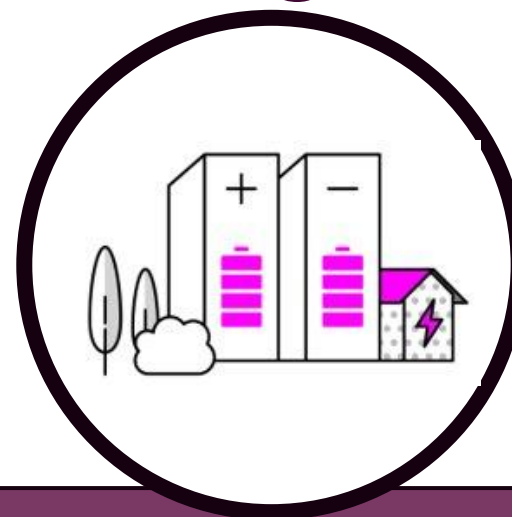


Lower reliance on **new technologies** and **interconnection with other countries** leads to more transmission network being needed.

Modelling findings and insights

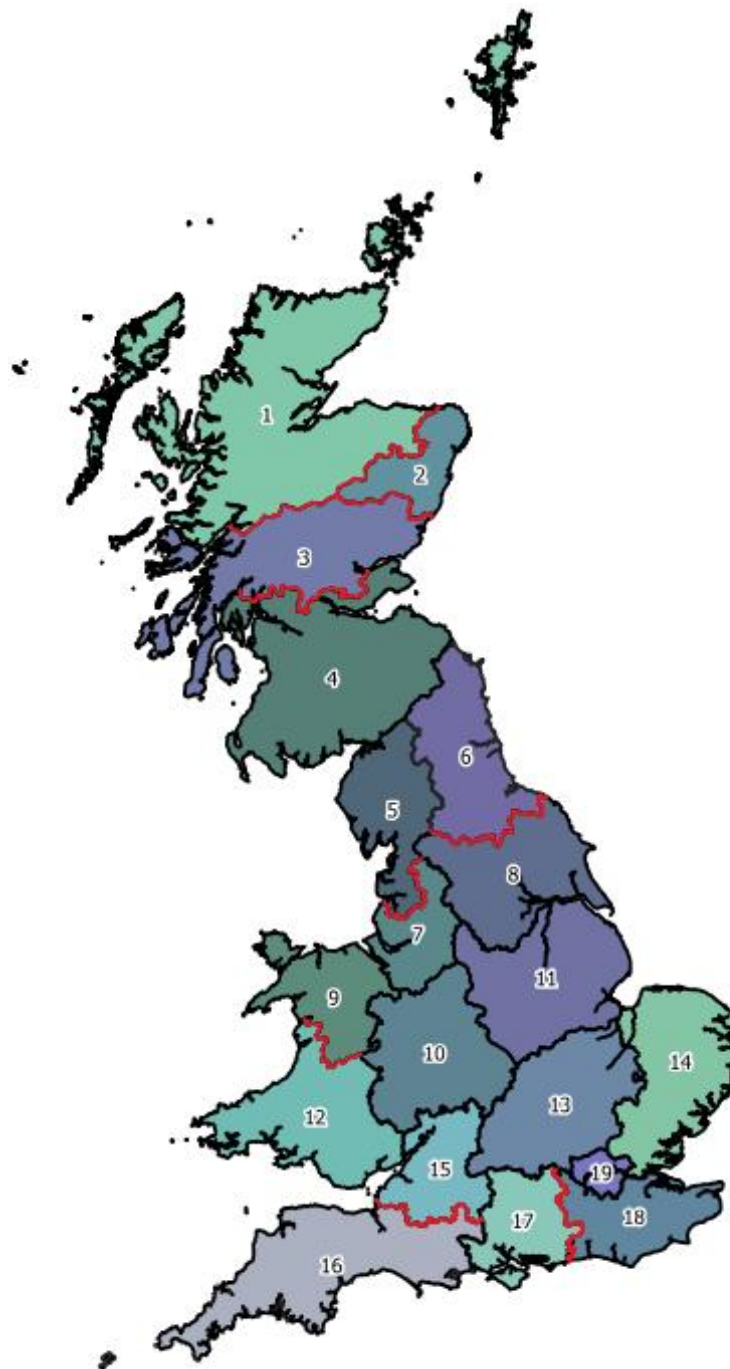


If opportunities for onshore renewables are reduced, opportunities for **Offshore Wind** increase. Less network build is then required as **Offshore Wind can connect closer to where the energy is needed.**



Batteries are tied to onshore renewable capacity. Where onshore renewables are reduced, fewer batteries are needed and more offshore or dispatchable power is needed.

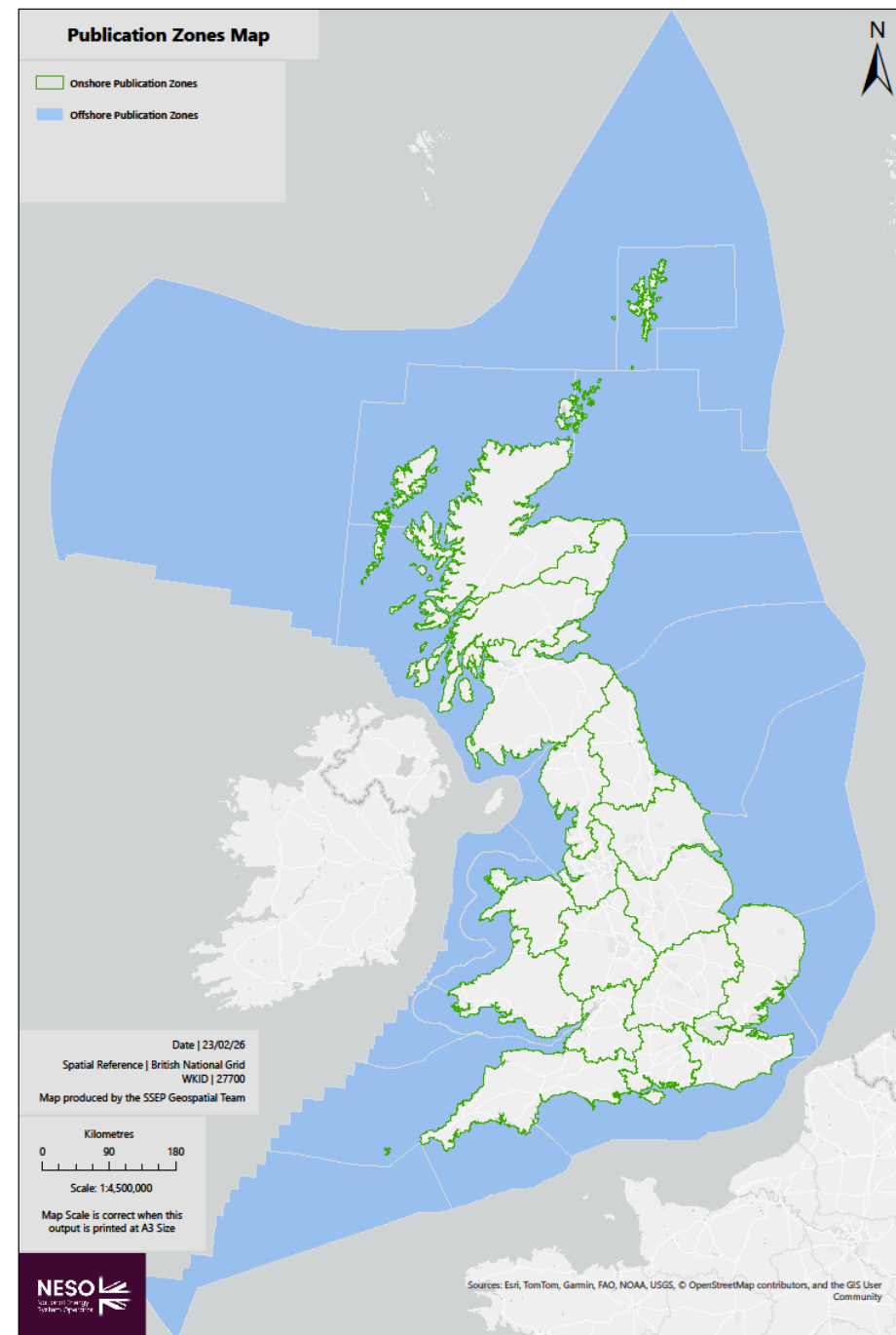
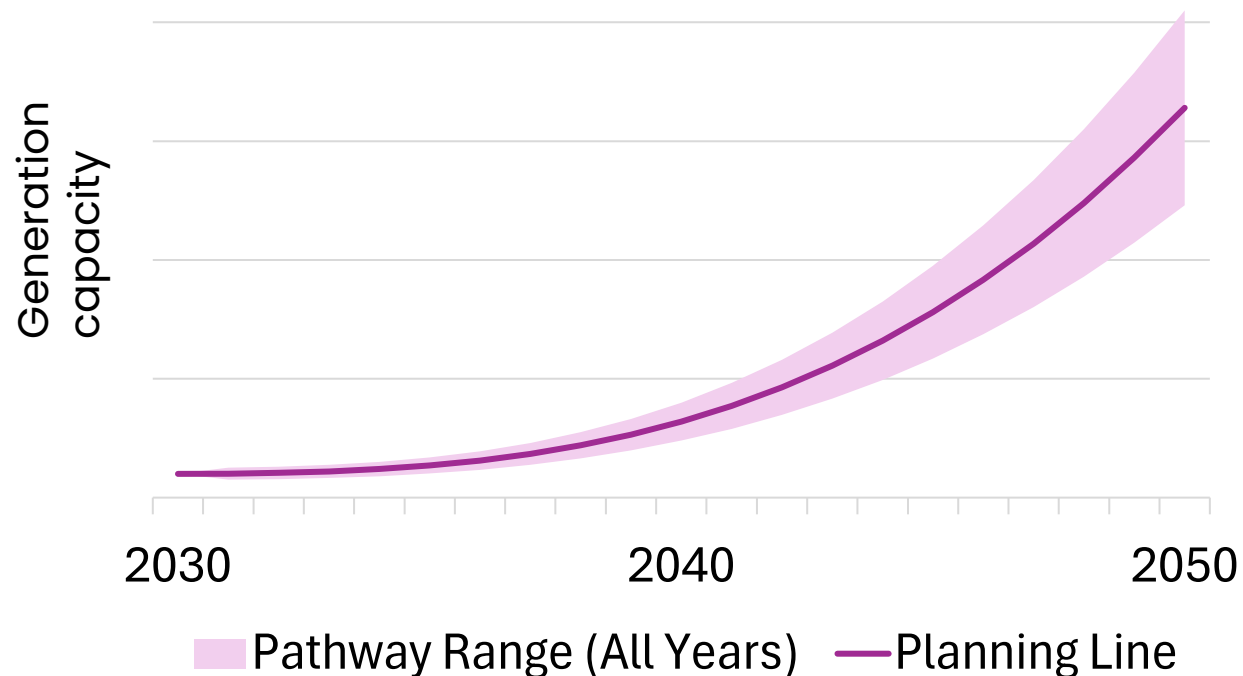
Aligned SSEP, CSNP and RESP Boundaries



What will the SSEP look like?

19 Onshore and 19 Marine Publication Zones

SSEP planning line with pathway ranges:



SSEP table discussion

- What opportunities and challenges does the SSEP present for your nation or region?
- What information do you think communities will want to know about the future plans?



Examples of RESP table discussions

The RESP table discussions were different across the forums.
Examples of topics included:

- Community and local energy
- Industrial decarbonisation
- Heat decarbonisation
- Local Actor Support
- Transport decarbonisation
- New generation and demand

The summary report of these events contains more detail on what was discussed and what we will do with the insights.

What happens next

We'll continue to review and reflect on the feedback shared today.

Please continue to engage with your local RESP team and NESO colleagues you have met today.

Complete the event feedback survey!

