

SSEP Developers Workshop

Scottish Renewables, Glasgow

Wednesday 10th June

House Keeping

- **Dedicated Q&A** at the end of this morning's presentation
 - SSEP Information shared in this afternoon's discussion session is **confidential**
- **Fire Safety:** no planned fire alarms today
 - **No photography:** slides we're able to share will be circulated following the event.

Agenda

10:15 – 10:30	Welcome & Introductions	Claire Mack
10:30 – 10:45	Progress of the SSEP	Eavan Dowse
10:45 – 11:05	Pathway Development	Robert Gibson
11:05 – 11:15	Appraise	Eavan Dowse
11:15 – 12:00	Q&A	Posy MacRae
12:00 – 12:45	Lunch	
12:45 – 13:55	Discussion – Deliverability in Scotland	Robert Gibson
13:55 – 14:00	Closing remarks	Eavan Dowse

Purpose of Today

- Build a shared understanding of the SSEP
- Share modelling insights and assumptions
- Gather practical, real-world feedback
- Ensure the SSEP reflects industry deliverability and on-the-ground experience relevant to each nation



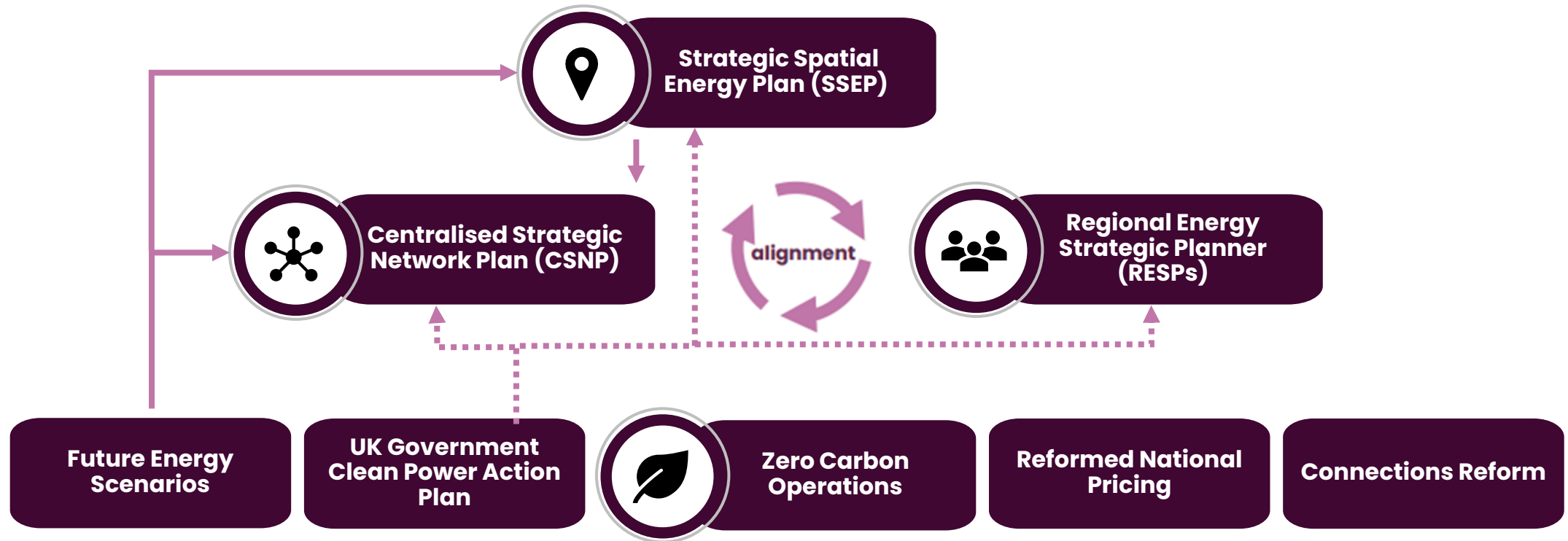
Welcome

Background to the
Strategic Spatial Energy
Plan

Eavan Dowse

Strategic Spatial Energy
Planning

The Wider Context

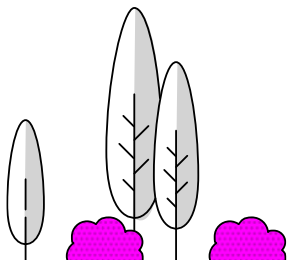
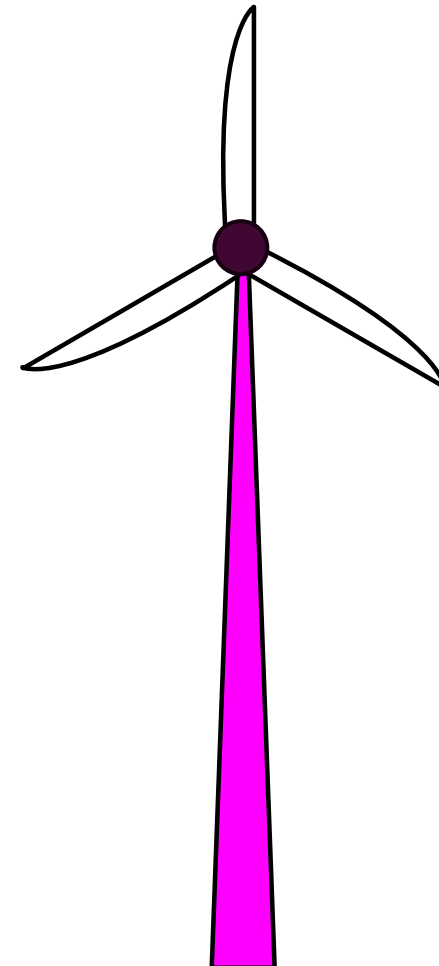


Strategic Spatial Energy Plan

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

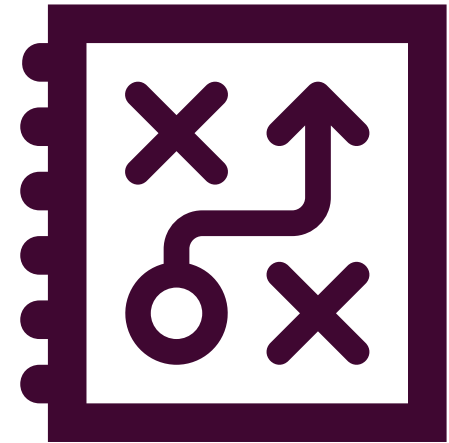
The plan will assess the **locations for electricity generation, and storage of electricity and hydrogen** on a zonal basis.

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

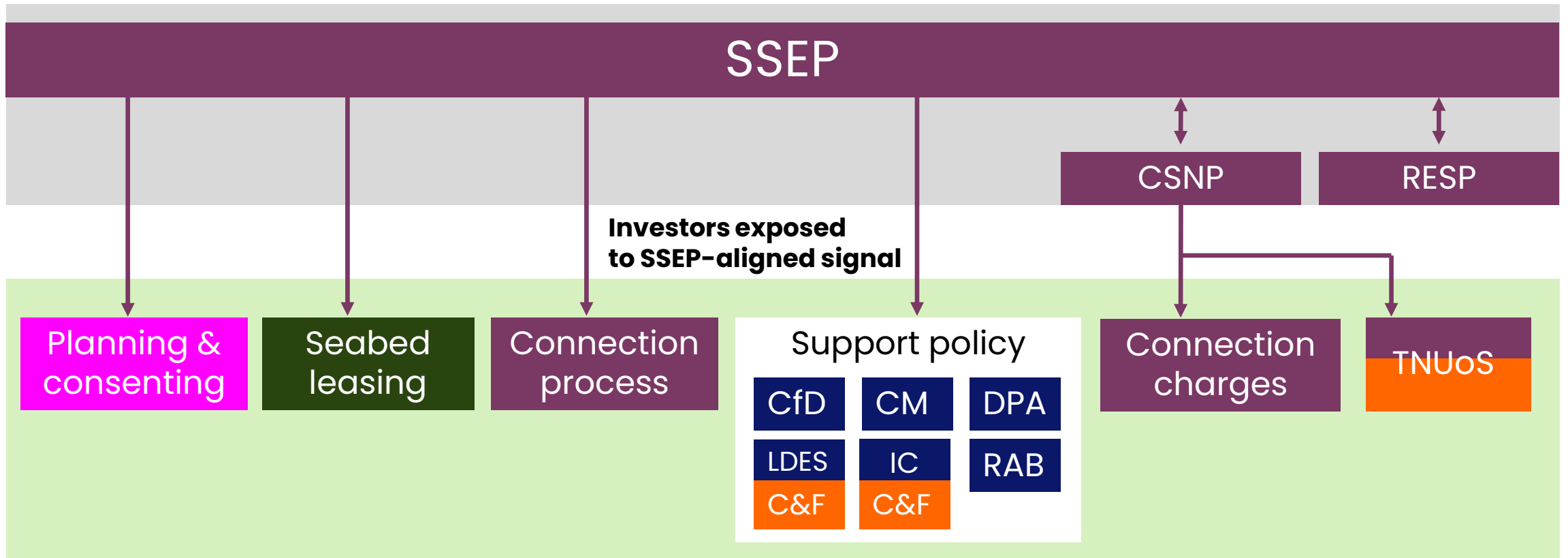


What does this mean for industry?

- **Clarity** on government direction for the energy system
- **Alignment with local decision-making** through RESPs
- **Better coordination** with networks and system planning
- **Support** from the planning system, providing greater certainty
- **Alignment of networks**, regulation and support schemes (e.g. reformed national pricing)
- **Site-specific choices remain with industry and local actors**



Reformed National Pricing puts SSEP at the heart of investment



**Lever
owners**

NESO

DESNZ

Ofgem

The Crown
Estate/Scottish
Government

Governments
& Councils

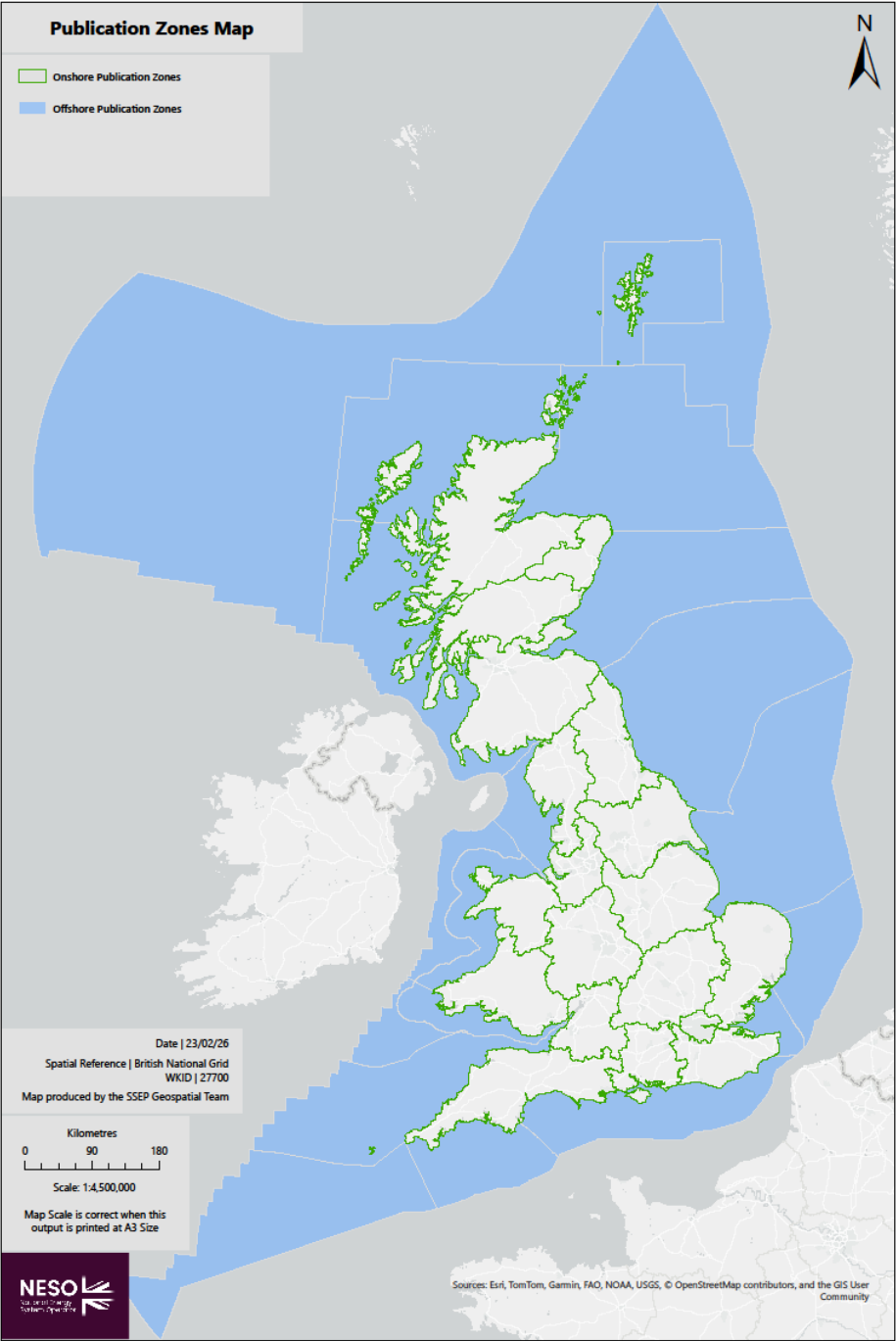
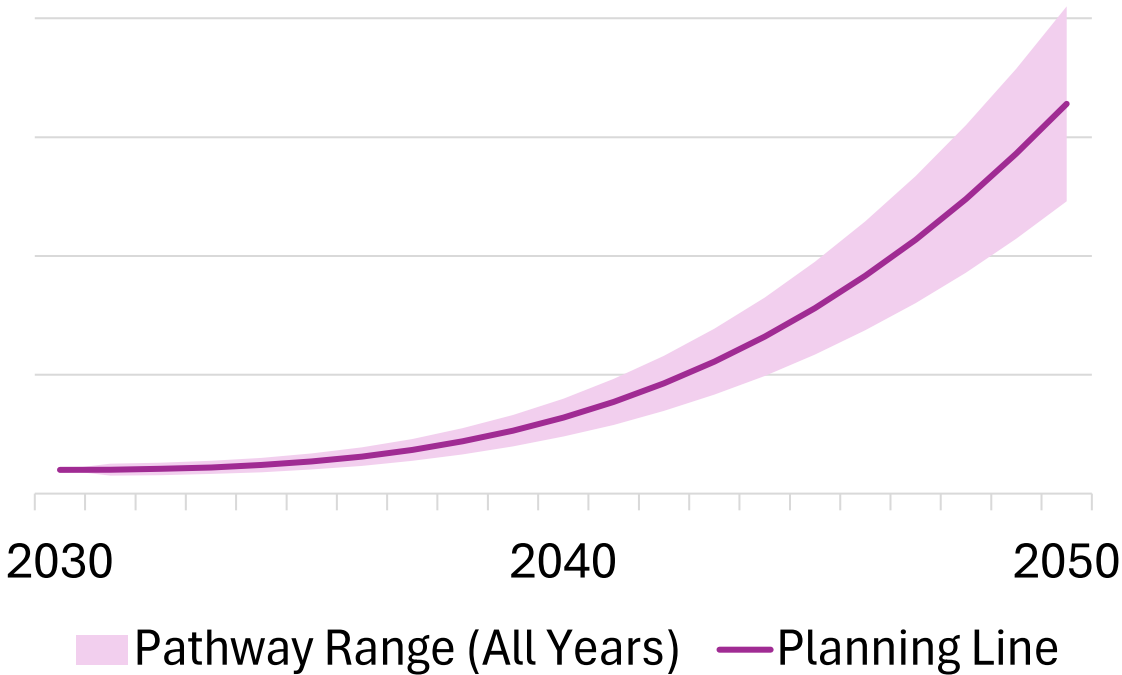
Other

NESO
National Energy
System Operator

What will the SSEP look like?

19 Onshore and 19 Marine Publication Zones

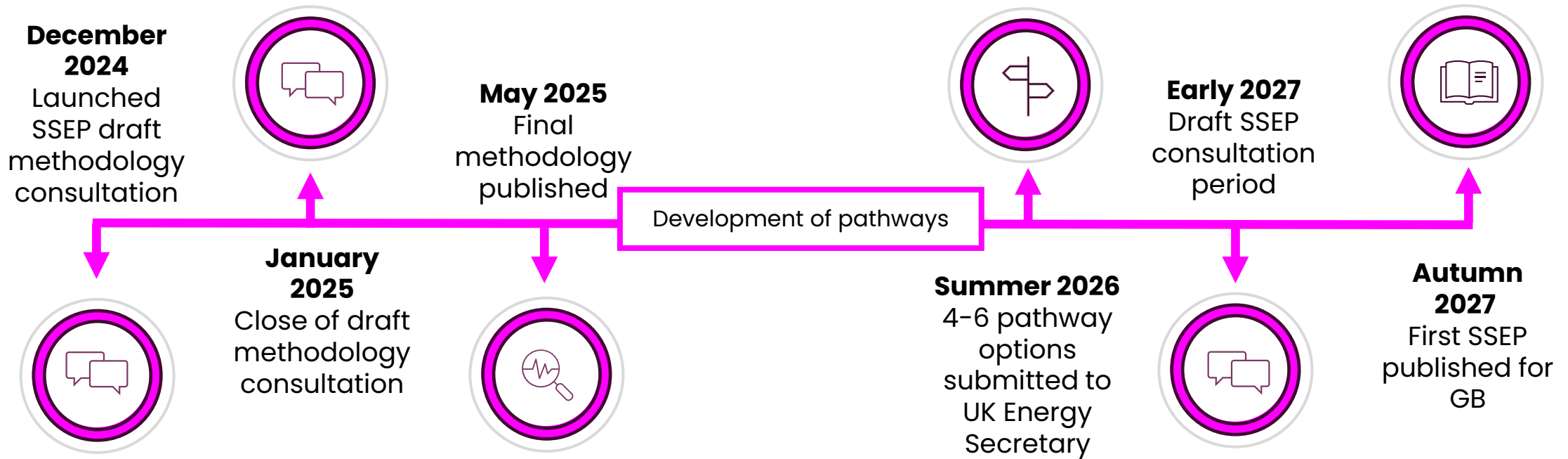
SSEP planning line with pathway ranges:



SSEP Delivery



SSEP key dates and milestones



How are we developing the SSEP?

Our economic and geospatial modelling

Robert Gibson
Senior Analysis
Manager

Modelling in the SSEP

The SSEP uses economic modelling and geospatial assessments to assess the best parts of GB to develop new electricity and hydrogen generation and storage technologies.

Economic

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

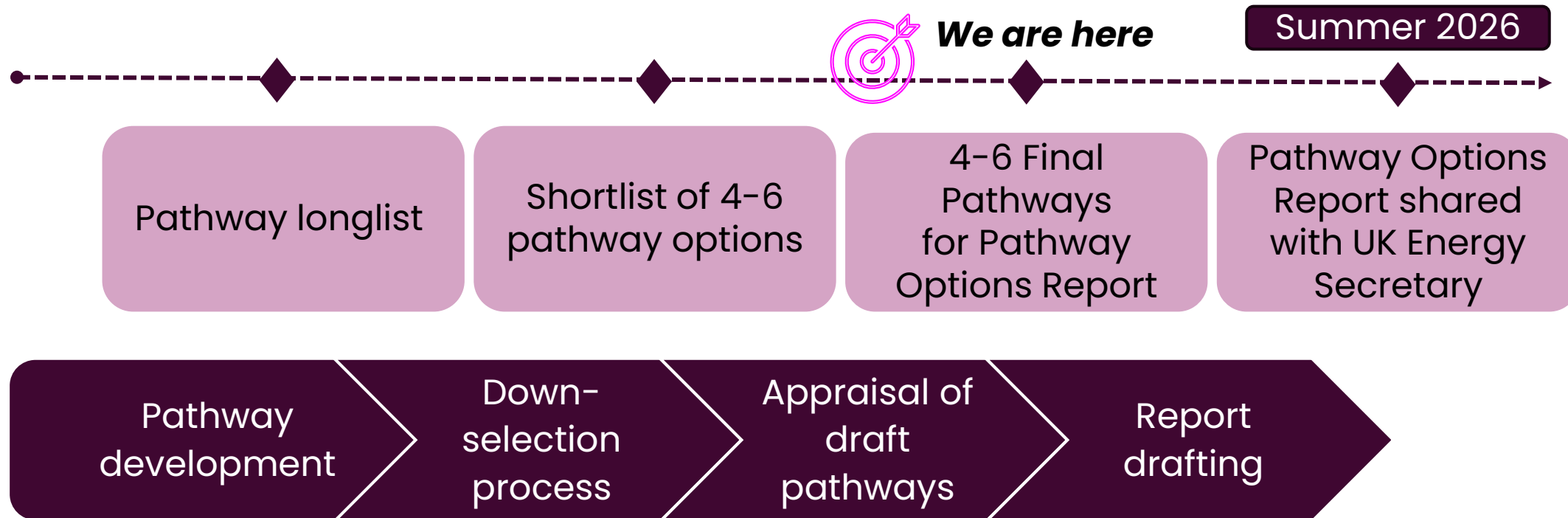
Geospatial

Mapping spatial exclusions, constraints and opportunities to identify potential developable areas.

Throughout the modelling process, economic and geospatial assessments are iterated to deliver a balanced outcome.

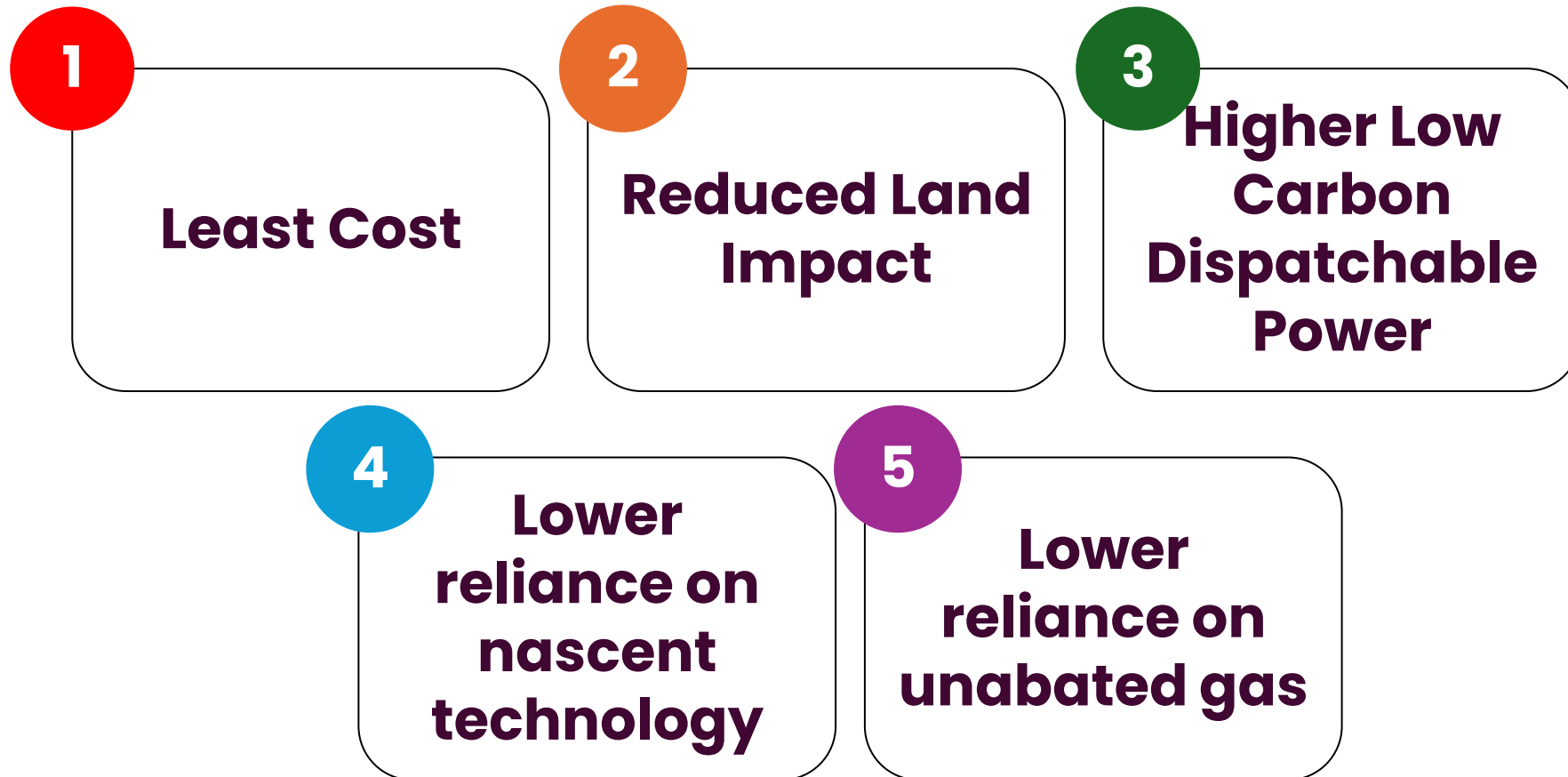
Pathway Development

Modelling and Pathways Process

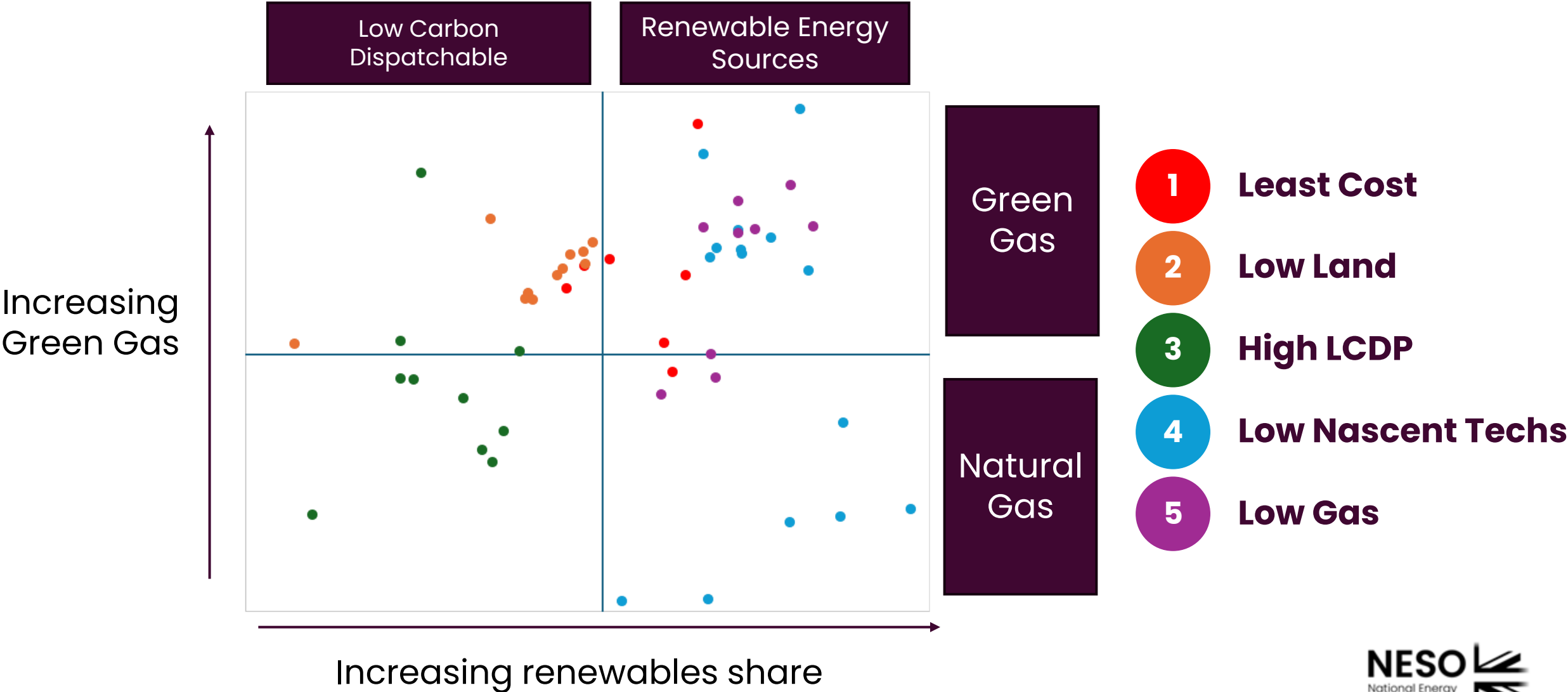


Initial Pathway Themes

Evolved based on stakeholder feedback and used to shape Pathway development.



Strategic spread of pathways



Spread of indicators across themes

Key:

Top 25%: Highest capacities of each technology type

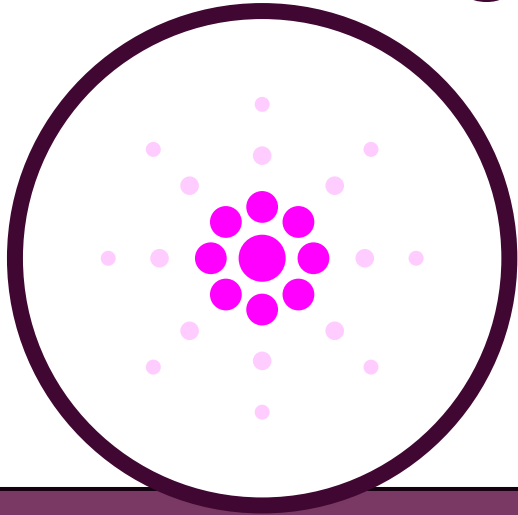
Middle 50%: The typical range, where most capacities fall.

Bottom 25%: Lowest capacities of each technology type

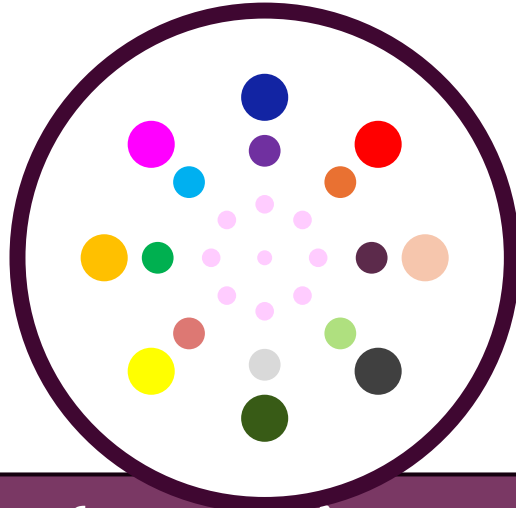


Note: values include baseline and expansion
LCDP includes Nuclear, all CCS (in power sector only), biomass, waste, hydro, H2P and biomethane; Nascent Gen includes Floating OFW, Nuclear SMR, all CCS, LDES and H2P

Modelling findings and insights



The **system has a common generation core**. This includes **renewables, batteries and nuclear** – the differences sit at the margins.

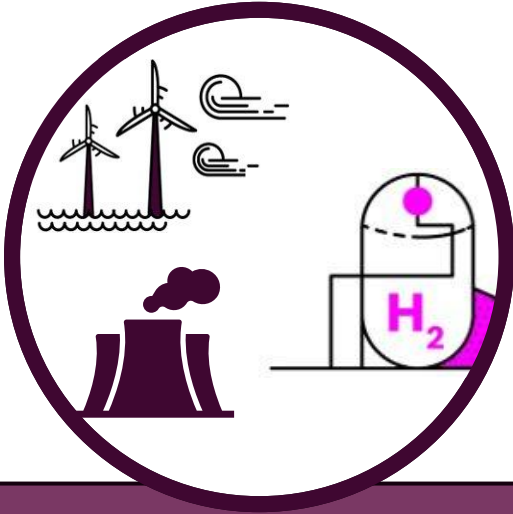


10% of generation comes from a diverse mix of more marginal generators. This includes long duration energy storage, hydrogen-to-power, Gas CCS

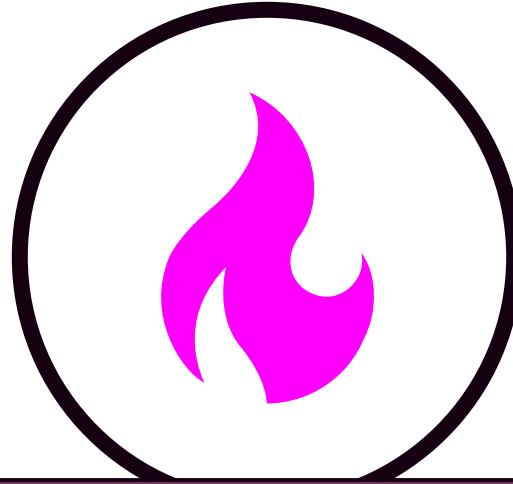


LDES begins to scale up through the 2030s, with **batteries** further expanding from the 2040s onwards to build on the baseline. **Salt cavern storage** expands alongside the H2P build-out.

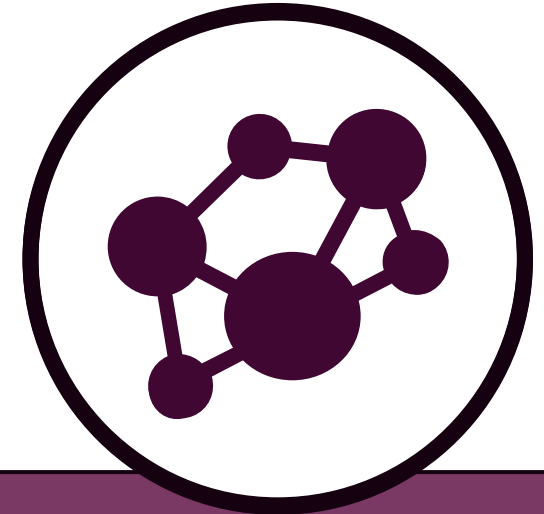
Modelling findings and insights



As existing **Gas units** retire they are replaced with new capacity to ensure security of supply, alongside other LCD sources of flexibility. **Nuclear SMRs and H2P** come online in early 2040s.



Lower **Interconnection** results in more build out of **H2P and Hydrogen infrastructure** to provide dispatchable power.



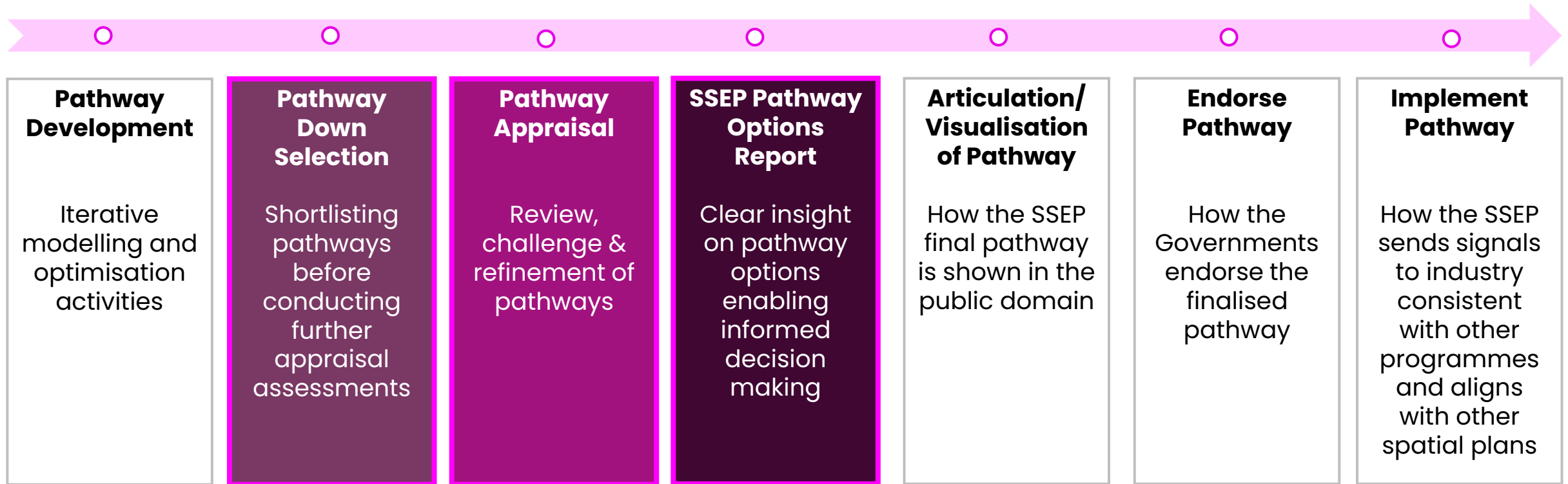
Lower reliance on **nascent** technologies and **imports** drives the highest level of power network build relative to other pathways.

Pathway Down Selection & Appraisal

Eavan Dowse
Senior Strategy
Manager

SSEP Pathway Key Stages

To achieve a viable, deliverable and robust SSEP pathway multiple key stages need to be completed.



Down Selection Process

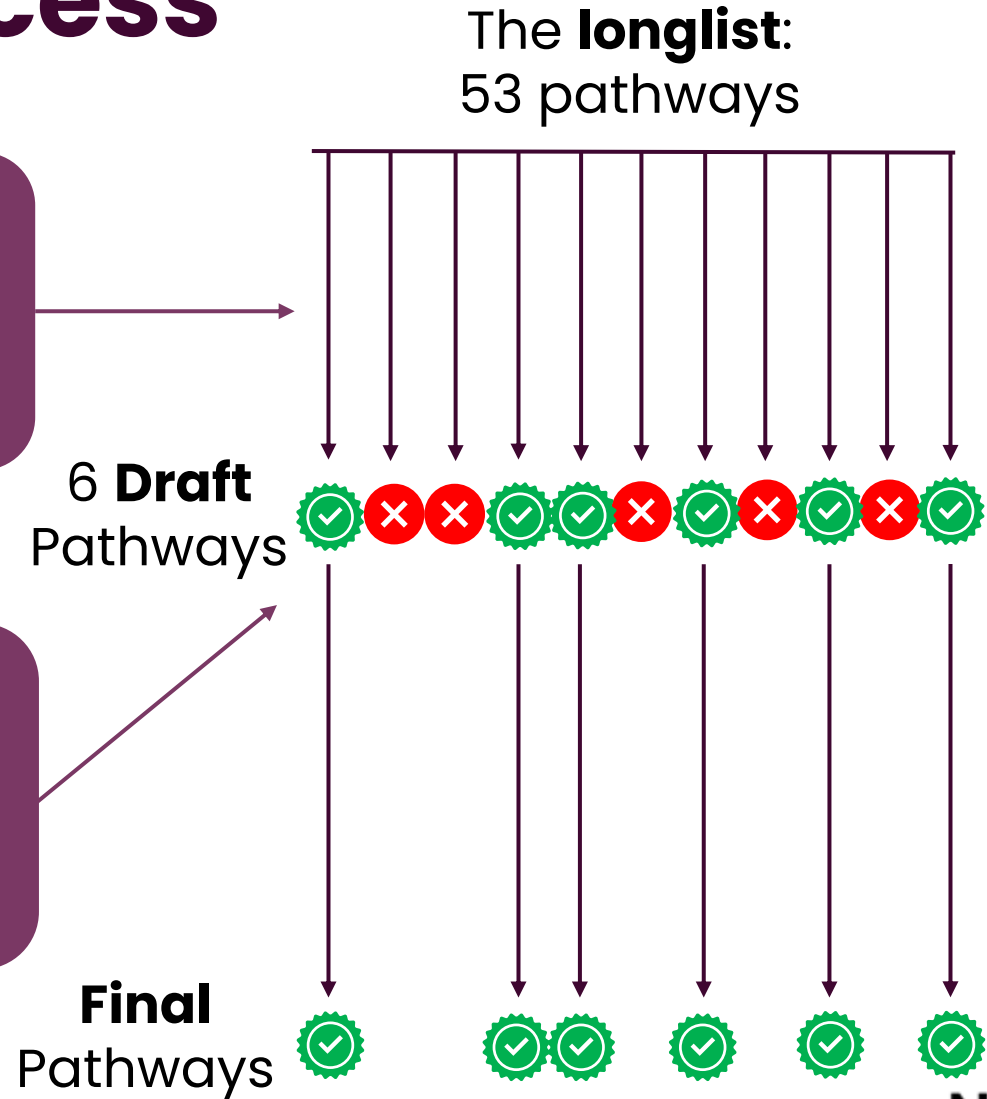
Down-Selection Process

Down-Selection

Determines the shortlist of 6 Draft Pathways from a longlist of pathway options

Appraise

Robust technical assessments allows us to adjust, improve and understand our Draft Pathways



Critical Success Factors (CSFs)

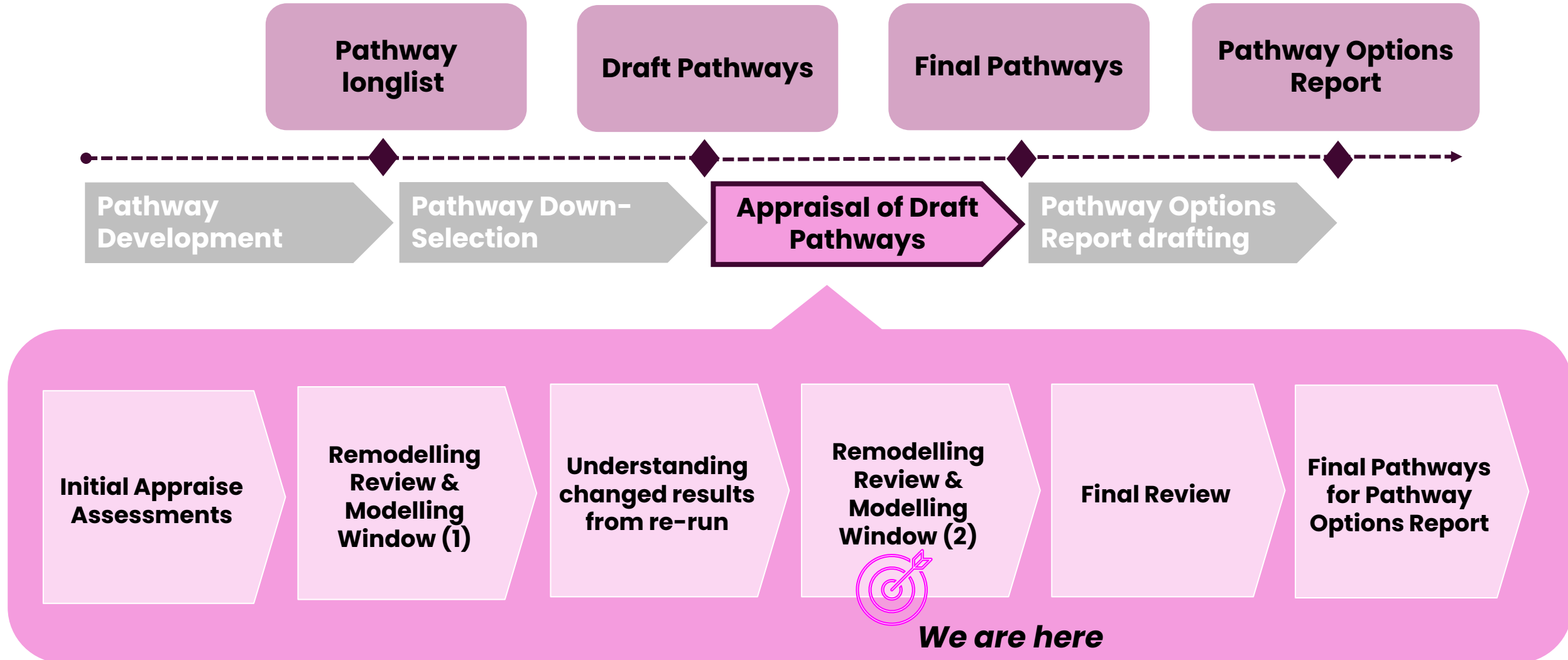
Decision-making at down-selection was guided by the performance of longlist pathways against the CSFs.

Model Outputs	
Critical Success Factor	Quantitative output from the model
Technology Capacities and Distribution	The profile of technology capacities over time
	The spatial distribution of technologies for selected years (2035, 2040, 2045 & 2050)
Electricity Network Build	The profile of network build by boundary over time
	The amount of annual curtailment
Cost	Breakdown of cost categories
	The profile of cost over time, by category
Security of Supply	Annual unserved energy hours
	Annual interconnector imports/exports

Assessment Outcomes	
Critical Success Factor	Scoring system applied (using a 1–5 scale)
Policy Assessment	An assessment to score each pathway on whether it meets minimum policy ambition.
Deliverability Risk Assessment	Assessment of deliverability risk, considering the risks and opportunities from a delivery lens, lead times for emerging tech, interdependencies etc.
Spatial Deliverability	Spatial Assessment
	HRA derogation requirement
	Societal sentiment using Societal Insights Index

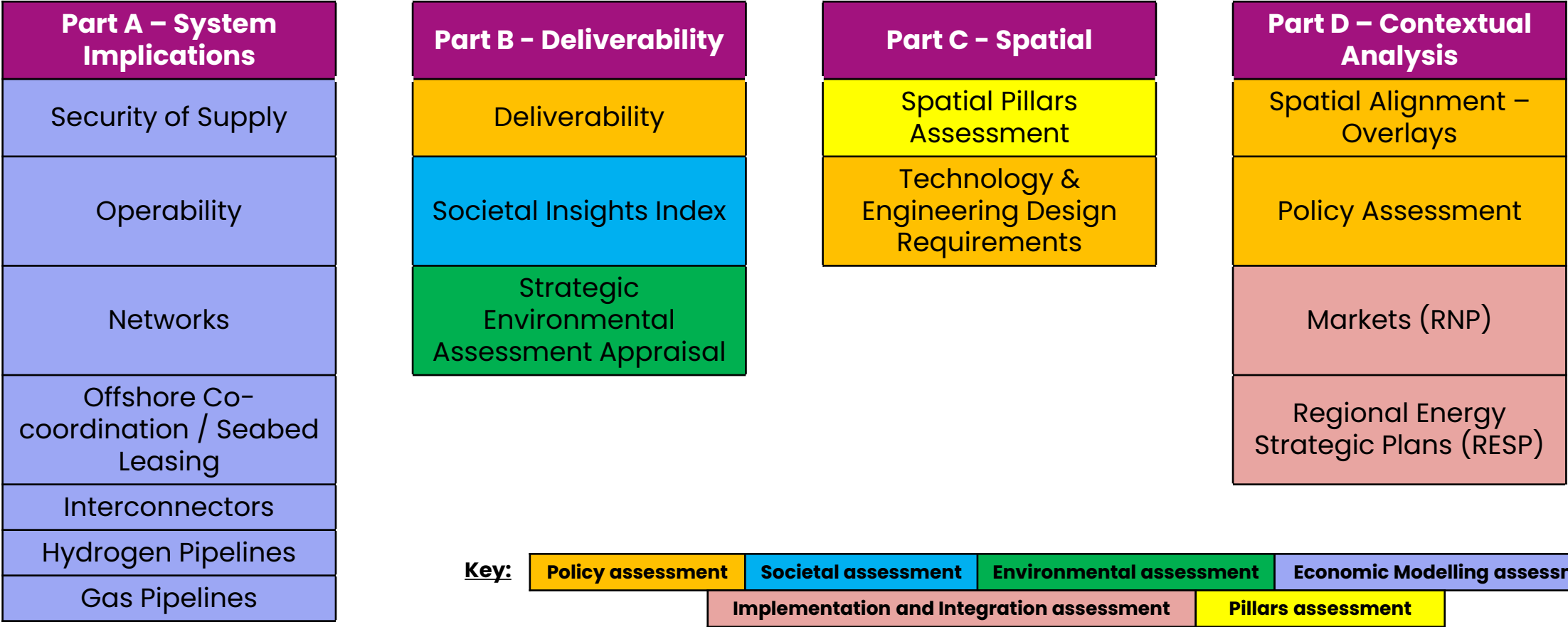
Appraise Process

Recap of Appraise milestones and status



Appraise Assessments

There were **16 appraise assessments** completed against the 6 SSEP Draft Pathways, grouped into four main parts:



Appraise Findings

The appraise decision-making and remodelling actions were driven by critical recommendations, supported by clear evidence, technical expertise and certainty.

Main themes driving remodelling actions during appraisal across the pathways:

1. System viability

Gas constraints

Security of supply

Hydrogen network

2. Stakeholder & regulatory alignment

Geospatially optimising fixed and floating offshore wind locations, not capacities, aligning with The Crown Estate's areas of opportunity, DEFRA's Marine Spatial Prioritisation Programme and Scotland's Sectoral Marine Plan.

3. Deliverability realism

Build-rate smoothing including supply chain and other deliverability.

4. Spatial rebalancing

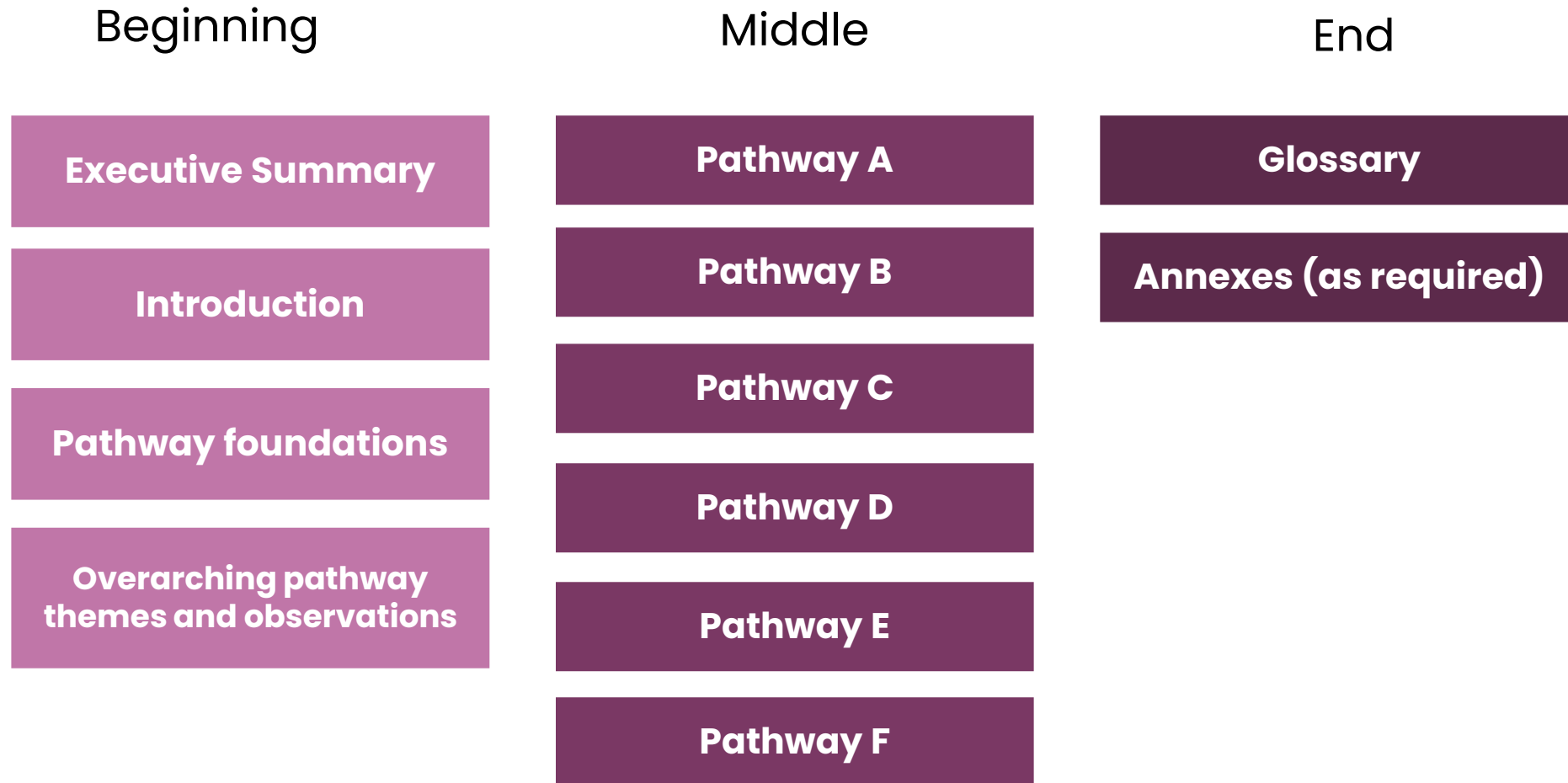
Moving capacity out of constrained zones to redistribute and balance across the system

Pathway Options Report

What is the Pathway Options Report?

- A confidential document for submission to the **Secretary of State (SoS)**
- It will present **six strategic energy pathways**
- To **support the selection of a preferred pathway by the SoS**
- It will be shared with **Ofgem, Welsh and Scottish Governments** for their feedback
- The preferred pathway will be **open to public consultation**

High level structure



Proposed Structure of SSEP Pathway chapters

Pathway Overview	
Pathway description	
Pathway visualisation	
Pathway inputs	Demand scenario
	Pathway inputs and assumptions
	Sensitivities
Pathway ranges	

Pathway deliverability	
Economic	Cost
	Investment
Spatial	Environmental
	Societal
	Other Spatial Use
	Spatial Opportunity
Technical	Operability
	Supply chain considerations
	Network implications
Policy	Alignment with existing plans
	Alignment with devolved interests
	Alignment with existing policy
Environmental	Strategic Environmental Assessment (SEA) Overview
	Marine Conservation Zone (MCZ) Overview
	Habitats Regulation Assessment (HRA) Overview
Low regrets advice	
Stakeholder considerations	
Key risks & opportunities	

Stakeholder feedback will be woven into the narrative at pertinent points throughout

Dedicated section on stakeholder considerations

Points for feedback

**Please provide
feedback by
17 June 2026**

1. What are the most important considerations for delivering a project?
For example, availability of land, investment, supply chain, consenting, community acceptance.
2. From a supply chain perspective, what is the biggest risk in developing a project?
For example, raw materials, manufacturing capacity, logistics/transport, workforce/skills shortages
3. Are there any areas of Scotland that may be higher or lower risk for consenting and development for particular technologies?
4. What is the biggest challenge to ensure projects are investable and are there differences across the technologies?
5. What is the single biggest risk, in your view, that could cause the investment required to simply not materialise in time?
6. How could the SSEP consider these risks in the Pathway Options Report?

What happens next:

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

Your insights will help inform the Pathway Options Report.



Upcoming engagement:

Over the coming months, we'll continue to share updates and seek targeted input as the SSEP develops.

Our next **SSEP Transparency Update** is planned for July.

box.SSEP@NESO.energy

Thank you!

Please complete the below survey to share your thoughts on today's event.

