RESP Methodology Areas for further development

Whole System Optimisation

03 March 2026, 1pm - 2:30pm

- Signe Swarttouw, Whole System Analyst
- Jonny Sadler, RESP Engagement and Communications Manager
- Faith Natukunda, RESP Senior Technical Delivery

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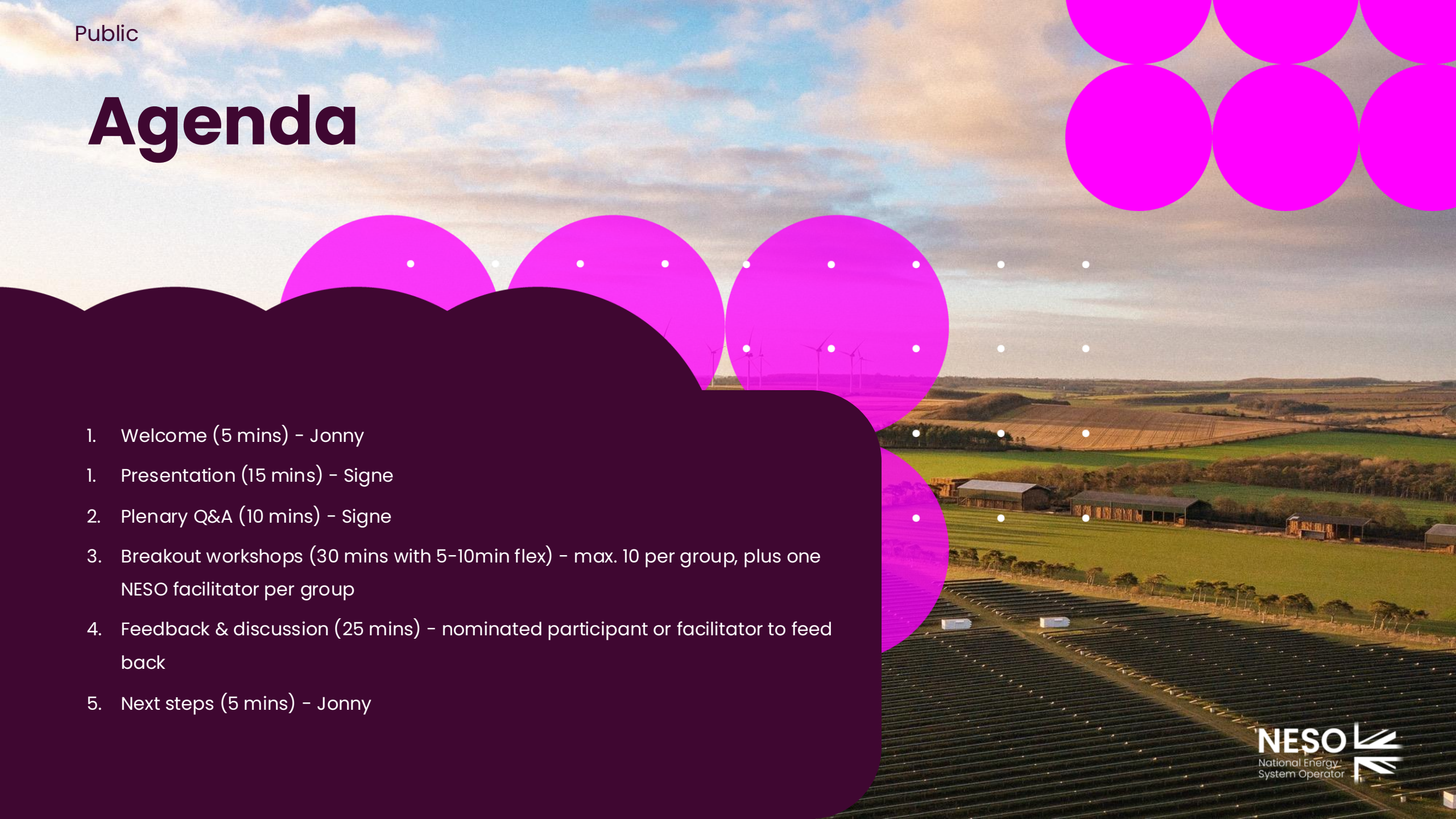
Agenda

1. Welcome (5 mins) - Jonny
1. Presentation (15 mins) - Signe
2. Plenary Q&A (10 mins) - Signe
3. Breakout workshops (30 mins with 5-10min flex) - max. 10 per group, plus one NESO facilitator per group
4. Feedback & discussion (25 mins) - nominated participant or facilitator to feed back
5. Next steps (5 mins) - Jonny



Link

[New feedback window open: RESP Methodology - areas for further development | National Energy System Operator]

Session aims

1. NESO presents our updated proposals
2. NESO answers any clarification questions
3. Attendees provide feedback on our proposals

Public

Whole System Optimisation

Signe Swarttouw

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Whole System Optimisation

Further work has focused on clarifying the definition, scope and process of whole system optimisation in RESP

The Draft RESP Methodology stated that through technical coordination, RESP teams will proactively identify and progress opportunities for **whole system optimisation** across energy types, at distribution level, and at the transmission-distribution interface.

Areas of Further Work

	Topic	Proposed updates to draft methodology
1	Definition of whole system optimisation	NESO Proposes: A RESP definition of whole system optimisation that emphasises NESO's strategic planning role and clarifying that RESP will not produce a single mathematically optimal future system but instead will be used to support better-informed, principles-based decisions that account for whole system interdependencies.
2	Types of whole system opportunities	NESO Proposes: Whole system opportunities fall into two broad categories: 1. Strategic and Complex Opportunities → Where NESO progresses with an SIN Specification 2. Wider whole system coordination opportunities → Where NESO plays a convening and informing role
3	How opportunities surface and progress	NESO Proposes: A clearer end-to-end explanation of how whole system optimisation opportunities emerge and move through the RESP process — from early signals and insights, to structured engagement with networks and local actors, to collaborative development of credible options, and on to comparison and progression (including when opportunities become Strategic Investment Needs or remain wider coordination cases).

Definition of Whole System Optimisation

What is whole system optimisation in RESP?

Whole system optimisation, as applied within RESP, refers to NESO's role as the independent strategic energy planner to **identify and assess opportunities** that deliver **improved overall energy system outcomes**, drawing on interactions **across vectors, geographies, actors and constraints**, where coordinated action will add value.

It is **not** about:

- Mathematically optimising the energy system for a single objective
- Prescribing detailed project level decisions
- Limiting the ability of networks to innovate in an ever-evolving energy system

Types of whole system opportunities

1. Strategic and complex

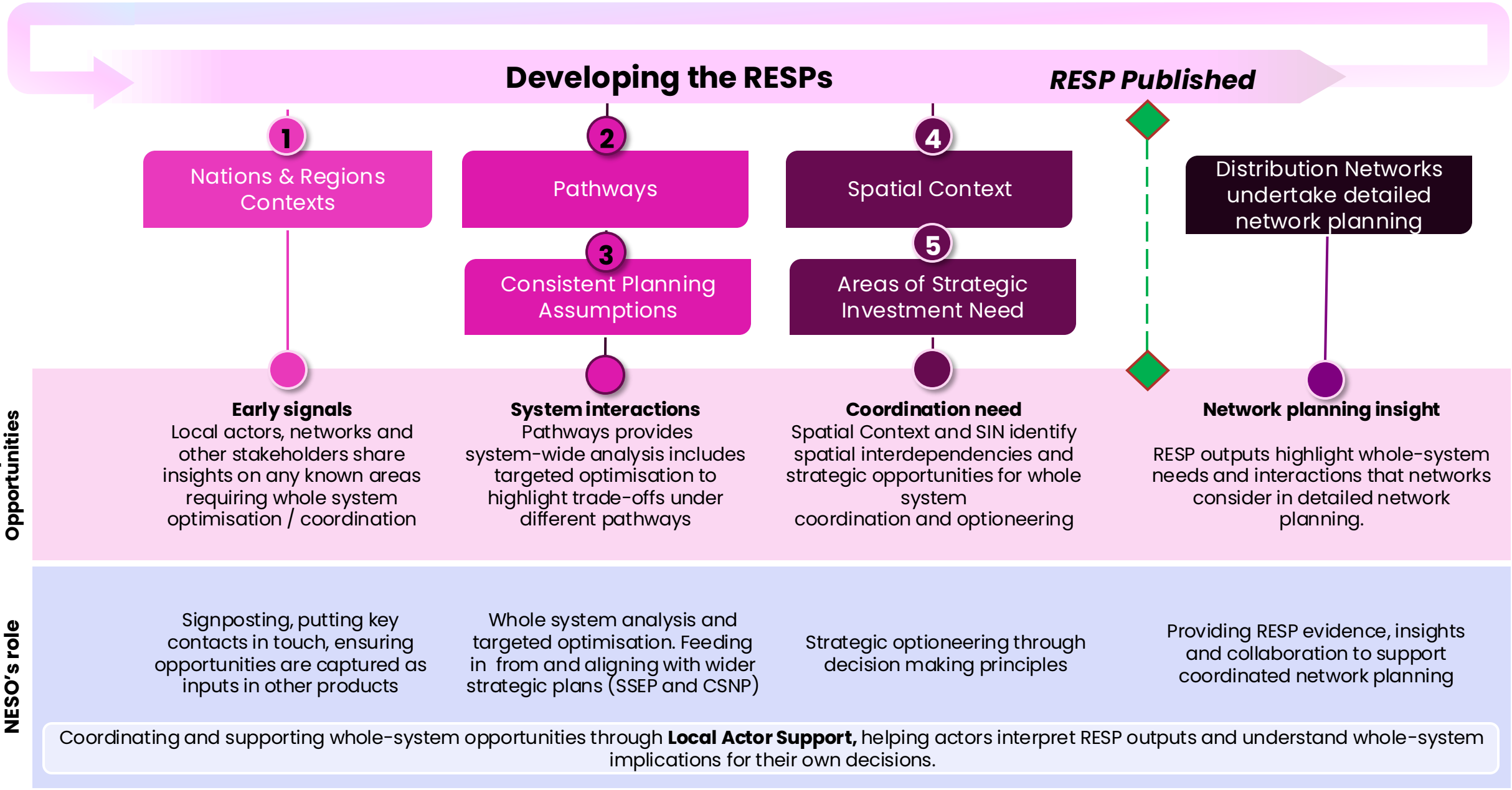
- Strategic, complex and high value multi-vector or cross-network developments
- Multiple credible system options
- Require structured, principles-based comparison (e.g., through a cost-benefit analysis)

RESP Teams leads high-level option development and identifies a **preferred investment need** (via SIN specification)

2. Wider whole system coordination opportunities

- Opportunities where a whole-system perspective adds value
- Typically locally shaped (e.g. local policy direction, planning approaches, sequencing)
- Decisions remain with local or network actors

RESP Teams provides **evidence**, explains **system impacts**, and **convenes** actors


Developing the RESPs
RESP Published
1
Nations & Regions Contexts
2
Pathways
3
Consistent Planning Assumptions
4
Spatial Context
5
Areas of Strategic Investment Need
Distribution Networks undertake detailed network planning
Whole System Opportunities
Early signals
Local actors, networks and other stakeholders share insights on any known areas requiring whole system optimisation / coordination
System interactions
Pathways provides system-wide analysis includes targeted optimisation to highlight trade-offs under different pathways
Coordination need
Spatial Context and SIN identify spatial interdependencies and strategic opportunities for whole system coordination and optioneering
Network planning insight
RESP outputs highlight whole-system needs and interactions that networks consider in detailed network planning.
NESO's role
Signposting, putting key contacts in touch, ensuring opportunities are captured as inputs in other products
Whole system analysis and targeted optimisation. Feeding in from and aligning with wider strategic plans (SSEP and CSNP)
Strategic optioneering through decision making principles
Providing RESP evidence, insights and collaboration to support coordinated network planning
Coordinating and supporting whole-system opportunities through Local Actor Support, helping actors interpret RESP outputs and understand whole-system implications for their own decisions.

Process

Identification

- System interactions signal a potential opportunity
- E.g., boundary constraints, multi-vector interactions or clusters of demand
- Sequencing or coordinated action could reduce cost or disruption
- NESO logs and routes issues for the right governance forums

Stakeholder review

- Engage networks, LAs, developers and relevant actors
- Build shared understanding of the issue/opportunity
- Identify practical constraints and uncertainties
- Discuss in working groups / Strategic Boards where needed

Collaborative development

- Share consistent whole-system evidence
- Gather additional data or insight where needed
- Explain whole-system effects and interdependencies
- Inform decision making parameters
- Develop credible high-level options (for strategic cases)

Optimisation approach

- Used only for strategic & complex opportunities (e.g. SINs)
- Apply decision making principles to weigh evidence
- Assess options transparently and consistently (e.g. through a CBA)
- Progress the option delivering the best overall system outcome

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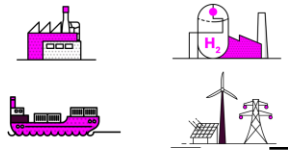
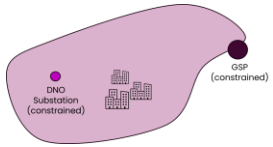
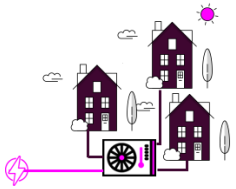
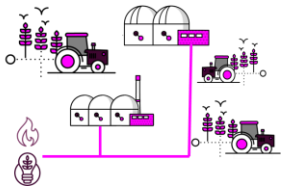
Roles and responsibilities

Stakeholder Group	Summary of responsibilities
NESO	Provides whole-system insight; convenes actors; ensures consistent evidence and coherence with SSEP and CSNP; develops and comparatively assesses options; determines if an opportunity should be progressed through SIN, or wider coordination activities.
Local actors	Provide place-based insight into opportunities and options (e.g., plans, priorities, constraints)
Networks (distribution and transmission)	Supply technical expertise, constraints and costings for SIN options appraisal
Working groups	Support issue-specific discussions; test evidence and assumptions; enable coordination across actors.
Strategic boards	Provide strategic oversight; validate direction where needed
GB SteerCo	Provides GB-level oversight where whole system opportunities span multiple regions. Reviews cross-RESP whole system interactions, helps resolve conflicts between regions, and supports alignment with national strategic planning (including SSEP and CSNP) and GB-wide energy policy .

Worked examples

	Example	How it surfaces	Why it's a whole-system opportunity	NESO's role	Outcome	
	**1. Multi-vector Freeport**	Flagged via early Spatial Context work & multi-vector stakeholder discussions	• Cross-vector interactions • Phasing affects system costs • Upstream investment could unlock wider value	• Convenes actors • Coordinates evidence for system-wide optioneering • Tests low-regret options	**SIN Specification** enabling ahead-of-need or upstream investment	Strategic & complex
	**2. Data Centre Cluster at the T/D Interface**	Identified through NRC, DNO engagement and emerging clustered load signals	• High-demand cluster affecting TO & DNO • Multiple credible system options • Coordination could reduce duplication & cost	• Convenes actors • Shares RESP/SSEP/CNSP evidence • Compares options through CBA	**SIN Specification** recommending preferred network solution	
	**3. Local Heat Decarbonisation Planning**	Raised by a local authority during engagement discussions	• Heating choices impact electricity and gas networks • Wider system considerations needed	• Provides Pathways & Spatial evidence • Explains system impacts	**Locally-led decision** informed by whole-system insight	Wider coordination
	**4. Biomethane cluster**	Identified through NRC and early engagement with developers	• Gas network interactions • Possible electricity links • Risk of duplication or inefficiency without coordination	• Convenes actors • Advises on coordination opportunities • Provides RESP evidence to support planning	**Coordinated and streamline local activities** development feeding back into RESP	

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Public

Plenary Q&A

15 mins

Jonny Sadler, Signe Swarttouw and Faith Natukunda

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Breakout Workshops

30 mins

Jonny Sadler

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Breakout Room Structure

We'll cover two questions:

1. Does the updated definition of whole system optimisation provide sufficient clarity on scope and boundaries?

2. Do the worked examples help illustrate how the methodology could operate in practice, or are further clarifications needed?

Housekeeping:

- Mics on, and cameras too if you want
- Transcription will be on, but notes will not be published

Car park 

- Used by participants to capture - **Items outside of today's session scope**

- Points will be considered when drafting other sections of the methodology.

Breakout Room Guide

Per question:

- 3 mins - Everyone writes their responses to the question in Mural
- 10 mins – Group discussion on the feedback given
- 4 minutes - To review and vote on the response they consider most important (You each have 1 vote per question)

Feedback & discussion

20 mins

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Feedback & Discussion (20 mins)

Once the breakout sessions have ended:

- Voting results will be displayed from Mural
- Chair will highlight most voted points
- Open discussion on key themes

Next steps

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How to respond

- Please submit your responses by **11.59pm on 16 March 2026**
- Please submit your response via the **Qualtrics platform:** https://nationalgrideso.fra1.qualtrics.com/jfe/form/SV_8pJAMkj82VNpEyi
- If you are not able to submit via Qualtrics, please let us know at box.resp@neso.energy by 9 March 2026, at the latest.
- Responses are saved as you progress through the form, so you don't have to complete all questions at once. **Please note that they are only saved when you go to the next page of the survey.**
- You will be able to download a copy of your responses as a PDF at the end.
- FAQs are published on the RESP Methodology consultation section of the NESO website
- If you have any questions, please email: box.resp@neso.energy