An Introduction to NESO and Strategic Energy Planning

Fergus Tickell – RESP Manager Scotland



National Energy System Operator overview

Who we are:

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.





Strategic Energy Planning (SEP) overview

Pre 2030 Post 2030

Clean Power 2030

Advise government on which network upgrades, market and policy decisions could accelerate the development of a clean power electricity system by 2030.

UK Government response to Clean Power 2030 advice published at end of 2024 Adopted Clean Power 2030 advice by Government feeds into the background assumptions underpinning all three Strategic Plans. Supply and demand projections from Future Energy Scenarios (FES)



DESNZ data inputs and assumptions

SSEP

Spatially maps out the energy assets necessary to meet 2050. Focus on optimisation of cost, environment, community impact.



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Key stakeholder

inputs

Environmental, societal and technical perspectives

CSNP

Whole system plan for the development and assessment of highlevel investment options for transmission networks.



Long term feedback loop



RESP

Focus on developing whole system, crossvector regional plans with input from local actors.

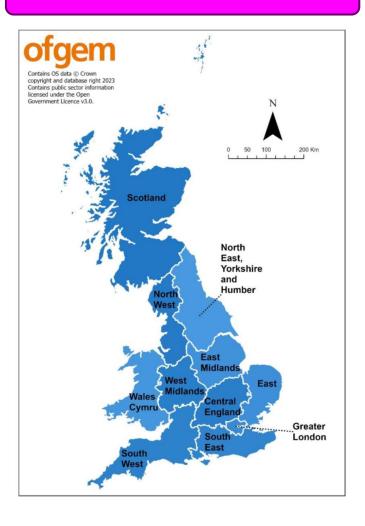


Regional Energy Strategic Plans (RESP)

Why?

- Place based integration of the local and regional context and needs
- 2. To drive investment ensuring local areas get the
 energy infrastructure they
 need, where and when they
 need it
- 3. Consistency ensuring plans, data and assumptions are used the same way by all
- 4. Whole system ensuring distribution networks are planned in a joined-up way to deliver the system that best meets local needs

Where?



Who?

Ofgem - defining role

NESO – delivering role

Strategic Boards:

- Local authorities:
 - England: strategic authorities & unitaries
 - Scotland & Wales: unitaries
- Devolved Governments: Wales & Scotland
- Networks: Distribution Network Operators
 & Gas Distribution Networks
- Other local actors: relevant to energy system & spatial planning

Regional Working Groups:

- Function based
- Theme based



RESP Outputs

Regional context

- Comprehensive view of regional conditions & priorities
- Draws on embedded regional engagement and datasets
- Reflects rather than supersedes local ambitions

2

Pathways

- Spatial models of future supply and demand
- Single 10-year pathway; multiple branches to 2050
- Granularity sufficient for local and network planning

3

Spatial context

- Geospatial view of pathways against network conditions
- Accessible view of wholesystem data to aid planning
- To LSOA / Data Zone granularity where possible

4

Strategic investment need

- Identify needs which are of high economic/ system value and key to regional priorities
- Categorise to refine scope and support common approaches to regulatory treatment
- Specify capacity need and expected vector and network level of solutions

Common planning assumptions

- Set of assumptions to drive consistent derivation of network impacts
- Developed transparently alongside stakeholders through working groups
- Will include acceptable ranges of variation to allow for regional differences



Transitional RESP (tRESP) Overview

Ofgem is collaborating with NESO to develop transitional RESPs and regional investment pathways that ensure reliable, affordable electricity and align network investments with regulatory expectations ahead of full RESP implementation in 2027

What is tRESP?

- 1. Serves as a transitional bridge to Enduring RESP
- 2. Focused on supporting electricity DNO (Distribution Network Operator) business plans
- 3. Provides each region with a short-term Pathway (2025-2035)
- 4. Feeds into the long-term Pathway (2035–2050)

Why now?

- **1. Urgent change**: Energy sector transformation and CP30 demand immediate action
- **2. Unlocking value sooner**: Enduring RESP won't be ready until 2027
- **3. DNO business planning dates are fixed** (2028-2033) and require input now
- **4.** Early stakeholder engagement to integrate regional needs within energy planning





tresp - How are we engaging



There are 4 mechanisms for engaging stakeholders, each with a specific audience for a specific purpose.









	RESP Forums (Regional)	Technical Working Groups (National)	Bi-Lateral Meetings	Consultation
Purpose	Engage stakeholders in RESP, with initial focus on tRESP then RESP Methodology	Solve detailed technical problems	Engage specific technical stakeholders 1-on-1 to review topics in detail	Seek input from stakeholders on the proposed tRESP pathways
Frequency	Quarterly	Monthly	As required	Q3 2025
Audience	Open: all stakeholder groups, all levels of technical knowledge, all levels of seniority	Technical Roles	Technical Roles	Open: all stakeholder groups, all levels of technical knowledge, all levels of seniority
Invitation & Promotion	Invite from Regional Teams, promoted via NESO & third-party channels	Invitation to technical specialists	Invitation to technical specialists	To be confirmed
Output	Stakeholder feedback to inform delivery of tRESP and RESP Methodology	Challenge/review/optioneering of tRESP modelling approaches	Detailed building block data to inform pathways, modelling and strategic investment	Challenge/review of tRESP pathway methodology
Outputs of each engagement will inform the content and nature of future engagements				

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RESP Key Milestones

