Nidlands focus RIO-T3 Vebinar

nationalgrid



Thank you for joining

Housekeeping

- Please note that this session will be recorded.
- Please add your questions via Q&A function for our dedicated session at the end of the talk – 30 minutes Q&A.
- Questions and Answers supported by Environmental, Connections, Responsible Business and Whole System Planning leads.
- Alternative for raising questions
 <u>pathwaytonz@nationalgrid.com</u>

Agenda

Introc

Form

Midla

Next

Envir

Upda

Upda

Ques

duction	5 mins
ning Future Network Blueprints	10 mins
ands Future Network Blueprint	10 mins
Steps	5 mins
ronment commitments	5 mins
ate from NGED and SPEN	15 mins
ate from NESO	10 mins
stions and Answers	30 mins

Introduction

Mark Lissimore Director, Infrastructure Development and Delivery

National Grid Electricity Transmission

Please post any questions you have for us via Teams Q&A function or through : <u>pathwaytonz@nationalgrid.com</u>





We own and operate the transmission network that is the backbone of electricity system in England and Wales The objective of today's webinar is to set out the Midlands view of the future network outlined in our business plan for 2026-2031.

Our £35bn business plan was submitted in December 2024 and will now be assessed by Ofgem.

Our plan will nearly double the amount of power we can transfer across England and Wales and more than double the rate of connecting our customers.

We want stakeholders to be involved in the 'call for evidence' that Ofgem has opened as part of the RIIO-T3 price control process and to feel well-informed on what is included in our plan and why. Electricity Transmission

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RIIO-T3 Business Plan

ional Grid Electricity nsmission's Business Plan

View the digital plan

Midlands: Future Network Blueprint

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Context on our regional plans

This regional view considers electrical factors such as power transfers and access for planned outages and, where possible, aligned to the distribution network operator and local authority boundaries.

This webinar is not about the detailed project development, precise location, or technology options under consideration for individual network upgrades. That comes through individual project consultations, in line with Planning Act requirements.

Please contact us for project details at <u>Communityrelations@nationalgrid.com</u>

This webinar is part of our ongoing engagement. For the past couple of years we held regionally focused workshops, bringing together local organisations, like local authority representatives, businesses, other network companies and the National Energy System Operator (NESO), to gather perspectives and co-create our network plans.



Forming the Future Network Blueprints

Morgan Tiley Regional Strategy Engineer

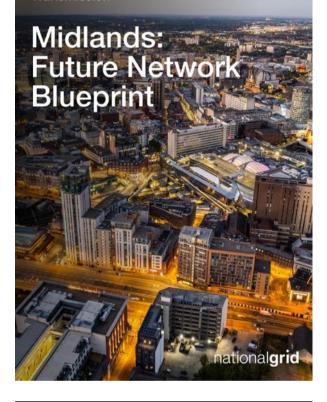
National Grid Electricity Transmission

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Future Network Blueprints

Electricity Transmission



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South East: Future Network Blueprint

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Electricity Transmission London: Future Network Blueprint

Electricity Transmission

South West: Future Network Blueprint



Electricity Transmission

East Anglia: Future Network Blueprint



Electricity Transmission

North West: Future Network Blueprint

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North East: Future Network Blueprint

Electricity Transmission

Wales: Future Network Blueprint







What are they?

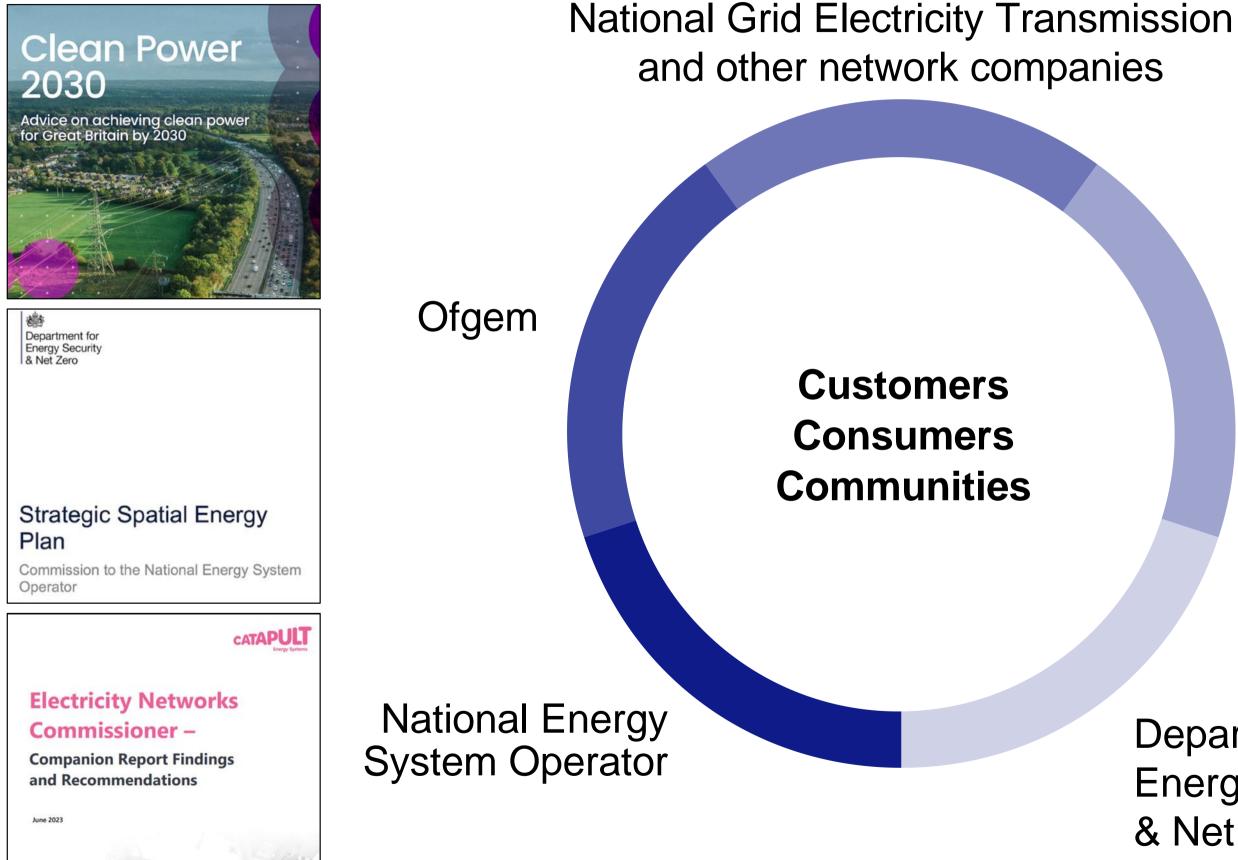
A single and coordinated 'best view' of the work needed across different regions of our network across England and Wales to enable the overall transition to net zero.

What do they do?

They help us to make coordinated decisions about where, when and how to upgrade the grid.

This forward- thinking, holistic planning approach allows all parties to enhance efficiency through collaboration and coordination – with an aim to do it once, do it right.

The energy landscape



Mission Control

Department for **Energy Security** & Net Zero



Our overarching nationwide Stakeholder engagement approach

Since 2022 we have listened to and worked with those who are impacted by the design, timing, cost and delivery of the network upgrade...

Listening	•	Understanding the needs, priorities and perspectives of a broad spectrum of involved and impacted stakeholders, including household and business consumers	
Optioneering and testing	•	Testing and challenging the emerging strategies during formation, including any trade-offs or optioneering required	
Sharing	•	Sharing the next iteration of the strategies and how they have built on the stakeholder input to that point - with colleagues and the broader stakeholder network	
Refining	•	Continuing to Refine and Share, maintaining the Future Network Blueprints and keeping them relevant through enhanced ongoing engagement	

voices We listened to representing all

We hosted a playback webinar on our T3 plan in November

...And this approach continues beyond our December RIIO-T3 Business Plan submission to Ofgem, as we refine its details throughout delivery. 12,000

23,000 residents

35 workshops

over 12,000 voices stakeholder groups

We consulted with over 23,000 residents in communities already impacted

We held 35 region focussed workshops with our industry partners and peers



What we learnt – forming our network planning approach

With an ever-evolving energy landscape, we needed a more comprehensive approach to our network planning

During our listening phase we got to understand the detail...



We need to work more closely than **A** ever with all our stakeholder groups



Local network needs differ, requiring a more focused approach



By thinking differently, and working closely with stakeholders, we can help transform the electricity network to meet everyone's future energy needs.



Visibility of our investment planning is critical



We need to coordinate and collaborate on our plans



We need to be flexible to changes and not wait for 100% certainty







The process

Based on insights from our stakeholder engagement programme we set three ambitions which shape our plan

We have developed a comprehensive framework to test and validate our investments against our new ambitions.

This encompasses whole system planning; focused on an integrated and collaborative approach.

Ambition A

Deliver the grid of tomorrow

Ambition B

Do the right thing for consu communities and the enviro

Ambition C

Transform the way we work



- Regional context
- Current network view
- Design the right network

r, today	Deliver with urgency the Transmission Network needed for Great Britain's future growth and decarbonisation	◇
umers, onment	How we deliver is as important as what we deliver	

Transform our capabilities to deliver for consumers





- Stakeholder engagement
- Connections
- Safe and reliable network
- Strategic infrastructure

We now go on to unpack Step 2

Step 3 Develop strategic options

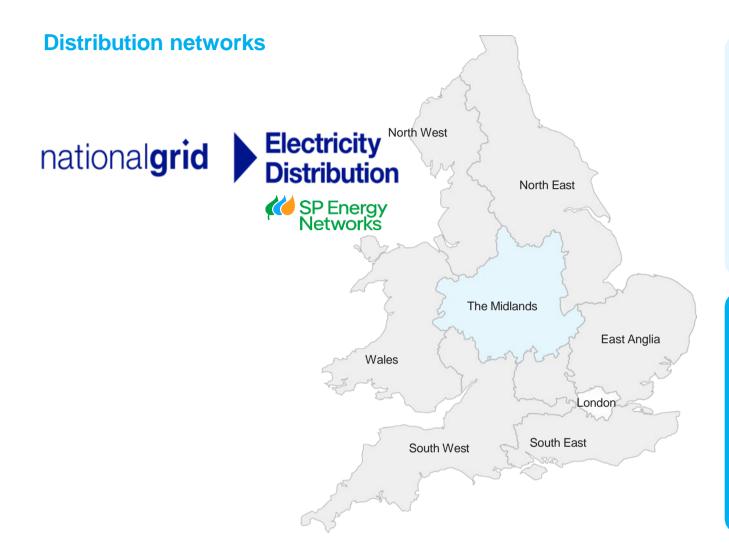


- 2050 backwards
- Network design principles
- Network compliance

Midlands Future Network Blueprint



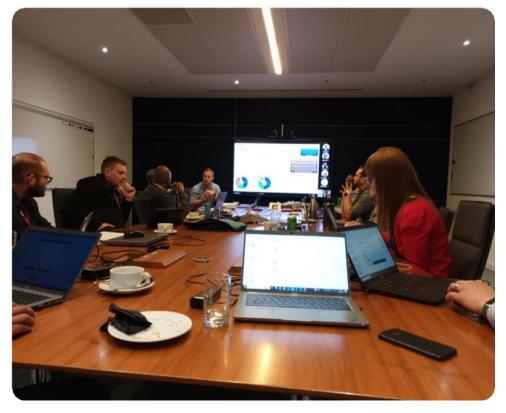
Midlands | Stakeholder Engagement



We are working with local distribution networks (DNOs) to understand the impacts and requirements in that region and develop 'whole-system' solutions.

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Indicates the number of whole system opportunities we have already identified in the Midlands



What did stakeholders in the Midlands initially tell us?

'NGET needs to **prioritise a region's plans** rather than looking at projects in isolation. This is really adopting a **whole energy system approach**.' (Electricity licensee) 'We have big ideas but have to scale them down because of the lack of connections. You need to ensure the energy will be available for your project but it's not at the moment.'
(LEP)
'Viability of schemes needs to be a priority.'
(Waste management)

Step 2 Insights and analysis



₩86%

Connections timescales have impacted my organisation's plans

(Pathway to Net Zero workshops, poll base: 46)

Midlands | Safe and Reliable Network

A reliable network is a top priority for everyone.



Commitment

Maintaining a safe, reliable and resilient system through a period of growth and changing asset base.

·1

Challenge

If we looked to do this portfolio of work in isolation, we would not have enough resource, supply chain support or access to the network to complete it.



Solution

Our approach aligns asset health and new infrastructure plans to optimise best use of our resources.

Natural hazard resilience By the end of 2025, all relevant Midlands sites will be fully compliant with Energy Networks Association standard 138 on flood protection.

Physical security resilience

With increasing generation and demand we are investing in enhanced physical security at sites within the region.



Step 2 Insights and analysis





High voltage substations identified in region that require enhanced asset health intervention

<u> 教256 km</u>

Overhead line in region that requires replacement in the next 10 years

Asset health intervention regional metrics

8 Super grid transformer 石86 Circuit

breakers

478

assets

Voltage management

₩357 **Bay assets**

Midlands | Customer Connections

We need to make it easy to connect and use the electricity network



•`[]`

Commitment Enable the connection of new generation and demand customers to support Government targets.

Challenge Not all the connections in the queue will connect to the network.



Potential solutions

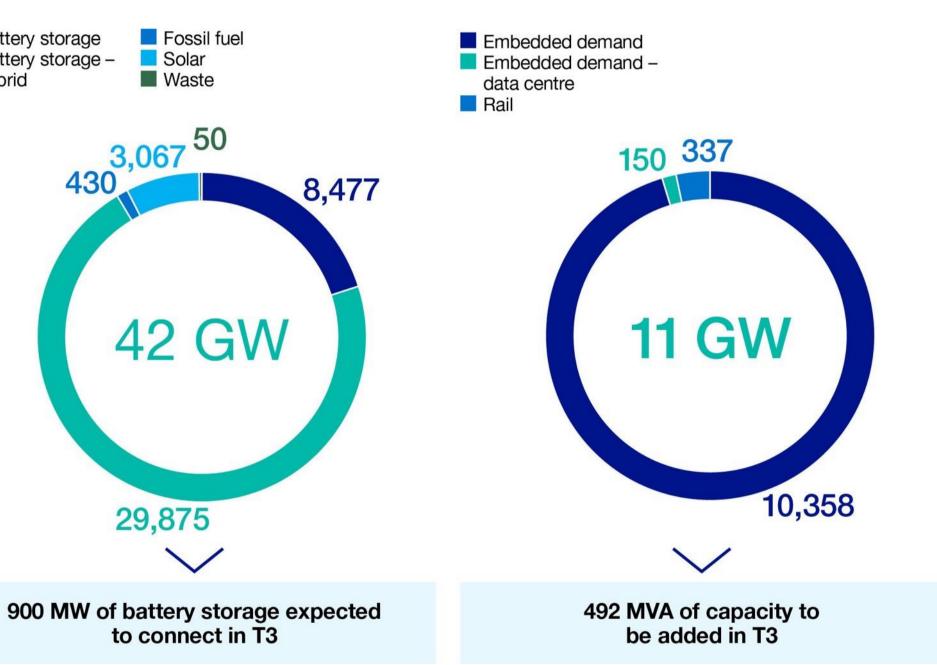
We have progressed a number of connections which form a baseline and pipeline plan of work.

Connections Reform will help enable connections to the network by reviewing the current connections queue.

Battery storage Battery storage – hybrid

Customers have contracts for new connections to 2036 that would deliver 42 GW generation and 11 GW of demand connections in this region.

Step 2 Insights and analysis



Midlands | Strategic Infrastructure

The National Energy System Operator (NESO) is responsible for identifying and timing of new strategic infrastructure on the electricity transmission network by incorporating;

- Energy scenario analysis
- Alignment with government policies
 on decarbonisation
- Market intelligence
- Stakeholder engagement to predict future energy needs.

The process is evolving to ensure that strategic infrastructure development is proactive, addressing both current and future challenges, and supporting the transition to a sustainable and reliable energy system.



Strategic Infrastructure projects in the Midlands through RIIO-T3 & beyond.

In the Midlands we are maximising the use of existing infrastructure through upgrades, whilst also establishing new to support increasing power flows in the region.



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Midlands | Plan Overview

National Grid's electricity transmission strategy in the Midlands focuses on several strategic upgrades to increase capacity on the network and improve power flow through the region to serve the increasing demand of industrial and domestic customers.

The network in the Midlands serves as a key hub for power distribution around the country and our investments, such as the new circuit from Chesterfield to Willington will bring low carbon, renewable power into the region as well as supporting demand in other regions.

We are also expanding existing sites to facilitate connections for new renewable generation, and to meet emerging demands, including powering HS2.



of investment

г ጸ ٦ ሌ 11 GW

demand

installed in T3

to maintain, upgrade and develop our network in T3

经 42 GW

generation

contracted to connect*: 900 MW estimated to connect in T3

贫 c400 km

of overhead line

reconductoring planned within T3, equating to 22% of the region



contracted to connect*: 492 MVA of additional capacity expected to be



Midlands Strategy



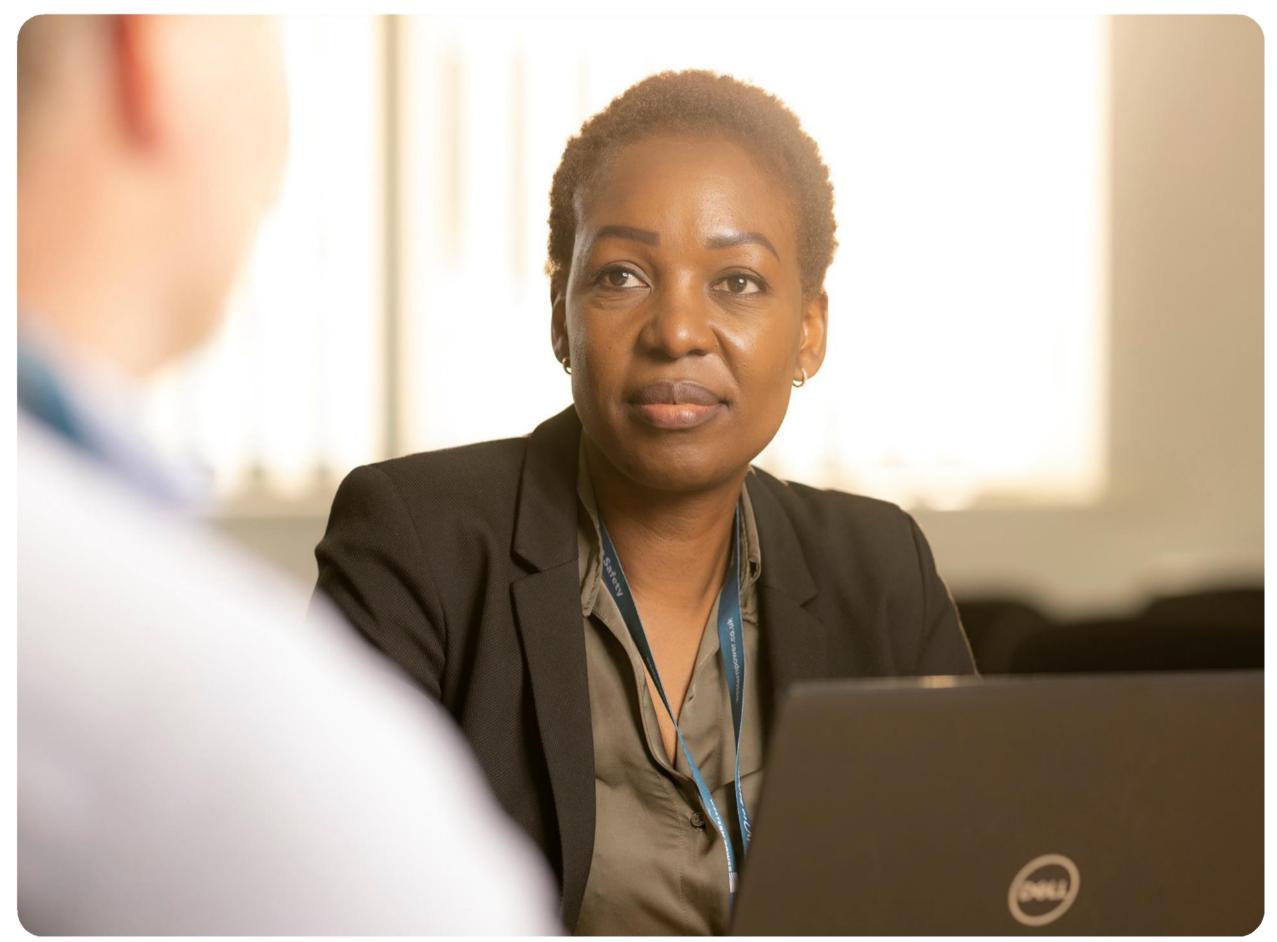
Next Steps



What's next for the Midlands Future Network Blueprint?

We want to be transparent about our plans today and into the future. Planning is an ongoing, evolving process and we want to ensure we incorporate the needs and expectations of those impacted by their shape, direction and timing.

- Outcomes from Clean Power 2030 and Connections Process reform – We have designed our plans to be adaptable to changes.
- We continue to work with our network partners National Grid Electricity Distribution (NGED) and Scottish Power Energy Networks (SPEN), stakeholders and the newly formed National Energy System operator (NESO) RESP team to evolve our 'Whole System' planning approach and regional plans.



Environmental Update for the Midlands

Chris Plester Net Gain Technical Lead

National Grid Electricity Transmission

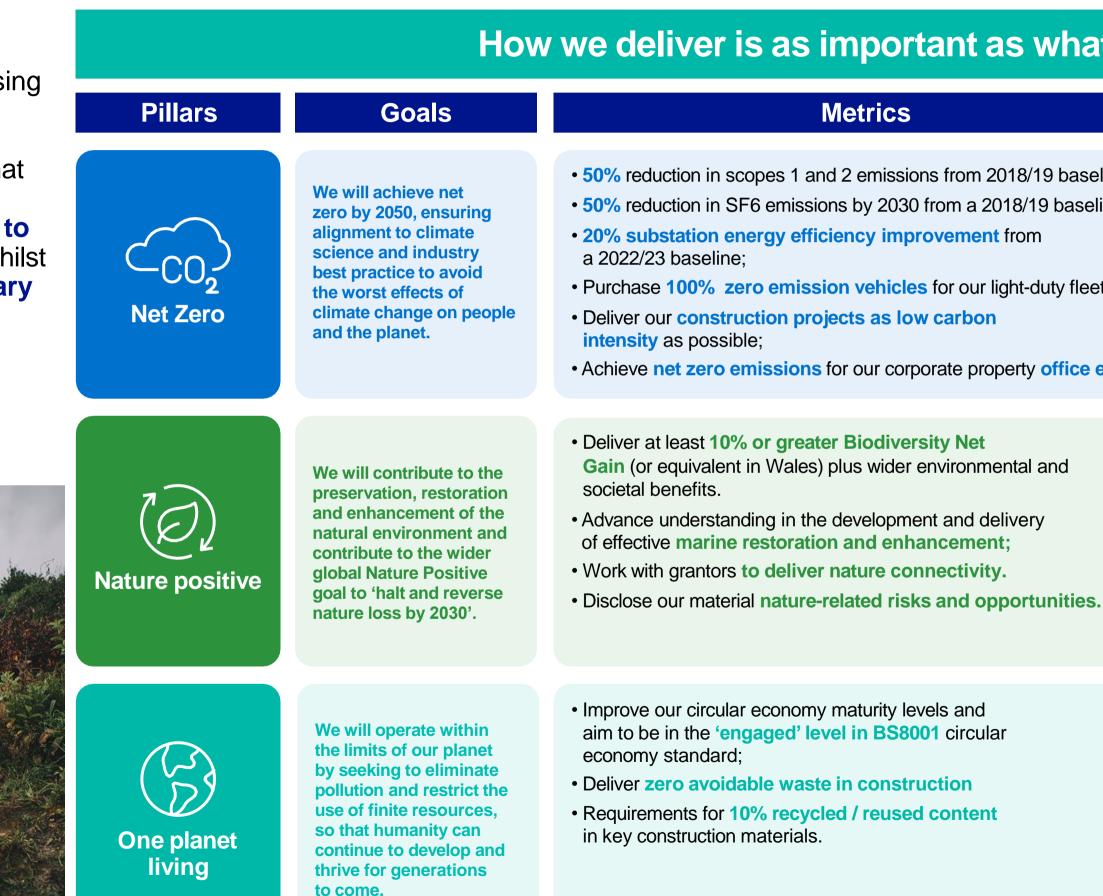
Please post any questions you have for us via Teams Q&A function or through : <u>pathwaytonz@nationalgrid.com</u>



Delivering a sustainable electricity transmission network

Our ambition

The changes we are proposing to our Environmental Action Plan in T3 will support the energy transition in a way that achieves sustainable operations and contribute to a nature positive future, whilst being respectful of planetary boundaries.



How we deliver is as important as what we deliver

Metrics

• 50% reduction in scopes 1 and 2 emissions from 2018/19 baseline; • 50% reduction in SF6 emissions by 2030 from a 2018/19 baseline;

• Purchase 100% zero emission vehicles for our light-duty fleet;

Achieve net zero emissions for our corporate property office estate.

Delivering in the Midlands

Case study Oldbury project

Oldbury is a substation extension project in the West Midland. This upgrade will improve capacity within the local electricity network for greater adoption of electric vehicles and the connection of significantly more renewable energy sources, helping to deliver long-term energy security.

As a company, we've committed to meeting 10% biodiversity net gain (BNG) on all construction projects. As part of our commitment we are enhancing grassland habitat, this includes areas of existing poor condition neutral grassland and areas of urban artificial unvegetated, unsealed surface that totals 0.16 hectares.

A species-rich native hedgerow approximately 0.015km long will also be created on site. Suitable tree and shrub species for hedgerow creation will be planted.



Update from National Grid Electricity Distribution

Sharon McGuffie DSO Strategic Engagement Officer

Please post any questions you have for us via Teams Q&A function or through : <u>pathwaytonz@nationalgrid.com</u>



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Planning our future distribution network



What we are working towards

2

We are committed to evolving and improving how we collaborate and coordinate the local energy transition across the whole system, in partnership with key stakeholders, working together in order to identify network improvements required for decarbonisation.

We are taking a more strategic approach to how we design and build our distribution network going forward with strategic investment that is evidence based.

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This approach is based on open and transparent conversations about our network and doing all we can to support our stakeholders achieve their decarbonisation aspirations

Investing in our network

Strategic Investment Process

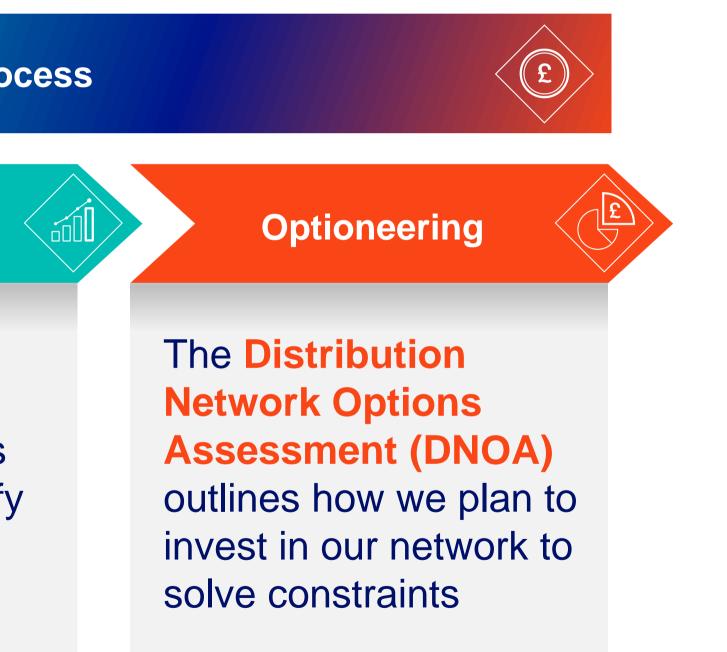
Forecasting



Network Impact Assessment

The Distribution Future Energy Scenarios (DFES) identify how customers will use our network in future The Network Development Plan (NDP) uses forecasts to analyse and identify future network constraints

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Investing in our network

Our strategic investment process will ensure we:

- Maximise the use of 'hidden' capacity on the network, whilst ensuring network investment is delivered when it's needed, at the lowest cost to consumers.
- Collaborate and coordinate across the whole-system, to help stakeholders achieve their decarbonisation plans.

Please scan the QR codes below for further details of our **Distribution Future Energy** Scenarios (DFES), Network Development Plan (NDP) & Distribution Network **Options Assessment (DNOA)**





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Thank you for listening.

If you have any questions you can email nged.energyplanning@nationalgrid.co.uk.

National Grid Electricity Distribution plc. Avonbank Feeder Road **Bristol BS2 0TB**

nationalgrid.co.uk

Planning for Net Zero

Rachel Shorney Strategic Optimisation Manager SP Energy Networks

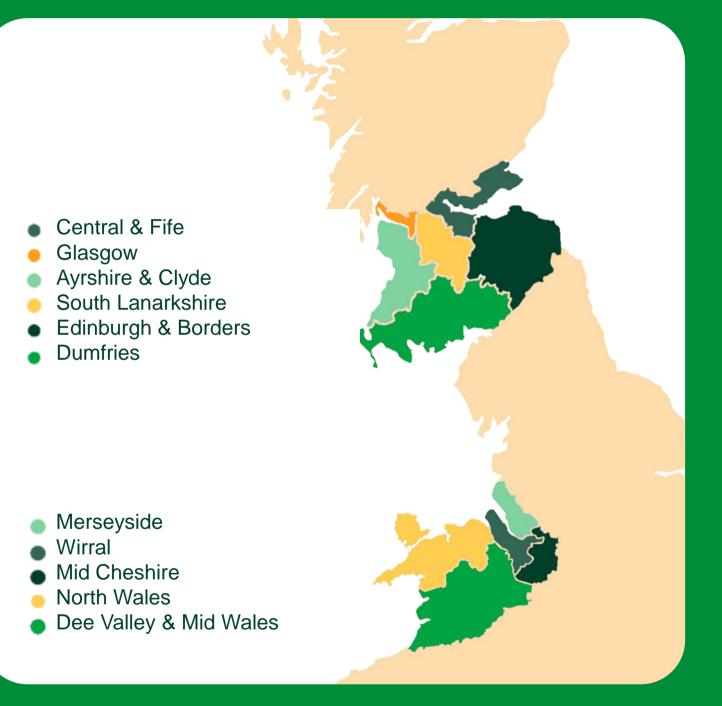


- 12 Regional & City Growth Deals
- 40 Local Authorities

NGET Midlands Region:

- Shropshire Council
- Midlands Forward Partnership
- Marches LEP historically

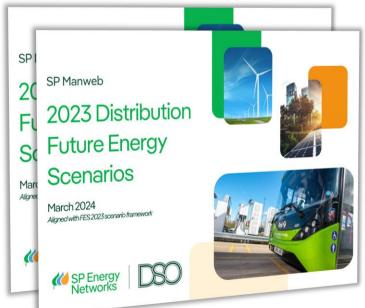




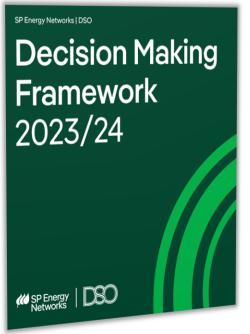
Network Planning for T3 and ED3

Providing the network capacity our customers need safely, efficiently, and on time.









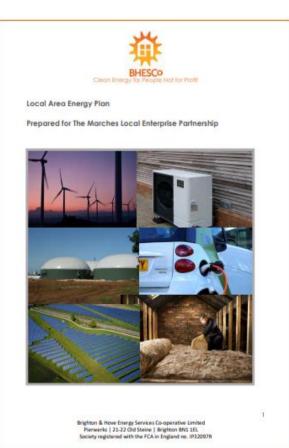
Network planning data shared on SPEN Open Data Portal.



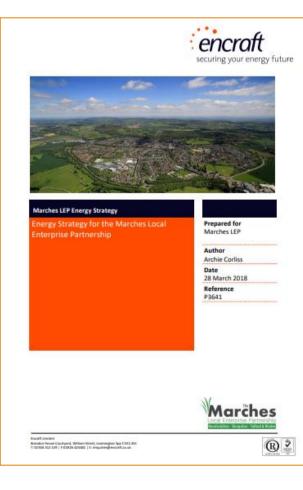
SP Manweb licence area – Strategic Relationships & Engagement in Marches



- Shropshire Council
- Shropshire Climate Action Partnership
- Marches Forward Partnership
- Marches LEP
- Transport for Wales













Fairer, greener, stronger: our Strategic Transport Plan for the Midlands

April 2022

Midlands Connect



Introduction to the NESO

Public

NESO update on Strategic Energy Planning (SEP)

January 2025

Faith Natukunda – RESP Regional ManagerToby Thornton – RESP Regional Manager – West MidlandsRegional Energy Strategic Planning..National Energy System Operator



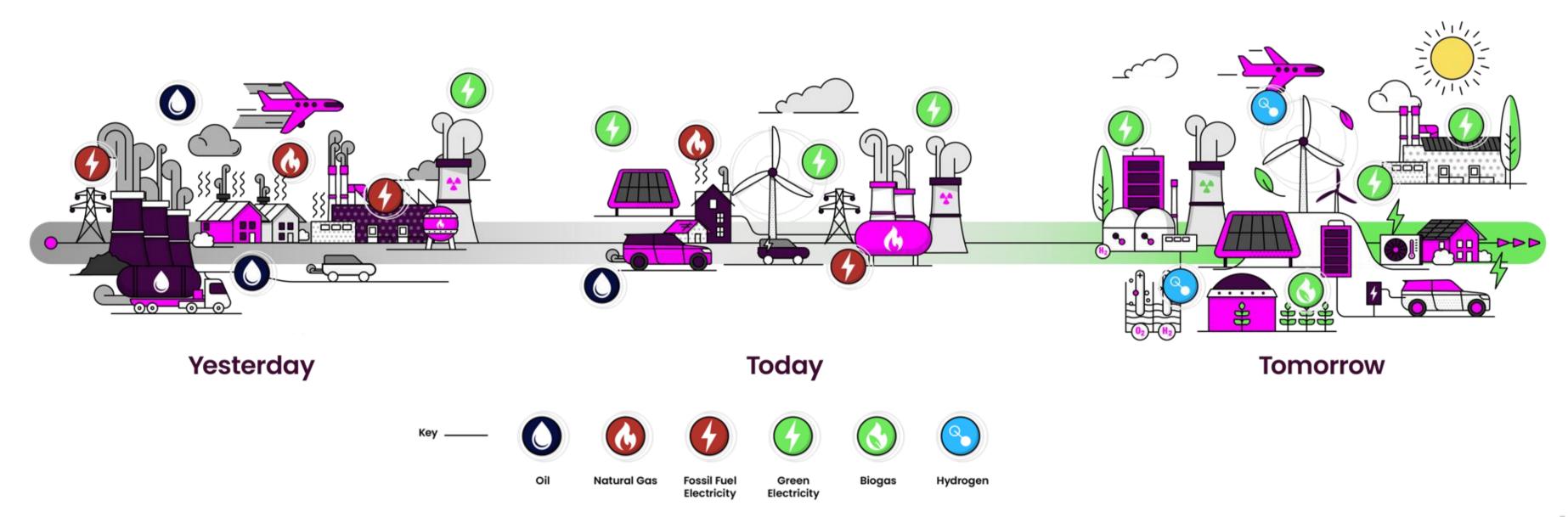
Overview

- 1. National Energy System Operator overview
- 2. Strategic energy planning (SEP) overview
- 3. Next steps (milestones)



A changing energy landscape

- The energy system is critical to almost all aspects of our daily lives and fundamental to decarbonising the economy.
- The way we use, store and source energy is significantly changing and we have an opportunity in this period of change to shape an energy system that fosters economic growth and prosperity for Great Britain, creating jobs and building skills.
- This valuable opportunity will help protect the environment for current and future generations and ensure energy is affordable for everyone.



We must work collectively at a local, regional and national scale to realise the benefits of the energy transition for Great Britain, and the people who live here.





1. 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.

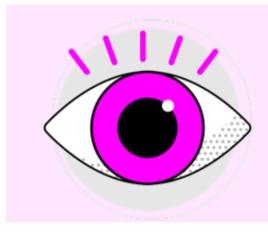
Your Energy Your Future Our Purpose



Our Purpose, Vision And Values



Our purpose is to forge the path to a sustainable future for everyone.



Our values are what define us, setting the foundation for our purpose and guiding us as we move towards achieving our vision.



Accelerate Progress We deliver better outcomes at pace when we take accountability, are courageous and progress the bigger picture.



Be Curious We achieve more when we demonstrate a growth mindset, being curious, asking questions beyond and within our organisation to develop, learn and innovate.



Build Trust We build trust when we listen to and understand the needs of our colleagues and customers, are transparent with our actions and deliver on our commitments.



Our vision is a future where everyone has access to reliable, clean and affordable energy; our work will be a catalyst for change across the global community.



Create Belonging We perform at our best when we can be our true selves, embrace diversity and are truly inclusive.



Our Governance

NESO is operationally independent of government. We plan the electricity and gas systems and operate the electricity system.

Being independent means we can give impartial recommendations to the government and the regulator.

Our shareholder



Department for Energy Security & Net Zero

Our regulator



Independent NESO Board

The NESO Board oversees our strategic direction, ensuring compliance with regulations and mitigation of corporate risks.

The Board ensures that we build strong relationships with customers and it evaluates performance.

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The Department for Energy Security & Net Zero is responsible for national policy and providing strategic direction and targets in relation to UK energy

Ofgem is the energy regulator for Great Britain



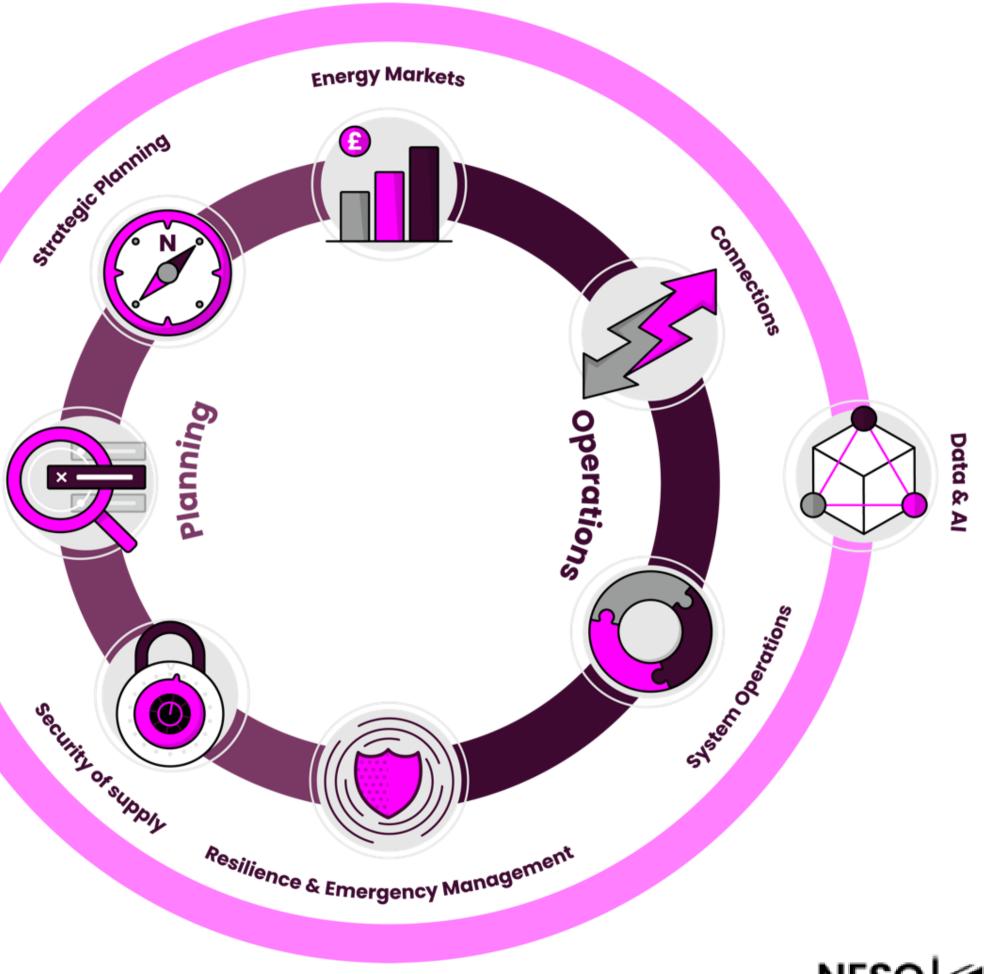
What we do:

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. Energy Insight

<u>https://www.neso.energy/what-</u> <u>we-do</u>

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2. Strategic Energy Planning (SEP) overview

Pre 2030

CP2030

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

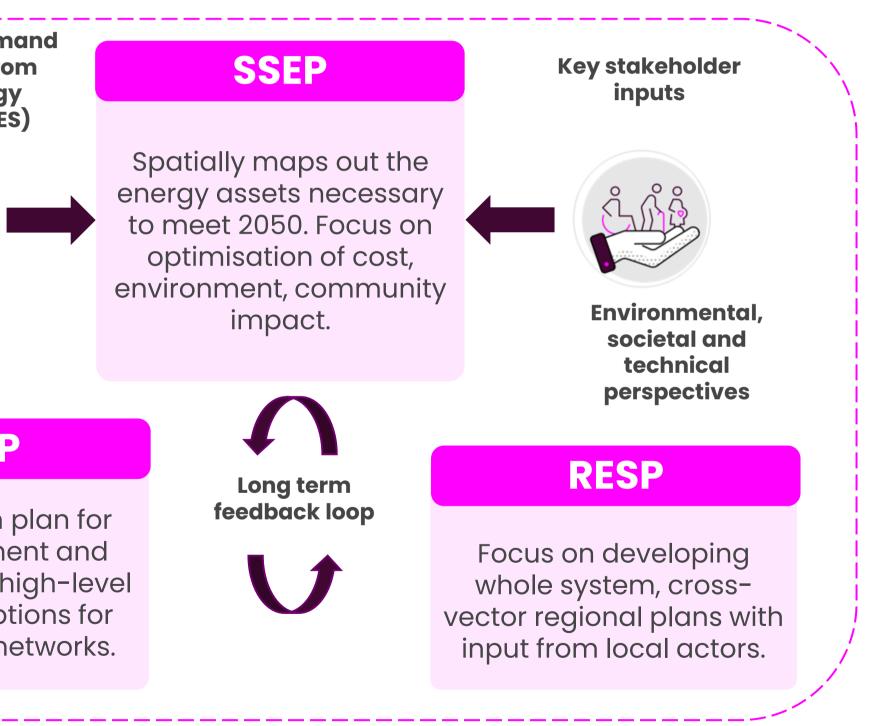
UK Government response to CP30 advice to be published by end of 2024 Adopted Clean Power 2030 advice by Government feeds into the background assumptions underpinning all three Strategic Plans. Supply and demand projections from Future Energy Scenarios (FES)

DESNZ data inputs and assumptions

CSNP

Whole system plan for the development and assessment of high-level investment options for transmission networks.

Post 2030





Strategic Spatial Energy Plan (SSEP) overview

Accelerate clean, affordable, secure energy through certainty

The SSEP will accelerate and optimise Great Britain's transition to clean, affordable and secure energy by taking a holistic approach and providing greater certainty for key stakeholders.

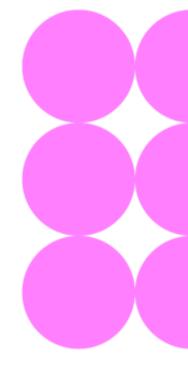
Zonal approach, taking account of environment and communities

Splitting Great Britain's energy system into zones to assess the optimal locations for electricity generation and storage of electricity and hydrogen.

Options identified using economic, environmental and technical input, with considerable societal, stakeholder and political engagement planned.

SSEP will not focus on specific projects, leaving the energy market or subsequent processes to determine the specific projects and exact locations.





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

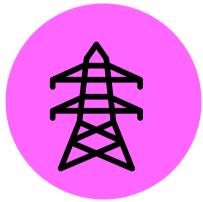


Co-ordinate reinforcements and anticipate investments ahead of infrastructure delivery



Balance development against environment/ community impacts to maximise benefits





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



Regional Energy Strategic Plans (RESP)

Why?

To achieve local and national net zero targets we need:

- To accelerate electricity network investment enable heat & transport decarbonisation
- **Consistency** same 2. approach for all network companies
- Whole system joined-up 3. plan for all aspects of energy system

Where? (proposed)



Map A1 – Ofgem's preferred GB RESP settlement

Who? (proposed)

- **Ofgem** defining role
- **NESO** delivering role

Strategic Boards & Working Groups

Local authorities:

England: CAs, CCs, unitaries Scotland & Wales: unitaries

Networks: DNOs & GDNs

Other local actors: relevant to energy system & spatial NESO planning

System Operator

Draft RESP Outputs

Ofgem have outlined 3 building blocks that the NESO RESP must deliver. So far, we have identified **6 key outputs** that will enable the NESO RESP Team to deliver credible whole energy regional plans. These outputs will be refined and validated when developing the RESP Methodology.

The Regional Energy Strategic Plans

The RESPs will develop future energy pathways and hotspots where strategic investment need is likely to arise to meet the regional energy visions

Regional Energy Vision

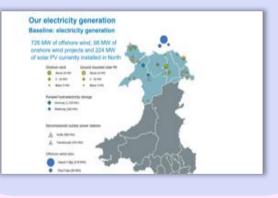
RESP will enable distinct **Regional Energy Visions,** reflecting local needs, to collectively support national objectives

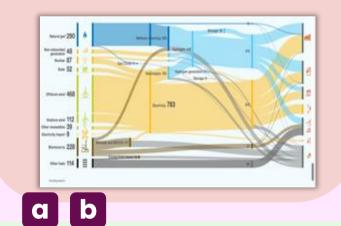
Regional Pathways

RESP will create Regional Pathways built from bottomup that are coherent with national needs. NESO will also develop consistent planning assumptions

Spatial System Need

RESP will identify strategic investment needs as well as spatial cross-vector system needs, resulting from the pathways considering network constraints







Regional Geospatial Energy Plan

RESP Team will develop geospatial regional plans that provide transparency and visibility to local communities and national stakeholders. The RESP Team will continue to track and monitor the delivery of the RESPs including Strategic Investments.







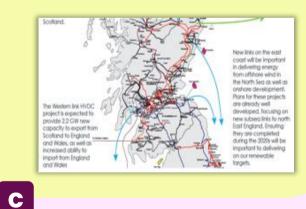
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Support for price controls



RESP will assure that regional network investment plans are integrated across vectors, built on consistent assumptions and deliver regional needs at pace, within national constraints





6 Societal Impact Assessment

The RESP Team will review the societal impact at a local level of the energy transition (including jobs, transport, industry, environment etc.



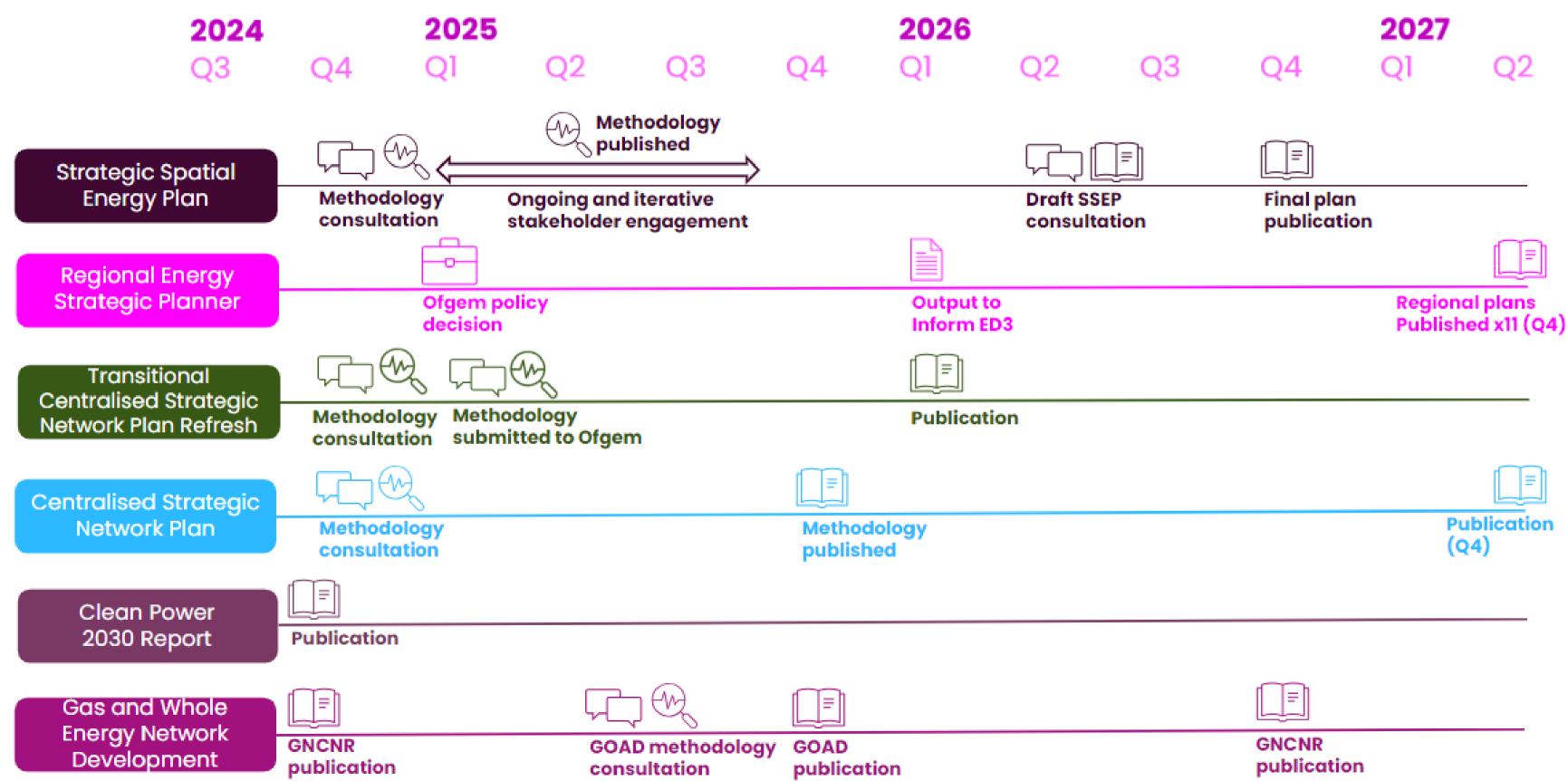




Technical coordination

3. Next steps - High level milestones*

*These are indicative dates and subject to change.







Thank you

NESO https://www.neso.energy/what-we-do

Strategic Energy Planning https://www.neso.energy/what-we-do/strategic-planning

Contact

toby.thornton@nationalenergyso.com faith.natukunda@nationalenergyso.com

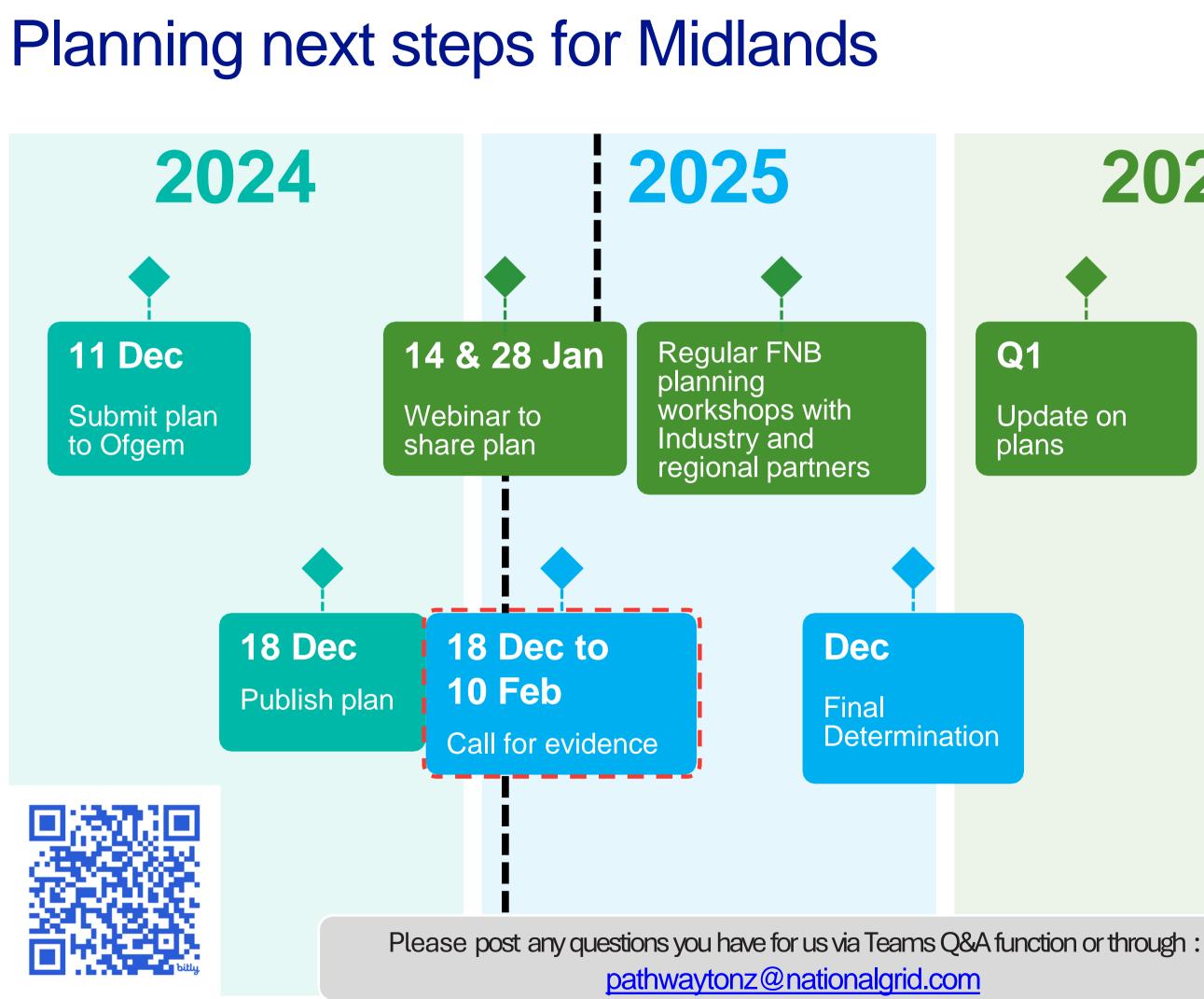




Timeline

Please post any questions you have for us via Teams Q&A function or through : <u>pathwaytonz@nationalgrid.com</u>





2026

Ofgem's Call for Evidence 18 December to 10 February

All responses welcomed

Your response will help to inform Ofgem's Final Determinations.

Please send your response to **ŘIIO3@** ofgem.gov.uk

More information at Ofgem Call for **Evidence RIIO-3**

Q&A

Please post any questions you have for us via Teams Q&A function or through : pathwaytonz@nationalgrid.com



We welcome your feedback on what you have heard today, our FNB process and how we can work better together ?

Please get in touch via pathwaytonz@nationalgrid.com



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Our approach to local engagement We consult and work with local residents, their representatives and statutory stakeholders through all stages of the planning and construction process. Our approach is underpinned by the 5Cs:

- **Communities** play a vital role and should see the \bullet benefits from hosting new infrastructure.
- We undertake the highest standards of **consultation**.
- We identify and **collaborate** with partners to deliver \bullet tangible community benefits.
- Our communications **campaigns** will clearly explain the \bullet need for a reliable decarbonised grid, and greater energy security for Britain.
- Our **colleagues** are experts in the energy sector, land, planning and the environment.

How we engage with local communities

We consult and work with local residents and their representatives through all stages of the planning and construction process.

- Consultation and information events
- Stakeholder briefings
- Public webinars
- Community newsletters
- Dedicated e-mail and phone services
- Project websites

National Grid | Local and Regional Engagement





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