



SSEN Distribution

DISTRIBUTION NETWORK OPTIONS ASSESSMENT (DNOA) METHODOLOGY

June 2026



Scottish & Southern
Electricity Networks



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FOREWORD

This is our third update of SSEN's DNOA methodology and we continue to enhance our process to provide you with greater transparency on our decision-making processes. Thanks to those who took time to engage with our DNOA consultation process. We are now able to publish the final version of our 2026 DNOA methodology

Up to 2025, we broadened our DNOA scope to cover lower voltage networks and implemented an outcome review process. Furthermore, Threepwood's assurance role was expanded to oversee our DNOA methodology. This assurance, combined with feedback from our DSO Advisory Board and stakeholders, has informed the updates to this methodology.

Key changes include:

- Clarifying the roles of DSO and DNO by strengthening the distinction between their responsibilities, ensuring greater transparency over who leads planning, operation, and flexibility coordination.
- Reflecting the introduction of NESO's tRESP which has brought new planning requirements into our processes.
- Restructuring how plans are communicated to offer a clearer view of where we intend to procure flexibility services compared to where traditional network investments are planned. This also distinctly separates long-term flexibility monitoring from active flexibility procurement.
- Sharing our initial roadmap to introduce the evolution of flexibility planning as we move towards ED3 including our preliminary ideas on broader flexibility use cases for ED3.

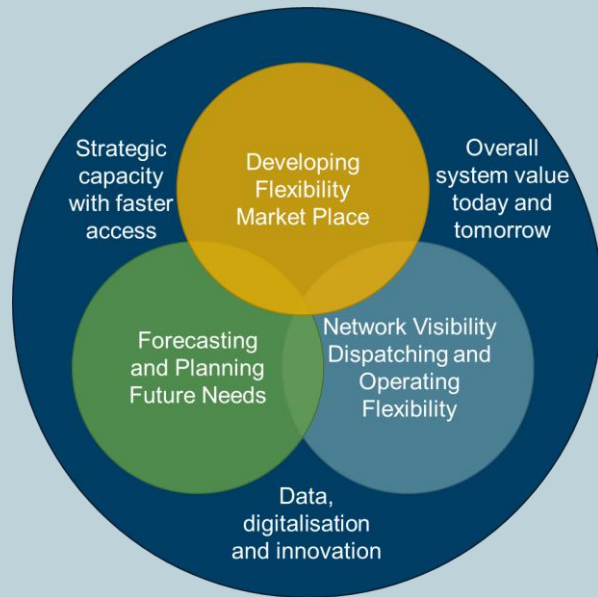
We're now also focusing on our approach to flexibility in the next regulatory price control period, ED3. This methodology provides our current thoughts, and our intended timeline. We will update stakeholders on our approach later in the year in accordance with this timeline



ANDREW WAINWRIGHT
Whole Systems Manager



DISTRIBUTION SYSTEM OPERATION IN SSEN



Our DSO team **strategically plan** and efficiently provide **capacity and faster access** to a **smart energy network, enabling services** from Distributed/Consumer Energy Resources to create a net zero world at optimal **whole system value** for our **customers** today and tomorrow.

- We provide information to customers and enable capacity through our toolbox of **strategic investment, flexibility services** and **access products**.
- We help improve time to connect and keep costs down using **Flexibility** and **Innovation**.
- We've aligned our DSO organisation to deliver the Ofgem defined **DSO functions, whole system**, innovation and open data requirements to enable **competition**.
- Our DNO organisation has a **separate DSO function** for managing **capacity**. Our decision-making **governance frameworks** enable **transparency** and SSEN to effectively mitigate any **perceived conflicts of interest**.
- We utilise the RII0-ED2 **Totex Incentive Mechanism (TIM)** to incentivise **efficient investment** and the DSO incentive to drive outcomes delivering **customer** and **societal benefit**.

Our Stakeholder Priorities

- ✓ **Enable** decarbonisation through strategic investment and the application of flexibility, releasing capacity quickly and efficiently
- ✓ **Improve** the connections experience by offering; more options, more choice, and more insights driving faster decisions
- ✓ **Grow** the number of customers participating in flexibility services, simplifying the process and increasing possible revenues
- ✓ **Drive** economic growth by supporting local area energy plans and engaging on strategic development plans
- ✓ **Support** a smart and fair transition





GOVERNANCE THAT DELIVERS

Our governance arrangements ensure transparent, unbiased actions that accelerate towards net zero.

We believe that close working between DSO, Asset, Customer and Delivery teams is critical to efficiently achieving net zero. Under our governance model, DSO functions are separate from our Asset, Customer and Delivery functions but remain part of the same organisation enabling efficiency end to end processes and systems.

There are clear decision-making accountabilities for load (DSO) and non-load (Asset). We mitigate any potential conflicts of interest through additional assurance and independent oversight of our DSO function. Our integrated business model enables us to operate efficiently by sharing data between functions to deliver our connections pipeline and LCT uptake more quickly.

*Our **DNOA** methodology is a critical part of our governance, demonstrating transparency as a neutral market facilitator. In this report we provide further detail on both how we achieve transparency but also the role the wider DNO organisation plays within the process.*

*Further details on our governance processes can be found in our **DSO service statement**.*

Transparent Decision Making



Our DSO Function is accountable for all capacity (load) decisions within SSEN

We publish and consult on our decisions and how we make decisions. Our methodologies, roadmaps and development plans are all available on our website.

We use targeted and intentional engagement that best meet our stakeholder's needs. We seek independent assurance. We communicate our decisions and outcomes and publish key operational and performance indicators.

Functional separation, with independent challenge



DSO teams are functionally separate from other DNO activities (such as asset management or delivery). The Director of DSO has specific, independent accountability at executive level. The DSO Subcommittee reports directly to the Distribution Executive Committee and is independent from Asset and Delivery functions.

Our DSO Advisory Board is fully independent and competitively selected to provide challenge and scrutiny across our DSO activities

Functional accountability & responsibility to manage conflict



SSEN operates to the Distribution Governance and Investment Framework (DGIF). This sets out formal interaction and decision-making between DSO and wider DNO activities (such as asset management, connections and delivery).

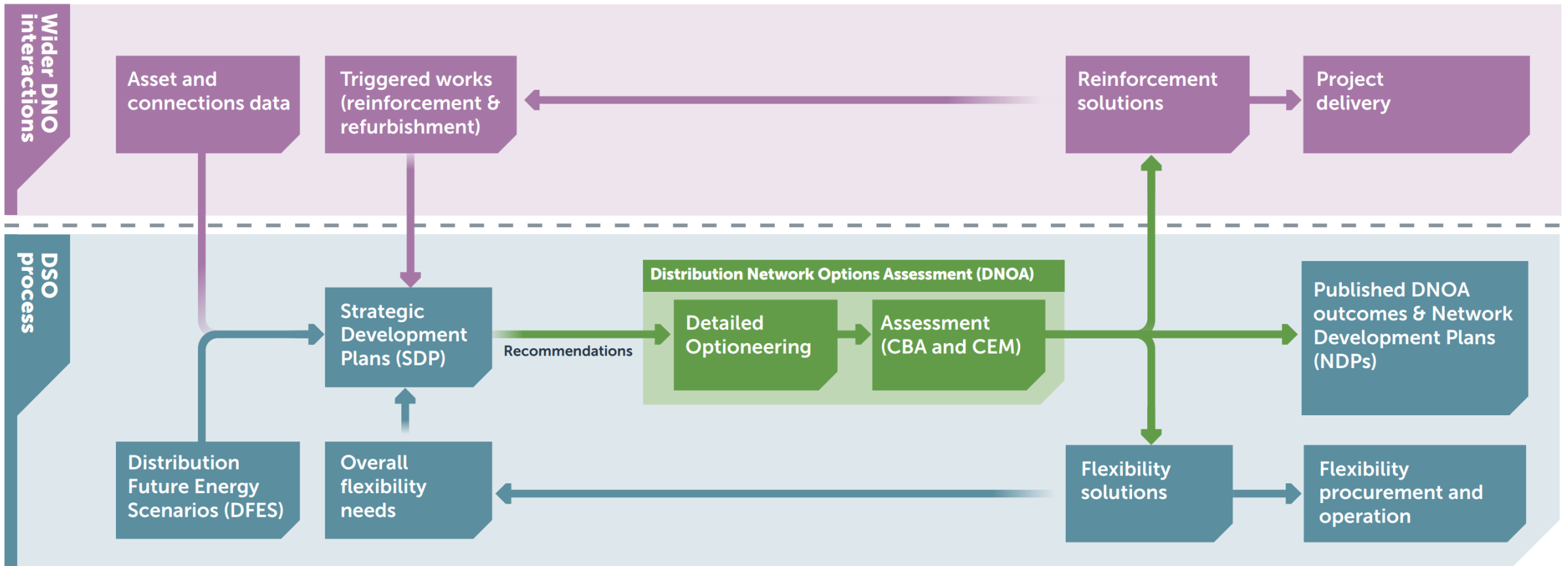
Stage-gated decisions consciously manage handover of requirements from DSO to Asset/Delivery teams for design and delivery choices, modification to requirements and other areas of potential conflict or change.



DNO / DSO INTERFACES IN THE STRATEGIC DEVELOPMENT PROCESS

All stages of our Strategic Development Process are led by our DSO function. This ensures we're acting as a neutral market facilitator that is transparently considering flexibility and asset solutions in our optioneering. It corresponds to the 'Opportunity Assessment' phase of the DGIF process as described in our DSO service statement.

The wider DNO organisation contributes essential information throughout the process, helping build an accurate view of future network needs and ensuring asset health remains within safe limits. This collaboration is based on information sharing, not joint decision-making. Where the DSO and DNO disagree, issues are escalated through the DGIF process and, if needed, to the DSO Advisory Board for a final decision. Further details are provided in our [DSO Service Statement](#).

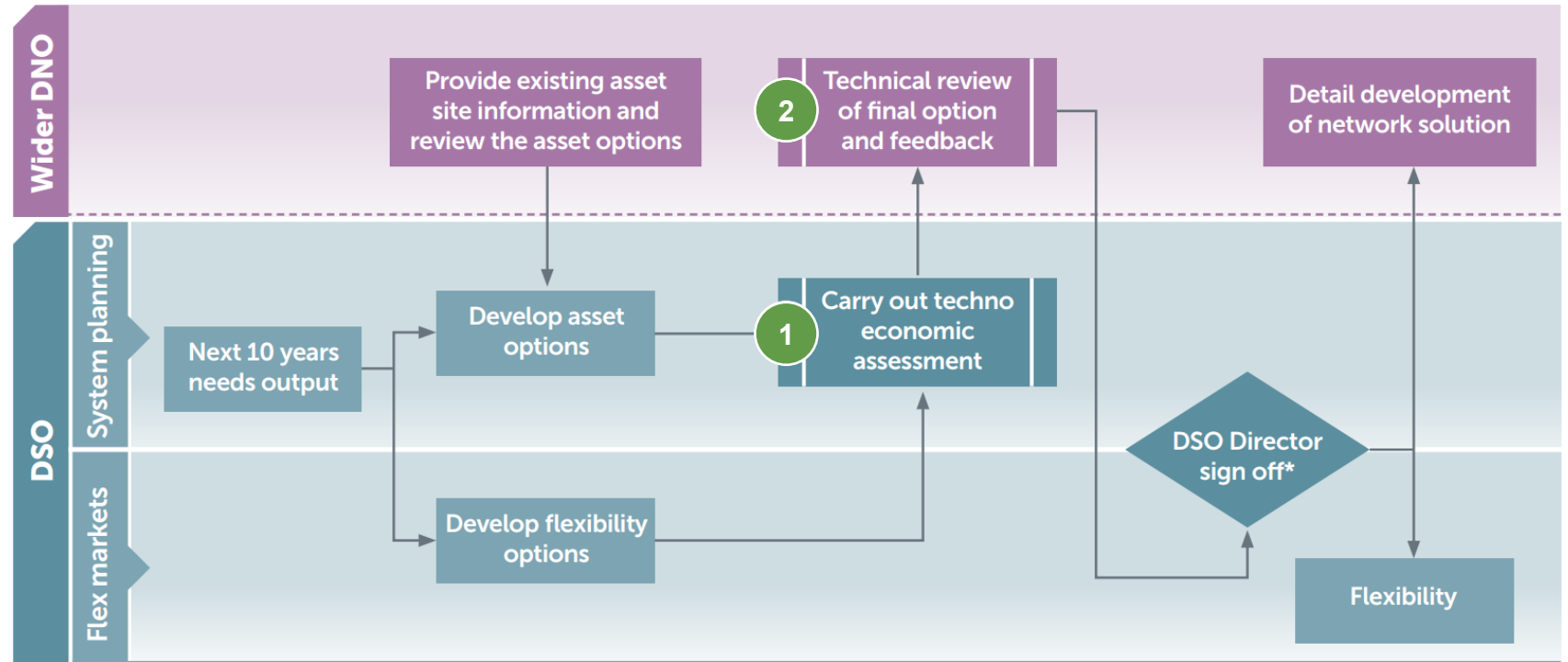




CONFLICT RESOLUTION IN THE DNOA PROCESS

We've introduced proportionate measures at the appropriate steps in the DNOA process to facilitate decision-making, manage conflict resolutions and increase transparency to our stakeholders.

These are embedded within the Distribution Governance and Investment Framework (DGIF). Further details on this framework can be found in our [DSO service statement](#).



*DSO Head Of for <£4m

Resolutions

The simplified view of the key decision points in this process is presented in the flow chart on the right. 1 and 2 are the two steps within the process that may require additional measures to form a resolution. The path of escalation at each point is described across.

Resolution of conflicts

- 1 In developing options to resolve constraints, system planning and flexibility market functions have differing views over the build and flexibility service solutions
- 2 In reviewing DSO's recommendations for constraint removal, the Asset or delivery functions provides feedback on deliverability or operational and safety of the scheme and a common solution cannot be reached.

Escalation path

- DSO Director. (Direction sought from DSO Sub-Committee for new precedents)
- SSEN Executive. Accountability with DSO Director to resolve with Asset Director.



INDEPENDENT ASSURANCE

We conduct independent assurance on both our DNOA Outcomes and the DNOA Methodology.

Independent assurance – DNOA Outcomes

The independent assurers review a selection of DNOA outcomes from each quarterly report. These selections encompass both SSEN licence areas and include a variety of outcome decisions.

There are two types of assurance review:

- A ‘sample’ review concentrating on the detailed technical reports and cost-benefit analyses carried out.
- A ‘deep dive’ review, which also involves interviews with those engaged in developing the DNOA outcome.

Assurers evaluate whether the DNOA outcomes comply with the DNOA methodology and provide recommendations for improvements.

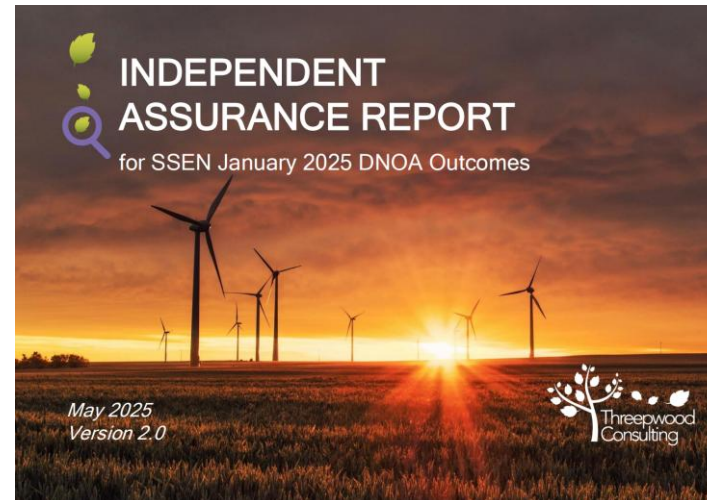
DNOA: Scenario based triggers (DSO)

Thresholds (option approval stage)	Proposal approved by	Independent assurance
Between £500k and £2m	Head of System planning	No
Between £2m and £4m	Head of System planning	Yes
Above £4m	Director of DSO	Yes

Independent assurance – DNOA Methodology

The 2025 DNOA methodology has also been independently assured providing SSEN with recommendations for improvement. These insights also include feedback received from the DSO Advisory Board and have been carefully considered during the development of this DNOA methodology update. This DNOA methodology will be similarly assured.

The outcomes of the assurance procedures are submitted to the DSO Advisory Board for additional review and are also made available online in the DSO Publications & Reports, which can be accessed here: [Publications & Reports](#).



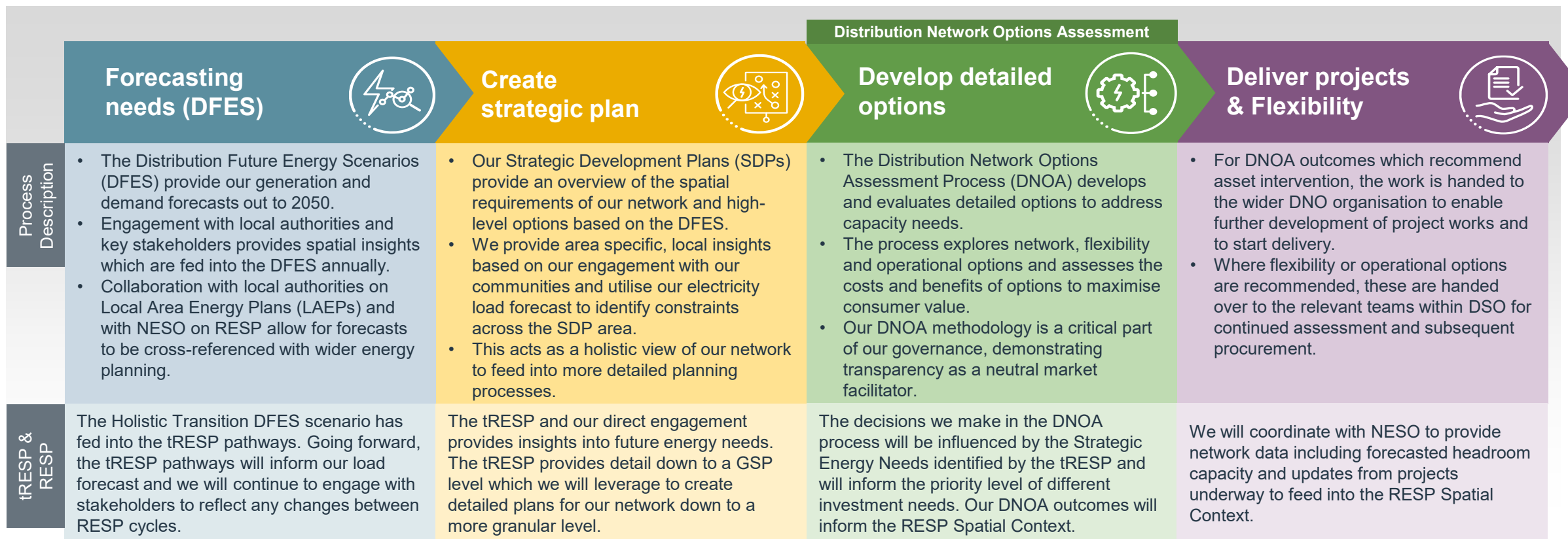


OUR STRATEGIC DEVELOPMENT PROCESS

Our Strategic Development process provides the capacity on the network to deliver economic growth and decarbonisation whilst retaining a clear focus on reliability and resilience. Our approach:

As part of NESO’s new role as Great Britain’s independent system planner and operator, the transitional Regional Energy Strategic Plan (tRESP) now provides the initial national and regional view of future energy needs, informing DNO business planning ahead of the full RESP framework.

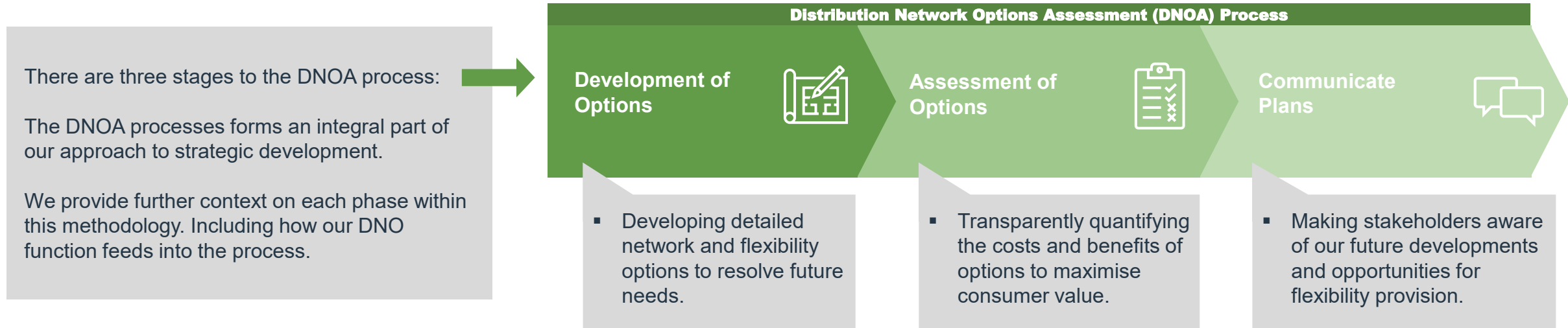
tRESP now underpins each stage of our planning framework. Its outputs guide and shape all related processes. We will work closely with NESO on the first RESPs, which build on tRESP and bring wider system coordination. Each process shown is accompanied by a short summary of how it links to tRESP and RESP.





THE DNOA PROCESS

This methodology report provides further context on our system development process and how we make transparent decisions on the use of flexibility.



Triggers

Works are triggered through the DNOA process up to 10 years ahead of need, through the recommendations of our strategic development plans.

Additionally, works can be triggered through reactive drivers outlined by the DNO.

DNOA: Scenario based triggers (DSO)

The need is identified through our annual strategic development plans.

Load related interventions

Analysis indicates investment required within next ten years

Non-DNOA: Incremental change triggers (DNO)

The need arises from a specific driver during the year.

New connection(s) triggers work

Asset condition triggers work

Third party works trigger work (e.g. diversions)



DEVELOPING OPTIONS TO RESOLVE

Wider DNO Input

The wider DNO organisation provides input on asset and operational options through geographic, operational and safety considerations but the development of flexibility services is completed separately with consideration of other market needs and interactions.

Hybrid options combine operational, flexibility and asset measures, allowing multiple solutions to be applied as constraints change over time.

🔥 Thermal

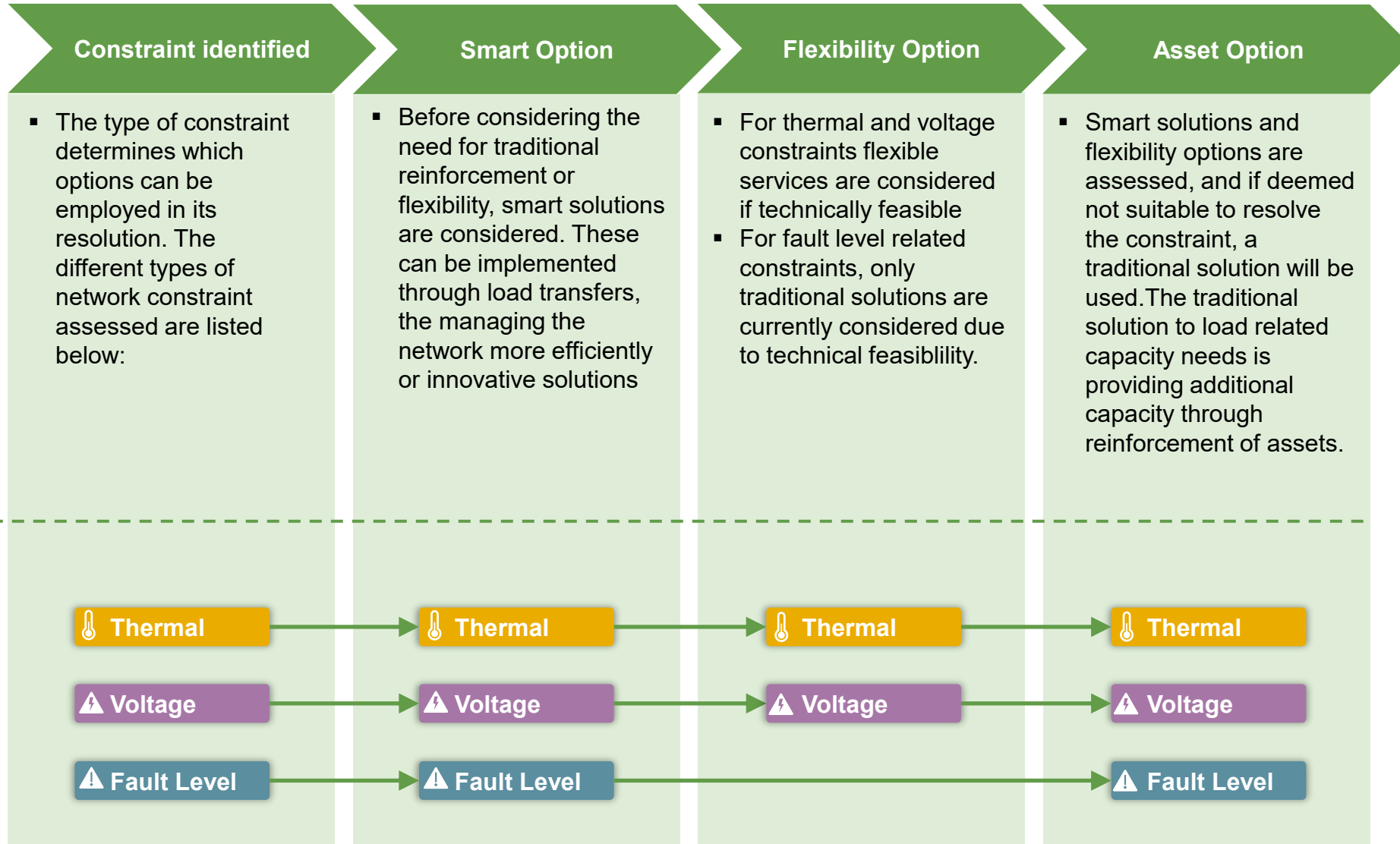
Too much power flow is heating assets beyond their designed operational limits.

⚠️ Voltage

The voltage levels on the network rise or fall outside allowable limits.

⚠️ Fault Level

Short-circuit current exceeds network equipment limits.





ASSESSMENT OF OPTIONS

Cost – benefit analysis (CBA)

We've three CBA tools which are employed to support the assessment of options developed through the DNOA process. The table below shows how these help us make transparent decisions.

Tool	Purpose
Deterministic Cost Benefit Analysis (CBA)	Used by all DNOs to develop reinforcement options and the basis of regulatory submissions. This is used to compare technically feasible network options to determine the optimum solution.
Common Evaluation Methodology (CEM) CBA	The CEM tool is used to quantify the benefit of flexibility services and determine the number of years for which flexibility services could be used to defer the identified reinforcement. Relative benefits are compared against the optimum network option to understand if flexibility can deliver greater value.
Strategic CBA	This new tool leverages the Social Return on Investment (SROI) framework developed by the ENA. It can help identification of the optimum timing of an intervention by considering requirements under multiple DFES scenarios. It can also consider the size and scope of solution required, i.e. whether there is benefit on a broader more strategic solution implementation rather than an incremental approach. It is used in cases where there is believed to be broader benefit in a more strategic approach.

Market viability assessment

An assessment is carried out to determine whether enough assets are available to provide Flexibility Services to resolve the constraint. We apply assumptions regarding flexible load to DFES data, to indicate the likely Flexibility in each Constraint Managed Zone. Assumptions are informed by data such as historic Flexibility Service procurement across SSEN, other DSOs, and NESO.

This is supported by ongoing engagement, including bespoke RFIs for potential future providers.



DNO Asset & Delivery Input

The wider DNO will provide relevant information to allow us to complete relevant Cost Benefit Analysis (CBA). This can include cost information, condition and fault data, and numbers of customers connected in network areas.

The resulting recommended option from CBA will be subject to an internal check by DNO Asset and Delivery functions to ensure the solution meets is deliverable and maintains safety and security of supply. The DNO Asset function ensures the solution is optimised for efficient delivery within the current portfolio of plans including asset driven works.

If an asset build solution cannot be efficiently delivered in time to meet a constraint or connection timeline, the DNO Asset function will request options from DSO to procure additional flexibility to support efficient deliver. These options that would not be have been economic in initial assessment but may be economic when considering updated project delivery information. Additional flexibility services may also be requested to enable outages to take place.



COMMUNICATION OF PLANS

We publish DNOA outcomes on a periodic basis ensuring stakeholders receive our decisions in a timely manner. Having access to this data helps strategic planning provides relevant information for customers and local communities.

Each DNOA decision is accompanied by a clear, standard outcome (see below). We've refreshed and simplified this list to provide greater clarity to stakeholders of where we intend to procure flexibility services and where we'll be investing in our networks over the next 10 years. We're proposing to enhance this view to highlight where we are monitoring a future long-term need for flexibility (generally greater than 18-months ahead) and where we're actively seeking flexibility procurement (typically 18 months ahead).

Other than Asset Solution, we'll also review our decisions annually. Review is required to ensure we are utilising the latest information on flexibility unit costs and may result in acceleration or deferral of strategic investment and/or changes to the timing or extent of flexibility needs. This information will also be published for specific DNOA outcomes in our annual summary report.

Outcomes With Flexibility		
Decision	Recommended DNOA Outcome	Description
Is flexibility feasible and economically optimal with the requirement landing in the next 18 months?	Flexibility Procurement	Requirement will appear in upcoming flexibility procurement activities.
Is flexibility feasible and economically optimal with the requirement landing beyond the next 18-months?	Flexibility Monitoring	We'll continue to monitor the requirement and make a final decision regarding procurement later.
Are we currently using flexibility in this area?	Flexibility in active use	
Outcomes Without Flexibility		
Decision	Recommended DNOA Outcome	Description
Is reinforcing the asset the more efficient than flexibility?	Asset Solution	Use traditional asset solutions (upgrading, replacement etc). This includes strategic solution sized to meet future needs.
If Flexibility isn't technically viable, are there other solutions or technologies that can prevent the need for a planning intervention?	Operational management	Where the constraint does not require planning interventions as the need can be met with operational solutions or innovative technologies that are economically viable.
If flexibility isn't technically viable, are there other solutions or technologies that can delay the need for intervention?	Operational management followed by asset solutions	Where a constraint can be managed for operational solutions for a limited time, after which network reinforcement is needed.



COMMUNICATION OF PLANS – DNOA OUTCOMES

We've made a number of improvements to the way we present DNOA outcomes as listed below:

- 1 We now clearly separate what the constraint is, where it occurs, and how we plan to resolve it, giving a more transparent and structured view of each issue.
- 2 We've combined the constraint-management timeline and exceedance plot giving a single, integrated view showing planned interventions and the impact of taking no action.
- 3 We've expanded the flexibility information included in the report, giving greater visibility of the area's flexibility potential.
- 4 This table reflects the same HT scenario shown in the exceedance chart, illustrating the estimated peak MW that would sit above firm network capacity.
- 5 Orange boxes indicate links that provide additional information about the project or its data.

Area Served (PSS/BSP/GSP)

DNOA outcome: Operational management followed by asset solution.

Constraint description

- Load related – *substation/circuit* thermal overload/voltage issues during FCO/SCO/intact conditions.

Scheme description

- Local authority: *[insert]*
- The reinforcement of the *xxxx* PSS/BSP/GSP will increase capacity in the *xxxx* area. Postcode(s): *[insert]*

Proposed option Corresponding SDP 5

- Flexibility/Operational Management/Asset Solution. Describe reinforcement works.
- This option addresses the forecasted thermal overload/voltage issues at *xxxx* PSS/BSP/GSP out to 20xx
- Capacity released: *xxxx*MVA

Estimated MW outside firm capacity under each scenario Graph Data 5

DNOA Outcome Report

Related SDP: *xxx*

Flexibility Status			
No Flex	Flex Monitoring	Flex procurement	Flex in use

Flexibility Information		
Activity	Expected Budget	Minimum Voltage
Generation Turn Up/ Demand Turn Down	£11,000 (over 3 years)	11 kV

Flexibility Season(s)											
J	F	M	A	M	J	J	A	S	O	N	D

Flexibility procurement data (HT scenario) 4					
	25/26	26/27	27/28	28/29	29/30
Flexibility Requirement (MW)	<i>xx.xx</i>	<i>xx.xx</i>	<i>xx.xx</i>	<i>xx.xx</i>	<i>xx.xx</i>
Service Window	18:00 - 20:00	18:00 - 20:00	18:00 - 20:30	18:00 - 21:00	18:00 - 21:00

1 Scottish and Southern Electricity Networks Distribution | DNOA Outcomes Report January 2026 – Ref *xxxx-xx*





PROVIDING INSIGHTS AT HV/LV

This year we'll continue to publish our HV/LV DNOA outcomes. This will look at the lower voltage networks that supply our homes and businesses.

Given the volume of HV/LV decisions made we provide these outputs in summary form for each Local Authority area. These decisions are shorter term and are therefore not part of our annual update process. This may change in ED3 as we take a more programmatic approach to LV upgrades.

Our HV/LV DNOA outcomes also build on the strategic insights developed through our Vulnerability Future Energy Scenarios (VFES) project and summarise the number of sites affecting most vulnerable consumers.

Area	Local authority	Number of sites assessed	Percentage of sites situated in vulnerable communities (i.e. classified as very high or high vulnerability)	Percentage of sites recommending flexibility
SHEPD	Aberdeen City	56	23%	52%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%
XX	XXXX	XX	XX%	XX%



FLEXIBILITY ASSESSMENTS IN ED3: CURRENT THINKING

ED3 will see additional use cases for flexibility, moving us away from a sole focus on flexibility to defer investment. Consistent with other DNOs we believe that in ED3 flexibility should be used for a broader range of planning and operational use cases.

Planning use cases manage uncertainty & avoid delay. We're proposing that planning use cases evolve into three streams;

- Using flexibility where it is a more efficient solution
- Using flexibility to manage uncertainty in future network needs
- Using flexibility to accelerate capacity delivery and optimise portfolio work requirements

Alongside this new operational use cases will focus on delivering efficient outcomes: Connections accelerated, curtailment reduced and increased outage options. Below we show diagrammatically our current thinking on approaches to assessment in ED3.

Planning <i>Optimising capacity and deliverability needs within a price control period.</i>	
	CEM CBA
Description	The Common Evaluation Methodology (CEM) will still be used to understand the relative benefit of flexibility in providing an alternative capacity solution. This will be used to identify cases where flexibility either provides a clear efficient solution to a planning need, recognises option value, and/or optimises our delivery plans on a portfolio basis.
Flexibility Use Cases	<ul style="list-style-type: none"> • Flexibility as an efficient solution to a planning need • Flexibility to manage uncertainty in future network needs • Flexibility to optimise portfolio delivery
	Strategic CBA
Description	We'll use our strategic CBA to assess opportunities to optimise investments and flexibility opportunities associated with Strategic Energy Needs as defined in the Regional Energy Strategic Plans.
Flexibility Use Cases	<ul style="list-style-type: none"> • Flexibility to accelerate capacity

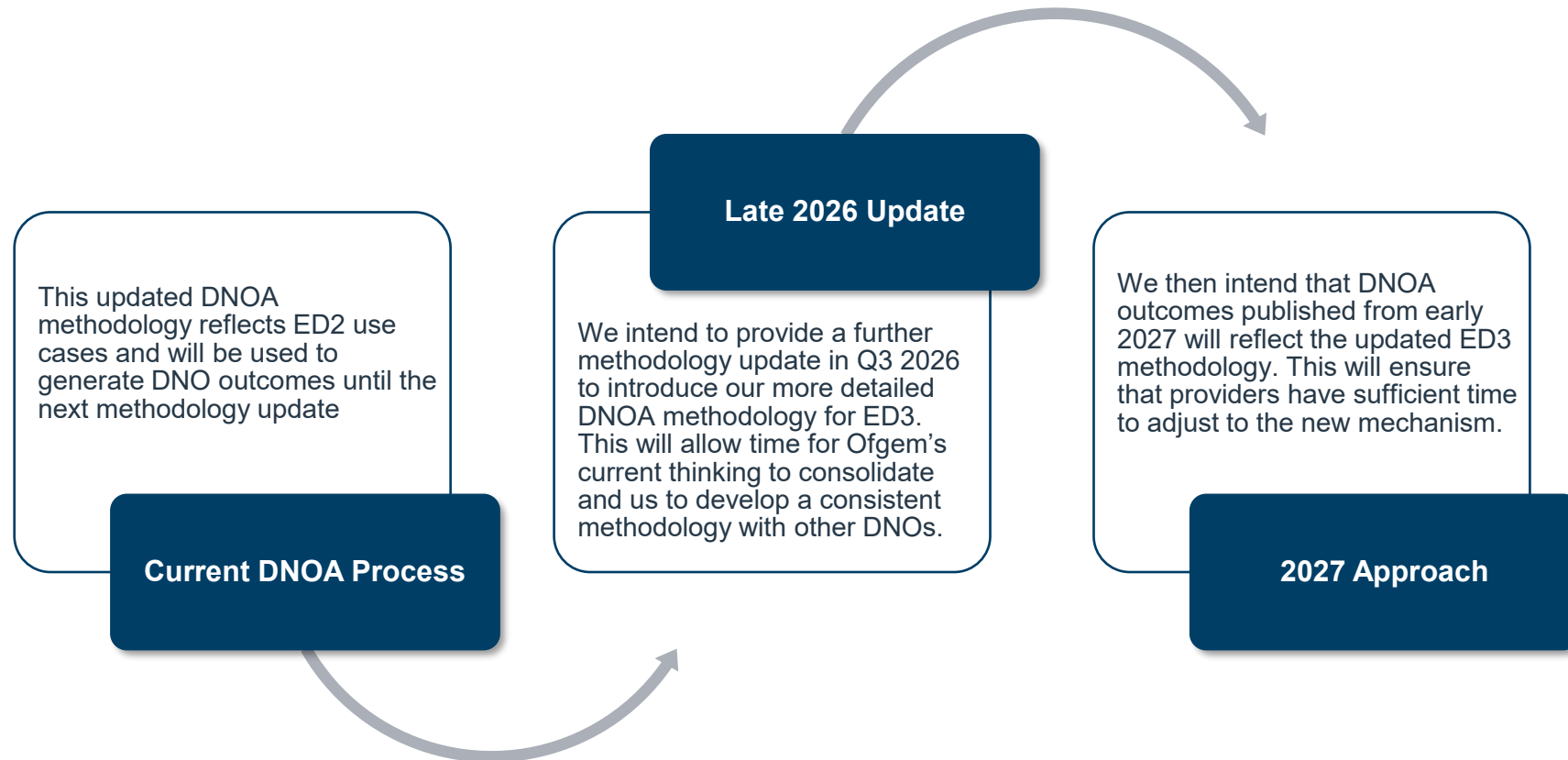
Operational <i>Optimising customer experience and network efficiency on an ongoing basis, or as a result of a connection request</i>	
	Access acceleration
Description	We'll use a new CBA tool to assess whether flexibility can help demand and generation customers connect earlier than wider reinforcement, delivering broader economic, system and societal benefits. This could include Early Access arrangements (such as ANM) and using flexibility to reduce curtailment for new or existing customers.
Flexibility Use Cases	<ul style="list-style-type: none"> • Accelerating demand connections • Accelerating generation connections • Reducing curtailment
	Outage planning
Description	We'll use flexibility to reduce group load during outages. This lowers CI/CML risk, improves work efficiency, reduces reliance on temporary generation, and creates wider outage windows to complete more work with less customer impact.
Flexibility Use Cases	<ul style="list-style-type: none"> • Planned outage risk management • Unplanned outage risk management



PLANNING USE CASES – ROADMAP TO ED3

We recognise that Ofgem's change in approach to flexibility may have an impact on indicative flexibility forecasts. We want to provide you with as much certainty as possible and soon as we are able.

We intend to transition to our ED3 DNOA methodology from late 2026. We believe that this will enable providers to transition to new arrangements before we commence flexibility procurement activities for ED3.





WANT FURTHER INFORMATION?

We provide a significant amount of data and information relating to our future energy insights, network needs, flexibility opportunities and investment decisions.

You can find out more in the links below.





GLOSSARY

Aggregators	A new type of energy service provider which can increase or moderate the electricity consumption of a group of consumers according to total electricity demand on the grid.
BAU	Business As Usual
CMZ	Constraint Managed Zones . These zones make use of technologies providing flexibility to alleviate network constraints, deploying them as an alternative to traditional network reinforcement in the management of peak demand.
Data triage	Systematically find issues which should inhibit open data, identify the 'least impact' mitigation technique(s) and make the process transparent.
Decarbonisation	Reducing the carbon intensity in terms of emissions per unit of electricity generated.
DER	Distributed Energy Resources. Any resource on the distribution system that produces or stores electricity. This can include distributed generation, storage, heat pumps and electric vehicles as well as other technologies.
Digital System Map/ Digital Twin	A digital representation of a real-world entity or system.
DNO	Distribution Network Operator
DNOA	Distribution Network Options Assessment
DSO	Distribution Systems Operator. The directorate within SSEN that supports a more flexible network operation. Uniquely placed to ensure simple and consistent access to new markets for our active customers through maximising the utilisation of our existing electrical and communication networks.
DSOAB	DSO Advisory Board
DSAP	Digital Strategy and Action Plan
ESO	Electricity System Operator. The electricity system operator for Great Britain, making sure that Great Britain has the essential energy it needs by ensuring supply meets demand.
EV	Electric Vehicle
FSO	Future System Operator. Ofgem intend to set up an expert, independent FSO with responsibilities across both the electricity and gas systems and the ability to expand its remit to additional energy vectors when needed. The FSO will be in the public sector, with operational independence from government.
GDN	Gas Distribution Network
GIS	Geographic Information System
GW	Gigawatt
HV	High Voltage
IDNO	Independent Distribution Network Operator
kWh	Kilowatt hour

LAEP	Local Area Energy Plan. A data-driven and whole energy system, evidence-based approach that sets out to identify the most effective route for the local area to contribute towards meeting the national net zero target, as well as meeting its local net zero target.
LCT	Low Carbon Technologies
LENZA	Local Energy net zero Accelerator. SSEN's tool for supporting local authority LAEPs.
LEO(N)	Local Energy Oxfordshire (Neighbourhood)
LTDS	Long Term Development Statements. Designed to help to identify and evaluate opportunities for entering into arrangements with us relating to use of system or connection.
LV	Low Voltage
MW	Megawatt
NDP	Network Development Plan
NeRDA	Near Real-Time Data Access
NIA	Network Innovation Allowance
NMF	Neutral Market Facilitator will provide a market for trading use of Distributed Energy Resources (DERs).
Open Data	Data in a machine-readable format that can be freely used, shared and built on by anyone, anywhere, for any purpose.
PSR	Priority Services Register. Our register of vulnerable customers.
RIIO-ED2	Price control for Electricity Distribution (2023-2028)
RSP	Regional System Planner. Ofgem proposal for regional energy system planning bodies.
SDG	Sustainability Development Goals
SEPD	Southern Electric Power Distribution
SHEPD	Scottish Hydro Electric Power Distribution
SIF	Strategic Innovation Fund
SME	Small Medium Size Enterprise
SSE	Scottish and Southern Electricity
TO	Transmission Owner
TOM	Target Operating Model
VFES	Vulnerability Future Energy Scenarios
VIVID	Vulnerability Identification Via Informative Data