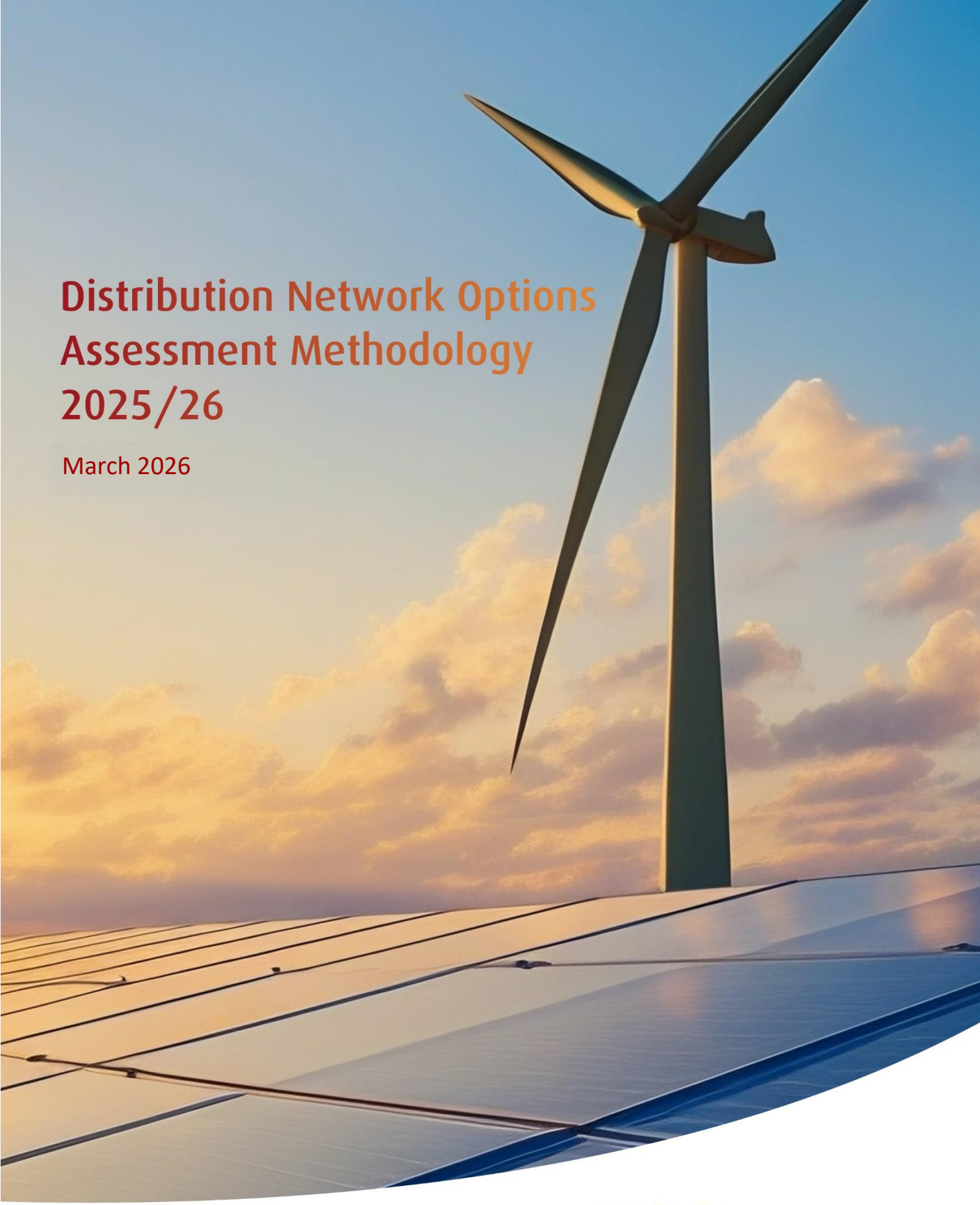

Distribution Network Options Assessment Methodology 2025/26

March 2026

DSO

UK Power Networks
Delivering your electricity

Contents

List of Abbreviations

Abbreviation	Definition
CEM CBA	Common Evaluation Methodology Cost Benefit Analysis
CP2030	Clean Power 2030
DERMS	Distributed Energy Resource Management System
DFES	Distribution Future Energy Scenarios
DNO	Distribution Network Operator
DNOA	Distribution Network Option Assessment
DSO	Distribution System Operator
RIIO-ED2	Electricity Distribution 2, the regulatory period from 2023-2028
ED3	Electricity Distribution 3, the regulatory period from 2028-2033
EHV	Extra High Voltage
ENA	Energy Networks Association
EPN	Eastern Power Networks
FES	Future Energy Scenarios
HV	High Voltage
KPI	Key Performance Indicators
LAEP	Local Area Energy Plan
LCT	Low Carbon Technology
LPN	London Power Networks
LV	Low Voltage
NESO	National Energy System Operator
RESP	Regional Energy Strategic Planning
SPN	South Eastern Power Networks
tRESP	Transitional Regional Energy System Planning

1. Executive Summary

Great Britain's energy system is entering its most transformative decade, driven by accelerating electrification, rapid technological innovation, and the national commitment to reach Net Zero by 2050. As electricity demand grows under a new regulatory direction, strategic and data-driven decision-making has never been more critical. While the core purpose of the DNOA remains unchanged, the context in which it operates is shifting at pace. Ofgem's evolving expectations for ED3, the introduction of NESO's RESP role, and sustained electrification across heat and transport are collectively reshaping how networks must plan for the future. These developments require a more agile, long-term, and integrated planning approach to ensure capacity is delivered where and when customers need it.

Despite this evolving landscape, the foundations of the DNOA remain firmly in place. Our decisions continue to be grounded in cost-benefit analysis using the ENAs CEM CBA (Common Evaluation Methodology Cost Benefit Analysis). Our core objective on delivering up to £410m reduction in load related expenditure during RIIO-ED2 through the increased use of flexibility, including at the domestic level remains unchanged. Reinforcement and flexibility continue to be considered side by side, providing clear system and customer value. The UK Power Networks DNOA process does not see flexibility and reinforcement as opposing strategies, but instead go hand-in-hand in developing the distribution network.

What is changing, however, is the scale and nature of the planning challenge. The transition to ED3 brings challenges to networks to move from strategic, site-by-site interventions towards a coordinated, long-term and whole system planning approach that "touches the network once". This shift is driven by several factors, and the DNOA is evolving to respond to each as follows:

- **New regulatory expectations** – Ofgem has been clear that ED3 will require DNOs to demonstrate credible long-term planning aligned to RESP pathways, underpinned by consistent planning assumptions and whole-system outcomes. To meet this, the DNOA will be strengthened to incorporate RESP inputs, and improve transparency on strategic needs.
- **Greater uncertainty and higher rates of change** – Electrification of transport and heat, volatility on customer connections, and accelerating LCT adoption mean that forecasts can shift rapidly. This necessitates improvements to the DNOA, including the use of local intelligence from LAEPs, integrating our connection pipeline, more frequent forecast updates, and ensuring the methodology can adjust pathways annually as new data emerges.
- **Enhanced optioneering and emerging use cases for flexibility** – Beyond traditional deferral or load-driven reinforcement, the use of flexibility is expanding to support planned outages, accelerate connections and system access, support LV voltage management and improve portfolio deliverability, expanding its value to customers and the wider system. The DNOA methodology will be updated to formalise these broader use cases, expand how flexibility is valued through the development of CBAs, and ensure it is integrated consistently across planning decisions.
- **Ensuring transparency and accountability** - We continue to strengthen transparency and accountability through the implementation of external audit recommendations, ensuring our processes remain robust, traceable, and compliant. In parallel, the development of our Long-Term System Needs Register provides clearer visibility of future needs, giving stakeholders a predictable and transparent view of upcoming system needs.

These changes strengthen the DNOA into a longer term, integrated planning framework that selects the lowest cost solution today and ensures the network is fit for the future. Our ambition is to build a framework that balances cost efficiency with deliverability, supports RESP aligned long term needs, and ensures sufficient capacity for customers as growth accelerates.

2. Introduction

The Distribution Network Option Assessment is the UK Power Networks DSO decision-making framework for assessing and recommending the most efficient and cost-effective network investments. It ensures the optimal development of our distribution network and supports the wider electricity system, enabling the transition to Net Zero at the lowest possible cost to customers. The process is comprised of six stages:

1. Need Identification – Forecasting where and when the network will become constrained using demand profiles, DFES projections, and connections pipeline.
2. Optioneering – Identifying solutions such as reinforcement and flexibility.
3. Evaluation – Assessing cost, deliverability, and whole-system benefits.
4. Recommendation – Selecting the option that delivers optimal value and aligns with strategic objectives.
5. Approval – Securing approval through the DSO Supervisory Board.
6. Implementation – Publishing outcomes and monitoring delivery.

The energy system is undergoing a rapid transformation driven by Great Britain's commitment to Clean Power 2030 and net zero by 2050. This makes it essential that DNOs deploy all available capabilities to manage the expected growth efficiently. In RIIO-ED2, flexibility has played an important role in lowering costs, and we agree with Ofgem that flexibility will remain critical for DNOs throughout ED3 and beyond. As its use evolves, its role will extend beyond reinforcement deferral to supporting a broader set of outcomes. Rising electricity demand, increasing electrification of transport and heat, and evolving customer expectations require a structured, transparent approach to investment planning. These changes introduce both short-term (connection requests, flexibility availability) and long-term (future demand growth, asset condition) uncertainties. The DNOA provides a framework to manage this uncertainty efficiently, balancing reinforcement and flexibility to manage uncertainty and deliver capacity where it is needed most.

The introduction of the NESO's RESP role and Ofgem's direction for ED3 signal a step-change in how networks plan and invest. The RESP outputs will provide Consistent Planning Assumptions and strategic pathways, shaping long-term investment decisions. We recognise our role will be to cater for the RESP pathways and ensure our plans provide sufficient capacity when required. We are committed to integrating RESP insights into our DNOA methodology to ensure readiness for ED3 and beyond. Furthermore, we are preparing the network to meet customers' future needs by:

- Aligning with national policy objectives such as Clean Power 2030.
- Delivering efficient, whole-system solutions through collaboration with stakeholders.
- Ensuring transparency and governance via updated publications.

As part of the DNOA we publish:

- DNOA Methodology – Our annually updated framework that sets out principles, methods, and governance for optimal network development.
- DNOA Reports – Detailed recommendations for each identified need, including location, constraints, flexibility options, and approved solutions.
- Long-term system needs register – A transparent record of emerging and future network requirements to inform stakeholders and guide strategic planning.
- Publication of DNOA Results – We publish the raw data of the DNOA outcomes onto our Open Data Portal.

Together, these efforts enable a secure, smart, and decarbonised electricity system that delivers long-term benefits for the communities we serve. To maintain transparency and stakeholder engagement, previous versions of the DNOA methodology and the reports are available on our website.[1]

[1]Distribution Network Option Assessment (DNOA) website - https://www.ukpowernetworks.co.uk/our-company/distribution-network-options-assessment-dnoa

3. The Evolving Role of DNOA

The insights gained over the past couple of years have been crucial in shaping our understanding of how flexibility services can better support our network. As our methodology continues to evolve, these lessons are helping us refine and enhance the way we plan and deliver flexibility services.

- **Forecasts can shift significantly, and plans must adapt.** In RIIO-ED2, we observed a change from DFES scenarios to pathways, with a move from Consumer Transformation to Holistic Transition, bringing some capacity needs forward, while deferring others. This highlights the importance of remaining agile by updating the DNOA decisions annually to reflect evolving demand trajectories. Further information is provided in Chapter 4.
- **The DNOA process is constantly maturing.** As we are heading to ED3, the DNOA methodology is evolving towards a longer-term outlook to 2050 and a more programmatic, proactive planning approach that aims to "touch the network once" by coordinating interventions for maximum system benefit. Further information is provided in Chapter 3.2, Chapter 5 and Chapter 6.
- **Portfolio level planning is becoming essential.** While the DNOA began with site-specific evaluations, we know that this approach is limited in a rapid-growth environment. Portfolio-level thinking is critical to manage deliverability challenges and supply-chain constraints. A broader, coordinated view will allows us to smooth delivery timelines, and reduce supply-chain risk, with flexibility acting as one of several tools that support this shift. Further information is provided in Chapter 3.1.3 and Chapter 7.
- **Predictability drives market engagement.** We have learned that flexibility markets grow more effectively when stakeholders have a clear view of future opportunities. By publishing the Long-Term System Needs Register, we provide the predictability the industry needs to plan confidently. Further detail is provided in Chapter 8.
- **Market testing adjustments have identified following a review of our decision-making process**. We have learned that single-transformer sites are not well suited to flexibility procurement under current operational and technical constraints. As a result, we have excluded these sites from our flexibility tenders to ensure that procurement remains practical, deliverable, and aligned with system needs.

We are continually looking for new ways to strengthen and evolve our DNOA process. Our goal is simple: to operate a safe, reliable, and efficient network while delivering outstanding service to our customers. To achieve this, we are actively exploring additional flexibility opportunities that can enhance the value and effectiveness of the DNOA process. The direction we take will naturally be shaped by the current regulatory landscape, but our commitment to innovation remains constant.

3.1. Enhancing our Optioneering - developing new use cases

As part of our preparation for ED3, we recently carried out an expression of interest across our network, inviting flexibility service providers to share their capabilities. This has given us valuable insight into the flexibility potential across our regions and is enabling a more enhanced optioneering process, helping us shape the next generation of DNOA use cases. Looking ahead, this insight is guiding us toward the following areas where flexibility can create meaningful impact:

- Managing planned outages more efficiently
- Accelerating customer connections and access
- Ensuring the deliverability of our investment portfolio
- Managing LV voltage management

We already have experience in these areas through our ongoing innovation in RIIO-ED2, and we are now looking to formalise and strengthen our optioneering approach by developing more robust CBAs through the DNOA process.

3.1.1. Planned outages

Planned outages are required as part of normal network operations, for example to undertake maintenance, network upgrades, and customer connections. However, outages could reduce network capacity temporarily, which could impact customers. The DSO is already using innovative approaches to minimise customer impacts, such as the use of short-term forecasts to optimise the availability of the network. This approach will deliver more benefits to customers as the volume of works and therefore outages increase in future regulatory periods.

The DNOA Methodology has a role in setting out how options such as flexibility services are considered as part of outage planning, including the process, valuation, and governance. Using flexibility services for outage planning will differ to using flexibility to support long-term load growth due to the different benefits that it provides to the network and the shorter timescales involved. An agile DNOA process will support this using existing responsive capabilities, such as operational forecasting and day-ahead flexibility auctions. We continue to procure flexibility to support these needs, and this will only increase as we head into ED3 and beyond and the volume of outages increases. Figure 1 shows the high-level process the DNO and DSO go through together with the market to deliver this flexibility:

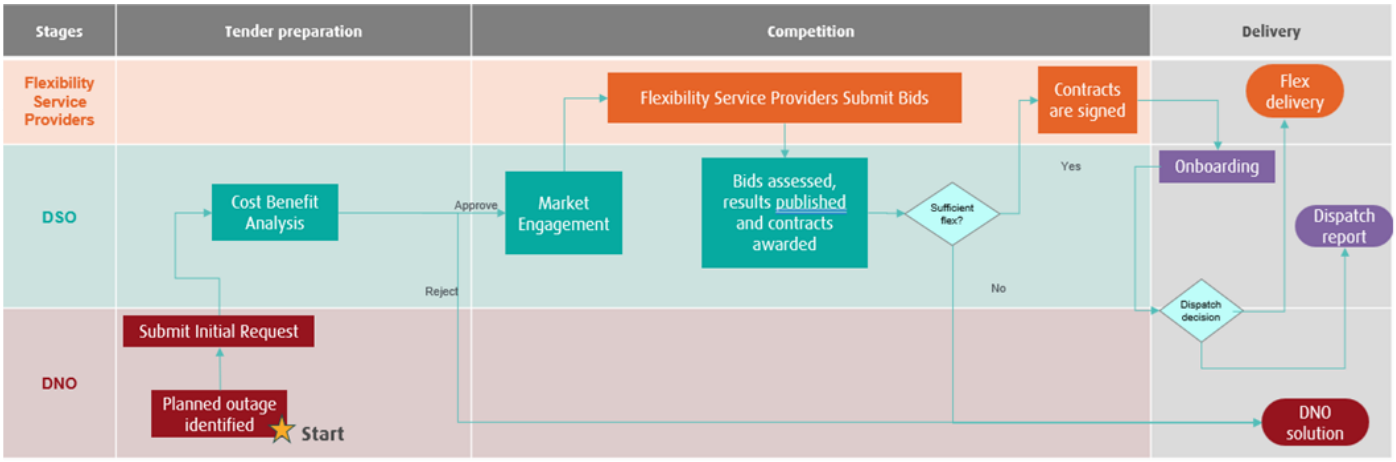

Figure 1: Our high-level tender process for outages.

3.1.2. Enabling quicker customer connections and increasing access

The DNO has responsibility for running the connections process, with significant customer and societal value-add from the DSO in its role in opening transparent network data and information, offering customers cheaper and quicker connections using DERMS, and collaborating with NESO to unlock network capacity. The DNOA has a role to play in both accelerating connections ahead of reinforcement, and reducing curtailment.

Within the DNOA framework, new demand connections are facilitated through need identification; the long-term forecasting of network needs that includes accepted connections to inform interventions. This allows us to ensure capacity is available to customers when needed whilst managing the uncertainty in energisation dates and utilisation inherent in large point-load connections.

We are exploring how flexibility could be used to manage future connections by making more information available in our Systems Needs Register to signal long-term flexibility opportunities to the market. Alongside this, we are reviewing the use of flexibility accelerate connections where lengthy reinforcement is needed. This demonstrates the ongoing value of flexibility whilst managing market expectations due to the uncertainty between price controls. We have asked flexibility providers to submit information on their potential for flexibility to support long-term connections-driven needs which will be used to inform our ED3 plans.

On the other hand, as CP2030 accelerates and the volume of distribution connected generation increases rapidly, curtailment is expected to increase on the distribution network. Flexibility has an important role to minimise this

curtailment. Our role in the DNOA is to identify these constraints and ensure flexibility, either demand turn up or generation turn down, is used efficiently to reduce curtailment where the benefits are clear.

We are identifying and trialling opportunities for flexibility to provide customer and societal value as outlined above. These trials will feed into a proposed enduring approach to inform our plans for ED3 and will be included in our methodology.

3.1.3. Ensuring deliverability of our investment portfolio

We are also examining how the DNOA process can support the smoothing of future capital investments by identifying where flexibility can optimise reinforcement needs, enabling more efficient long-term planning.

Over the past years, our assessments have been carried out on a site-by-site basis. While this has served us well, it is no longer fit for purpose in a high demand growth environment. This approach tends to maximise utilisation and short-term efficiency at site level but does not sufficiently consider the cumulative impact of decision making across the network. As we move into a period of sustained electrification, we must be more programmatic. Flexibility services can play a key role in here by smoothing the reinforcement curve, relieving short term constraints and allowing us to spread investments more efficiently over time.

The RESP will set out a 10-year regional pathway that our network investments must collectively deliver against. With higher volumes of future investment expected, it becomes essential not only to assess individual site level interventions but also to understand how decisions accumulate at a portfolio level across all sites and over to 2050. Using insights from engagement with a DSO from the Netherlands, we have validated the value of smoothing out future reinforcements to optimise delivery, reducing future peaks in reinforcement volumes by managing investment at a portfolio level. Within the DNOA process, we are working with the DNO to understand the volume of deliverable reinforcement as supply chains are ramped up for ED3, and will work with the DNO to develop a reinforcement and flexibility plan.

3.1.4. LV voltage management

The rapid growth in LCTs is transforming how power flows across our networks, driving up demand and creating new bidirectional patterns at scale. As LCT integration rises, voltage excursions (either high or low) will become more frequent which can generate customer complaints, trigger non-compliance and increase the risk of asset stress. Traditional voltage management tools such as transformer tap changer adjustment, capacitor bank switching and reinforcement are effective primary ways of managing voltage on our network. Flexibility services can provide an immediate way to mitigate voltage issues while waiting for a traditional reinforcement or device deployment. Flexible assets can rapidly adjust their consumption or generation and can be dispatched precisely in the locations experiencing voltage excursions, and only for the duration they are needed. In this way, flexibility complements traditional reinforcement by maintaining voltage compliance. Trials are underway in this area, and their output will direct updates to the DNOA methodology for this usecase.

3.2. Touching the network once: integrating load and asset health needs

At UK Power Networks, condition-related investments are guided by our non-load investment framework, which identifies interventions based on asset health, safety, and environmental considerations. Asset replacement driven by condition is undertaken across all voltage levels as part of the DNO's asset management strategy. Where these interventions have implications for future network capacity, they are reflected within our Network Development Plan.

The expenditure required for asset replacement cannot be deferred through the procurement of flexibility services, as reducing peak load has a limited impact on asset condition. However, there is an opportunity for the DNOA to strengthen alignment between DSO identified load driven and DNO identified condition driven activities, to ensure all interventions are preparing the network for 2050.

To address this we will develop a methodology which identifies co-ordinated solutions for condition and load needs. Within the DNOA, condition driven interventions that influence future network capacity will be more clearly articulated providing greater stakeholder transparency on increases to network capacity. The DSO will work with the DNO to develop this framework for ED3 to ensure all investments are optimised for the long term, and flexibility is targeted to where it is most needed.

Where this is no condition driver, the DNOA process will ensure capacity is available ahead of need as specified by the tRESP pathway. Flexibility will be used to manage future uncertainty in this pathway, ensuring option value is realised and investments are optimised for the long term.

3.3. Understanding the range of demand pathways

We plan the network primarily against the core Holistic Transition scenario, but we also assess how different future conditions may interact with, reinforce, or diverge from this baseline. By exploring a broad set of scenario levers, such as varying new connections, different LAEP trajectories, and the effects of geographically clustered developments, we gain visibility of the full range of credible demand outcomes, enabling us to minimise repeat interventions and "touch the network once."

This approach also allows us to track uncertainty. As demand grows, we are tracking this growth against our forecast scenarios. In this way, it allows us to adjust our plans in a data led manner and avoids a misaligned forecast. Historically we have forecasted increases in demand which have not materialised, and investment along those pathways would have been misdirected. A core part of this methodology is the application of option value. Option value is the capability to adapt an investment decision when new information emerges. It recognises that different scenarios may reveal different needs at different times:

- If demand accelerates faster than expected, flexible resources can be deployed first, giving the network time to validate the growth trend before committing to reinforcement.
- If rapid growth continues, flexibility provides interim capacity until reinforcement can be built, ensuring reliability and avoiding stranded assets.
- If growth is slower or more uncertain, flexibility can substitute for or defer reinforcement entirely, keeping choices open until the need is clearer.

Across all scenarios, option value offers insights into the timing and scale of interventions by revealing how different pathways affect investment risk. Even if the forecast matches the central scenario, we still expect certain sites to rely on flexibility as a long-term, least-regrets solution out to 2050.

4. Need identification

The DSO continuously assesses future network capacity requirements to determine the size, timing, and type of interventions across all voltage levels. This process is the starting point of the DNOA and involves three key steps:

- **Forecasting** - Future load scenarios are developed using network measurements, predictive models, and stakeholder input, using DFES pathways aligned with NESO FES pathways. Forecasts are now updated quarterly for greater responsiveness to changing inputs such as accepted new connections.
- **Headroom Calculation** - Electrical analysis is conducted to calculate the difference between forecasted demand and existing capacity, identifying potential constraints. The methodology for calculating and reporting network headroom is detailed in the Network Development Plan Methodology document[2].

[2] Network Development Plan (NDP) Methodology - NDP and NSHR Methodology 2025

- **Investigation** - Site-specific studies confirm capacity needs driven by load and asset health condition and validate assumptions. Additional factors such as load duration, load persistence, flexibility service availability, and network architecture are considered to refine interventions.

Once the needs are identified, the investigation varies by voltage level. For LV networks, the focus is on transformer utilisation, prioritising sites with high loading, particularly larger ground-mounted transformers serving many customers. These locations often present opportunities for flexibility services to manage capacity needs without physical reinforcement. At HV and EHV networks, analysis concentrates on thermal capacity constraints at substations and feeders, where forecasted growth is compared against thermal ratings to identify areas at risk of exceeding safe operating limits. Before reinforcement, operational solutions such as load transfers are considered. While thermal constraints remain the core driver today, going forward we will review additional factors such as voltage and network losses within the methodology.

As we continue to refine our approach to identifying network needs and ensure the DNOA remains relevant and targeted, we have introduced several enhancements to our forecasting and decision-making processes this year:

- **Agile forecasting** – Our forecasting approach is becoming increasingly agile to reflect fast-changing developments. Updated pathways have been introduced through new DFES projections in preparation for the tRESP. This provides an updated baseline of connected technologies and trends, which then flows into revised demand forecasts for each asset.
- **Local intelligence** – We are incorporating new LAEPs from local authorities using our LAEP Support Framework, ensuring our plans align with regional ambitions. Similarly, large housing developments (500 homes and above) are now included in forecasts to reflect government policy and local growth targets.
- **Integrating connection pipeline** – New demand connections above 1MW are regularly integrated into forecasts to combine connection-driven and load-driven reinforcement needs.

Looking ahead, strategic energy needs and RESP pathways remain an area in development. The RESP inputs will impact the DNOA primarily through regional whole-system planning aligned with Net Zero objectives under Ofgem's ED3 framework. As these pathways mature, we will incorporate them into our forecasts to strengthen alignment with national and regional decarbonisation goals. The key areas where RESP will influence DNOA are:

- **Regional demand and growth assumptions** – RESP will provide forecast pathways including the take up of electric vehicles and heat pumps, as well as consistent planning assumptions used to derive peak demand forecasts. The DNOA will use these in the need identification process.
- **Strategic Investment signals** – RESP outputs will indicate where proactive investment is needed, meaning the timing and scale of network upgrades must be coordinated and optimised across the portfolio. Deliverability at both the portfolio level and individual asset level will be critical to ensure efficient and timely availability of capacity.

To ensure the economic development of the network whilst catering for all capacity required by the RESP Pathways, we will need to manage the trade-offs between being demand led and unlocking flexibility potential and investing ahead of need to ensure deliverability. As we develop our business plan this will be a key area of focus to ensure we are not a blocker to Net Zero.

5. Options Assessment

Our options assessment methodology has been thoroughly detailed in prior DNOA publications; thus, we provide a concise overview in this chapter as a point of reference. Following the identification of capacity requirements, all potential solutions are evaluated through an optioneering process that encompasses both network and non-network alternatives. Network solutions typically involve traditional reinforcement or load transfers. For instances where demand marginally exceeds a substation's firm capacity, transferring load to neighbouring substations with surplus capacity is the most straightforward and economical strategy. Should this prove inadequate, network reinforcement, such as the installation or replacement of transformers and cables, may be necessary. While reinforcement offers substantial increases in

capacity, it entails greater capital investment and longer implementation timelines. The DNO conducts a comprehensive evaluation of all network options, selecting the optimal solution based on criteria including cost, feasibility, and alignment with long-term planning objectives under the "touch the network once" principle. When reinforcement is determined to be the preferred approach, the DNO provides specific details regarding asset replacements, anticipated capacity enhancements, and estimated expenditures.

Flexibility services provide a non-network alternative to manage capacity constraints by incentivising providers to adjust their demand or generation when required. We use three main products tailored to different operational needs[3].

- **Long-Term Scheduled Utilisation** – designed for predictable, recurring constraints where providers commit in advance to reduce demand or increase generation during pre-agreed windows. This product supports strategic planning and is remunerated through a utilisation fee (£/MWh).
- **Scheduled Availability and Operational Utilisation** – suited to seasonal or uncertain constraints, where providers commit to being available during contracted windows, with actual utilisation confirmed day-ahead. Payment includes both an availability fee (£/MW/h) and a utilisation fee (£/MWh), reflecting the dual commitment.
- **Day-Ahead Scheduled Utilisation** – addresses short-term or unexpected needs, such as outages, by enabling providers to participate in auctions at one day's notice. This product is paid via a utilisation fee (£/MWh), ensuring rapid response capability.

The cost of flexibility is determined through market testing, where providers bid for contracts up to a ceiling price based on the value of deferring reinforcement. If flexibility can be procured below this ceiling price, it is considered efficient compared to the baseline reinforcement option. The latest information on tenders is available at Tender Hub[4].

6. Evaluation and Recommendation

Once the optioneering phase is complete, all potential solutions are assessed using a structured evaluation process. This stage considers both technical and economic factors to ensure that the chosen option meets the requirements efficiently. Solutions requiring market testing for flexibility services are valued using the Energy Networks Association's Common Evaluation Methodology Cost Benefit Analysis[5]. This methodology, aligned with the Ofgem CBA[6] and the HMT Green Book, converts costs and benefits into consumer impact and discounts future costs and benefits into present value terms to allow comparison between different strategies.

The DNOA aims to deliver capacity efficiently to minimise the impact on consumer bills. A key part of achieving this is through effective management of future uncertainty. To understand the impact of uncertainty on network needs, we model different forecast scenarios representing trajectories of load growth. The CEM CBA tool builds on this to determine how much flexibility to procure, the relevant ceiling prices, and the option value. Option value is the capability to course-correct an investment decision in the light of new information; for example, if load increases quickly, flexibility can be deployed, and if growth continues and reinforcement is required, flexibility can provide interim capacity until reinforcement is completed.

The CEM CBA approach to option value stipulates the use of scenarios as snapshots of future uncertainty. The cost and benefit of each scenario is evaluated in turn, then amalgamated into a single set of parameters for decision making. We conduct a rigorous assessment to identify where flexibility delivers clear competitive value compared to traditional network reinforcement. This ensures resources are allocated effectively, with flexibility deployed only when it offers cost effectiveness relative to other available options. After identifying the optimum solution, the recommendation is reviewed by the DSO Supervisory Board for approval.

[3] UKPN DSO Flexibility https://dso.ukpowernetworks.co.uk/flexibility

[4] Tender Hub https://dso.ukpowernetworks.co.uk/flexibility/tender-hub

[5] Energy Networks Association's Common Evaluation Methodology Cost Benefit Analysis https://www.energynetworks.org/publications/common-evaluation-methodology-tool-and-supporting-materials

[6] Ofgem CBA https://www.ofgem.gov.uk/consultation/riio-ed2-data-templates-and-associated-instructions-and-guidance

Once all recommendations are complete, we calculate the benefits by provided by flexibility to customers and publish this in our annual DSO Performance Panel Report. For more information on how we calculate benefits, please see our DSO Benefits Methodology document[7].

7. Tracking recommendations and course correction

We publish quarterly performance against our DSO KPIs and our methodology[8] of reporting DSO benefits on our website. Within the DSO KPIs, we track the year-on-year change in total capacity headroom (network capacity minus demand), as a leading indicator of our progress in delivering capacity. Within our wider DNOA process, we use this KPI to determine whether further network interventions are required, beyond the immediate DNOA outcomes. Where the KPI is below target, it signals more headroom is required. The DNOA will then evaluate the most efficient means of creating the required additional headroom, which may involve revisiting site-level assessments to find the overall optimum solution. The minimum acceptable level of capacity headroom is set based on ensuring that any credible demand increase can always be satisfied.

Forecast accuracy is another relevant KPI. Our experience has shown performance in this area is limited by the uncertainty created by customer-led connections. It is difficult to predict which connections will proceed, when they will connect, and how much capacity they will require. This uncertainty prevents the KPI from reaching 100%, but it does highlight the critical role of flexibility services, which will provide the responsive capacity needed to manage the dynamic nature of connections and reduce reliance on lengthy reinforcements.

Alongside the DNOA, the Network Development Plan Reports[9], provides customers with visibility of reinforcement activity across the network. We will expand the data already available, such as what interventions are underway, the firm capacity being added, and the current stage of delivery, and show how these reinforcements align with key investment drivers such as demand growth, asset condition, and new customer connections. This will provide customers clearer insights into the capacity being delivered, and how these interventions relate to the DNOA process.

8. Ensuring transparency and accountability

The DNOA framework documents are published on a regular basis to ensure industry transparency regarding our decision-making processes across our regions. We are committed to continually sharing additional information with stakeholders. As part of this, we published long-term system-needs register, ensuring stakeholders have clear visibility of our reinforcement work and how future needs are evolving. This register will also signpost locations where flexibility services may be required in future years, providing early visibility to the market. Together with DNOA reports, these publications strengthen our transparency framework and support a clearer view of upcoming system needs.

This commitment is especially significant in an evolving industry landscape where new stakeholders entering the market and existing participants expanding their roles. The creation of the NESO RESP has introduced an additional interface for information exchange with NESO, enabling closer bilateral data sharing. Our collaboration includes sharing network data at the Transmission–Distribution boundary and coordinating ancillary services.

Elexon's introduction of the flexibility market facilitator role adds another key stakeholder into this framework. Having led five of the ten Open Networks workstreams transitioning to the market facilitator we have played a central role in supporting the handover to Elexon and advancing a consistent approach to flexibility across products, contracts and processes. UK Power Networks is also one of two DSOs represented on the Stakeholder Advisory Board, providing ongoing support and challenge to the market facilitator.

[7] DSO Benefits Methodology DSO-Benefits-Methodology-Apr25.pdf
[8] KPI report and benefits methodology - https://dso.ukpowernetworks.co.uk/resource-centre/publications-and-useful-links
[9] Network Development Plan Reports - NDP Network Development Report 2024 EPN SPN LPN combined

8.1 Long term system needs tracking

In March 2025, coinciding with the publication of our DNOA Reports, we also introduced a new deliverable entitled the "Long Term System Needs Register"[10]. This file provides a long-term perspective on system requirements, utilising the most up-to-date forecasts available at the time of release. An updated version of this file will be issued whenever there are significant changes to our forecasts. The data reflects the best view scenario, currently represented by the HT pathway. The analysis extends through 2050 and encompasses the sites included in our Load Index regulatory submission[11].

The table below explains the contents of the long-term system needs register.

Column	Content
DNO	License area
Substation	Name of the substation
First constraint year	The year that the substation first becomes constrained
DNOA Status	The status of the site in the recent DNOA process. Further details on DNOA recommendations are available in the latest DNOA Reports.
Reinforcement Scheme	A list of sites with ongoing/completed/planned reinforcement projects.
Confidence	The confidence level is determined by the variation in constraint years across different forecast pathways.
Priority Rank	Priority is assigned based on the first constraint year; specifically, whether it falls in ED2, ED3, or later.

We are updating the Long-Term System Needs Register to better support the flexibility market by signposting future opportunities, helping participants plan and respond effectively, whilst managing uncertainty between price controls. A methodology is developed to categorise substation needs as low, medium, or high priority. This classification will determine each site's position within the reinforcement queue. Given the anticipated high workload in ED3, adaptability will be necessary for effective workload management. It should be noted that certain practical factors influencing prioritisation are challenging to predict; therefore, the resulting metric will offer a high-level view. Further information will be provided upon implementation.

We are also considering indicating the regulatory period that the substation is likely to be reinforced. This information will be the result of the year of constraint and the priority of the need in the reinforcement queue.

8.2 DSO Governance and External Audit Recommendations

Our DNOA governance framework is structured around three key bodies: the DSO, the DNO, and our independent Supervisory Board. The DSO is legally separated from the DNO, while the Supervisory Board provides independent oversight, reviewing and approving our methodology and DNOA recommendations to ensure transparency and accountability. The key roles and interactions of these bodies within the DNOA process are described in our DSO: DNO Operational Agreement[12] and illustrated in Figure 2. These roles and responsibilities will be reviewed regularly and updated if needed to ensure it continues to reflect any change or clarifications. We will publish a Conflicts of Interest Register this year that sets out DNO–DSO conflicts, potential areas of conflict, and any trade-offs involving other parties.

[10] Long-term system needs register - https://www.ukpowernetworks.co.uk/our-company/distribution-network-options-assessment-dnoa

[11] While all reasonable efforts have been made to ensure the accuracy of the information provided in the long-term system needs file, neither the licensee nor any of its directors or employees is under any liability for any errors, or for any misstatement or opinion on which a user of the document seeks to rely.

[12] DSO:DNO Operational Agreement https://d1lf1oz5vvdb9r.cloudfront.net/app/uploads/2023/11/1011184-UKPN-DSO-Operational-Agreement-FINAL-1.pdf

Our governance arrangements include external audits and continuous stakeholder engagement to ensure compliance and best practice. We recently completed an independent audit in March 2025 with GHD of our DNOA process, including key data changes, their accuracy and the development of recommendations. The auditor's findings and improvement opportunities are summarised in the next section.

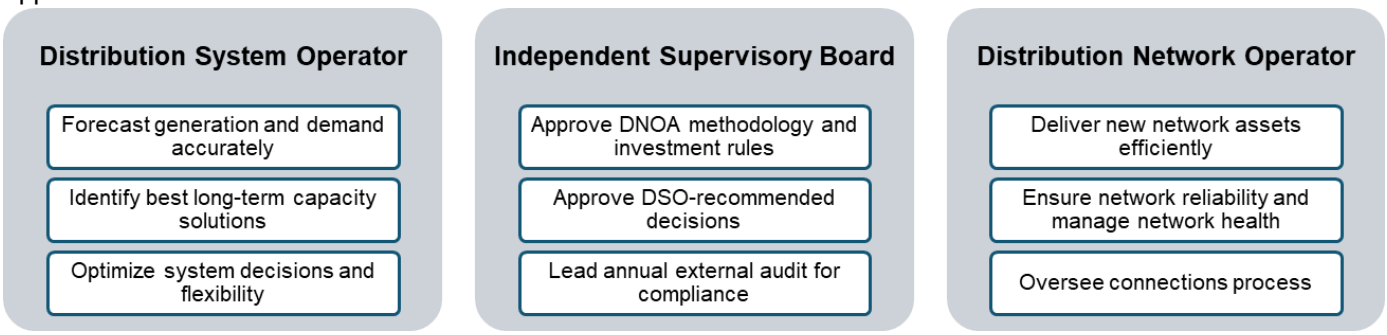

Figure 2: DNOA governance and key roles and responsibilities

The external audit with GHD in the first quarter of 2025 resulted in a report with three main recommendations for process improvement. These will improve the audit trail, making it easier to track changes, determine data sources, and verify information accuracy, which is relevant for compliance and regulatory audits. These are being incorporated into the current DNOA cycle.

The first recommendation involves enhancing data verification. The DNOA process uses data from various sources, including those outside the DSO function. To maintain accuracy, the report suggests implementing cross-verification procedures where multiple team members review key data inputs, adding further data quality checks, and establishing feedback mechanisms to address data issues at their source.

The second recommendation concerns standardising version control. Since the DNOA process undergoes multiple updates throughout the year across different teams and processes, version control helps ensure proper tracking and documentation, supporting data consistency and facilitating audits. Actions recommended include creating and enforcing naming conventions for file versions and ensuring that version histories are accessible and searchable for audit purposes.

The third recommendation addresses change management documentation. Frequent updates, manual alterations, technical changes like load transfers, prior reinforcements, flexibility works, and corrections due to errors are typical in the DNOA process. Effective change management supports transparency and traceability by enabling clear identification and auditing of changes across teams and stages. The report proposes the introduction of standardised change logs with detailed documentation and, where feasible, the use of linking spreadsheets to source data.

9. Next Steps

It is the goal of the UK Power Networks DSO to always improve and provide a better service to our customers. We mention in the list below a number of key items that we will be looking into the coming year. The proximity of ED3 means that a lot of the improvements are focused on the new regulatory environment.

- Evolving the DNOA to further the use of flexibility services for system operability in alignment to Ofgem's direction for ED3.
- Looking for opportunities in whole systems solutions, including the transmission/distribution boundary.
- Support NESO in developing the RESP methodology and strategic planning.
- Continue stakeholder engagement to inform future planning.

As the ED3 business plan process develops we will hear more from the Sector Specific Methodology Decision in May 2026 which will help shape the future of the DNOA methodology. Looking further ahead, the full RESP product to be

released in 2028 with a methodology to be published in summer 2026 will further shape our forecasting and therefore our requirements for capacity and assessment of options.