

# Distribution Flexibility Services Procurement Statement 2024-25

April 2024

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## Executive Summary

We are delighted to share with you our plans for 2024/25; bringing more opportunities to provide flexibility services at more locations. Our plans build on our achievements and success in 2024/25, notably the adoption of the Piclo Flex market platform for market engagement and competitive tenders.

We are dedicated to delivering a network and energy system that serves our region, in a safe, efficient and economic way and supports enabling decarbonisation for our customers and stakeholders. As such we are committed to the use of flexibility solutions instead of or to defer network reinforcement solutions wherever it is economical to do so.

**We are responsible for the electricity distribution network across the Northeast, Yorkshire, and northern Lincolnshire. Our area covers rural, urban, coastal, agriculture and forestry landscapes and communities and we serve over 8 million people and 4 million homes and businesses. Our ambition is to enable all customers to be part of the transformation of our region as it readies itself for a net zero future.**

Flexibility Services are a key tool in the net zero transition, so we have further exciting and ambitious plans for these in 2024 and beyond.

- Reaching out to more of our customers to let them know of the opportunities available.
- Expanding the uses of Flexibility Services to enable faster regional decarbonisation of industry, transport and heating.
- More frequent tender opportunities across more areas of our network than ever before.

### Where?

Flexibility Services needed at **19 HV and LV locations** in our Spring tender

Both Northeast and Yorkshire licence areas

### How?

Participation simplified via standardised contracts and products with streamlined registration on the **Piclo Flex** and **Flexible Power** market platforms

### When?

Three separate tenders in 2024 to allow more participation.  
**Spring, Summer and Autumn**

### Who?

Seeking **5.1MW** of Flexibility Service capacity to meet a **1.7GWh energy** requirement from our **domestic, industrial and commercial** customers and via **aggregators**.

Flexibility services will be key to optimising the future management of our network. Developing the flexibility market in our region is a priority and will position us ready to deliver consumer and network benefits from flexibility services.

This document sets out the flexibility services we are expecting to procure in 2024/25 and how we will go about this.

## 1. Introduction

This Distribution Flexibility Services Procurement Statement sets out the flexibility services we are seeking to procure in 2024/25 and provides details of;

- Our requirements for Flexibility Services
- How we will procure these services
- Stakeholder engagement plans to communicate the opportunities for participation to a wide audience
- Signposts to our other key network data publications that inform our plans

## About Us

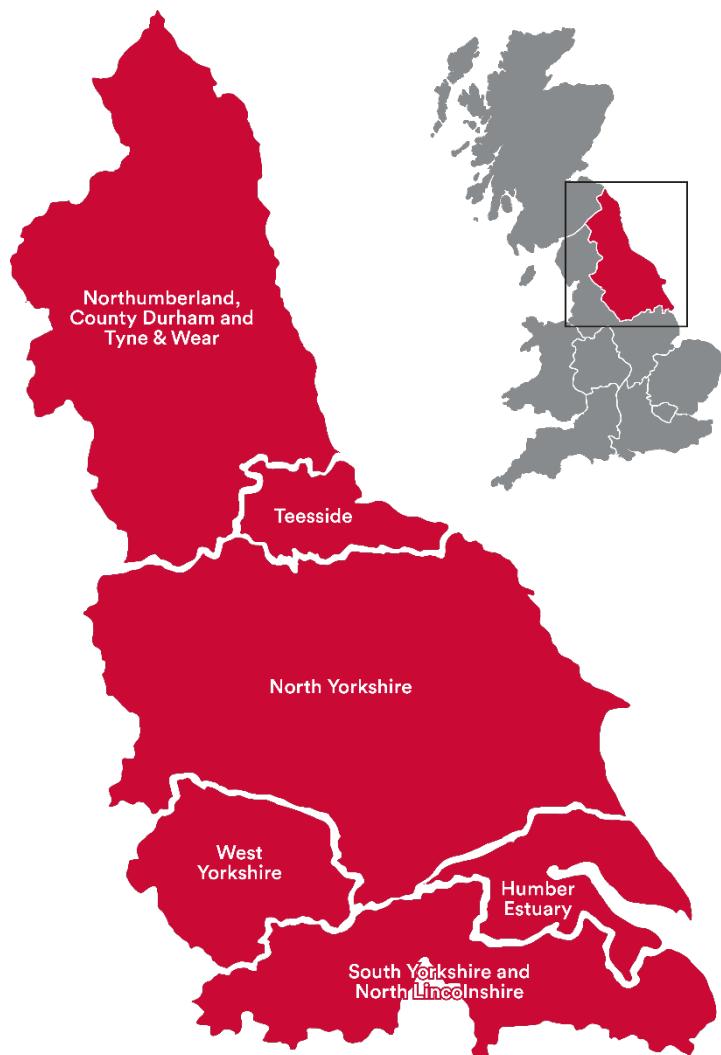
Northern Powergrid is responsible for the electricity distribution network across the Northeast, Yorkshire, and northern Lincolnshire, serving 8 million people and 4 million homes and businesses.

Our operations are divided into two licence areas - Northern Powergrid Northeast and Northern Powergrid Yorkshire. As the Distribution Network Operator (DNO) for these regions, we are dedicated to providing a reliable and resilient electricity supply while supporting regional and national net zero goals.

## Our Flexibility First Policy

Our [Flexibility First policy](#) is to employ flexibility solutions, including Flexibility Services, Flexible Connections and Network Flexibility in preference to network reinforcement wherever we can demonstrate it is the most efficient and economical overall outcome for our network customers.

We are dedicated to enabling a local market for Flexibility Services by creating a level playing field for all flexibility service providers and supporting competition with network solutions by promoting fair competition and demonstrating decision-making transparency.



**Figure 1 – Our Northeast and Yorkshire licence areas**

## Our role in the energy system

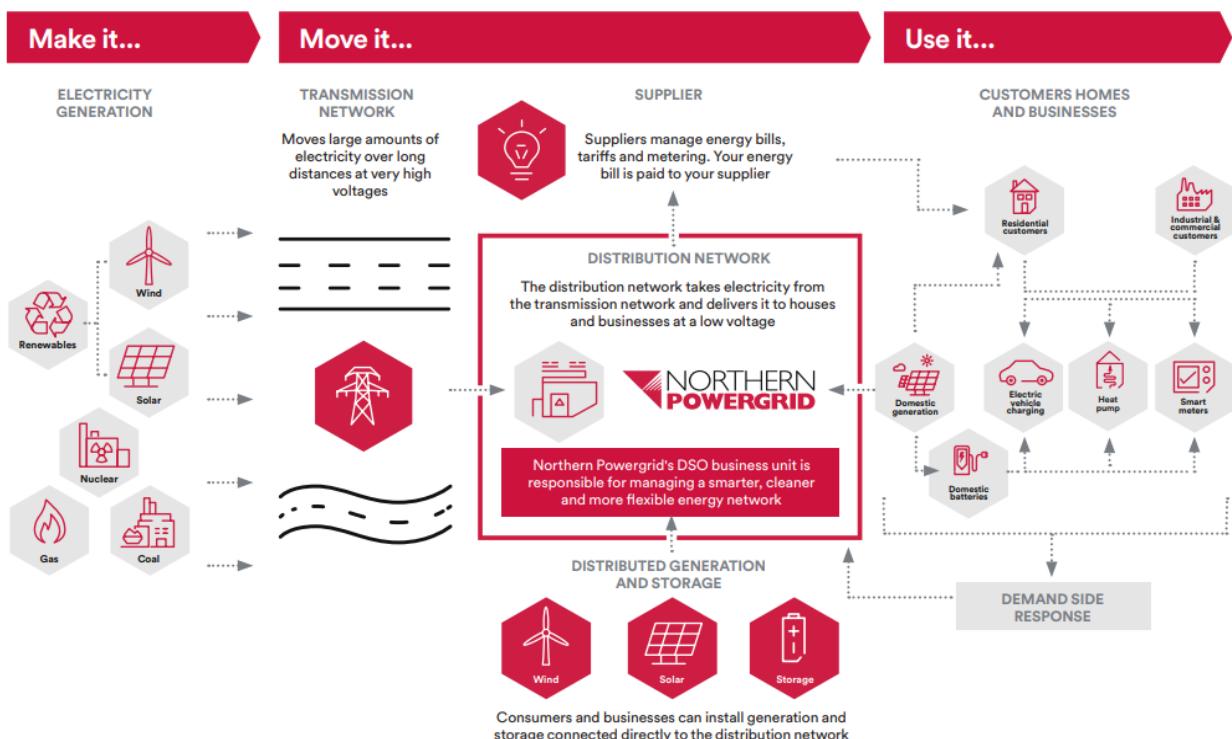


Figure 2 - Our role in the energy system

## Our DSO Implementation Plan

Our [Distribution System Operation \(DSO\) Implementation Plan 2024/25](#) contains additional information about how we are creating the foundations of enhanced flexibility capability to meet the expectations of our stakeholders and in readiness for the future network needs.

We are prioritising the following deliverables in 2024/25 to further develop our regional flexibility market in the years ahead;

- Deliver a methodology for short-term forecasting of the Primary network to inform the dispatch of flexibility services.
- Find solutions to 'stackability' of flexibility products to allow flexibility service providers to operate DSO and ESO flexibility products simultaneously.
- Deliver our flagship Community DSO project, which aims to develop new frameworks that will allow local communities and stakeholders to deploy Smart Local Energy Systems

## Standardised Flexibility Services

For 2024/25 we are planning to develop our Flexibility Service capabilities further, supporting our customers and our network with our ambitious net zero plans. We will achieve this by implementing improvements developed as part of our work with the Energy Network Association (ENA) Open Networks programme, in particular:-

- Procurement of the aligned industry-standardised flexibility products
- Deployment of the latest versions of the standardised flexibility service contracts
- Adoption of the flexibility service carbon reporting methodologies
- Co-ordination of service procurement with the ESO to allow optimal service stacking opportunities

## 2. Flexibility Services Requirements

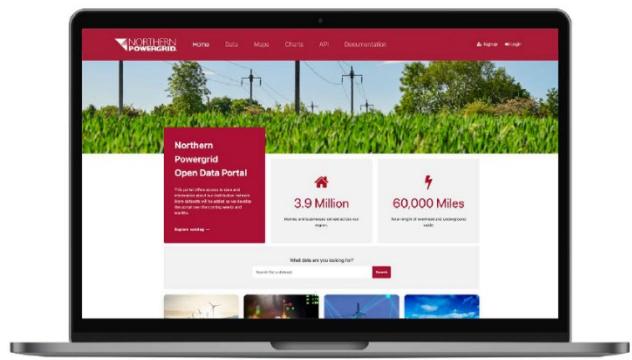
We periodically forecast load and assess network capacity needs to identify when and where load driven constraints are expected on our network; this then informs our requirements for flexibility services for deferring network reinforcement. Our requirements for flexibility services are limited to the areas of our network that are demand constrained<sup>1</sup>. We expect that as load increases through the adoption of low carbon technologies we will have a greater requirement for flexibility services for reinforcement deferral.

Our [Long Term Development Statement](#) (LTDS) provides forecasts on a 1-to-5-year horizon. Our [Network Development Plan](#) (NDP) covers the 1-to-10-year horizon. The NDP includes the network development report (NDR) that provides information on key projects set for delivery in the next ten years, including new infrastructure to be installed, flexibility services to be deployed and locations where we need these services. Additionally, our NDP suite of documents includes the network headroom report (NHR) which provides demand and generation headroom capacities up to 2050.

We have a need for flexibility services to address thermal constraints and allow us to defer reinforcement at both primary and distribution substations. We will seek active power services in these demand-constrained locations so the flexibility could be provided through any of: generation turn up, demand turn down, or battery discharge.

## Resources

Our Open Data Portal provides a wealth of information on our distribution network and allows stakeholders to self-serve by accessing a range of published datasets that are reviewed and updated on a regular basis. It also provides a route for stakeholders to make more bespoke data requests. Our LTDS, NDP, DNOA and other key network information is available from the [Northern Powergrid Open Data Portal](#)



<sup>1</sup> The need for flexibility services at a given location depends directly on the amount of network headroom available at that site. North/South variations in headroom and other factors affecting the uptake of flexibility services across GB are explored in [Regional Variation in the Uptake of Flexibility Services](#)

## Flexibility Services Capacity Requirements

Our cumulative capacity requirements, based on the latest information, are set out in Table 1. These requirements are revised on regular basis to ensure the efficient application of flexibility services on our network. For those delivery years where we are not yet tendering for flexibility services, the capacity requirements do not consider whether a flexibility service would be appropriate.

The requirements for flexibility services at LV to support distribution substations are included in the tendered in 2024/25 figures. They are excluded from the figures for 2026/27 onwards as these forecasts are less certain.

**Table 1 - Capacity requirement by year and by licence area (MW)**

	Tendering in 24/25		Forecast, not yet tendering						
	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33
Northeast	1	2	1	4	6	9	13	18	25
Yorkshire	1	3	2	4	14	30	51	81	114
<b>Total</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>8</b>	<b>20</b>	<b>38</b>	<b>64</b>	<b>98</b>	<b>139</b>

## Flexibility Services Capacity Requirements taken to market in 2024/25

The detail of these short-term (2024/25) and long-term (2025/26 and later) flexibility needs are set out in Figure 3 and the following tables.

We will run competitive tenders for services for 2024/25 and 2025/26, with guide prices as indicated. We will seek expressions of interest for later years at two locations in 2025/26 and at a further three locations for later years.



**Figure 3 – locations of flexibility services needs for our Spring 2024 tender**

**Table 2 - Spring 2024 Tender - Primary Substation Flexibility Services Sites and EOIs**

Licence Area	Location	Zone Primary Substation	Peak Capacity Required (MW)	Delivery Year	Required Availability Windows			Utilisation Guide Price £/MWh
					Month	Days	Time	
Yorkshire	Market Weighton	Southgate 33/11kV	0.110	2024/25	Dec	Monday to Friday	17:00 - 20:00	£1,200
Yorkshire	Scunthorpe	Crowle 66/11kV	0.385	2024/25	Dec and Jan	Everyday	10:30 - 20:30	£141
Yorkshire	Market Weighton	Southgate 33/11kV	0.500	2025/26	Dec and Jan	Everyday	16:30 - 20:00	£1,200
Yorkshire	Scunthorpe	Crowle 66/11kV	0.700	2025/26	Dec and Jan	Everyday	17:00 - 21:00	£248
Yorkshire	Market Weighton	Holme Upon Spalding Moor 33/11kV	0.120	2025/26	Expression of interest only			
Yorkshire	Driffield	Kirkburn 66/11kV	0.140	2025/26	Expression of interest only			
Northeast	Whitley Bay	Monkseaton 33/11kV	0.860	2027/28	Expression of interest only			
Yorkshire	Leeds	Moor Road 33/11kV	0.900	2027/28	Expression of interest only			
Northeast	Ripon	Ripon 33/11kV	0.390	2031/32	Expression of interest only			

**Table 3 - Spring 2024 Tender - Distribution Substation Flexibility Services Sites**

Licence Area	Location	Zone Distribution Substation
Northeast	Sunderland	Barnes Park
Northeast	Stockton on Tees	Barwick Lane
Northeast	Sunderland	Boldon Drive
Northeast	South Shields	Boldon Lane South
Northeast	Chester Le Street	Chester Le Street
Northeast	York	Garden Street
Northeast	Beamish	Lime Street
Northeast	South Shields	Marlborough Street
Northeast	Sunderland	Southend Road
Northeast	Gateshead	Wardley Hall
Northeast	Chester Le Street	Whitehill Park North
Northeast	Gateshead	Winlaton East
Northeast	Durham	Woodbine Road
Yorkshire	Doncaster	Hazel Road
Yorkshire	Bradford	Thornbury Avenue
Yorkshire	Doncaster	Westfield Park
Yorkshire	Doncaster	Yarborough Terrace

**Table 4 - Spring 2024 Tender - Distribution Substation Flexibility Service Needs – Capacity, Timings and Prices**

Peak Capacity Required (MW)	Delivery Year	Required Availability Windows			Utilisation Guide Price £/MWh
		Months	Days	Times	
0.100	2024/25	November to February	Monday to Friday	16:00 -20:00	£17.00
0.100	2025/26	November to February	Monday to Friday	16:00 - 20:00	£17.00

## Flexibility Products

From our Spring 2024 Tender, we will only be using the [industry-standard Flexibility Products](#) which are referenced in the Appendix.

For the flexibility needs in the Spring Tender we will be procuring the Scheduled Utilisation product to defer network reinforcement. We will use the settlement period as the utilisation period parameter. In the later tenders in 2024, we may introduce additional flexibility products as we start to seek flexibility for additional use cases.

With the Scheduled Utilisation product, dispatch is determined at the point of contracting, so there are no subsequent dispatch decisions to be made and the forecast utilisation will be as per the contract. We use the Flexible Power system for flexibility operations. This system has functionality for dispatch and settlement, so dispatch start and stop signals will be sent in accordance with the utilisation periods as per the contract.

We will introduce a clear and transparent decision-making framework for DER dispatch, which is consistent with other DNOs and in harmony with the Primacy rules for the ESO, these dispatch principles and processes will apply to all flexibility products where dispatch decisions are made post contract.

### 3. Tendering Process

We ensure that our tendering processes are objective, transparent and market-based through:

- our procurement policies, processes and procedures to ensure that we comply with the [Utilities Contract Regulations \(2016\)](#);
- advertising our tenders through '[Find-a-Tender](#)' and through other channels such as our corporate website and on the Piclo Flex market platform;
- conducting competitive tenders on the Piclo Flex market platform; and
- using the industry standards for flexibility services established by the ENA Open Networks programme in partnership with the GB Network and System Operators.

#### **Increasing Ambition**

To Date	<p>In 2023 and so far in 2024, we have developed our capabilities and processes significantly to further enhance our flexibility services offerings.</p> <p>In our Autumn Tender 2023;</p> <ul style="list-style-type: none"> <li>• we adopted the Piclo pre-contract market platform to operate alongside our Flexible Power dispatch and settlement platform.</li> <li>• we tendered for flexibility services to defer reinforcement of distribution substations as well as primary substations.</li> <li>• we utilised Version 2.1 of the industry standard contract, the most advanced for flexibility services.</li> <li>• we started to roll out the industry standardised procurement process.</li> <li>• we simplified our Information Systems security requirements for Flexibility Services Providers to further remove barriers to participation.</li> </ul>
Ongoing	<p>For 2024, we will;</p> <ul style="list-style-type: none"> <li>• conduct three competitive flexibility service tenders – Spring, Summer and Autumn, providing more opportunity for potential FSPs to participate.</li> <li>• increase the number of distribution substations where we are seeking LV flexibility services.</li> <li>• fully implement the industry standardised procurement process.</li> <li>• adopt the most recent version (Version 3) of the industry standard contract for flexibility services.</li> <li>• adopt the new industry standard flexibility products.</li> </ul> <p>All these standards have been developed as part of the ENA Open Networks Programme, where all UK DNOs and System Operators are working together to remove barriers to participation in the flexibility services marketplace and standardise processes, qualifications, and contracts. The Northern Powergrid System Flexibility team were very active participants in the design, development, and delivery of these outcomes throughout 2023 and 2024 so far.</p>

We have steadily increased the number of locations that we have taken to market, either for full competitive tender or for an expression of interest.



**Figure 4 - Number of locations where flexibility needs have been taken to market**

To date, we have utilised flexibility services on our network to support the deferment of load related asset reinforcement. We have been developing capabilities to extend these use cases. Later in 2024, we anticipate we will be seeking flexibility services to support a number of other network use cases, potentially introducing additional flexibility products where appropriate. These use cases will include (but are not limited to):

- Flexibility services as a risk management support for planned outages on the distribution network.
- Demand turn-up to manage generation constraints.
- Acceleration of connection dates for new connection customers.

### Whole Systems Approach

We are actively working with our industry colleagues within the ESO Flexibility Strategy team to establish routes for co-ordinated procurement of whole system flexibility services.



There are two specific use cases being investigated;

1. Demand Flexibility Services (DFS)
2. Grid Supply Point (GSP) planned outage risk management support.

In 2024, we aim to co-develop a strategy to maximise participation by Northern Powergrid customers and FSPs in these future whole-system opportunities.

### Pricing strategy

Our pricing strategy seeks to balance effective competition with developing flexibility market liquidity. The volume of flexibility bid currently tends to fall short of total requirements, so there is a benefit in disclosing guide prices. For each zone, we will set out a guide price which is the maximum price that we will pay for a service in that tender. The guide prices for the Spring 2024 tender are shown in table 2 and table 4.

## Contract Award Arrangements

Flexibility procurement activities will be announced on the [Find-a-Tender service](#), the “[where are we procuring](#)” page of the Flexible Power website and on [our Piclo homepage](#), with onward links to [the Piclo platform](#). Below is an indicative timetable. We will communicate any changes to this.

**Table 5 - Anticipated Timeline of 2024 Flexibility Service Tenders**

Stage	Spring	Summer	Autumn
Signpost Tender Requirement	Complete	April 2024	October 2024
Invitation to Tender (ITT) Issued	Complete	25 April 2024	08 November 2024
Prequalification Closes	10 April 2024	20 May 2024	02 December 2024
Asset registration closes	1 May 2024	11 June 2024	2 January 2025
Bidding Window Opens	17 May 2024	26 June 2024	17 January 2025
Bidding Window Closes	03 June 2024	10 July 2024	31 January 2025
Bid Acceptance / Rejection Confirmed	23 July 2024	30 August 2024	24 March 2025
Invite Feedback from on the Tendering Process*	October 2024	November 2024	May 2025
Announce Procurement Outcomes*	October 2024	November 2024	May 2025

\* Dependent upon when contract execution is completed

Should an additional urgent flexibility need arise outside this timetable, we may publish an additional invitation to tender.

Flexibility services can be provided by a single asset or by an aggregator of multiple assets. A portfolio of providers could together deliver the full flexibility requirement, and so we are interested in receiving bids even if bidders are able to deliver only part of the required capacity for part of the time window at a location.



**Figure 5 – The Flexibility Service Provider bidding journey with Northern Powergrid**

#### 4. Stakeholder Engagement

There is a clear focus on stakeholders in our region and engagement is vital to ensure their needs are met. An engagement plan has been created for this year which shows an increase in webinars, newsletters, surveys, events, and workshops. This demonstrates the variety of stakeholder activities, and this is key to drive development of the market. We think it is crucial to have consistent and regular engagement with our stakeholders which is highlighted in our engagement plan.

We will participate in broader stakeholder engagement activities as this allows us to reach a wider audience which may include: third party aggregators, energy suppliers, local authorities, existing and future customers with demand, generation, or storage capability. However, some of our engagement will be targeted around geographic areas where we are tendering for services, driving awareness of our needs. Our ambition is to develop flexibility markets in our region, informing stakeholders about flexibility services and enabling them to participate in flexibility tenders. We engage with our stakeholders to discuss our strategy, upcoming flexibility competitions, key dates, and relevant opportunities.

We announce all forthcoming flexibility procurement activities using our [System Operators Profile](#) page on the Piclo website and on the Flexible Power [Where are we procuring](#) page. This sets out the flexibility requirements on both of our flexibility platforms. To enable us to reach a wider audience we will provide detailed information through social media and webinars. Throughout the procurement process we will engage with potential service providers to understand their needs and answer any technical or commercial questions. From the outset of the procurement process, timelines and tables will be published on the market platform websites to provide updates to stakeholders.

##### Newsletters

We will provide news updates that are interesting and relevant and provide a broad range of information. The newsletter will be published approximately monthly to our mailing list to keep our stakeholders updated. The previous newsletters are also available on the [flexibility services](#) webpage in the resource section for stakeholders that have an interest but not signed up to the mailing list. For upcoming tender rounds, Piclo share our newsletter with stakeholders on their distribution list via their community newsletter. We will also publish a 'special edition' newsletter that provides more information about the tender process and how to participate in the upcoming flexibility competitions.

##### Industry and In-person Events

We think it is important to meet our stakeholders in-person to develop relationships. We will participate and exhibit at industry conferences and events as this allows us to engage with our stakeholders. Detailed in our engagement plan are different events that we will be attending throughout the year to build on our connections and collaborate with other DNOs.

##### Social Media and Communications Plan

We have developed communication plans with our market platform provider Piclo. The campaigns run throughout each tender as we try to target potential providers. Campaigns are launched on LinkedIn, and this is reposted by Northern Powergrid to increase visibility. We work closely with the corporate communications team to develop our communications strategy and schedule activities.

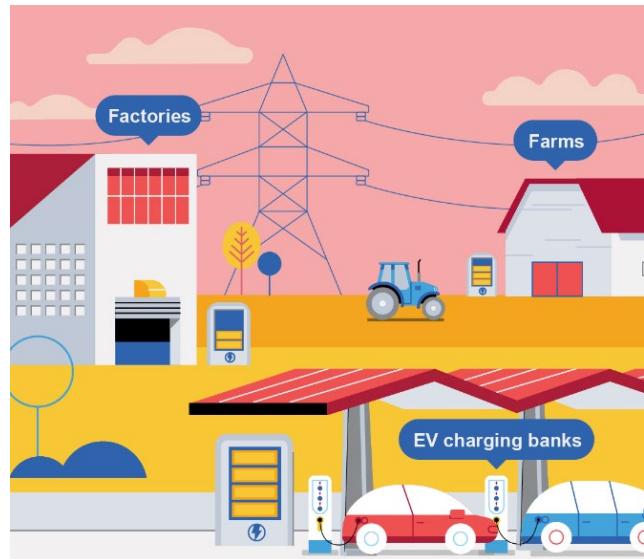


## Webinars

Webinars will be organised before each tender round to discuss the requirements and how to register, qualify and bid in the upcoming competitions. We will also collaborate with the wider DSO team and be involved in any webinars that are of interest to our stakeholders. Piclo host webinars throughout the year and are keen to be involved in the relevant webinar series moving forward.

## Animations

We will continue to use as an engagement tool our [flexibility services animation](#). A marketing campaign has been created and we will target stakeholders across our region to participate in our upcoming competitions. We will continue to work with the external communications agency as we launch the campaign. We are keen to use more graphics and visual sources. The animation will be utilised at upcoming events and conferences.



## Targeted Engagement and Surgery Days

Bilateral engagements run throughout the year with current and potential providers. However, during tender rounds there is an increase in activity. We think it is important to run dedicated sessions and therefore will continue to reach out to specific providers and arrange workshops and surgery days. We use the surgery days and workshops to discuss details of the upcoming tender round and the key dates they need to be aware of. This also allows our stakeholders to provide feedback and ask any questions. Northern Powergrid and Piclo host trilateral meetings with providers registered on the market platform to maximise impact of engagement and provide efficiency for the FSP. Each FSP who registers with us is assigned both a Northern Powergrid and Piclo point-of-contact account manager who can help facilitate the individual requirements for each FSP.

## Website, Contact Email and Mailing List

We signpost relevant information through the [flexibility services](#) webpage and will continue to develop and improve the content. We publish useful documents and resources that are easily accessible for our stakeholders. Details of our upcoming events and recordings of our past events are made available on our [stakeholder engagement portal](#) to allow our stakeholders to participate in our events or catch-up at a later date. This adds to the inclusivity and accessibility of our communications.



Stakeholders can contact us at [flexibility@northernpowergrid.com](mailto:flexibility@northernpowergrid.com). The email account is manned by all our Commercial Managers to ensure prioritisation of response. We will continue to broaden our engagement activities and include any upcoming events in our newsletter or via the mailing list. We will broadcast any events in our webinars and social media posts.

## Planned Stakeholder Engagement Activities

**Table 6 – Planned Engagement**

Date	Planned Engagement	Details
April 2024	Newsletter	Providing a news update to flexibility services stakeholders. This will include updates around the Spring tender, key dates, upcoming engagement activities and any other relevant information.
	Flex Your Power Series	Flexibility Services team collaborating with Piclo in the webinar series to discuss Northern Powergrid's flexibility competitions and how to get involved.
	Animation Marketing Campaign	Working with an external communications agency to target potential flexibility service providers.
	Regional Decarbonisation Workshops	We are hosting a series of regionally focussed hybrid stakeholder workshops.
May 2024	Utility Week Live	Flexibility Services team exhibiting at the industry event.
	Newsletter	Providing a news update to flexibility service stakeholders. This will include details around the Spring tender and the upcoming summer tender.
	Flexibility Forum	Joint event held by Piclo and DNOs.
	Flexibility Services Website	Refresh and development of the Flexibility Services webpage.
June 2024	How to Participate in Northern Powergrid's Summer Flexibility Competitions	The webinar will tell you everything you need to know about how to register, qualify and bid in upcoming tender competitions in the Summer of 2024.
	Newsletter	Providing a news update to flexibility service stakeholders.
	Power Responsive Summer Event	An annual event held in London.
	1-2-1 Engagement	Speaking with FSP's who have registered their assets on Piclo and may need support with upcoming flexibility competitions.
July 2024	Newsletter	Providing a news update to flexibility service stakeholders.
	Targeted Customer Engagement	Direct engagement with Local Authorities and Customers in potential constraint zones.

Date	Planned Engagement	Details
August 2024	Documentation	Production of documentation that will help our flexibility service providers journey.
	Newsletter	Providing a news update to flexibility service stakeholders.
	Virtual Surgery Days	Virtual surgery days that will take place over several days throughout the month to discuss queries and issues with stakeholders.
September 2024	Newsletter	Providing a news update to flexibility service stakeholders.
	1-2-1 Engagement	Speaking with FSP's who have registered their assets on Piclo and may need support with upcoming flexibility competitions.
	Flexibility Services Website	Refresh and development of the Flexibility Services webpage.
October 2024	How to Participate in Northern Powergrid's Autumn Flexibility Competitions	The webinar will tell you everything you need to know about how to register, qualify and bid in upcoming tender competitions in the Autumn of 2024.
	Newsletter	Providing a news update to flexibility service stakeholders.
	Energy Innovation Summit	Industry event held in Liverpool.
	Targeted Customer Engagement	Direct engagement with aggregators.
November 2024	1-2-1 Engagement	Speaking with FSP's who have registered their assets on Piclo and may need support with upcoming flexibility competitions.
	Documentation	Production of documentation that will help our flexibility service providers journey.
	Stakeholder Feedback Sessions	Capturing stakeholder feedback that can feed into the plan and strategy for 2025 and beyond.
December 2024	Newsletter	Providing a news update to flexibility service stakeholders.
	Virtual Surgery Days	Virtual surgery days that will take place over several days throughout the month to discuss queries and issues with stakeholders.
Jan 2025	Flexibility Services Webinar	Introductory webinar to introduce the year and provide details of feedback from stakeholders.
	Newsletter	Providing a news update to flexibility service stakeholders.

Date	Planned Engagement	Details
	1-2-1 Engagement	Speaking with current or potential FSP's to discuss their future plans and developments.
February 2025	Aggregator Surgery Day	A chance to meet with aggregators that are interested in providing flexibility in our region
	Targeted Customer Engagement	Direct engagement with Local Authorities and Customers in potential constraint zones.
March 2025	Distributed Energy Show	Industry event held in Telford.
	Newsletter	Providing a news update to flexibility service stakeholders.
	How to Participate in Northern Powergrid's Spring Flexibility Competitions	The webinar will tell you everything you need to know about how to register, qualify and bid in upcoming tender competitions in the Spring of 2024.

\*This does not include all our stakeholder engagement activities as there will be an increase of activities around each tender round. This is used as a working document and therefore activities are added throughout the year.

### Planned Engagement with ESO, other DNOs and IDNOs

We have planned a wide range of industry engagement activities planned to support the further development, deployment and participation in flexibility services. This includes;

- Continuation of our participation and leadership in the ENA Open Networks Programme
  - Chairing the Network Operation Workstream
  - Steering group participation
  - Participation across all three workstreams in all active Technical Working Groups (TWG)
  - Providing progress updates to Challenge, Insight and Focus Group members
  - Co-authoring TWG outcome reports
  - Participation on ENA Open Network industry webinars
- Joint Customer and Flexibility Service Provider Engagement event planning with ESO Flexibility
- Meeting iDNOs via Northern Powergrid Competition in Connections stakeholder events
  - next event in York April 12th
- Industry Conference engagement and presentation
  - Distributed Energy Show
  - Utility Week Live
  - Energy Innovation Summit
- Innovation programme engagement
  - Strategic Innovation Fund participation, partnering and monitoring.
  - NIC and NIA participation
  - Leading Community DSO NIC – unlocking smart local energy systems as a Flexibility Service enabler.
- Participation in Regulator Bilateral and Industry Forums

## 5. Detailed Quantitative Assessment

### Determining the level of flexibility services to procure to defer network reinforcement

Our Distribution Future Energy Scenarios (DFES) forecasts load growth under a range of potential and credible energy futures for our region out to 2050. DFES is critical to our assessment of future network capacity requirements and is updated and published annually, taking into account the connections pipeline and stakeholder input and feedback.

We use understanding of current power flows and network utilisation along with the DFES load growth forecasts to identify constraints on the network: constraint peak demand, the number of constraint events that exceed the asset limits and when they occur (time of day hour, day of the week, weeks and months of the year). It is from these network studies and findings that we determine the need for an intervention on a site-by-site basis.

Projected half hourly demand above the firm capacity of a primary substation is used to fix the capacity that would need to be secured by a flexibility service; peak requirement (MW); total energy requirement (MWh); and time of day, time of week and monthly requirements. These flexibility requirements form the basis for market engagement through signposting and the tendering process.

When a substation is identified as requiring intervention, we undertake a detailed assessment of the existing site capability in the form of a revised Firm Capacity assessment. The optioneering in this assessment considers a range of suitable solutions which will include conventional (asset based) solutions, smart solutions such as Real Time Thermal Rating, and flexibility services. The options are not deployed in isolation and optimal solution could consist of a combination of different approaches.

We publish a Distribution Network Options Assessment (DNOA) report at least twice per year, which sets out our intended solutions to identified load related network constraints.

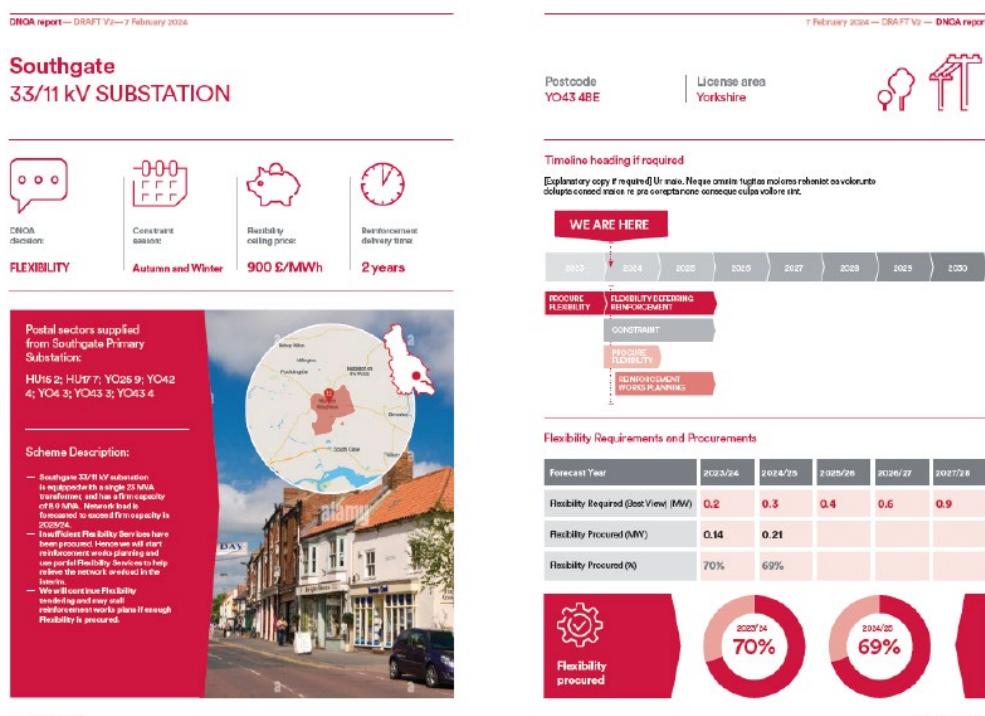


Figure 6 – An extract from Northern Powergrid’s DNOA report 2024

## Distribution Network Options Assessment (DNOA) documents

DNOA Methodology	DNOA Report	Key Features
<p></p> <p><b>DNOA Methodology</b></p> <ul style="list-style-type: none"> <li>• a <b>description</b> of the DNOA end-to-end process which underlies our DNOA report</li> </ul>	<p></p> <p><b>DNOA Report</b></p> <ul style="list-style-type: none"> <li>• A list of substations that are forecast to become overloaded</li> <li>• Upcoming load-related mitigations including flexibility services and/or asset solutions.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Covers 2 licence areas</li> <li>✓ Self-explanatory and user friendly format</li> <li>✓ Easily accessible results summary template</li> <li>✓ Explains our Flexibility First approach</li> <li>✓ Is available on our Open Data Portal</li> </ul>

### Benefits:

- ✓ Transparency on the decisions we are making to meet future network capacity needs.
- ✓ Information on Flexibility Service requirements and opportunities to participate in the flexibility market.
- ✓ Sharing the options we intend to take forward provides whole system benefits by enabling more coordination with other energy vectors and electricity system organisations.
- ✓ Help inform local stakeholders' development plans to meet their net zero ambitions.

## Assessing Bids for Flexibility Services

Compliant bids will be assessed for total value using the evaluation criteria, which will include prices bid. For areas with market liquidity, we will rank contract awards in a waterfall manner from the most advantageous tender, down the rankings until all the required flexibility has been allocated to a provider or number of providers. As the development of flexibility markets in our region is still at an early stage, we anticipate that the total volume of flexibility bid at a target location is not likely to exceed our requirements. In this case, we would expect to award to the bidder(s) at the offered price providing that is compatible with our pricing strategy, and that the contracted flexibility will be dispatched at all the times set out in the contract.

The evaluation criteria will be published within the invitation to tender documentation but are likely to include;

- technical compliance i.e., whether the flexibility asset is of the right type, in the right place, meets the minimum flexibility capacity requirement.
- whether the bid can form part of a cost-efficient mix of contracts to meet our flexibility requirements.
- in the event of a tiebreaker we will have a preference for less carbon intense technologies.
- acceptance of the offered terms and conditions will also be taken into account.

## Pricing Strategies

The price that we are willing to pay for flexibility services is determined largely by taking into account the costs of alternative solutions.

For primary substation zones, we use the [Common Evaluation Methodology](#) (CEM)<sup>2</sup> tool to determine the ceiling price for flexibility services based on the cost of the counterfactual smart or asset based solution. It provides consistency and transparency on how we choose the optimal solution and demonstrates where flexibility services are the most economic and efficient solution to meet network needs.

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<sup>2</sup> The CEM was developed through the industry Open Networks project and this important output is now the standardised and transparent means by which we establish an appropriate ceiling price for the flexibility services we need.

Where we consider that the ceiling price is very much higher than is needed to obtain bids, we set the guide price below the ceiling price. In this way flexibility services can deliver savings compared to network reinforcement.

Flexibility services also have an option value for pursuing an alternative to traditional reinforcement depending on how the decarbonisation pathway evolves and where constraints appear on the network, and this is another factor that we may take into account in our pricing strategies.

For the distribution substations, we have adopted a strategy that sets a single price across all constrained distribution substations where flexibility services are required. This encourages participation across all sites as we build liquidity in the market. The price is calculated taking into account the total flexibility capacity and service windows needed across all those sites. The method utilises the values for the following parameters as defined in Ofgem's cost allowance for the ED2 period (2023-2028).

- Cost per km of underground cable
- Cost per MVA of ground-mounted transformer
- Weighted average cost of capital (WACC)

We will keep this approach under review as we progress through each tender round.

**Links to core documents and/or methodologies used to support decision making process for financial viability can be found in the appendix.**

## Supplementary Information

Reference Materials and Useful Links	Purpose (and link)
Northern Powergrid Flexibility Services Website	<a href="https://www.northernpowergrid.com/flexibility-services">https://www.northernpowergrid.com/flexibility-services</a>
Northern Powergrid's RIIO ED2 Business Plan	<p>Our business plan submission to Ofgem as part of the RIIO ED2 price control process for the 5-year period from 2023 to 2028. This details the stakeholder engagement and feedback undertaken to design, build and refine the plan.</p> <p><a href="https://ed2plan.northernpowergrid.com/">https://ed2plan.northernpowergrid.com/</a></p>
Distribution Future Energy Scenarios	<p>As part of our contribution to the national planning of the future energy system, Northern Powergrid has engaged widely with our regional and national stakeholders to develop our Distribution Future Energy Scenarios (DFES). These gives us a range of credible pathways for the long-term view (out to 2050) of the uptake of low carbon technologies (LCTs) in our region, models their impact on the distribution network and give early insight to signal locations where we may need to develop intervention options to avoid future network constraints.</p> <p><a href="https://www.northernpowergrid.com/network-data">https://www.northernpowergrid.com/network-data</a></p>
Long Term Development Statement	<p>Our Long-Term Development Statement (LTDS) contains network information which can be used when assessing the feasibility of connections to our network. It helps existing and future customers to assess opportunities available for development projects that need new or additional connections.</p> <p><a href="https://www.northernpowergrid.com/long-term-development-statement">https://www.northernpowergrid.com/long-term-development-statement</a></p>
Network Development Plan	<p>Our Network Development Plan (NDP) is published in line with our commitment to share timely data with stakeholders and so you can tell us if it meets your requirements. The objective of the NDP is to clearly communicate our plans for interventions, flexibility services requirements and forecast demand and generation headroom across our network, for a range of different scenarios, in the medium to long-term.</p> <p><a href="https://www.northernpowergrid.com/network-data">https://www.northernpowergrid.com/network-data</a></p>

Reference Materials and Useful Links	Purpose (and link)
Distribution Network Options Assessment	<p>The purpose of our Distribution Network Options Assessment (DNOA) report is to transparently inform our stakeholders of the investment decisions we are taking, to allow scrutiny of our decisions and ensure our plans are informing those of our stakeholders.</p> <p>This DNOA report provides details of assets across our network that are forecast to become overloaded and require intervention in the RIIO-ED2 price control period from 2023 to 2028, along with the recommended network interventions (DNOA decisions).</p> <p><a href="https://northernpowergrid.opendatasoft.com/pages/home/">https://northernpowergrid.opendatasoft.com/pages/home/</a></p>
Ofgem Website	<p>Northern Powergrid's regulator's website</p> <p><a href="https://www.ofgem.gov.uk">https://www.ofgem.gov.uk</a></p>
ENA Open Networks Website	<p>Northern Powergrid's trade association who co-ordinate the Open Networks Programme</p> <p><a href="https://www.energynetworks.org/creating-tomorrows-networks/open-networks/">https://www.energynetworks.org/creating-tomorrows-networks/open-networks/</a></p>
ENA Flexibility Products Alignment Report	<p>Reference to the Flexibility Products alignment report issued this year which details the methodology for the standardisation of products across GB DNOs.</p> <p><a href="https://www.energynetworks.org/publications/on-flexibility-products-review-and-alignment-(feb-2024)">https://www.energynetworks.org/publications/on-flexibility-products-review-and-alignment-(feb-2024)</a></p>
Flexibility First Policy	<p>Northern Powergrid's Flexibility First policy sets out our commitment to employ flexibility solutions, and the core principles that underpin our decision-making frameworks..</p> <p><a href="https://www.northernpowergrid.com/downloads/59243">https://www.northernpowergrid.com/downloads/59243</a></p>
DSO Implementation Plan 2024-25	<p>Northern Powergrid's DSO Implementation Plan sets out how we will move DSO forward in 2024/25 and the actions we will deliver to meet our stakeholders' needs.</p> <p>Distribution System Operation (DSO) is the term used to describe distribution network operators creating a much smarter and flexible network that promotes participatory behaviour from energy users – resulting in a more efficient and economical network</p> <p><a href="https://www.northernpowergrid.com/downloads/59324">https://www.northernpowergrid.com/downloads/59324</a></p>

## Flexibility Products – 2024 - 2025

Flexibility Product	Network Requirement	Payment Structure
Scheduled Utilisation	Advanced planning for the management of the forecasted seasonal demand on the network	Utilisation payment only
Peak Reduction	To manage an ongoing requirement to reduce peak demand	
Operational Utilisation	To support the network during faults that occur as a result of equipment failure and unplanned maintenance	
Scheduled Availability + Operational Utilisation	Supplement (in nearer-real time) the management of the seasonal demand on the network	Availability and Utilisation payments
Variable Availability + Operational Utilisation	Network maintenance requiring planned outage management	

## Contact us

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