

Distribution Flexibility Services Procurement Report 2023/24

May 2024

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Executive Summary

Northern Powergrid has made significant progress in the procurement and use of Flexibility Services in 2023/2024. In this report we provide more information on these exciting developments and detail the achievements in Flexibility Services procurement, dispatch and stakeholder engagement throughout the year.

Highlights include

- tendering for over 15MW of flexibility service capacity across 24 sites: 14 primary substations and 10 secondary substations
- dispatching over 860MWh of Sustain product
- significantly increasing Flexibility Service Provider (FSP) engagement and recruitment
- developing and adopting a wide range of industry standards including products and contracts to reduce participation barriers
- further extending our use of the Sustain product to support the deferral for network reinforcement across our High Voltage (HV) network
- introducing reinforcement deferral of secondary (distributed) substations in our low voltage (LV) networks as a use case for flexibility services
- adopting the Piclo Flex market platform for flexibility service procurement to complement our continued use of Flexible Power platform for dispatch and settlement

We have greatly enhanced the provision of information, processes and systems to enable participation for Flexibility Service Providers (FSPs) in the Northern Powergrid Flexibility Services markets. Achievements of note in this period include:

- Adoption of the Piclo Flex market platform to support simplification of tendering of services
- Regular sharing of information via newsletters, how-to-guides, webinars and animation
- Hosting FSP surgeries and Aggregator Day events to provide bespoke guidance, advice and support
- Development of standardised products and contracts for future enhancements

Flexibility services are key to optimising the management of our network as they can be a cost effective alternative to engineering solutions. In this report we present the progress we have made with our partners and our customers this year in ensuring flexibility services deliver on important consumer and network benefits.

Developing the flexibility market in our region is a priority and will position the North East, Yorkshire and northern Lincolnshire area at the heart of the net zero transition. We are dedicated to delivering a network and energy system that serves our region, in a safe, efficient, and economical way and enables decarbonisation for our customers and stakeholders. As such we are committed to the use of flexibility solutions to avoid or defer network reinforcement wherever it is economical to do so.

Our Flexibility Services Highlights in 2023/24

£1.2m

of reinforcement deferred through the use of flexibility services

24

sites offered to the market for flexibility services

HV & LV

uses of flexibility services to address constraints in both our primary and secondary networks

Expanded

the engagement and recruitment of FSPs who are qualified to participate in tenders

1. Introduction

This Distribution Flexibility Services Procurement Report on our flexibility services activities in 2023/24 provides details of;

- Our procurement and use of Flexibility Services
- The stakeholder engagement we have undertaken
- The economic viability of flexibility services
- The carbon impact of the flexibility services dispatched

About Us

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

Our operations are divided into two licence areas - Northern Powergrid Northeast plc and Northern Powergrid Yorkshire plc. As the Distribution Network Operator (DNO) for these regions, we are dedicated to providing reliable and resilient electricity 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 operational areas

“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 utilise the consumer and network benefits flexibility services will provide.”

Northern Powergrid’s Distribution System Operation (DSO) Implementation Plan

2. Flexibility Procurement and Use Summary

Major achievements of 2023/24

- We adopted the Piclo market platform for prequalification, bidding and contracting, providing a consistent and familiar experience for FSPs.
- Over the course of the year the number of FSPs who successfully pre-qualified to tender increased from 3 to 12.
- We revised the pre-qualification questions and our contract for flexibility services so that they align with the industry-wide work undertaken so far on standardisation.
- We introduced tender-specific webinars designed to promote the opportunities in each tender and to support FSP participation.
- For the first time we have sought, and procured, flexibility services to support our secondary substations as well as our primary substations.
- We tendered for over 15MW of flexibility service capacity across 24 sites: 14 primary substations and 10 secondary substations

Flexibility Services tendered, contracted & dispatched

For the delivery year 2023/24 we tendered, contracted and dispatched the Sustain product.

Table 1: Flexibility Services tendered, contracted & dispatched in 2023/24

Delivery Year: 2023/24	
Total Peak Contracted in Prior Reporting Years	1.44 MW
Total Peak Tendered in Reporting Year	15.68 MW
Total Peak Contracted in Reporting Year	0.17 MW
Total Peak Needs Not Met	15.51 MW
Dispatched in Delivery Year	866 MWh

We contracted for 0.17MW of the 15.28MW tendered in 2023/24. Reasons that have been given to us for not participating in tenders are

- that potential revenues are too low
- it is more attractive to participate in other markets where exclusivity arrangements can preclude participation in Distribution System Operation (DSO) flexibility services
- the contractual terms of the ENA standard contract V2.1 are a barrier to participation
- the Sustain product was not suited to the FSP's asset type
- the location of the flexibility requirements are not aligned with the FSP's asset base.

Flexibility Services procured vs projected

In our Procurement Statement for 2023/24 we said that we would tender for the Sustain product to defer reinforcement at approximately 12 primary substations where the constraint is expected within the next three years i.e., by 2025/26. For primary substation where constraints are expected from 2025/27 to 2028/29 we would seek expressions of interest from potential providers of flexibility services.

There were 14 primary substations where we tendered for the Sustain product and four where we sought expressions of interest. For two of the tendered substations we also called for expressions of interest in providing services for later delivery years.

Table 2: Tendered / expressions of interest for Sustain product at primary substation zones

Grid Supply Point	Zones tendered	Zones where expressions of interest were sought
Saltend	Ellifoot Lane 33/11kV	
Ferrybridge	Ferrybridge A 66/11kV	
Keadby	Harpwell 33/11kV	
Creyke Beck	Hayton 66/11kV Holme Upon Spalding Moor Kirkburn 66/11kV Market Weighton - Southgate Martongate 66/11kV	Holme Upon Spalding Moor Martongate
Skelton Grange	Moor Road 33/11kV	
Norton	Norton 132/11kV	Thirsk
Knaresborough	Ripon 33/11kV	Ripon Starbeck
Camblesforth	Scunthorpe - Crowle	
	Stocksbridge - Wheatacre Road	
	Stourton 132/11kV	
Tynemouth		Monkseaton

In line with our business plan for the ED2 period 2023-2028, we also introduced our first tenders to defer network reinforcement at secondary substations. We tendered for the Sustain product at 10 secondary substation zones where our analysis showed that interventions would be needed to ensure adequate capacity.

Table 3: Tendered for Sustain product at secondary substation zones

Grid Supply Point	Zones tendered (location – substation name)
Blyth	Cramlington - Barras
	Seahouses - Seahouses South
West Boldon	Gateshead - Makepeace Terrace
	Gateshead - Wardley Hall
Skelton Grange	Leeds - Bellbrooke Avenue 2744
	Leeds - Cowper Terrace 2813
	Leeds - Hamilton Place 2757
Kirkstall B	Leeds - Maxwell Street 2938
Stella South	Stanley - Pontop Pike
	Chester Le Street - Birtley Windsor

Table 4: Sustain product procured by delivery year

Zone	MW procured by delivery year				
	2023/24	2024/25	2025/26	2026/27	2027/28
14 Primary substation zones	0.21	0.54	0.02	0.02	0.00
10 Secondary substation zones	0.02	0.14	0.00	0.00	0.00
Total procured	0.23	0.68	0.02	0.02	0.00

Flexibility services tendered

We tendered for flexibility services in 24 zones: 14 at primary substations and 10 at secondary substations, for delivery the years 2023/24 through to 2027/28

Table 5: Sustain product tendered by delivery year

Zones	Sustain: MW tendered by delivery year				
	2023/24	2024/25	2025/26	2026/27	2027/28
14 primary substation zones	15.10	15.10	1.10	3.00	1.90
10 secondary substation zones	0.28	0.28			
Total tendered	15.38	15.38	1.10	3.00	1.90

Table 6: Sustain product tendered for primary substation zones by delivery year

		Sustain: MW tendered by delivery year				
Zone	Postcode (sector level)	23/24	24/25	25/26	26/27	27/28
Ellifoot Lane 33/11kV	HU12 8; HU12 9	0.30	0.30			
Ferrybridge A 66/11kV	LS25 5; WF10 2; WF10 3; WF11 0; WF11 8; WF11 9; WF8 1; WF8 2; YO8 9	2.20	2.20			
Harpwell 33/11kV	DN20 9; DN21 3; DN21 4; DN21 5; LN1 2; LN1 3; LN8 2; LN8 3	0.80	0.80			
Hayton 66/11kV	YO25 9; YO41 5; YO4 2; YO42 1; YO42 2; YO42 4; YO43 3; YO43 4; YO4 5; YO8 6			0.30	0.30	
Holme Upon Spalding Moor	DN14 7; HU15 2; YO42 1; YO42 4; YO43 3; YO43 4; YO62 5; YO8 6; YO8 7	0.50	0.50			
Kirkburn 66/11kV	YO17 9; YO25 0; YO25 1; YO25 3; YO25 4; YO25 8; YO25 9; YO42 1	1.40	1.40			
Market Weighton - Southgate	HU15 2; HU17 7; YO25 9; YO42 4; YO43; YO43 3; YO43 4	0.30	0.30			
Martongate 66/11kV	YO14 0; YO14 9; YO15 1; YO15 2; YO16 4; YO16 6; YO16 7			0.80	0.80	
Moor Road 33/11kV	LS16 5; LS16 7; LS16 8; LS4 2; LS5 3; LS6 1; LS6 2; LS6 3; LS6 4	1.10	1.10			
Norton 132/11kV	DL1 3; DL2 1; TS16 0; TS18 1; TS18 2; TS18 3; TS18 4; TS18 5; TS19 0; TS19 7; TS19 8; TS19 9; TS20 1; TS20 2; TS21 1; TS21 3; TS22 5				1.90	1.90
Ripon 33/11kV	DL7 9; DL8 2; HG3 3; HG4 1; HG4 2; HG4 3; HG4 4; HG4 5; YO7 3; YO7 4	4.90	4.90			
Scunthorpe - Crowle	DN17 1; DN17 3; DN17 4; DN8 5; DN9 1	0.50	0.50			
Stocksbridge - Wheatacre Road	S30 5; S35 0; S35 7; S36 1; S36 2; S36 3; S36 4; S36 9; S6 6	1.30	1.30			
Stourton 132/11kV	LS10 1; LS26 0	1.8	1.8			
Total		15.10	15.10	1.10	3.00	1.90

Table 7: Sustain product tendered for secondary substation zones by delivery year

		Sustain: MW tendered by delivery year				
Zone (location – substation name)	Postcode (sector level)	23/24	24/25	25/26	26/27	27/28
Chester Le Street - Birtley Windsor	DH3 1	0.03	0.03			
Cramlington - Barras	NE23 7	0.05	0.05			
Gateshead - Makepeace Terrace	NE9 7	0.03	0.03			
Gateshead - Wardley Hall	NE10 8	0.03	0.03			
Leeds - Bellbrooke Avenue 2744	LS9 6	0.05	0.05			
Leeds - Cowper Terrace 2813	LS9 6; LS9 7	0.01	0.01			
Leeds - Hamilton Place 2757	LS7 4	0.03	0.03			
Leeds - Maxwell Street 2938	LS27 0	0.03	0.03			
Seahouses - Seahouses South	NE68 7	0.03	0.03			
Stanley - Pontop Pike	DH9 9	0.02	0.02			
Total	0.28	0.28				

Service conflict management

As part of our activities within the ENA Open Networks programme, as an outcome of the Primacy Technical Working Group (TWG), we have carried out a number of ‘risk-of-conflict’ exercises with the Electricity System Operator (ESO). These trial studies reviewed the ESO services being operated from customers embedded within our network and assessed any conflicts (and risk of conflicts) with DSO services being planned, tendered or operated within the two Northern Powergrid licence areas. To date, no conflicts have been identified.

These trial studies are currently being developed into a business-as-usual processes in the Primacy TWG.

Procurement schedules

The Dynamic Procurement System (DPS) is continually open, allowing for registration and pre-qualification of potential providers all year round.

In each procurement cycle we have been open to adapting our approach to maximise the opportunities for FSPs to participate. We allowed, for example, additional time in the pre bidding phase of the Spring 2023 tender process to facilitate enhanced participation, so this procurement cycle completed later than expected.

In both procurement cycles we entered into negotiations on the contract terms & conditions. In some cases this has been protracted and has delayed contract execution and service delivery, and consequently the corresponding announcement of procurement outcomes has been delayed. As we implement successive versions of the industry standard contract developed through the Open Networks project, and as the market

becomes more competitive, we expect that there will be less justification for divergence from the standard contract. This will ensure that the time from contract award to execution to announcement of procurement outcomes will become more predictable.

	2023												2024	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Spring 2023 tender														
Plan	Signposting & ITT		Bidding close	Contract award										
Actual		Signposting & ITT				Bidding close	Contract award							
Autumn 2023 tender														
Plan							Signposting & ITT		Bidding close	Contract award				
Actual									Signpost & ITT	Bidding close				Contract award

Feedback about tendering process

We sought feedback from stakeholders through formal surveys and bi-lateral engagement sessions. The key themes from this feedback and how we are acting on this is summarised below:

Feedback we received...	...how we are acting on this.
Awareness & Understanding	
Promotion of Tender Opportunities	
Potential bidders were aware of tender opportunities from Northern Powergrid outbound email campaigns, promotions on our website and other digital platforms.	We have continued to build on the success of our awareness campaigns by sustaining regular outbound communications with stakeholders to raise awareness of opportunities. We are also increasing our focus on attracting new participants into the market through proactive outbound engagement and promoting the benefits of flexibility services.
Communication of Tender Specification	
The tender opportunities were clearly presented and understood by potential participants with 75% of survey respondents feeling the tender specification was “easy” to understand	Through the ENA's Open Networks Project, we have supported the creation of standardised flexibility products to help create further clarity and uniformity of the services we procure.

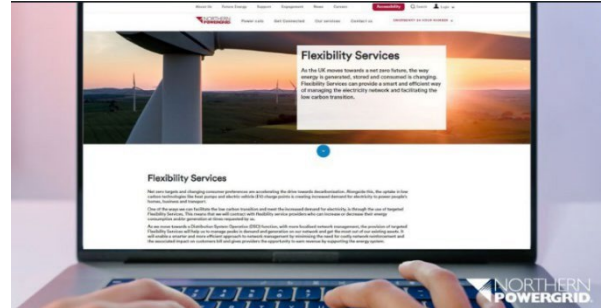
Feedback we received...	...how we are acting on this.
Preparing to Participate	
Asset Registration Process	
<p>Registering qualifying assets for tender participation was viewed as simple for those already engaging in flexibility services tenders but more challenging for those who were participating for the first time.</p>	<p>Along with our procurement platform provider, Piclo, we have increased availability of support for new registrants and are actively exploring ways to further simplify the asset registration process.</p>
Lead time from signposting requirements to asset registration	
<p>For the Autumn 2023 tender, the time between the signposting of the flexibility requirements and the time available for FSPs to sign up customers and register those assets was short</p>	<p>We are reviewing our timescales for future tender rounds so that we can achieve the three tender rounds per year that most FPS favour with sufficient lead times while also basing flexibility requirements on recent data and achieving contract award and onboarding into Flexible Power in time for the winter seasons</p>
Participation	
Procurement Platform	
<p>Flexibility providers that participated in our competitions gave feedback that they were able to easily submit their bids using the Piclo procurement platform.</p>	<p>We will continue to use Piclo for upcoming competitions and keep support personnel available at both Northern Powergrid and Piclo to assist with any bid queries that may arise.</p>
Reasons for Non-Participation	
Revenue Potential	
<p>Among survey respondents who didn't participate, the primary reason for non-participation was the potential revenue being too low, driven by a combination of the volume of flexibility being procured and the ceiling price for the delivery of services.</p>	<p>The ceiling price is designed to ensure the flexibility services solution represents the most efficient and economical outcome for our network customers. The volume of flexibility procured in our region is inherently linked to the level of constraints being addressed. As identified in our report, there are several socio-economic factors that can be attributed to lower levels of flexibility being required within our region.</p>
Contractual & Commercial Considerations	
<p>Some respondents identified other flexibility services, such as those procured by the ESO, as alternative opportunities that either precluded them from participation in other competitions, due to exclusivity arrangements, or provided higher revenue potential from such opportunities. Others identified some of the contractual terms of the ENA standard contract V2.1 as being a barrier to participation.</p>	<p>Through the ENA's Open Networks Project, we have promoted the removal of exclusivity terms being placed on providers of flexibility, thereby unlocking the potential for them to "stack" flexibility services. Through the Open Networks Project, we have also addressed provisions within the V2.1 standard agreement to remove blockers identified in stakeholder feedback and we intend to use the new V3 standard agreement for our Summer 2024 tender.</p>
Type and Location of Flexibility being Procured	
<p>Other respondents that didn't participate identified the procured flexibility product as not being suited to their asset type or the location of the flexibility requirements not aligning with their asset base.</p>	<p>We will work with interested providers to understand how we can introduce new products, such as the Peak Reduction product, into the pool of products we use to procure flexibility services. Our new enterprise ANM system and enhanced short term forecasting capability via our Artificial Forecasting innovation project will enable us to start procuring more dynamic flexibility products.</p>

3. Stakeholder Engagement

We have participated in a broad range of stakeholder engagement activities. These have yielded valuable insights and created important relationships with energy suppliers, Electric Vehicle (EV) charging operators, third party aggregators (spanning domestic demand, EV charging, commercial demand, generation, and storage) and existing customers.

An engagement plan has been introduced to track all of our stakeholder engagement activities - this shows an increase in webinars, newsletters, surveys and in-person events.

One-to-one discussions and bilateral meetings are vital activities that fed into this engagement plan. We created a 'Flexibility Strategy 2024-2026' which was presented to our stakeholders in an interactive webinar. These activities ensure our stakeholders are kept informed on the flexibility requirements, which will increase the participation in our markets.



We publish information on the [Flexible Power website](#) about our flexibility requirements and the procurement process. This is supported by updated resources explaining how we baseline EV charging activities.

We email our stakeholders directly so that they are aware of our flexibility requirements, the process to participate and how to contact us. In addition to this we created a [new webpage for Flexibility Services](#) on the Northern Powergrid website, which we use to promote our tender activities such as newsletters and webinars.

Previous stakeholder feedback indicated that aggregators need time to engage with their clients about participating in DNO markets. Understanding future opportunities is important for parties interested in planning, building, and connecting assets in our region. We therefore organised two in-person surgery days in London and York dedicated to aggregators. At these we shared our upcoming flexibility requirements for the future tender round and discussed our long-term plans. The aggregators feedback was positive, and we will be holding more of these events in the future.

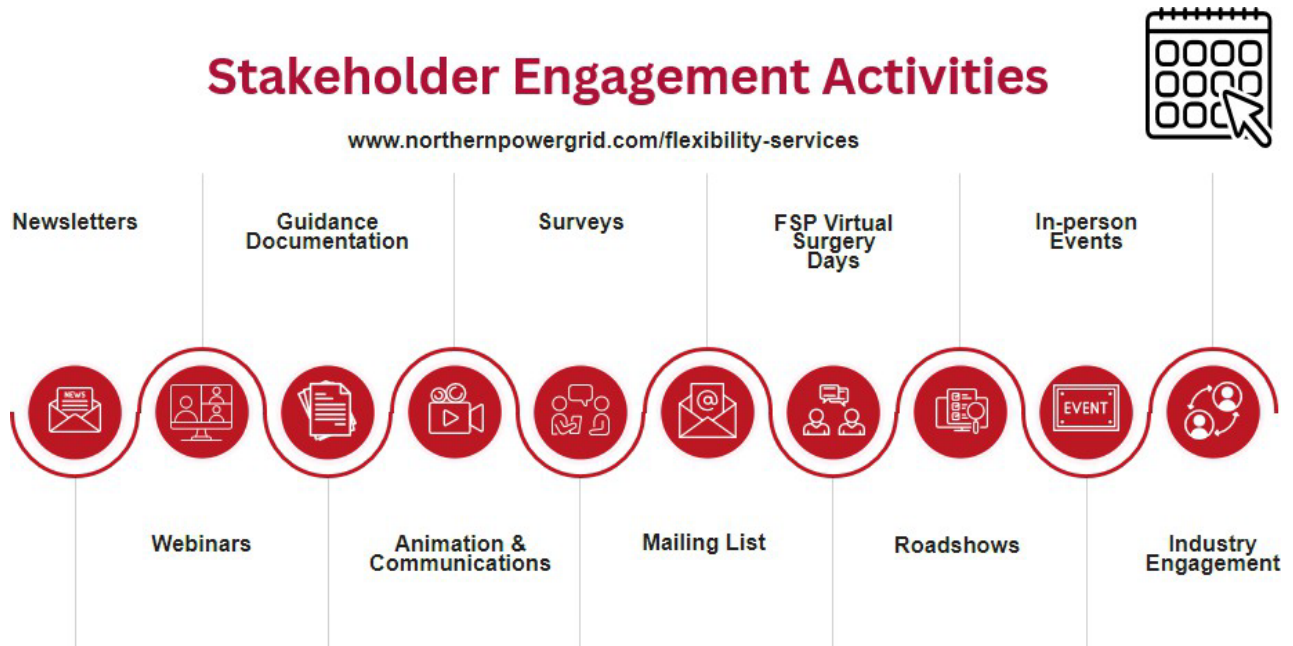


We have led and contributed to the Open Networks activity to develop and enhance common approaches for the procurement and use of flexibility services. Stakeholder engagement in these developments has been managed through the Open Networks project which is responsible for organising the relevant focus groups.

Flexible Power has played a role in enabling the use of the standardised products and facilitating the development of a standardised dispatch API. We have engaged directly with FSPs to onboard them onto the Flexible Power platform and provided feedback into the platform's development.

Summary of Engagement

There has been a significant increase in stakeholder engagement activities, and this will continue as we further develop flexibility markets in our region. Appendix 1 lists our engagement activities in detail, but the main engagements and communications are highlighted:



Industry and In-Person Events

We attended 27 industry and in-person events which varied from forums, workshops, and conferences. This does not include the site visits to GWE and Equiwatt who provide us with Flexibility.

DSO Review Panel

Our DSO review panel has been established to provide independent oversight and scrutiny of our 'flexibility first' decision making. They ensure that all decisions we make when determining on the use of flexible or traditional asset-based solutions are in line with our published policies and that they are just and inclusive, so that no customers are left behind.



One-to-one Discussions and Bilateral Meetings

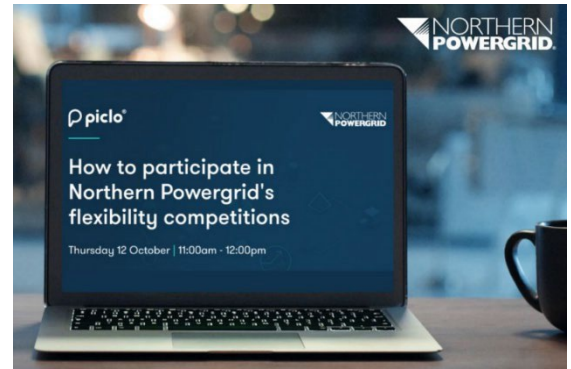
Bilateral meetings are offered to our stakeholders who are interested in providing flexibility services. We held surgeries or bilateral meetings with stakeholders throughout the year. This allowed our stakeholders to provide feedback and discuss upcoming business plans.

Newsletters

Flexibility newsletters have been released throughout the year to those stakeholders who have signed up to our flexibility mailing list; the previous newsletters can be viewed on [the flexibility services webpage](#). The newsletters provide important updates on our plans and links to past events and recordings. The newsletters can be found in our appendix.

- **Webinars**

We have used webinars to engage with stakeholders. In October we hosted a joint webinar with Piclo to outline our flexibility requirements. A live demonstration and Q&A with Piclo ensured that barriers to participation were minimised. In January, we held a webinar to announce our Flexibility strategy and asked for our stakeholders to provide feedback throughout using live polls.



- **Aggregator Surgery Days**

Previous stakeholder feedback indicated that aggregators need time to engage with their clients about participation in DNO markets. We therefore held two surgery days in York and London, and we shared our upcoming flexibility requirements for the future tender round and discussed any long-term plans.

- **Flexibility Mailing List**

Our Flexibility Mailing list has approximately 200 stakeholder subscribers, and they are kept up to date with any tender activities.

- **Market Platform – Piclo**

Piclo is now used as our procurement platform; we recognised and responded to previous stakeholder feedback regarding barriers to participation. Piclo is accessible and easy to navigate, and we have received feedback from our stakeholders that has been positive.

- **Social Media and Communications Plan**

A communications plan was created with Piclo's marketing team to broaden the audience participation in our competitions. Social media has been used throughout each tender round to engage with our customers. There have been many social media press releases announcing our flexibility contracts and tender rounds.

- **Animation**

Creating an animation for flexibility service providers was important to us; we created an animation and have also been working on a marketing campaign. The campaign exceeded almost of all the KPIs for the campaign, indicating that the ads used were highly engaging that drove our audiences to click through and find out more.



- **Northern Powergrid Website**

We launched [a flexibility webpage](#) on the Northern Powergrid website in May 2023; this is a 'one stop shop' for all information related to flexibility for our stakeholders. All of our key documents have been published on the website along with links to the Flexible Power and Piclo platforms. There have been over 1.3k clicks through to the website from the animation marketing campaign.

Stakeholder engagement on flexibility requirements and procurement

Stakeholder Needs	Our Response Includes
84% of our stakeholders prefer Northern Powergrid to run 3 tender rounds per year.	We have increased the number of tender rounds from 2 to 3 in 2024.
Easier terms and conditions for flexibility contracts	Our contracts are standardised in line with the ENA Open Networks Project. We have changed our acceptance of the terms and conditions to be a tender evaluation criterion rather than a pass/fail question in the pre-qualification stage. This is temporary as we wait for version 3 of the standard contract.
Increased visibility of our flexibility needs.	We established a broad range of group-targeted outreach which includes engagement with aggregators and FSP webinars to inform stakeholders on flexibility products available.
88% of our stakeholders voted that they would benefit from a dedicated workshop that explains the new flexibility products.	We are hosting a webinar in partnership with the ENA Open Networks in May where we will complete a deep dive focusing on the flexibility products.
Aggregators need more time from the signposting of flex requirements to the deadline to register assets and enter them into competitions	We will increase the signposting lead time in the run-up to competitions in future procurement rounds.
Informing and educating on how customers can be involved in Flexibility Services.	A Flexibility Services guide was created to explain what is required to contract with us and how to become an FSP.
Make it easier for flexibility service providers to participate.	Adopted the Piclo Flex market platform. Provided additional datasets, tools, and processes that simplify FSP participation including postcode and geospatial data on our competition zones and enabling API and CSV functionality for Dispatch and Settlement.

We published information on our flexibility requirements and the procurement process on the [Flexible Power website](#). For the Autumn 2023 tender we also published information on [the Piclo website](#). We used direct emails to stakeholders, our newsletter, webinars and LinkedIn to communicate the opportunity and how to participate.

For the Spring 2023 tender we made the full tender pack including the flexibility requirements, prequalification questionnaire and tender evaluation criteria available to market participants on our procurement platform. The Autumn 2023 tender was conducted via Piclo and the equivalent information was made available via that platform.

Industry collaboration on common rules for the procurement and use of flexibility services

We have participated in Open Networks activity to develop and enhance common approaches for the procurement and use of flexibility services. Stakeholder engagement in these developments has been managed through the Open Networks project. The 2023 activities are summarised below and more information on the activities can be found on the [ENA's Open Networks site](#).

Focus area	Main outcomes	Status update
Making it easier for flexibility service providers to participate	Standardisation of flexibility products	Standardisation agreed. Adopted for our first tender round of 2024.
	Standardisation of pre-qualification	Standardisation agreed. Partially implemented already through the Piclo platform. Full implementation in 2024.
	Standardisation of flexibility contracts	We were the first DNO to adopt version 2.1 of the standard contract which we used for our Autumn 2023 tender. We expect version 3 to be ready for adoption for our first tender round of 2024.
	Standardisation of dispatch API	There is no immediate “off the shelf” API solution that can be adopted in the immediate term to deliver a standardised method of dispatch. The working group is exploring the use of the OpenADR 3.0, an international standard, to support a means of standardising dispatch.
	Standardisation of settlement process	Tranche 1 of the deliverables will be implemented in version 3 of the contract. All DNOs will adopt the same performance calculations this year standardising performance calculations for availability and utilisation.
Improving operational coordination between networks and companies	Implementation of primacy rules	2 nd increment of primacy rules are in development, due to be finalised due summer 2024, implementation to follow
	Harmonisation of data shared between DNOs and ESO	80% of data shared between DSO-ESO has been harmonised
	Harmonise DER visibility information	A specification has been developed for information that DNOs would reserve the right to request from DERs where appropriate.
Improving the transparency of processes and reporting	Consistent Network Development Plans (NDP)	Implemented
	Consistent network co-ordination activities	Implemented
	Consistent carbon reporting	Implemented

We have also collaborated with the other DNOs who use the Flexible Power platform for settlement and dispatch of flexibility services. This collaboration has contributed to and implemented industry wide standardisation and delivered other enhancements in the platform.

Flexible Power Initiative	Northern Powergrid Progress
Improved user experience for FSPs	Some improvements include provision of FSP user guides, added functionality for upload and download of information via CSV in relation to FSP requests, and specific display improvements.
Developments to support increased levels of flexibility market activity.	The member DNOs have also improved resilience in readiness for increased flexibility; implementing UI changes for increasing constraint zones and stress testing the system to ensure robust delivery for secondary/LV flexibility dispatch.
Implementation of industry-agreed new flexibility products.	We have collaborated with other DNOs and the Flexible Power team to ensure implementation of the new standardised products by April 2024. The new standardised products have been implemented for upcoming tenders, whilst enabling legacy contracts using the previous products to continue where required.
Development of a standardised dispatch API.	The Flexible Power team have also collaborated with the industry-led working group to develop a standardised dispatch API and continues to support this work.

Table 8: Information for Flexibility Services Providers

Information	Link
Northern Powergrid’s Flexibility Services website providing information on tenders, how to get involved, newsletters and other useful resources.	Flexibility Services Northern Powergrid
Information on our current flexibility requirements.	Where We Are Procuring
Understand how we procure flexibility services and to take part in our tenders.	How are we procuring flexibility
Read our annual procurement statements and reports.	Useful Documents
Sign up to our mailing list to receive updates on procurement opportunities, news, and information on any upcoming events.	flexibility@northernpowergrid.com
Get in touch to provide feedback or discuss any aspect of flexibility services.	flexibility@northernpowergrid.com
Watch our animation that explains how flexibility works and how to get involved.	Flexibility Services explainer (youtube.com)
Piclo is used as our procurement platform, visit the dashboard to see competitions.	Piclo Flex - Dashboard
We publish our tender documents and any information regarding the current tender.	Piclo Flex - Northern Powergrid profile
Flexible Power is our dispatch and settlement platform, documents and information are provided along with FAQs.	Flexible Power - API Documentation
All of our past events can be found here along with recordings and slides. Upcoming events can also be located here.	Northern Powergrid Engagement Events website
A report investigating the regional differences in the uptake of flexibility services.	Regional variation in the uptake of flexibility services report
A guide explaining what is required to contract with Northern Powergrid and become an FSP.	Guide for Flexibility Service Providers
Our Flexibility First Policy, setting out our commitment to using flexibility solutions wherever possible.	Northern Powergrid Flexibility First Policy
A tutorial video providing an introduction to Flexibility Services.	Introduction to Flexibility Services in Northern Powergrid - YouTube
All of our press releases are published on the news section of our website.	News Northern Powergrid

4. Economic Viability

Determining where flexibility services may be economically viable

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. The policy demonstrates the principles that sit behind all our flexibility decision making processes, in order to give Flexibility Service Providers and our stakeholders confidence that we are promoting fair and open competition and demonstrating decision making transparency.

To determine where a flexibility solution was the optimal route, we employed the methodology set out in our [Distribution Network Options Assessment \(DNOA\)](#), which is summarised in Figure 2.

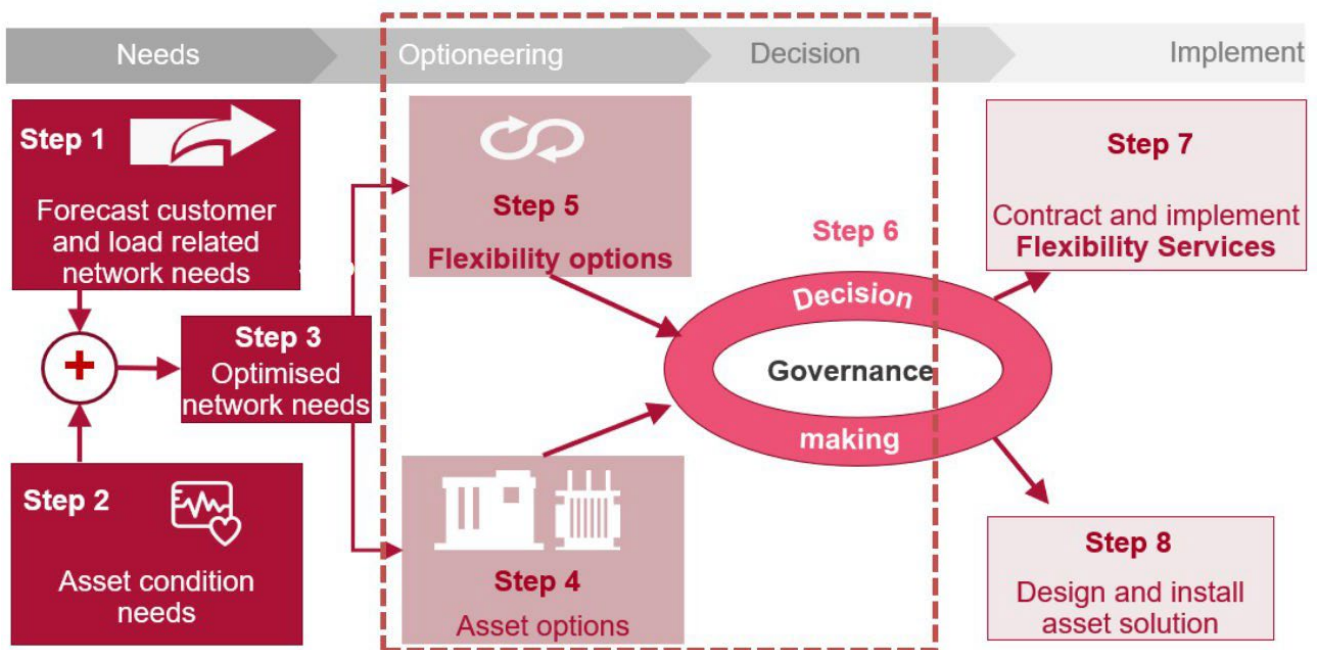


Figure 2 – Distribution Network Options Assessment process steps

Steps 1 – 3 in Figure 2 are underpinned by use of current network utilisation data and forecast forward in line with our [Distribution Future Energy Scenarios \(DFES\)](#) as well as accounting for any planned interventions as outlined in our [Network Development Plan \(NDP\)](#). These initial steps then highlight where an optioneering decision is required about the optimal intervention, be that a flexibility solution, an asset based one or a combination of the two.

Steps 4 – 6 in Figure 2 utilise the [Common Evaluation Methodology \(CEM\)](#), along with specific conditions associated with our network, to provide a consistent and transparent method for choosing the optimal solution, and to demonstrate where flexibility services could be the most economic and efficient solution to meet network needs. We use the financial benefit of deferring the engineering solution by two years, and the total energy requirement, to calculate for a constraint zone a £/MWh for flexibility services that would deliver a flexibility services solution at an equivalent cost to the engineering solution. This ‘ceiling price’ is the maximum economically viable price for flexibility services in each zone: above this, the alternative engineering solution would be more cost efficient.

The conclusion of Step 6 enables us to identify where a flexibility solution is the optimal approach and therefore where we would procure flexibility, as described in Section 2.

Procurement and dispatch of flexibility services

The first tender round in Spring 2023 was conducted using our general procurement platform. The Autumn 2023 tender round was conducted on the flexibility specific market platform, Piclo Flex.

The evaluation criteria used to assess bids were included in the ITT suite of documents for each tender round.

We assessed bids using the following evaluation criteria:

- Price and volume: can the bid form part of a cost efficient and carbon efficient mix of tender responses to meet our flex requirements?
- In the event of tiebreaker, we will have a preference for less carbon intense technologies.

The post tender survey for potential and actual bidders included questions about the tender process. While the number of survey participants was low, we did not receive any feedback through the survey, or via other dialogue, that indicated that the tender evaluation criteria were not well understood by stakeholders.

We did find that the parties who bid then sought post-bid changes in the T&Cs. This meant that contract execution and the announcement of procurement outcomes was later than expected. The outcomes of each tender round, i.e. contracts placed, were made available in [the Procurement Outcomes Report](#) on the [Northern Powergrid Flexibility Services page](#) after the contracts from a tender round had been executed.

Since we procured the Sustain product where utilisation is set at the point of contracting, there were no subsequent dispatch decisions.

Links to core documents and/or methodologies used to support decision making process for financial viability

- Our [Distribution Future Energy Scenarios \(DFES\)](#) give 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; it models their impact on the distribution network and gives early insight to signal locations where we may need to develop intervention options to avoid future network constraints.
- The principles for forecasting, network impact assessment, optioneering and identifying solution are set out in the [Network Development Plan \(NDP\)](#).
- The [Distribution Network Options Assessment \(DNOA\)](#) report informs 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.

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 Long-Term Development Statement (LTDS), NDP, DNOA and other key network information is available from the [Northern Powergrid Open Data Portal](#).

Total system considerations

Flexibility services are widely recognised as providing value to the wider energy system as well as to the distribution system. There is a need to manage potential conflicts when a flexibility asset is participating in multiple markets and we are contributing to the work of the Open Networks project to develop primacy rules to manage such conflicts. We do not prevent FSPs from providing services to other system operators provided that this does not limit their ability to provide the contracted services to us.

5. Carbon Reporting

The carbon impact calculation presented in this report follows the standard ENA methodology. The calculation varies depending on whether the flexibility asset is generation, storage (export), or demand / storage (import).

The impacts include direct impacts (such as burning fuel) and consequential impacts (such as demand payback) but not indirect impacts (such as embodied carbon). The conversion factors used are generally industry standard which include grid-intensity, plant efficiencies, fuel emission factors, and payback assumptions.

In order to maintain consistency between DNO reports asset specific factors are not used, which means that the methodology reports an approximation of carbon impacts. The detailed methodology is available on the ENA website at [ON Carbon Reporting Methodology \(Sep 2023\) – Energy Networks Association \(ENA\)](#).

In 2023/24 we despatched flexibility services from three providers, over 99% of the utilisation was from a generator using biofuel.

Table 9: Carbon impact of flexibility services dispatched

SLC31 Technology Category	Requested energy (MWh)	Delivered energy (MWh)	Direct carbon impact (kgCO ₂ e)	Consequential carbon impact (kgCO ₂ e)
Biofuel - Biogas from anaerobic digestion (excluding landfill & sewage)	857	308	205,383	-84,491
Demand	10	10	-2,665	2665

Appendix 1: Flexibility Stakeholder Engagement Activities



Flexibility Stakeholder Engagement Activities		
Date	Planned Engagement	Details
April 2023	Northern Powergrid Flexibility Pre-recorded video	Introduction to Flexibility Services.
	Post Tender Flexibility Survey	Post tender survey to all participants in Spring tender round.
May 2023	Flexibility Newsletter	First issue of the flexibility services newsletter.
	GWE Biogas Site Visit	The Flexibility Services team visited the site for a meeting to discuss their journey as a flexibility service provider.
	Northern Powergrid Community DSO Webinar	Provided details on the Community DSO project and how to get involved.
	Attendance at the Utility Week Live	Event held in Birmingham to meet with flexibility service providers.
	Piclo Forum Event	Event held in London to meet with flexibility service providers.
	New Flexibility Services Website	Flexibility services page anchored to the main website.
June 2023	DSO Launch Forum with Q&A	First quarterly update where we shared our plans for 2023 to launch us on our journey and set out how stakeholders can get involved and benefit.
	Primary Stakeholder Panel	Introduction of Flexibility Services to our stakeholder panel.
	Connecting Projects to the Grid 2023, Burges Salmon, London	Head of Flexibility Services speaking opportunity to discuss the regional improvements: upgrading the distribution network- updates on plans for network improvements and facilitating positive customer experience.
	Northern Powergrid- Community DSO Consortium Brokerage Conference	Conference held to support introductions and networking between the communities and organisations who wish to form consortiums.
	Newsletter	Update on the new flexibility platform.
	Northern Powergrid Regional Forum	For stakeholders to learn more about flexibility services and focusing on the procurement process.
July 2023	Northern Powergrid Community Energy Forum	The forum is for community energy organisations, climate action groups, local authorities and any people/organisations who want to help their local area decarbonise energy and achieve net zero.
	Targeted customer engagement	Direct engagement with Local Authorities and customers in potential constraint zones.
	Community DSO Virtual Networking Event	Online event to offer a facilitated networking opportunity for interested parties to connect and build prospective consortiums
August 2023	Northern Powergrid Virtual Surgery Days	Virtual Flexible Power surgeries took place over 2 days
	Piclo Communications Plan	A communications plan was made for the Autumn tender and delivered as the tender moved forward.

Flexibility Stakeholder Engagement Activities		
Date	Planned Engagement	Details
September 2023	Flexibility Services Animation	Worked with Greenhouse PR consultancy to develop an animation.
	Data Exploration Day, Regional Variations in the need of Flexibility	Open innovations, Leeds. A workshop was held to discuss regional variations in Flexibility uptake.
	Oxford Energy Innovation Forum – Open Event	Head of Flexibility Services speaking opportunity to discuss Community DSO and Flexibility.
	Accelerating Decarbonisation in Yorkshire and the Northeast Conference	A conference in Leeds bringing together representatives from business, industry, and local government to discuss the challenges and opportunities of achieving net zero in the region.
	Northern Powergrid Guide for Flexibility Providers	A brochure produced for stakeholders to understand how flexibility works and what it is.
October - November 2023	Flexibility Survey	Post tender survey to all participants in Autumn tender round.
	Autumn Tender Webinar	Webinar hosted with Piclo to discuss the flexibility requirements for the Autumn tender.
	Newsletter	Stakeholder Update
	Energy Innovation Summit	Exhibition Centre Liverpool
November 2023	Community DSO Steering Board and Stakeholder Advisory Committee	The Principal Hotel, York
	Northeast Chamber of Commerce, Performance through Net Zero	‘Delivering an energy system fit for the future’ Northern Powergrid speaking slot that involves Flexibility Services and Community DSO.
December 2023	Social Housing Decarbonisation Roundtable	Facilitated by Public Affairs, to discuss Flexibility Services and Community DSO.
January 2024	Targeted customer engagement	Direct engagement with Local Authorities and Customers in potential constraint zones.
	Flexibility Strategy Webinar	Webinar held for our stakeholders to feed into our flexibility plans.
	Elexon – Market Facilitator Workshop	Orange Room, London.
	ESO Markets Team visit Northern Powergrid	Open Innovations, Leeds City Centre.

Flexibility Stakeholder Engagement Activities

Date	Planned Engagement	Details
February 2024	Equiwatt Site Visit and Press Release	Meeting in Gateshead at Equiwatt's offices to discuss flexibility and celebrate the awarding of a contract with press shots.
	Power Responsive Steering Group	Attended the virtual steering group with representatives across the energy industry.
	Northern Powergrid Virtual Surgery Days	Virtual Flexible Power Surgeries took place over 2 days.
	Utility Week – Flex Awards	Submitted entries for a number of categories for the flex awards.
	Utility Week	Attended Utility Week and had a speaking opportunity to showcase flexibility.
	Aggregator Days – London and York	Met with aggregators to discuss our upcoming flexibility competitions.
March 2024	Regional Workshops	Regional Workshops held throughout our region and flexibility services is one of the topics that is discussed.
	Northern Powergrid Flexibility Webinar	Webinar to discuss our upcoming flexibility competitions.
	Elexon in person meeting	A meeting with Elexon to discuss the market facilitator role.
	Distributed Energy Show	Telford, speaking opportunity to discuss flexibility services.
	Regional Decarbonisation Conference	The Baltic, Gateshead. Bringing together representatives from business, industry, and local government to discuss the challenges and opportunities of achieving net zero in the region.
	Ofgem Visit to Northern Powergrid Offices	A meeting with Ofgem to discuss Flexibility Services and Community DSO.

Appendix 2: Supplementary Information

Reference Materials and Useful Links	Purpose (and link)
Northern Powergrid Flexibility Services Website	https://www.northernpowergrid.com/flexibility-services
Northern Powergrid's RIIO ED2 Business Plan	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. https://ed2plan.northernpowergrid.com/
Distribution Future Energy Scenarios	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 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; model 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. https://www.northernpowergrid.com/network-data
Long Term Development Statement	Our 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. https://www.northernpowergrid.com/long-term-development-statement
Network Development Plan	Our 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. https://www.northernpowergrid.com/network-data
Distribution Network Options Assessment	The purpose of our 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. 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). https://northernpowergrid.opendatasoft.com/pages/home/
Ofgem Website	Northern Powergrid's regulator's website https://www.ofgem.gov.uk

Reference Materials and Useful Links	Purpose (and link)
ENA Open Networks Website	Northern Powergrid's trade association who co-ordinate the Open Networks Programme https://www.energynetworks.org/creating-tomorrows-networks/open-networks/
ENA Flexibility Products Alignment Report	Reference to the Flexibility Products alignment report issued this year which details the methodology for the standardisation of products across GB DNOs. https://www.energynetworks.org/publications/on-flexibility-products-review-and-alignment-(feb-2024)





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