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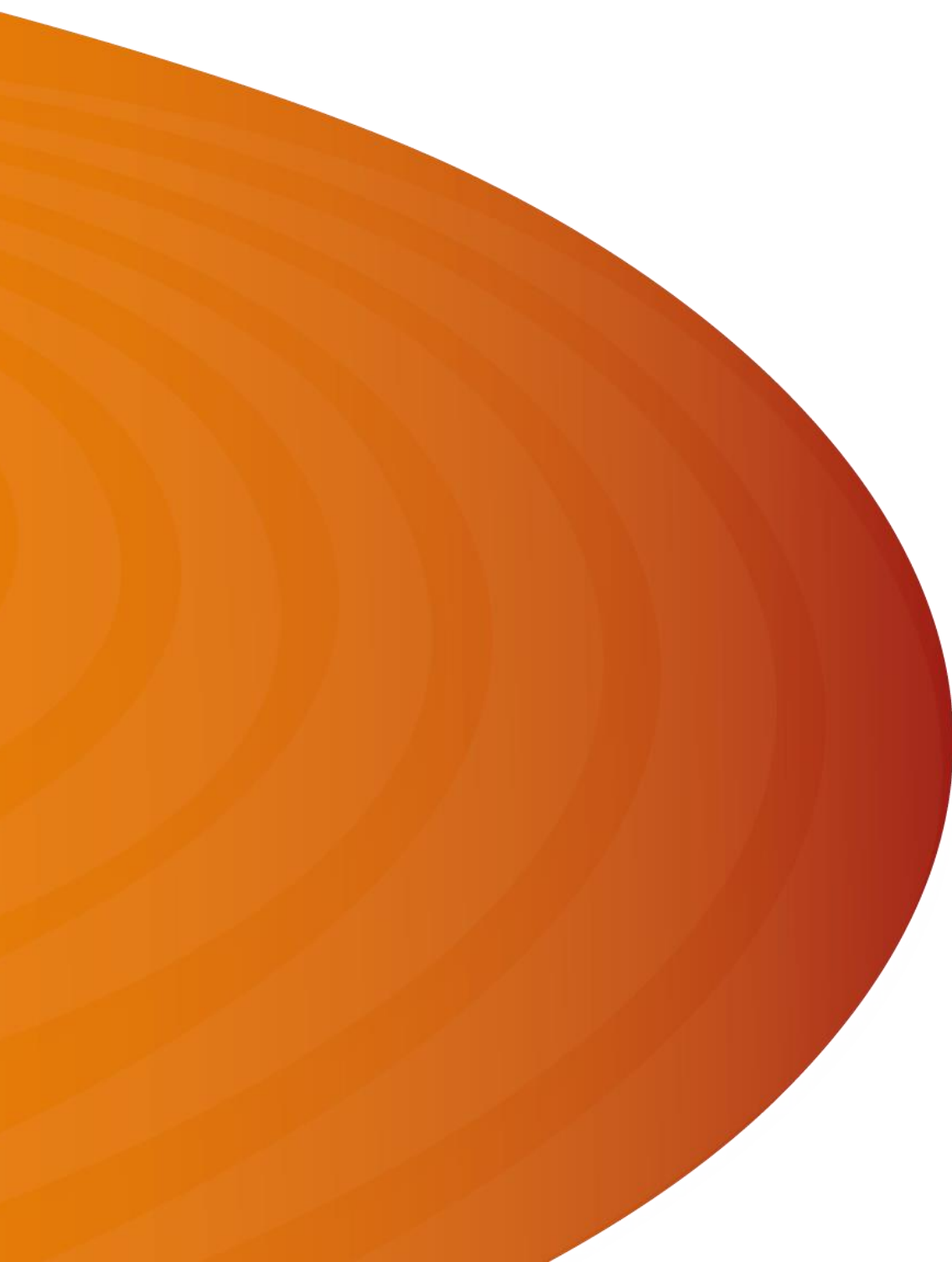
Company:
UK Power Networks
(Operations) Limited

Registered in England and Wales No: 3870728

Flexibility Services Procurement Statement

Our plans for April 2023 – March 2024

Standard Licence Condition 31E Reporting Requirement
31 March 2023



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Executive Summary

We are the UK's biggest electricity distributor, delivering power to over 8.4 million homes and businesses across London, the East and South East of England. We keep the lights on across 29,250 square kilometres, serving 19 million people from Cromer in the east to Brighton on the South Coast.

Flexibility is a critical tool in enabling net zero at lowest cost for the customers we serve. In our Business Plan for RIIO-ED2 (2023-28), we set out ambitious commitments for the procurement and use of flexibility to defer £410m of network investment. This builds on our track record of leadership in this space. In 2018, we were the first DNO to publish a Flexibility Roadmap that described how we would develop flexibility markets. We were also the first DNO to commit to market testing all of our HV and EHV reinforcement before we invest in any new assets. Subsequently we were also the first DNO to tender for LV needs.

The Procurement Statement document describes the type of flexibility we will procure and our approach to procurement for the 2023/24 regulatory year.

Some of the key highlights of what is covered in this document:

- **Flexibility services requirements:** In Section 2, we set out our tender requirements for the 2023/24 regulatory year. We are currently reviewing bids submitted against a 600 MW flexibility tender¹ which began in December. We plan to complete two further tender rounds during the regulatory year – covering an additional 150MW of flexibility across 43 major sites. The next tender round will be a small 'top up' tender at which we expect to procure 83 MW of flexible capacity at sites where we have previously sought flexibility. The second tender round will be the main multi-year tender round for the year, and sites will be confirmed based on the latest network data available later in the year. We currently expect this to cover at least 67MW of requirements. We expect to procure flexibility for both import and export capacity constraints. By procuring across long- and short-term timescales through the Secure, Sustain and Dynamic products, we aim to capture flexibility from providers with a wide range of operational and business models, and manage network requirements more effectively.
- **Tendering process:** In Section 3, we describe our tendering process for the upcoming regulatory year. During the year we intend to make three key changes to the tendering process. Firstly we will begin procuring via day ahead tenders. This is based on extensive provider feedback. Secondly, following the response to our consultation², and the ENA's consultation³ in September, we have discussed the urgent need for standardisation with our DNO peers. All agree that this is critically important to get right. We are redoubling our support to Open Networks and have helped to shape focused plans for 2023. Finally, UK Power Networks has a compelling need to invest in systems that are future proof to support the increased scale of its flexibility procurement and use. We therefore plan to launch procurement of a market platform early in the year. We intend to align this exercise with other DNOs.
- **Stakeholder engagement:** As outlined in Section 4, we will continue to engage extensively through in-person and digital channels. Outside of our established pattern of engaging with flexibility providers, our main two areas of focus for this year will be coordinating flexibility services across DNOs and working with National Grid ESO to enable accelerated grid connections and wider whole-system outcomes. Central to this will be the Open Networks project, where we continue to play a leadership role in standardising flexibility products, processes and contracts to enable increased participation in local flexibility markets. We also continue to work with National Grid Electricity Transmission and National Grid ESO to identify ways to connect customers in the East of England and South Coast. An initial implementation, offering the first stages of coordination between UK Power Networks and National Grid ESO, will be delivered in 2023.
- **Quantitative assessment:** In Section 5, we describe the methodologies we use to ensure that flexibility services are procured and dispatched economically. We demonstrate our commitment to efficient, market-based flexibility solutions. This includes a detailed description of our implementation of the Common Evaluation Methodology to establish ceiling prices for flexibility procurement and how we promote competition in procurement and dispatch.

¹ This covers flexibility to manage both demand and generation constraints

² Consultation response: https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2023/02/1010610-UKPN-Consultation-Response-02.2023_v2.pdf

³ ENA flexibility consultation 2022: <https://www.energynetworks.org/industry-hub/resource-library/on22-pri-2022-flexibility-consultation-wrapper-document.pdf>

1. Introduction

Introduction to UK Power Networks

We are the UK's biggest electricity distributor, delivering power to over 8.4 million homes and businesses across London, the East and South East of England. We keep the lights on across 29,250 square kilometres, serving 19 million people from Cromer in the east to Brighton on the South Coast.

The nature of our business means we are responsible for keeping the lights on, safely and sustainably, and caring for our customers, especially those in the most vulnerable circumstances across our communities. Our key responsibilities include:

- Maintaining the safety and reliability of our electricity networks by doing no harm to people and places and making sure power cuts are rare;
- Meeting our customers' evolving needs by improving existing services and shaping new ones;
- Taking care of the environment by reducing the environmental impact of our operations and enabling the country's transition to Net Zero carbon emissions;
- Going above and beyond for our communities by ensuring we remain legitimate and responsible in the eyes of our customers;
- Supporting our customers in vulnerable circumstances and ensure they are not left behind during the complex energy transition

Our vision is of a dynamic distribution system, with electricity demand and supply flexing in response to distribution-level conditions and wider market signals. We will see market based solutions incentivising customers to utilise available network capacity efficiently, being supplemented with traditional network investment that results in the lowest costs for consumers overall. This will lead to a smarter and more highly utilised distribution network, with faster and cheaper access for the DERs to achieve Net Zero.

We have established an independent Distribution System Operator (DSO), delivering clear accountability and transparency for how we unlock capacity to connect more low carbon technologies in a timely and cost effective way. A key role of the DSO will be the development of flexibility markets. In our RIIO-ED2 Business Plan⁴, we made a commitment to a flexibility first strategy through which we committed to market testing all future network needs for non-network asset solutions.

Why flexibility?

Using customer flexibility is one of our five key DSO priorities as outlined in our DSO strategy⁵ and will allow us to manage planning, network development and operations in a more economic and efficient way. DSO flexibility services sit at the core of the DSO evolution as specified in the Ofgem RIIO-ED2 Sector Specific Methodology Consultation:

"DNOs must actively develop markets to enable and appropriately reward DER to provide services, including distribution non-frequency ancillary services (DSO ancillary services), to efficiently manage their network."

Purpose of this document

This document is one of three key reporting tools required under SLC31E of the electricity distribution licence for the 'Procurement and use of Distribution Flexibility Services'. SLC31E was implemented in December 2020 and transposes into the GB regulatory framework Article 32 of the Clean Energy for all Europeans Package. This procurement statement sets out:

1. What flexibility we intend to procure in the next regulatory year including information on service types, volumes sought, pricing strategies and forecasted dispatch; and
2. How we intend to comply with the licence condition by demonstrating transparency of flexibility procurement and coordination across industry participants.

⁴ <https://ed2.ukpowernetworks.co.uk/#business-plan>

⁵ UK Power Networks RIIO-ED2 Appendix 18 - [Additional Information – UKPN RIIO-ED2 \(ukpowernetworks.co.uk\)](#)

2. Flexibility services requirements

Planned flexibility procurement over the next regulatory year

We are currently reviewing bids submitted against a 600MW tender begun in December 2022 and will shortly begin the contracting process. We plan to run two further flexibility tenders in the 2023/24 regulatory year. Both tenders will offer contracts under the products shown below, consistent with the approach to the December 2022 tender. These contracts will typically be for 2-3 years, reflecting our need to balance certainty of provision with opportunities to review and re-compete requirements as our forecasts evolve and market participation increases. We provide further detail in the next sections.

Table 1: Flexibility products

Product	Payment structure	Provider commitment	Dispatch mechanism
Secure	Availability (£/MW/h) Utilisation (£/MWh)	High (forward commitment of price and volume)	Email/API
Sustain	Fixed service payment (£/MW/yr)	High (forward commitment of price and volume)	No dispatch
Dynamic	Utilisation (£/MWh)	Low (optional in real-time)	Email/API

Winter 2022 Tender

We have tendered for a total of 600MW of capacity across 1,037 flex zones. This procurement is for Secure, Sustain and Dynamic services across Extra High Voltage (EHV), High Voltage (HV) and Low Voltage (LV) levels. As well as procuring demand turn-down (generation turn-up) services, for the first time UK Power Networks have tendered to procure demand turn-up (generation turn-down) services. These will have contract terms of up to two and a half years. The breakdown of the tendered requirements is as follows:

- **EHV and HV export constraint zones:** There are 24 Flexibility Zones with EHV/HV generation constraints. The target capacity across these zones is 426MW. Solutions that can provide demand turn-up (generation turn-down) that fall within these zones are eligible. Solutions can be connected at EHV, HV, or LV as long as they feed into the constraint. This need will be addressed through the Dynamic flexibility product, which will provide a market-based alternative option to curtailment of sites with flexible connections.
- **EHV and HV import constraint zones:** There are 51 Flexibility Zones with EHV/HV level demand constraints. The target capacity across these zones is 158MW. Solutions that can provide demand turn down (generation turn up) that fall within these zones are eligible. Solutions can be connected at EHV, HV, or LV as long as they feed into the constraint. In order to attract providers with a range of business and operating models, there are three flexibility products open to providers at this level: Secure, Dynamic and Sustain products.
- **LV import constraint zones:** There are 962 Flexibility Zones with LV level demand constraints. The target capacity across these zones is 19MW. LV-connected solutions that can provide demand turn down (generation turn up) that fall within these zones are eligible. This need will be addressed through Sustain flexibility contracts.
- Further information about the zones and the capacity required can be found in the live tender section of our Flexibility Hub⁶.

Tender 1 – June to September 2023

The intention of this tender is to ‘top-up’ against system needs that have not been fulfilled by the previous tender. For this tender, we have identified a total need for 83 MW flexible capacity across 28 sites on our network. This may vary

⁶ [Flexibility Hub - UKPN Smart Grid \(ukpowernetworks.co.uk\)](https://ukpowernetworks.co.uk/flexibility-hub)

depending on the signing of contracts from the current tender and new connection requests. We will procure multi-year contracts to address thermal constraints until Winter 2025/26. This contracting approach is aligned with contract end dates for our last tender and balances the certainty of multi-year contracts with opportunity to drive down costs through re-competition of requirements as market participation increases during RIIO-ED2.

We have identified sites based on the following drivers:

- Retendering sites where we have not received enough flexibility contracts to cover the full system needs from the previous tender round;
- Capacity shortfalls expected based on recent network load data; and
- Risks of capacity shortfall in the next year, including uncertainty in timing of uptake of accepted new connections load.

We will meet the above needs by procuring a combination of Secure, Sustain and Dynamic services. As in our recent tender, we will use Secure and Sustain to cover our central scenario for demand growth, while Dynamic will be used to cover generation constraints (in areas with existing flexible connections) along with less certain demand requirements. By offering a range of products with different levels of commitment, we are able to attract a more diverse cohort of flexibility providers.

We provide a summary of the sites, including MW requirements in Appendix B. We estimate an average of 50 hours of utilisation per year for a typical site although actual utilisation levels may vary from this level depending on real-time network conditions. There will typically be a ceiling utilisation price of £600/MWh at each site although this price can vary depending on the site-specific cost-benefit analysis for flexibility (see Section 5 for more detail). Providers can vary their utilisation price provided it remains below the ceiling price.

We plan to use the Piclo Flex⁷ platform to run both tenders, which is openly accessible to all stakeholders. We will publish further information on the platform ahead of pre-qualification on capacity requirements, voltage levels and forecasted utilisation for all sites as summarised in Appendix B.

Tender 2 – November 2023 to April 2024

The second tender will also be a multi-year tender where we will seek flexibility services to meet our needs over the first two to three years in the RIIO-ED2 period. We will use the latest data on network load and connections pipeline, along with our latest forecast under the Consumer Transformation scenario, to inform where flexibility will be procured. This scenario represents our best view of future network load and is the basis of our long-term planning as outlined in our Long Term Development Statement (LTDS) and Network Development Plan (NDP). Due to the timing of this report we can only publish an indication of the flexibility requirements. We will identify sites based on the following drivers:

- Peak demand forecasts and firm capacities used in the production of the NDP which is published on the Open Data Portal⁸. Peak demand forecasts consider the four Distribution Future Energy Scenarios (DFES) as outlined in Appendix A;
- Related forecasts for groups and circuits which are not published in the NDP substation list;
- Retendering sites where we have existing flexibility contracts, to increase reliability and drive competition for utilisation;
- Capacity shortfalls based on recent network load data and modelled Low Voltage utilisation not covered in the NDP; and
- Risks of capacity shortfall in the next year, including uncertainty in timing of uptake of accepted new connections load.

Similar to the current procurement strategy, we will look to cover system needs for the next two to three years. Based on the latest forecast, we will tender an additional of 15 sites, totalling a need for 67 MW peak flexible capacity. This may vary depending on the outcome of previous tenders and new connection requests for both demand and generation requirements.

⁷ <https://picloflex.com/>

⁸ <https://www.ukpowernetworks.co.uk/open-data-portal>

We will meet our requirements through a combination of the Secure, Sustain and Dynamic services. By combining close to real-time flexibility with forward looking flexibility, we will be able to deploy flexibility to more efficiently manage network constraints.

Dispatch principles

For the upcoming regulatory year, our market-based dispatch principles remain the same. We facilitate competition in dispatch by allowing providers to update their pricing, thus delivering enhanced efficiencies compared to fixed pricing. One core change to our dispatch approach is to communicate pre-fault dispatch decisions day-ahead. This provides greater clarity for flexibility providers and, where not required by UK Power Networks, facilitates their participation in other day-ahead opportunities with National Grid ESO or within wholesale energy markets.

We communicate dispatch instructions via email or Application Programming Interface (API). UK Power Networks is co-leading work at Open Networks during 2023 to establish a cross-DNO standard API for dispatch. In the medium term, we intend to support both the existing and any new API.

We facilitate the participation of individual flexible assets as well as aggregations by defining a Flexible Unit (FU). This is a single controllable unit consisting of one or more flexible assets aggregated together. We will dispatch FUs in accordance with three dispatch principles – cost efficiency, security of supply, and operability. This is consistent with published ENA dispatch criteria⁹ and is shown in Figure 1.

In order to provide greater transparency, we will be publishing monthly dispatch data to allow stakeholders to see ongoing market participation.

As volumes of dispatches increase there will be an increasing impact on the wider energy system. We are working closely with the ESO and DNOs through the Open Networks project this year on establishing coordinating mechanisms covering procurement and dispatch. For more information see Section 4.

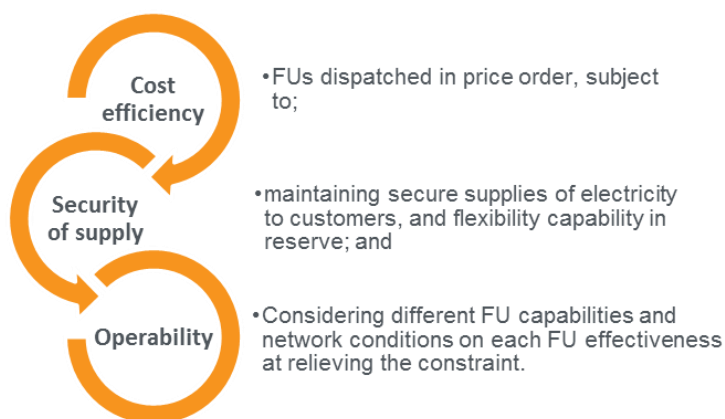


Figure 1: Dispatch principles

Availability and utilisation forecast for the next regulatory year

Figure 2 and Figure 3 provide forecasted flexibility volumes¹⁰ and spend for 2023/24 and compare these against current estimated figures from 2022/23. Forecast figures are based on pre-existing operational flexibility contracts which we will continue to use, as well as new contracts which are expected to start delivery within the next regulatory year. More granular information for the regulatory year 2022/23 will be provided in our April 2023 Procurement Report. Reflecting the increasing maturity of the market, and changes to contract duration, our recent flexibility contracts include a higher

⁹ [https://www.energynetworks.org/assets/images/Resource%20library/ON19-WS1A-P3%20Dispatch%20Settlement%20Processes%20\(PUBLISHED\).pdf](https://www.energynetworks.org/assets/images/Resource%20library/ON19-WS1A-P3%20Dispatch%20Settlement%20Processes%20(PUBLISHED).pdf)

¹⁰ For availability, volumes are defined as contracted MW x available hours (adjusted for delivery performance for 2022/23). For utilisation, volumes are defined as dispatched MW x dispatch hours (adjusted for delivery performance for 2022/23)

proportion of already operational assets (rather than assets planned to be available in the future). We expect this to feed through into significantly higher dispatch volumes and expenditure in 2023/24.

Dispatch volumes are forecast to grow again

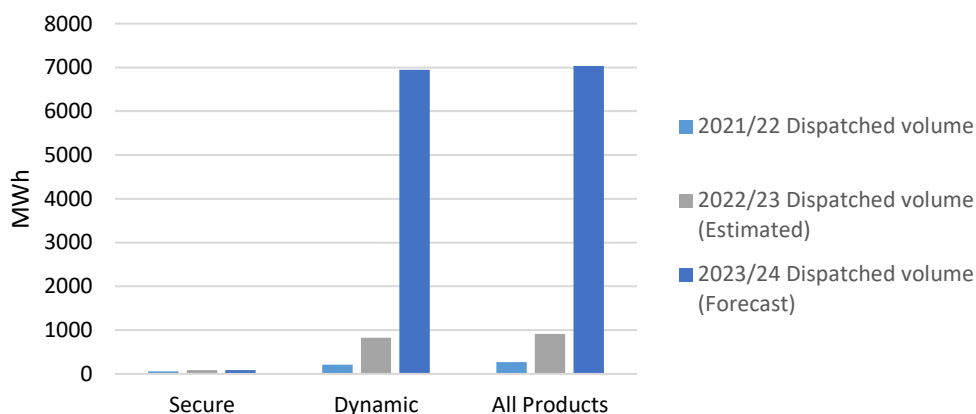


Figure 2: Flexibility dispatch volumes

Estimated and Forecast Spend

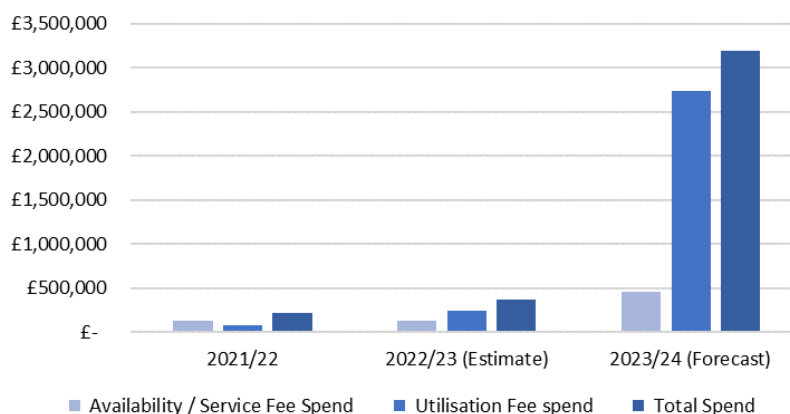


Figure 3: Flexibility spend

Flexibility market trends

Impact of the Access Significant Code Review (SCR) on our flexibility procurement requirements

The Access SCR changes take effect from 1 April 2023, which will increase UK Power Networks ability to strategically plan the approach to managing an increasing need for electrical capacity on our network. This means that, under our flexibility first strategy, our first choice for managing both import and export constraints on the network will be through flexibility procurement. We have taken a proactive approach to this, by advertising more than 400MW of requirements for demand turn-up/generation turn-down during 2022/23. We expect to contract this capacity early in 2023/24 and for this to become an established part of our flexibility procurement going forwards.

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Increase in both our request for flexibility, and the market response to our tenders

We have seen rapid growth in awarded contracts since our first tender in 2017, as shown in Figure 4. This has been driven by a number of factors, including:

- 1) Our vision to procure flexibility to address a wider range of network constraints to increase efficient outcomes for our customers. This means we now procure flexibility for both import and export capacity constraints, and at every voltage level.
- 2) Our collaboration with the market including taking on market feedback to improve flexibility service design.
- 3) Our commitment to increasing information provision and market transparency.
- 4) Our development of tender processes, in collaboration with Piclo Flex, to simplify participation for all types of flexibility providers.

We are looking to continue this positive trend in the next regulatory year by further expanding our flexibility requirements and promoting closer to real-time services to enrol new forms of flexibility.

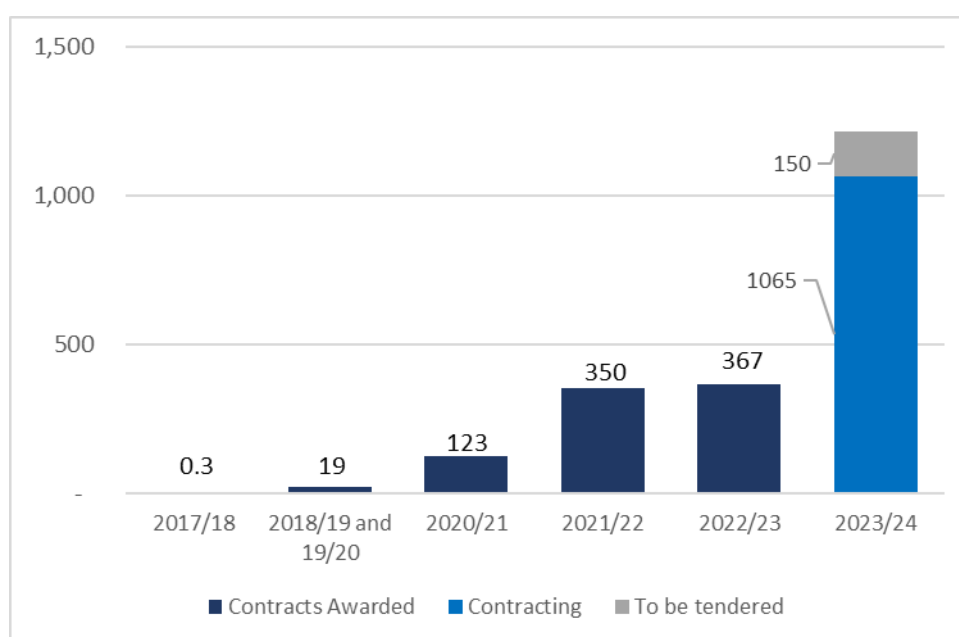


Figure 4: Flexibility procured by regulatory year¹¹

This trend is also seen in our increasing spend on flexibility, where we expect to see another significant increase. There is potential for this spend to increase further through contracts awarded in Tender 1. Furthermore, we anticipate spend to increase substantially in the RIIO-ED2 period as we establish the DSO to deploy flexibility and achieve efficient outcomes for customers. This represents important progress for the flexibility market as we demonstrate real financial flows in exchange for flexibility services.

Impact of flexibility procurement on other markets and wider system

In designing our flexibility tenders, we have given consideration to the ability of contracted flexibility providers to effectively participate in retail, wholesale and balancing markets. Developing improved coordination with other system operators is the focus of the Open Networks project explained in more detail in Section 4.

Key relevant features of our service:

- Our contracts do not contain any exclusivity clauses and so facilitate revenue stacking by providers.

¹¹ Our 2023/24 numbers include more than 1GW of bids against our 600MW requirement. We are in the process of reviewing these bids and numbers may change

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- Secure contracted providers can participate in other markets during our service windows provided they are complementary in direction of delivery (generation turn-up/demand turn-down).
- Dynamic contracted providers can accept or reject our requests at their discretion, thus facilitating optimisation of near-term revenues across multiple markets.
- We provide visibility of expected utilisation across our products to allow flexibility providers to assess opportunities and operational requirements.
- An aggregator of flexible assets is able to select the active/inactive facilities within its portfolio to help them optimise their assets.
- Tender information published throughout the tender process for consideration by other system operators.

3. Tendering process

For the coming year, the core tendering process will remain the same to provide continuity to the market. We will make a number of key steps forward in our tendering process, as well as continue to make incremental improvements to reduce barriers to entry and standardise across DNOs.

Key steps forward we intend to make in this regulatory year are:

1. Introduction of day ahead procurement.

This is based on extensive provider feedback, validated through our [October 2022 consultation](#). Alongside this statement we will publish our draft definition for a day-ahead flexibility product. We will invite flexibility service providers (FSPs) to provide feedback via workshops and one-to-ones and work with other DNOs and ESO to share feedback and align approaches. Our aim is to create a product which allows FSPs to switch easily between ESO and DSO services as system conditions evolve – ensuring that resources are used for greatest whole-system benefit. Where we are procuring long-term products, we are now moving utilisation decisions to day-ahead, to enable competition in the future with day-ahead procurement. Where we are procuring dynamic services, e.g. for managing generation constraints, we will also make utilisation decisions at day-ahead. This will ensure that FSPs that participate in DSO services are not unnecessarily locked out of day-ahead opportunities in wholesale markets or with the ESO. We aim to launch day-ahead procurement in late 2023, in line with greater automation in our market platform and delivery of our short-term network forecasting capability.

2. Cross-DNO standardisation of products, processes and interfaces.

Following the response to our consultation, and the ENA's consultation in September, we have discussed the urgent need for standardisation with our DNO peers. All agree that this is critically important to get right. We are redoubling our support to Open Networks and have helped to shape plans for 2023. We will implement the outcomes from Open Networks standardisation in line with the effective dates agreed with industry. UK Power Networks has an important role to play in supporting greater standardisation, particularly across:

- Flexibility products – where we expect 80% of flexibility requirements to be requested through standard products by the end of 2023. We will continue to look for opportunities to go further and faster in this important area.
- Processes – where we expect to reduce the burden on flexibility providers by standardising at least 80% of pre-qualification requirements across DNOs by the end of 2023.
- Contracts – deploying a common framework contract for flexibility services, bringing more alignment in approach between DNOs and ESO. We expect to adopt this new contract for both tenders in 2023/24,
- Flex Provider APIs – in the first instance developing standards for dispatch across DNOs and ESO. Building on our experience of multiple dispatch approaches, we are co-leading this technical working group.

3. Procurement of a flexibility market platform.

UK Power Networks has a compelling need to invest in systems that are future-proof to support the increased scale of its flexibility procurement and use. We therefore plan to launch procurement of a market platform early in the year. Since issuing our consultation we have held bilateral conversations with all the other DNOs in GB. While there are some differences in timelines, procurement approach and maturity of requirements, we believe we are aligned at a high-level. To encourage continued alignment, we propose to open up our procurement to the greatest extent possible – by sharing our platform requirements and organising quarterly calls with other DNOs. In the first instance we will work with Electricity North West (ENW) and Scottish Power Electricity Networks (SPEN), and if discussions are mutually beneficial we will recommend that they are absorbed into the Open Networks programme.

Pre-tender activities

In our RIIO-ED2 Business Plan¹² we committed to delivering up to a £410m reduction in load related expenditure through use of flexibility and to follow a flexibility first strategy and market test all network needs before considering reinforcement.

As part of ensuring we meet these commitments during 2023/24 we are developing our first Distribution Networks Options Assessment (DNOA), providing transparency of our flexibility first strategy within our strategic decision making. Our first DNOA is due to be released in April 2023 which will provide a comprehensive overview of how optioneering and market testing will be completed. This will include information on the various stages including network data and load forecasting, and substation area selection and flexibility requirements assessment. Information about how the DNOA assessment is planned to feed into decision making can be seen in Figure 5.

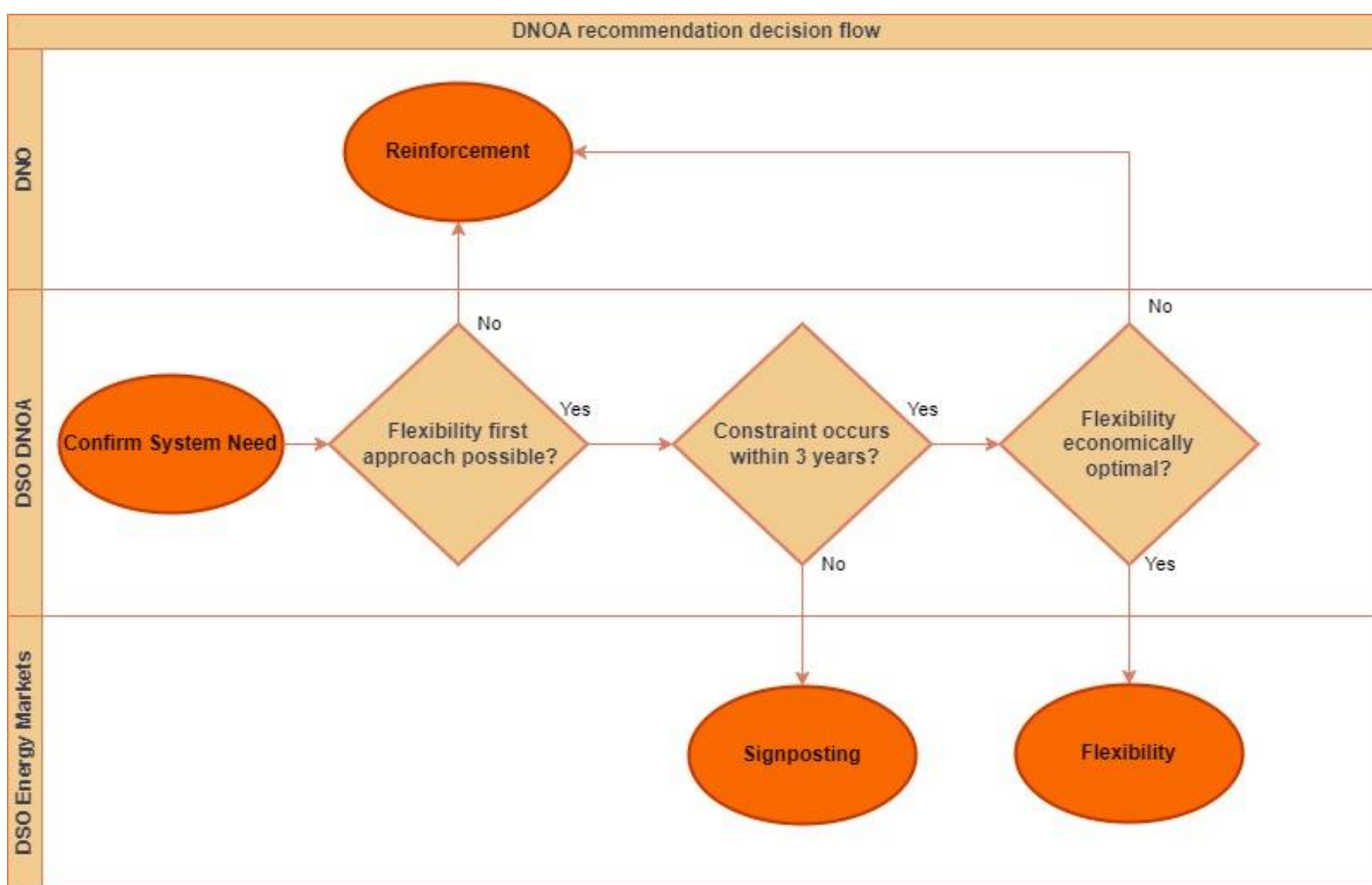


Figure 5 Simplified DNOA recommendation decision flow.

For each identified site, we undertake a techno-economic assessment of the value of flexibility at that site. This involves completing a cost-benefit analysis (CBA) that estimates the net present value of deferring the reinforcement CAPEX by a certain number of years. We use the ENA's Common Evaluation Methodology (CEM), developed through the Open Networks project, to carry out the CBA. The Net Present Value (NPV) of the deferral becomes the available funding pot for flexibility services. Further details are provided in Section 5.

¹² [UKPN RIIO-ED2 \(ukpowernetworks.co.uk\)](https://www.ukpowernetworks.co.uk/riio-ed2)

Tender stages

The tender takes place through an open and independent procurement platform. Tender 1 will be completed through Piclo Flex, and Tender 2 may be procured either through Piclo Flex or through a new system. Either way, the stages of the tender will remain the same:

- **Tender initiation:** We publish network locations and needs. Providers register their resources and capabilities on our platform free of charge. Tender documents setting out technical and commercial requirements, such as the Participation Guidance, standard contract and available flexibility revenues, are published on our Flexibility Hub webpage and are openly accessible to any interested stakeholder.
- **Pre-qualification:** The provider would submit a pre-qualification questionnaire detailing their company, site, and plans. We then check whether providers and resources are commercially and technically capable of delivering the service.
- **Competition:** For the Secure product, pre-qualified bidders submit bids into a competitive tender via the platform. We assess bids based on three criteria: value, volume and budget. Flexibility budgets are determined through the standard ENA Common Evaluation Methodology (CEM); more detail is provided in Section 5. For the Dynamic product, all pre-qualified providers are accepted at their submitted dynamic utilisation fee (subject to it being below the CEM derived ceiling price). We announce the results and award successful bidders the standard ENA contract. Full tender results are published onto the Flexibility Hub website, through the platform and the Open Data Portal.
- **Pre-delivery:** We monitor the delivery of planned solutions by tracking contractual post-tender milestones and engagement with the provider. We complete a proving test on all solutions prior to service delivery.

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An objective, transparent and market-based tendering process

The following describes each stage of the tender process, consistent with the procurement stages agreed through the Open Networks project (although further work is being done on standardisation across system operators). We explain how fairness, transparency and market facilitation are embedded into the process.

Tender stage	Objective	Transparent	Market-based
Tender initiation	<ul style="list-style-type: none"> We select locations based on objective criteria, primarily load forecasts and firm capacity. We calculate flexibility guide/ceiling prices through a rigorous CBA process on a site-specific basis. The procurement platform is independent of UK Power Networks. 	<ul style="list-style-type: none"> We publish sites three to six months ahead of a tender to give providers sufficient lead-time to prepare bids. Providers can view all locations and detailed flexibility requirements on the procurement platform including deferral value, capacity requirement, service window, estimated dispatch frequency and duration We publish tender documentation and timelines on the Flexibility Hub soon after the sites have been announced. The documentation explains the stages of the tender, timelines, and requirements to participate. 	<ul style="list-style-type: none"> Any provider can create an account and register assets on the procurement platform free of charge. All providers already registered on the platform are notified by the procurement platform when assets fall into a competition zone. Engagement with providers is carried out in conjunction with the independent procurement platform team. Sites selected facilitate assets across all voltage levels (EHV to LV).
Pre-qualification	<ul style="list-style-type: none"> Registered assets connected to the constraint and connected at the right voltage on the procurement platform automatically pass through to the pre-qualification assessment phase. All providers are assessed according to their responses to standard financial and technical questionnaires. We use a common set of criteria to do the assessments regardless of technology. 	<ul style="list-style-type: none"> We notify providers when assets in a competition zone are qualified/disqualified with reasons. We publish assessment criteria in the Participation Guidance found on the Flexibility Hub. The Dynamic Purchasing System allows single registration for multiple tender rounds. 	<ul style="list-style-type: none"> Low thresholds for participation to maximise the number of assets eligible including 10kW minimum flexible capacity and a minimum of 30 minute run time regardless of provider or technology type. We allow new and existing assets, different metering points, we do not require real-time telemetry, and we accommodate different dispatch communication methods to minimise the cost of entry. Planned and existing solutions can participate. Baselines are established by providers according to the published methodology.
Competition	<ul style="list-style-type: none"> We assess bids using a published assessment methodology. Bid assessment is technology agnostic. 	<ul style="list-style-type: none"> We notify providers when they are accepted/rejected with reasons. Tender results are publicly available on the Flexibility Hub. 	<ul style="list-style-type: none"> We assess all bids at the same time rather than on a first come-first serve basis to prevent foreclosing the market. Providers can bid into a variety of products with varying levels of commitment required.
Pre-Delivery	<ul style="list-style-type: none"> We use the standard ENA flexibility contract. We monitor delivery using a standardised process of tracking Post Tender Milestones submitted. 	<ul style="list-style-type: none"> ENA standard contract is publicly available on the Flexibility Hub Post tender milestones are included in contract schedules. 	<ul style="list-style-type: none"> Long and short-term contracts possible depending on provider preference. Contract performance incentives limit provider payment deductions to their total potential revenues.

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We are committed to transparency in our flexibility procurement and have led the way with the publication of key tender information since 2019. This includes making our tender documentation openly accessible on our website and publishing very granular competition results¹³. The competition result information includes:

- Bid information by competition area
- The volume of flexibility accepted and rejected
- Names of flexibility providers that have bid
- The total volume of the flexibility contracts in place
- The availability and utilisation prices received.

Pricing strategy

For Secure and Sustain products linked to High Voltage constraints, flexibility providers submit competitive bids. We provide site-specific guide prices to providers to inform their business plan and bidding. These guide prices are directly linked to the value of reinforcement deferral at each site established through the CBA (see Section 5 for more detail). We also offer a revenue calculator to enable participants to validate their pricing strategy.

For the Dynamic Product, we provide site-specific ceiling prices. Providers can update their utilisation price up to the day-ahead provided that it remains below the ceiling price. This pricing reflects the direct and opportunity costs faced by providers delivering energy close to real-time. We will request dispatch from Dynamic providers (if required) in order of increasing utilisation price. As we evolve towards closer to real-time markets in RIIO-ED2 and market liquidity increases, utilisation prices are expected to fall as providers compete to be dispatched.

For flexibility tendered via the Sustain product to address low voltage network constraints, a fixed price per kW is set by UK Power Networks. This simplification reflects the large number of sites covered in this way. The price (currently around £26/kW/yr) is calculated based on the agreed cost for low voltage reinforcement projects and an estimate of average required flexibility volumes.

Procurement timetable and process

The procurement timetable for the current tender and retender are outlined below.

Table 2: Tender timelines

Stage	Activity	Tender 1	Tender 2
Stage 1: Tender Initiation	Flexibility zones signposted	June 2023	November 2023
	Tender documentation published	June 2023	November 2023
Stage 2: Pre-Qualification (PQ)	PQ Open	June 2023	November 2023
	PQ Submission Deadline	July 2023	January 2024
	PQ Results	July 2023	February 2024
Stage 3: Competition	Competition Open	August 2023	March 2024
	Competition Close	August 2023	March 2024
	Competition Results	September 2023	April 2024
Stage 4: Pre-delivery	Signed Contract deadline	October 2023	May 2024
	Solutions delivered in accordance with Post Tender Milestones	In accordance with contract	In accordance with contract
Stage 5: Delivery	Solutions complete and delivering flexibility	November 2023	June 2024

¹³ An example is our April 2020 Post Tender Report – <https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2020/07/Flexibility-Post-Tender-Report-Bids-2020.xlsx>

4. Stakeholder engagement

Stakeholder engagement is crucial to informing product, process and system refinements and extending participation in local flexibility markets. We engage through multiple channels to reach as wide an audience as possible.

We continue to work with other DNOs and National Grid ESO to establish standardised approaches for the procurement and utilisation of flexibility, thus creating an open and accessible market which delivers optimal whole system outcomes for the end consumer.

Improving stakeholder engagement

Engaging with flexibility providers and our wider stakeholders has played a huge role in our success to date – in launching new flexibility products and contracting flexibility to defer network investments. We also recognise the need to continue evolving our approach to take into account the growing maturity and new challenges in local flexibility. In the next section we describe the full range of engagement channels, but significant changes for 2023/24 include:

- Coordinating more engagement with other DNOs to reduce the burden on stakeholders and develop coordinated responses to feedback;
- Holding product development workshops – focused around a day-ahead flexibility product and energy efficiency;
- Communicating more regularly with our flexibility mailing list, particularly outside flexibility tenders;
- Using surveys to capture more quantitative insight from a growing community of engaged stakeholders;
- Making greater use of our Open Data Portal, to ensure data is more accessible than ever before.

How we engage with stakeholders

We will continue to engage with flexibility providers and interested stakeholders through multiple channels:

- **UK Power Networks' Flexibility Fora**¹⁴: As we did in 2022/23, we will hold two in-person forums – one in the summer and one in the winter. These events are an excellent opportunity for us to engage with new and existing providers, to share challenges and opportunities and spark new collaborations.
- **Flexibility Forum with other DNOs**: Working with Piclo, Electricity North West (ENW) and Scottish Power Electricity Networks (SPEN) we will hold a joint event in May 2023 for those interested in local flexibility. This will provide an efficient way for stakeholders to understand and influence a breadth of local flexibility plans across GB. We also plan to participate in National Grid ESO's Power Responsive event in summer 2023.
- **Webinars**: We will continue to organise webinars to talk through tender requirements and give providers an opportunity to ask questions. Piclo Flex will also offer introduction to flexibility services webinars as well as host a good source of training material on their website.
- **Surgeries and bilateral meetings**: We will offer dedicated bilateral meetings with interested providers throughout the year. These are particularly popular during flexibility tenders. Stakeholders can request a bilateral meeting by emailing flexibility@ukpowernetworks.co.uk.
- **Product development workshops**: We will work with stakeholders, through bilateral conversations and workshops, to develop a day-ahead flexibility product that maximises participation. We also plan to engage those involved in delivery of energy efficiency to ensure we most effectively harness the potential of these schemes.
- **Surveys**: We will monitor and enhance the flexibility journey, supplementing the channels above with systematic survey data to better understand provider expectations and frustrations. We will provide feedback to stakeholders on the actions we take as a result of these surveys.

¹⁴ Winter and summer forum slides in the events section - <https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/>

- **Flexibility Mailing list¹⁵:** We will regularly send the latest news and announcements regarding flexibility services throughout the year. The mailing list currently has over 360 stakeholders subscribed. We also communicate tender requirements through third-party mailing lists such as the ADE and Power Responsive.
- **Open Data Portal¹⁶:** We publish our flexibility requirements, post tender analysis and monthly dispatch data on our Open Data Portal. This gives greater visibility of the opportunity for participation. It also allows interested parties to link multiple data sets, which are relevant to the individual to understand the bigger picture.
- **Social Media:** We will launch LinkedIn campaigns for each tender to capture attention from potential future flexibility providers.

Coordinating flexibility services across DNOs

UK Power Networks chairs the Open Networks project; a collaboration between all the UK and Irish distribution and transmission networks, aimed at standardising flexibility products, processes and contracts to enable increased participation in local flexibility markets.

We played an active part in shaping the [Open Networks priorities for 2023](#) around tangible outcomes for flexibility service providers. In particular, we believe it will be critical to deliver greater standardisation of products, pre-qualification processes and dispatch APIs during 2023. UK Power Networks is leading the technical working groups for consistent carbon reporting and common dispatch APIs and plays an active role across all working groups.

In addition to Open Networks, we speak regularly to our DNO peers to openly share experiences and learning from procuring and using flexibility.

Working with National Grid ESO to enable accelerated grid connections and wider whole-system outcomes

We continue to work with National Grid Electricity Transmission and National Grid ESO to identify ways to connect customers in the East of England despite increased transmission constraints. We have developed proposals for new flexible connection products aimed at enabling electricity storage to connect¹⁷ and are working through the ENA Strategic Connections Group to develop a coherent cross-industry approach.

We continue to collaborate with National Grid ESO on the South Coast Regional Development Programme, which to date has enabled a further c.1GW of DER capacity to connect in the region. Our focus this year is to implement a 'MW Dispatch' service which will enable National Grid ESO to reduce the output of distributed generation in an area to resolve transmission constraints, in a way that is coordinated with UK Power Networks. The paragraphs below have been discussed and agreed with National Grid ESO and with National Grid Electricity Distribution (the latter is implementing a similar 'MW Dispatch' service with National Grid ESO).

To facilitate efficient service coordination, data needs to be exchanged between National Grid ESO and UK Power Networks. While our solution is aligned in many ways with the 'MW Dispatch' solution implemented by National Grid ESO with National Grid Electricity Distribution, we intend to implement additional data-sharing closer to real time in order to test more efficient primary rules. We will deliver a minimum viable product (MVP) in 2023 based on extending existing processes and systems. In parallel we will develop the business case for more sophisticated whole-system coordination.

Implementation of primacy rules in MVP will be primarily based on UK Power Networks applying the rules via the DER unavailability reporting activity to National Grid ESO. This approach is aligned with the National Grid Electricity Distribution approach for week-ahead planning timescales, but we plan to further implement the primacy rules into the Day-ahead and the Intra-day scheduling timescales. The agreed MVP principles for the different timescales are summarised below:

¹⁵ Providers can sign up to the Flexibility Mailing list by contacting the Flexibility Mailbox (flexibility@ukpowernetworks.co.uk).

¹⁶ <https://www.ukpowernetworks.co.uk/open-data-portal>

¹⁷ <https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2023/01/UKPN-Enabling-Electricity-Storage-technical-paper-v0.42.pdf>

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- **Planning timescales:** UK Power Networks is implementing the primacy rules via the weekly DER unavailability report submission to National Grid ESO as per the National Grid Electricity Distribution process. The DERs with a likelihood of conflict with the following services/ activities will be indicated unavailable to National Grid ESO for the MW Dispatch service:
 - Flexibility Services Procurement
 - Possible ANM Curtailment
 - DNO Planned Outage
- **Day-ahead timescales:** UK Power Networks has committed to publish a daily operational report from April 2023 that will include more accurate DER unavailability information to enable more efficient DER scheduling by National Grid ESO and hence, a more efficient implementation of primacy rules.
- **Intra-day timescales:** National Grid ESO has also agreed to share Day-ahead information that includes potential merit order for DER dispatch and indication of constraints that could be active the following day. This information will enable UK Power Networks to implement primacy rules more accurately during the Intra-Day timescales by assessing transmission and distribution conflicts due to unplanned events or outages on the day. On one hand this will improve the reliability of distribution networks and on the other hand this will enable us to take a less conservative approach in producing weekly DER unavailability report thereby, increasing the DER participation in the ESO market.

We are also exploring the option for National Grid ESO to share updated dispatch information in the intra-day timescales that can add more visibility for the distribution studies. The MVP solution will also include a 10-minute safety window between National Grid ESO's dispatch instruction and the start of the DER service delivery. This is aimed to increase confidence in the expected network behaviour when UK Power Networks Control Engineers are dealing with unplanned events or faults and it will be assessed as part of MVP.

5. Quantitative assessment

Our Distribution Network Options Assessment

We begin by identifying system needs – areas where forecast network demand is greater than the firm capacity of the network. We use measured or inferred data about current network usage, overlaying expected customer connections and wider long-term forecasts. We publish details of the available headroom in our Network Development Plan.

For sites where we have forecast capacity constraints we then consider network and flexibility options. The expected cost of the network solution is a key input to our flexibility process (as below).

In April 2023 we will publish our first Distribution Network Options Assessment, showing transparently the decisions we have reached (or the status of our decision-making) for all primary network sites with forecast capacity constraints.

Ensuring flexibility services are the most economic solution

We undertake cost benefit analysis using the CEM and supporting Excel based CEM tool, which was developed through the Open Networks project to deliver consistency in how DNOs evaluate different network investment options used to market test flexibility solutions. The CEM is based on the Ofgem CBA, which we used in earlier tender rounds.

The methodology sets out to analyse the Net Present Value (NPV) of discounted cash flows of each solution. The difference between the NPV of the network reinforcement versus the NPV of the deferred reinforcement represents the amount that could be spent on flexibility services to achieve the deferral. The below simplified schematic shows this calculation where reinforcement has been deferred into year four.

Note that the actual CBA is more complex since it models the TOTEX (total expenditure) cash flow DNO funding model where a proportion of the expenditure is returned in the year it is incurred and the rest is returned over time. The CEM tool also enables consideration of multiple scenarios and deferral periods.

	NPV	Year 1	Year 2	Year 3	Year 4
Baseline	NPV _{Baseline}	Reinforcement			
Deferral	NPV _{Deferral}				Reinforcement
Flexibility budget	NPV _{Deferral-Baseline}	Flex	Flex	Flex	

Figure 6 Overview of NPV comparison.

The flexibility budgets, which we publish to the market prior to each tender, are converted into indicative prices to help the market translate value into offers by dividing the budget by the required availability and utilisation volumes. These volumes are determined from site-specific load profile analysis and forecasts. Site specific budgets and prices can be found in the Revenue Ranges spreadsheet that we publish on our website¹⁸.

¹⁸ Revenue Ranges spreadsheet available on the Flexibility Hub – <https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/>

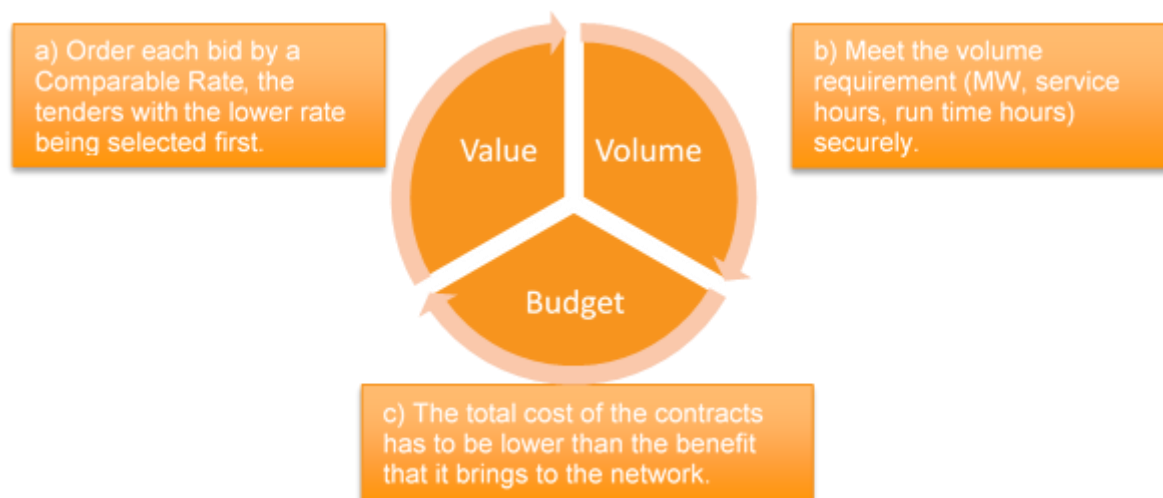


Figure 7: Bid assessment process

Assessment of competitive bidding

We publish our bid assessment methodology for the Secure and Sustain products within the participation guidance on our website¹⁹. The assessment of bids will seek to meet the volume requirement, at a cost that is within budget and as economically as possible as shown in Figure 7.

The comparable rate (in £/MWh) is derived from the availability fee and utilisation fee and allows comparison between bids. The detailed formulation can be found in the ITT. We provide an example of the bid assessment in Appendix C.

For the Dynamic service, providers set their utilisation price. They can change their price on a daily basis provided that it always remains below the site-specific ceiling price derived through the CBA. This ensures that when we dispatch, the flexibility provision is efficient relative to the reinforcement counterfactual. Where we have more than one FU in a flexibility zone, we will dispatch FUs in price order subject to security of supply and operability considerations (see Figure 1). This merit order approach to dispatch encourages providers to compete on utilisation price, thus driving further efficiencies.

¹⁹ <https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/>

6. References

Key documents

RIIO-ED2 Business Plan	https://ed2.ukpowernetworks.co.uk/#business-plan#
Long-Term Development Statement and Network Development Plan	https://ukpowernetworks.opendatasoft.com/pages/ltts_ndp_landingpage/

Key websites

Flexibility Hub	https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/
Open Data Portal	https://ukpowernetworks.opendatasoft.com/pages/home/
Piclo Flex	https://picloflex.com/

Engagement

Flexibility Forum	https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/ (within Events in the Document Library)
DER and Customer Forum	https://www.ukpowernetworks.co.uk/engaging-with-our-connections-customers
Piclo Webinars	https://support.picloflex.com/article/36-piclo-flex-webinars

Market Information

Live tenders	https://picloflex.com/
General market information	https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/ (within the Document Library)
Standard contract	https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2023/02/Appendix-1-Flexibility-Services-Agreement-PE1-0079-2022_v1_2.docx
Revenue guidance	https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2023/03/Appendix-3-Flexibility-Zones-Revenue-Ranges-v5-1.xlsx
Revenue calculator	https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2023/01/Revenues_Calculator_UKPN_23_1.xlsx
Post-tender reports	https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/ (within Previous Tenders in the Document Library)
Embedded Capacity Register (ECR)	https://www.ukpowernetworks.co.uk/electricity/distribution-energy-resources/the-embedded-capacity-register

Appendix A: Distribution Future Energy Scenarios

The table below summarises the key system drivers which characterise four Distribution Future Energy Scenarios.

Parameter	Falling Short	System Transformation	Consumer Transformation	Leading the Way
Net Zero by 2050?	No	Yes	Yes	Yes
Core Demand				
Energy efficiency	Low	Medium	High	High
Building stock growth	Medium	Medium	Medium	Medium
Low-Carbon Transport				
Cars and vans: electrification	Limited Uptake	ICE Ban	ICE Ban	Reduced Demand
Heavy duty vehicles: decarbonisation	Baseline	Hydrogen world	High electricity	Fast rollout
Decarbonised Heating				
Heat pumps	Low	Medium	High	High with hybrids
Gas grid availability	Remains at current availability	Remains at current availability	Decommissioned by 2050	Reduced utilisation
Gas grid composition	Mainly natural gas, with some biogas	After 2040: H ₂ and other low-carbon gases	Mainly natural gas, with some biogas until 2050	Possibly a mixture of low-carbon gases
District heat uptake	Low	Medium	High	High
Distributed Generation				
Small-scale solar PV	Low	Medium	High	High
Large-scale solar PV	Low	Medium	Medium	High
Onshore wind	Low	Low	High	Medium
Renewable engines	Low	Medium	High	High
Decentralised biomass	High	Medium	Medium	Low
Non-renewable CHP / Gas engines / Energy from waste	High	Low	Low	Low
Battery Storage				
Domestic battery storage	Low	Medium	High	High
I&C behind-the-meter battery storage	Low	Medium	High	Medium
Co-located battery storage	Low	Medium	Medium	High
Standalone grid-connected battery	Progressive High	Medium	Sustained Early High	Early High
Flexibility				
Flexibility	Low	Medium	High	High

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Appendix B: Tender 1 Site Summary

The table below summarises the 28 flexibility zones which will be included in the first tender of regulatory year 2023/24. The final list of sites (including any low-voltage requirements) will be available through www.Picloflex.com and [Flexibility Hub - UKPN Smart Grid \(ukpowernetworks.co.uk\)](http://Flexibility Hub - UKPN Smart Grid (ukpowernetworks.co.uk)).

Flexibility Zone	Licence Area	Maximum Connection voltage (kV)	Capacity Required (MW)
Aberdeen Place B	LPN	11	1.4
Back Hill 132kV Group	LPN	132	13.0
Barming	SPN	11	1.4
Betchworth	SPN	11	0.7
Capel Switching Station	SPN	33	1.7
Cobham	SPN	11	1.5
Cockfosters	EPN	11	1.1
Croydon	EPN	11	0.2
Eltham Grid 33kV	LPN	33	0.1
Guildford A	SPN	11	0.4
Guyhirn	EPN	11	0.5
Kimbolton	EPN	11	0.7
Laxfield	EPN	11	0.6
Lewes Central	SPN	11	0.7
March Primary	EPN	11	0.7
Nelson Street	LPN	11	0.1
Smeeth	SPN	11	0.2
Steel Cross	SPN	7	0.2
Townsend Hook	SPN	7	0.5
Warehorne	SPN	11	0.7
West Horndon	EPN	11	1.1
West Letchworth Shefford Biggleswade	EPN	33	2.6
Whiston Road Sub Group	LPN	11	6.7
Willesden Grid	LPN	132	24.6
Wingham	SPN	11	3.9
Worstead	EPN	11	0.3
Richborough 1	SPN	132	7.8
Worstead_Gen	EPN	33	9.6

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Appendix C: Example Bid Assessment



The table shows details of the bid assessment carried out for the Secure service at Burwell Milton Arbury Histon.

Bid Grouping	Company	Capacity (MW)	Bid Avail Fee (£/MW/h)	Bid Util Fee (£/MWh)	Service Start Date	Service End Date	Service Window From	Service Window To	Avail spend	Util hours	Util spend	Total spend	Energy delivered (MWh)	Total contract cost	Total contract energy (MWh)	Contract comparable rate (£/MWh)	Result
Bid 7	Ohme Operations UK Ltd	15.70	18	270	01/12/2022	11/03/2023	07:00	20:30	£ 385,325	5	£ 21,195	£ 406,520	78.5	£ 1,519,683	350.6	£ 4,334	Accepted
Bid 7	Ohme Operations UK Ltd	17.40	16	270	01/12/2023	11/03/2024	07:00	20:30	£ 383,357	5	£ 23,490	£ 406,847	87	£ 1,519,683	350.6	£ 4,334	Accepted
Bid 7	Ohme Operations UK Ltd	18.51	14	270	01/12/2024	11/03/2025	07:00	20:30	£ 353,408	5	£ 24,993	£ 378,402	92.5685	£ 1,519,683	350.6	£ 4,334	Accepted
Bid 7	Ohme Operations UK Ltd	18.51	12	270	01/12/2025	11/03/2026	07:00	20:30	£ 302,921	5	£ 24,993	£ 327,915	92.5685	£ 1,519,683	350.6	£ 4,334	Accepted
Bid 12	Tesla Motors Netherlands B.V.	0.04	15	270	01/12/2021	11/03/2022	07:00	20:30	£ 855	5	£ 56	£ 911	0.209	£ 911	0.2	£ 4,361	Accepted
Bid 8	Ohme Operations UK Ltd	0.06	15	270	01/12/2021	11/03/2022	07:00	20:30	£ 1,289	5	£ 85	£ 1,374	0.315	£ 6,881	1.6	£ 4,369	Accepted
Bid 8	Ohme Operations UK Ltd	0.06	15	270	01/12/2022	11/03/2023	07:00	20:30	£ 1,289	5	£ 85	£ 1,374	0.315	£ 6,881	1.6	£ 4,369	Accepted
Bid 8	Ohme Operations UK Ltd	0.06	15	270	01/12/2023	11/03/2024	07:00	20:30	£ 1,301	5	£ 85	£ 1,386	0.315	£ 6,881	1.6	£ 4,369	Accepted
Bid 8	Ohme Operations UK Ltd	0.06	15	270	01/12/2024	11/03/2025	07:00	20:30	£ 1,289	5	£ 85	£ 1,374	0.315	£ 6,881	1.6	£ 4,369	Accepted
Bid 8	Ohme Operations UK Ltd	0.06	15	270	01/12/2025	11/03/2026	07:00	20:30	£ 1,289	5	£ 85	£ 1,374	0.315	£ 6,881	1.6	£ 4,369	Accepted
Bid 3	Cambridgeshire County Council	0.06	15	270	01/12/2022	11/03/2023	07:00	20:30	£ 1,227	5	£ 81	£ 1,308	0.3	£ 5,245	1.2	£ 4,371	Accepted
Bid 3	Cambridgeshire County Council	0.06	15	270	01/12/2023	11/03/2024	07:00	20:30	£ 1,239	5	£ 81	£ 1,320	0.3	£ 5,245	1.2	£ 4,371	Accepted
Bid 3	Cambridgeshire County Council	0.06	15	270	01/12/2024	11/03/2025	07:00	20:30	£ 1,227	5	£ 81	£ 1,308	0.3	£ 5,245	1.2	£ 4,371	Accepted
Bid 3	Cambridgeshire County Council	0.06	15	270	01/12/2025	11/03/2026	07:00	20:30	£ 1,227	5	£ 81	£ 1,308	0.3	£ 5,245	1.2	£ 4,371	Accepted
Bid 10	Orange Power Ltd	0.50	48	380	01/12/2022	11/03/2023	07:00	20:30	£ 32,724	5	£ 950	£ 33,674	2.5	£ 135,020	10.0	£ 13,502	Accepted
Bid 10	Orange Power Ltd	0.50	48	380	01/12/2023	11/03/2024	07:00	20:30	£ 33,048	5	£ 950	£ 33,998	2.5	£ 135,020	10.0	£ 13,502	Accepted
Bid 10	Orange Power Ltd	0.50	48	380	01/12/2024	11/03/2025	07:00	20:30	£ 32,724	5	£ 950	£ 33,674	2.5	£ 135,020	10.0	£ 13,502	Accepted
Bid 10	Orange Power Ltd	0.50	48	380	01/12/2025	11/03/2026	07:00	20:30	£ 32,724	5	£ 950	£ 33,674	2.5	£ 135,020	10.0	£ 13,502	Accepted
Bid 11	Orange Power Ltd	0.50	68	380	01/12/2022	11/03/2023	07:00	20:30	£ 46,359	5	£ 950	£ 47,309	2.5	£ 189,695	10.0	£ 18,970	Accepted
Bid 11	Orange Power Ltd	0.50	68	380	01/12/2023	11/03/2024	07:00	20:30	£ 46,818	5	£ 950	£ 47,768	2.5	£ 189,695	10.0	£ 18,970	Accepted
Bid 11	Orange Power Ltd	0.50	68	380	01/12/2024	11/03/2025	07:00	20:30	£ 46,359	5	£ 950	£ 47,309	2.5	£ 189,695	10.0	£ 18,970	Accepted
Bid 11	Orange Power Ltd	0.50	68	380	01/12/2025	11/03/2026	07:00	20:30	£ 46,359	5	£ 950	£ 47,309	2.5	£ 189,695	10.0	£ 18,970	Accepted
Bid 1	Bankenergi limited	0.50	111	577	01/12/2021	11/03/2022	07:00	20:30	£ 75,674	5	£ 1,443	£ 77,117	2.5	£ 386,533	12.5	£ 30,923	Accepted
Bid 1	Bankenergi limited	0.50	111	597	01/12/2022	11/03/2023	07:00	20:30	£ 75,674	5	£ 1,493	£ 77,167	2.5	£ 386,533	12.5	£ 30,923	Accepted
Bid 1	Bankenergi limited	0.50	111	597	01/12/2023	11/03/2024	07:00	20:30	£ 76,424	5	£ 1,493	£ 77,916	2.5	£ 386,533	12.5	£ 30,923	Accepted
Bid 1	Bankenergi limited	0.50	111	597	01/12/2024	11/03/2025	07:00	20:30	£ 75,674	5	£ 1,493	£ 77,167	2.5	£ 386,533	12.5	£ 30,923	Accepted
Bid 1	Bankenergi limited	0.50	111	597	01/12/2025	11/03/2026	07:00	20:30	£ 75,674	5	£ 1,493	£ 77,167	2.5	£ 386,533	12.5	£ 30,923	Accepted
Bid 9	Orange Power Ltd	1.00	118	580	01/12/2022	11/03/2023	07:00	20:30	£ 160,893	5	£ 2,900	£ 163,793	5	£ 656,765	20.0	£ 32,838	Alternative efficient fee offered
Bid 9	Orange Power Ltd	1.00	118	580	01/12/2023	11/03/2024	07:00	20:30	£ 162,486	5	£ 2,900	£ 165,386	5	£ 656,765	20.0	£ 32,838	Alternative efficient fee offered
Bid 9	Orange Power Ltd	1.00	118	580	01/12/2024	11/03/2025	07:00	20:30	£ 160,893	5	£ 2,900	£ 163,793	5	£ 656,765	20.0	£ 32,838	Alternative efficient fee offered
Bid 9	Orange Power Ltd	1.00	118	580	01/12/2025	11/03/2026	07:00	20:30	£ 160,893	5	£ 2,900	£ 163,793	5	£ 656,765	20.0	£ 32,838	Alternative efficient fee offered
Bid 4	Conrad Energy Limited	6.00	275	450	01/12/2021	11/03/2022	07:00	20:30	£ 2,249,775	5	£ 13,500	£ 2,263,275	30	£ 11,338,650	150.0	£ 75,591	Alternative efficient fee offered
Bid 4	Conrad Energy Limited	6.00	275	450	01/12/2022	11/03/2023	07:00	20:30	£ 2,249,775	5	£ 13,500	£ 2,263,275	30	£ 11,338,650	150.0	£ 75,591	Alternative efficient fee offered
Bid 4	Conrad Energy Limited	6.00	275	450	01/12/2023	11/03/2024	07:00	20:30	£ 2,272,050	5	£ 13,500	£ 2,285,550	30	£ 11,338,650	150.0	£ 75,591	Alternative efficient fee offered
Bid 4	Conrad Energy Limited	6.00	275	450	01/12/2024	11/03/2025	07:00	20:30	£ 2,249,775	5	£ 13,500	£ 2,263,275	30	£ 11,338,650	150.0	£ 75,591	Alternative efficient fee offered
Bid 4	Conrad Energy Limited	6.00	275	450	01/12/2025	11/03/2026	07:00	20:30	£ 2,249,775	5	£ 13,500	£ 2,263,275	30	£ 11,338,650	150.0	£ 75,591	Alternative efficient fee offered
Bid 6	Just Charging Ltd	0.35	290.17	71.4	01/12/2022	11/03/2023	07:00	20:30	£ 138,476	5	£ 125	£ 138,601	1.75	£ 555,776	7.0	£ 79,397	Rejected
Bid 6	Just Charging Ltd	0.35	290.17	71.4	01/12/2023	11/03/2024	07:00	20:30	£ 139,847	5	£ 125	£ 139,972	1.75	£ 555,776	7.0	£ 79,397	Rejected
Bid 6	Just Charging Ltd	0.35	290.17	71.4	01/12/2024	11/03/2025	07:00	20:30	£ 138,476	5	£ 125	£ 138,601	1.75	£ 555,776	7.0	£ 79,397	Rejected
Bid 6	Just Charging Ltd	0.35	290.17	71.4	01/12/2025	11/03/2026	07:00	20:30	£ 138,476	5	£ 125	£ 138,601	1.75	£ 555,776	7.0	£ 79,397	Rejected
Bid 13	ev.energy	0.01	295	100	01/12/2021	11/03/2022	07:00	20:30	£ 4,022	5	£ 5	£ 4,027	0.05	£ 478,724	5.9	£ 80,661	Rejected
Bid 13	ev.energy	0.04	295	100	01/12/2022	11/03/2023	07:00	20:30	£ 16,089	5	£ 20	£ 16,109	0.2	£ 478,724	5.9	£ 80,661	Rejected
Bid 13	ev.energy	0.17	295	100	01/12/2023	11/03/2024	07:00	20:30	£ 69,463	5	£ 86	£ 69,548	0.855	£ 478,724	5.9	£ 80,661	Rejected
Bid 13	ev.energy	0.32	295	100	01/12/2024	11/03/2025	07:00	20:30	£ 129,519	5	£ 161	£ 129,680	1.61	£ 478,724	5.9	£ 80,661	Rejected
Bid 13	ev.energy	0.64	295	100	01/12/2025	11/03/2026	07:00	20:30	£ 259,038	5	£ 322	£ 259,360	3.22	£ 478,724	5.9	£ 80,661	Rejected
Bid 5	Green Energy Options (geo) Ltd	0.01	540	540	01/12/2021	11/03/2022	07:00	20:30	£ 7,363	5	£ 27	£ 7,390	0.05	£ 7,390	0.1	£ 147,798	Rejected
Bid 2	Bankenergi limited	2.00	737	111	01/12/2021	11/03/2022	07:00	20:30	£ 2,009,799	5	£ 1,110	£ 2,010,909	10	£ 10,074,444	50.0	£ 201,489	Rejected
Bid 2	Bankenergi limited	2.00	737	111	01/12/2022	11/03/2023	07:00	20:30	£ 2,009,799	5	£ 1,110	£ 2,010,909	10	£ 10,074,444	50.0	£ 201,489	Rejected
Bid 2	Bankenergi limited	2.00	737	111	01/12/2023	11/03/2024	07:00	20:30	£ 2,029,698	5	£ 1,110	£ 2,030,808	10	£ 10,074,444	50.0	£ 201,489	Rejected
Bid 2	Bankenergi limited	2.00	737	111	01/12/2024	11/03/2025	07:00	20:30	£ 2,009,799	5	£ 1,110	£ 2,010,909	10	£ 10,074,444	50.0	£ 201,489	Rejected
Bid 2	Bankenergi limited	2.00	737	111	01/12/2025	11/03/2026	07:00	20:30	£ 2,009,799	5	£ 1,110	£ 2,010,909	10	£ 10,074,444	50.0	£ 201,489	Rejected