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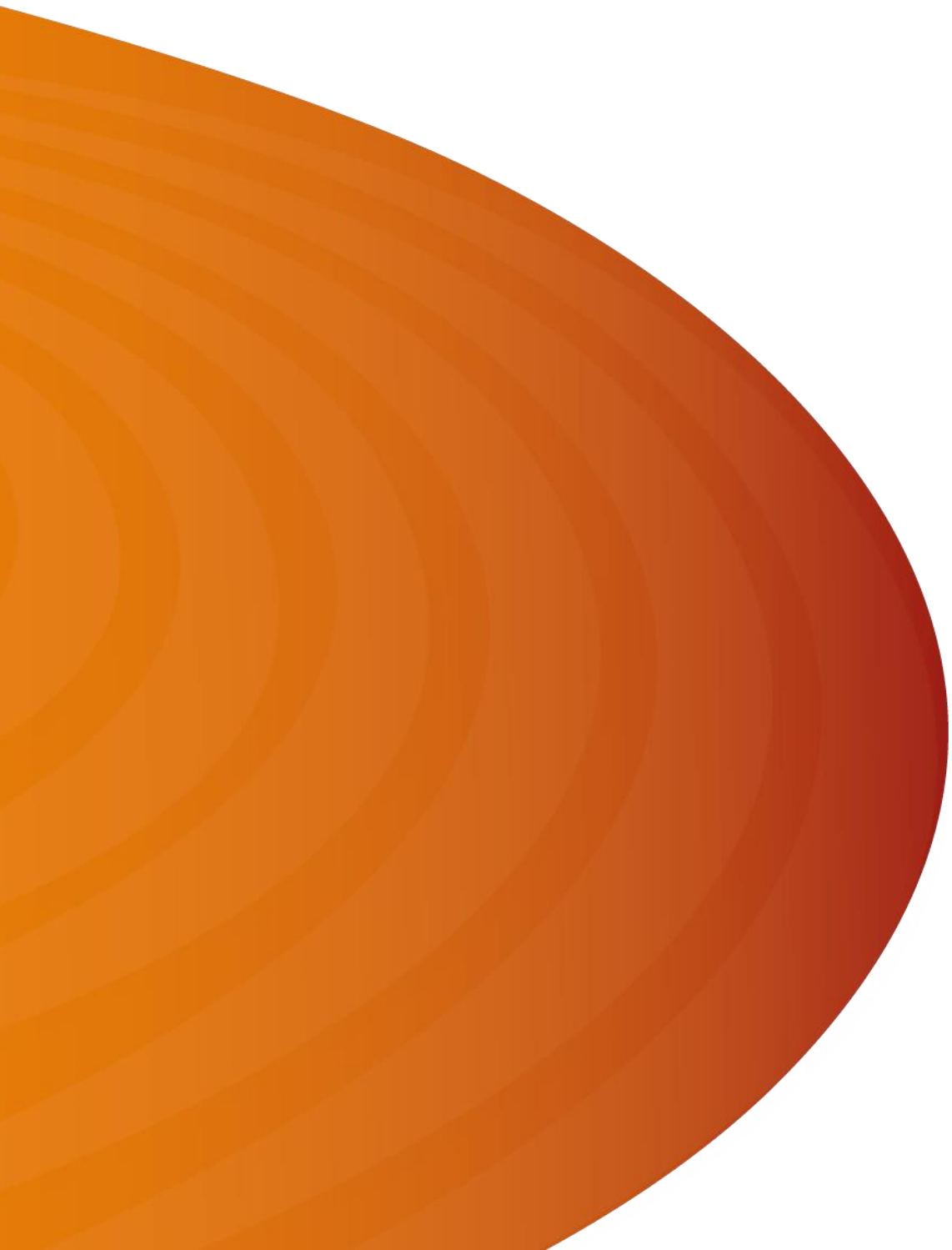
Company:
UK Power Networks
(Operations) Limited

Registered in England and Wales No: 3870728

Flexibility Services Procurement Statement

Standard Licence Condition 31E Reporting Requirement
31 March 2022



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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.

We set out in our Future Smart consultation[1] in 2017 which was our strategy to introduce customer flexibility as an alternative option to network upgrades. In 2018, we were the first DNO to publish a Flexibility Roadmap[2] that describes how we will 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[3], subsequently we were also the first DNO to tender for LV needs.

Flexibility is a critical tool in enabling net zero at lowest cost for the customers we serve.

The Procurement Statement document describes the type of flexibility we will procure and our approach to procurement for the 2022/23 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 2022/23 regulatory year. In total, we are looking to procure 447 MW of flexible capacity which represents our largest annual tender volume to date. We are planning to run two tenders. In the first tender (April to May), we are looking to procure 292MW of Dynamic services across 113 sites. In the second tender (August to November), we expect to tender 155MW across the Secure and Dynamic products across 40 sites. By procuring across long- and short-term timescales through the Secure and Dynamic products, we aim to capture flexibility from a wider range of operational and business models as well as manage network requirements more effectively.
- **Tendering process**: In Section 3, we describe our tendering process for the upcoming regulatory year. We will be making a number of improvements to the process. We are restructuring our tender documentation by product type rather than constraint voltage to help providers understand the differences between the different products. We are redesigning tender documentation to simplify Pre-Qualification (PQ) submission for flexibility providers. We have also worked with Piclo to introduce bulk bidding functionality to the Piclo Flex market platform. This will greatly improve bidding experience for providers with large numbers of assets across multiple competition zones, such as residential flexibility aggregators. We will also introduce a PQ cooling off period to allow providers to appeal PQ results, thus increasing transparency and trust in the PQ process.
- **Stakeholder engagement**: In Section 4, we describe how we plan to engage with flexibility providers to improve the market design and processes and increase participation. We have been engaging with Electric Vehicle (EV) flexibility providers to design and implement an EV-specific baselining methodology using findings from our Shift innovation project. We will continue to develop and formalise this methodology in the next regulatory year to ensure that we are inclusive of this important Net Zero technology. We will continue coordinating with the ESO through the Regional Development Programme which has to date enabled c. 1GW of DER capacity to connect to our network. We are expanding the scope to cover East Anglia where we are co-designing new approaches to accommodate the connection of high volumes of electricity storage. We have begun discovery work for our enduring market platform requirements, engaging one-to-one with flexibility service providers to understand their challenges and how we can increase participation in local

[1] http://futuresmart.ukpowernetworks.co.uk/
[2] http://futuresmart.ukpowernetworks.co.uk/wp-content/themes/ukpnfuturesmart/assets/pdf/futuresmart-flexibility-roadmap.pdf
[3] Please see p. 5 of our Flexibility Roadmap.

markets. Key themes include alignment with ESO and wholesale opportunities, building confidence in the longevity of requirements and transparent performance rules.

- **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. Introduction

Introduction to the company

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 as 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.

Our DSO strategy represents an ambitious programme to facilitate the delivery of Net Zero at lowest cost. A key role of the DSO will be the development of flexibility markets. In our RIIO-ED2 Business Plan[4], 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 strategy[5] and will allow us to manage planning, network development and operations in a more economic and efficient way. DSO ancillary 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 in to the GB regulatory framework Article 32 of the Clean Energy for all Europeans Package. This procurement statement sets out:

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[4] https://ed2.ukpowernetworks.co.uk/#business-plan

[5] Future Smart Consultation - https://smartgrid.ukpowernetworks.co.uk/

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.

2. Flexibility services requirements

Planned flexibility procurement over the next regulatory year

We plan to run two flexibility tenders in the 2022/23 regulatory year. The first tender will offer contracts under the Dynamic service while the second tender will offer contracts under the Secure and Dynamic services. The contract duration will be up to five years. We are seeking both generation turn-up and demand turn-down services. 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)	Real-time instruction
Dynamic	Utilisation (£/MWh)	Low (optional in real-time)	Real-time instruction

Tender 1 – April-June 2022

We have identified a total need for 292MW flexible capacity across 113 sites on our network. We will procure one-year contracts to address thermal constraints over the next regulatory year. This contracting approach is consistent with market appetite for short term contracts amongst some flexibility providers, especially where providers operate existing assets or adopt merchant business models. Furthermore, one-year contracts allow us to manage the network efficiently without committing to long term expenditures where network conditions are subject to change. We have identified sites based on the following drivers:

- Peak demand forecasts and firm capacities used in the production of the Network Development Plan (NDP) which is published on the Open Data Portal[6]; peak demand forecasts consider the four Distribution Future Energy Scenarios (DFES) as outlined in Appendix A; in some instances, flexibility procurement may occur ahead of forecasted need for market testing purposes;
- Related forecasts for groups and circuits which are not published in the NDP substation list;
- Retendering sites where we have existing flexibility contract to increase reliability and drive competition;
- Capacity shortfalls based on recent network load data not covered in the NDP; and
- Risks of capacity shortfall in the next year, including uncertainty in the post-COVID rebound of demand forecasts, peak demands near firm capacity and uncertainty in timing of uptake of accepted new connections load.

We will meet the above needs by procuring Dynamic services where we instruct flexibility providers close to the time of required delivery (one day ahead or within-day). Dynamic contracts will be dispatched pre-fault. Providers earn a utilisation fee when they deliver the service and can vary their price on a monthly basis. We will offer one-year contracts starting in July 2022. Any flexibility requirements in later years will be addressed through the second tender.

We define our DSO strategy within our RIIO-ED2 Business Plan[7]. One of the key steps is to develop our capabilities to procure and dispatch flexibility closer to real-time. This will help us to drive liquidity in flexibility markets by facilitating flexibility providers who plan operation of their assets on shorter time horizons. By combining close to real-time flexibility with forward looking flexibility (for example, through the Secure service), we will be able to deploy flexibility to

[6] https://www.ukpowernetworks.co.uk/open-data-portal
[7] https://ed2.ukpowernetworks.co.uk/#business-plan

more efficiently manage network constraints. Procuring Dynamic services in Tender 1 will allow us to test the market's ability to deliver closer to real-time services and continue to develop our DSO capabilities.

We provide a summary of the sites including MW requirements in Appendix B. We estimate 50 hours of utilisation across the 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 on a monthly basis provided it remains below the ceiling price.

We will use the Piclo Flex[8] platform to run both tenders, which is openly accessible to all stakeholders. We provide a snapshot of the live zones for Tender 1 in Figure 1. We have published the 113 locations to signal our procurement intentions to the market ahead of opening pre-qualification in April. 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.

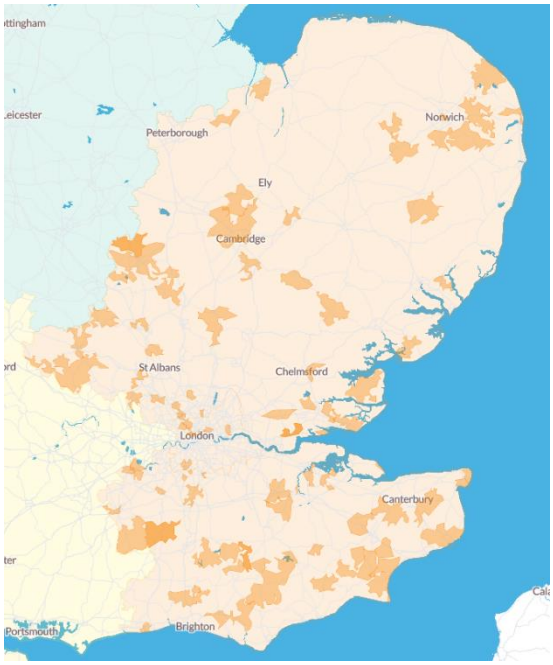

Figure 1: Tender 1 locations openly published on Piclo Flex[9]

Tender 2 – August-November 2022

The second tender will be a multi-year tender where we will seek flexibility services to meet longer term needs spanning the RIIO-ED2 period. We will tender a tranche of 40 sites included in our RIIO-ED2 business plan. This comprises a total need for 155MW peak flexible capacity across the five years of the RIIO-ED2 period. The flexibility we procure through this tender will be used to address thermal constraints forecasted to arise under the Consumer Transformation DFES. We assume that the long term load forecast will not change significantly in future on annual review of network loads. This scenario represents our best view of future network load and is the basis of our long term

[8] https://picloflex.com/

[9] The image is accurate at the time of submission. We will be uploading all 113 flexibility zones over the next few days.

planning as outlined in our Long Term Development Statement (LTDS) and Network Development Plan (NDP). The 40 sites have been shortlisted within our RIIO-ED2 Business Plan, LTDS and NDP to be managed through flexibility through the RIIO-ED2 period.

We will meet our requirements through a combination of the Secure and Dynamic services. Under the Secure service, flexibility providers commit to make their assets available to UK Power Networks greater than six months ahead of delivery at the point of contract signature. This contrasts with the Dynamic service where providers only commit their assets closer to real-time (e.g. one day-ahead of delivery). By procuring across long- and short-term timescales, we can capture flexibility from a wider range of operational and business models as well as manage network requirements more effectively.

We provide a summary of the sites including MW requirements in Appendix C. Information on pricing and forecast utilisation will be published closer to the time of the tender[10].

Dispatch principles

Building on our market-based procurement, we have adopted a leading, market-based approach to dispatch. We facilitate competition in dispatch by allowing providers to change their pricing, thus delivering enhanced efficiencies compared to administered pricing. The network conditions under which we initiate a utilisation instruction can either be when near real-time electricity demand on the network is expected to reach the network limit or when the limit has been reached. This is known as pre-fault and post-fault dispatch respectively. (Note that the flexibility requirements described in Section 2 relate to pre-fault dispatch. We may use Dynamic and/or Restore contracts for post-fault dispatch if a need arises closer to real-time.) The instructions can be activated manually or automatically. For automatic dispatch, we have developed a cloud-based solution and are supporting contracted flexibility providers to integrate with the Application Programming Interface (API).

We facilitate the participation of individual flexible assets as well as aggregations thereof in our tenders 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 criteria[11] and is shown in Figure 2.

[10] https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/
[11] https://www.energynetworks.org/assets/images/Resource%20library/ON19-WS1A-P3%20Dispatch%20Settlement%20Processes%20(PUBLISHED).pdf

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.

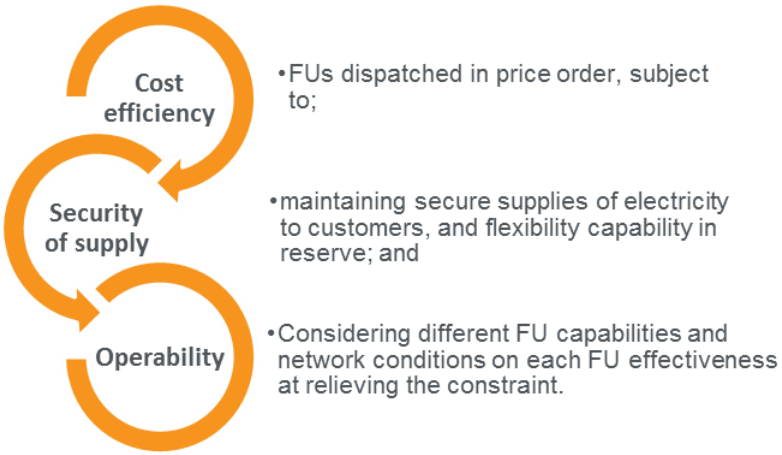

Figure 2: Dispatch principles

Availability and utilisation forecast for the next regulatory year

Figure 3 and Figure 4 provide forecasted flexibility volumes[12] and spend for 2022/23 and compares these against current actual figures from 2021/22. 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. The forecast does not include any new Dynamic contracts which will be procured in the aforementioned Tender 1 and subsequently dispatched within the next regulatory year. More granular information for the regulatory year 2021/22 will be provided in our April 2022 Procurement Report.

[12] For availability, volumes are defined as contracted MW × available hours (adjusted for delivery performance for 2021/22). For utilisation, volumes are defined as dispatched MW x dispatch hours (adjusted for delivery performance for 2021/22)

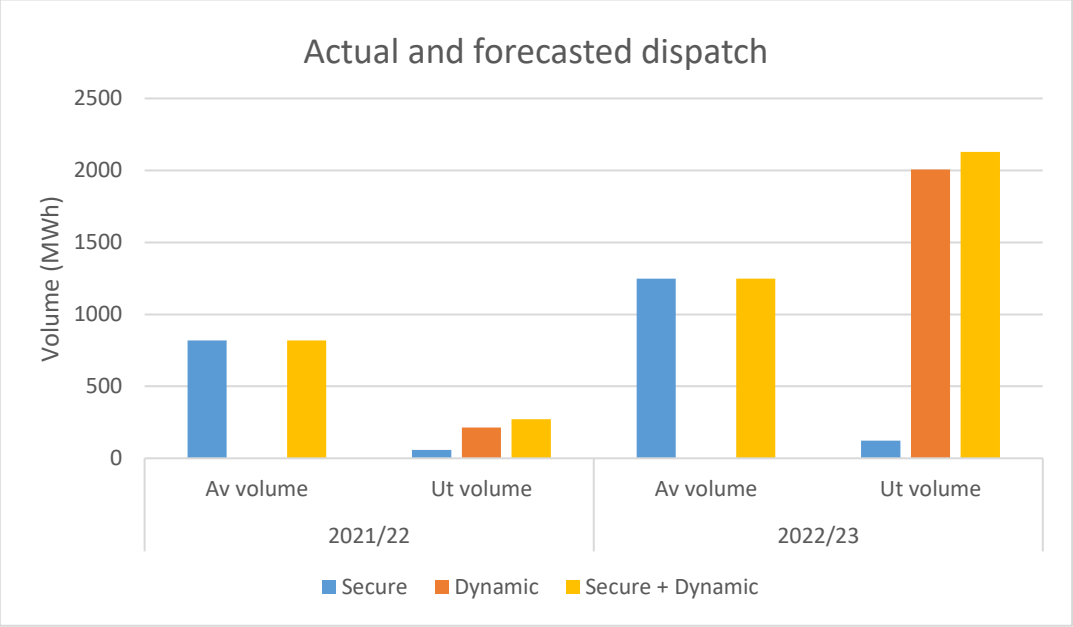

Figure 3: Actual 2021/22 and forecasted 2022/23 flexibility volumes (Av = Availability, Ut = Utilisation)

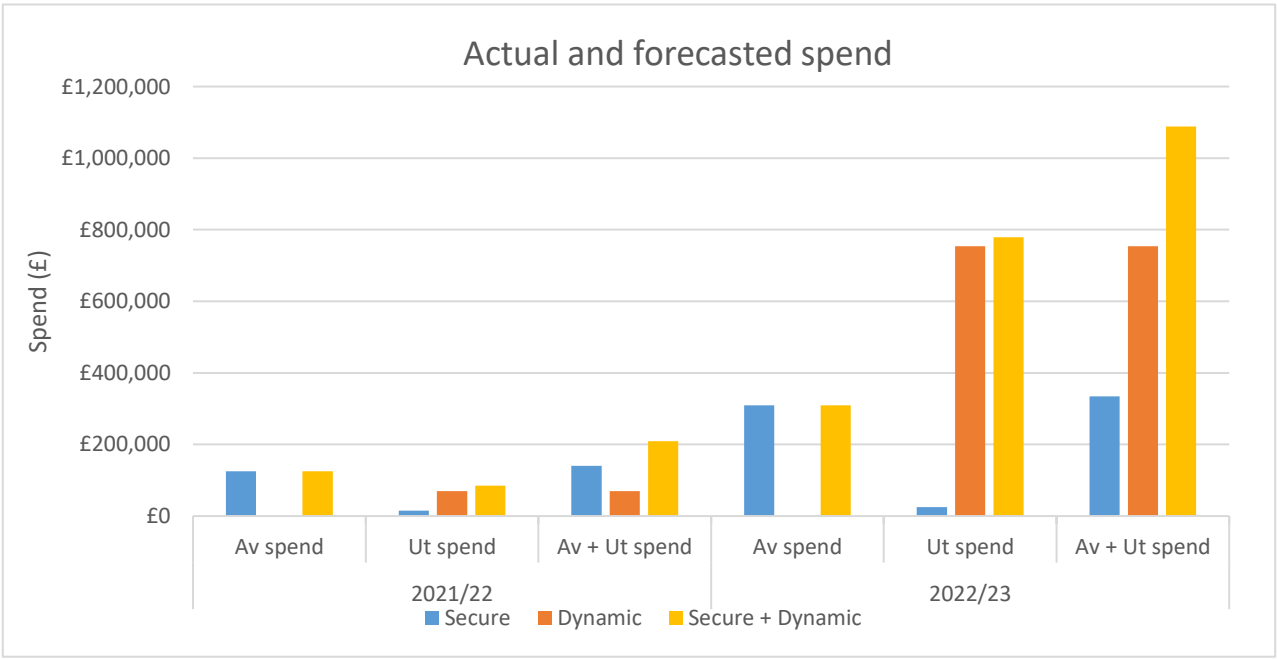

Figure 4: Actual 2021/22 and forecasted 2022/23 flexibility spend (Av = Availability, Ut = Utilisation)

Figure 3 and Figure 3Figure 4 omit Restore contracts as we do not expect to utilise them. We have not provided forecasts for Restore in 2022/23 due to the inherently unpredictable requirement for post-fault dispatch.

3. Tendering process

We will be introducing incremental improvements to the tendering process this year which will lower barriers to participation while retaining the core process to provide continuity to the market.

Tender process improvements

We will be implementing a number of incremental improvements to the tender process based on market feedback:

1) We are restructuring our tender documentation by product type rather than constraint voltage to help providers understand the differences between the different products.
2) We are redesigning tender documentation to simplify Pre-Qualification (PQ) submission for flexibility providers
3) We have worked with Piclo to introduce bulk bidding functionality to the Piclo Flex market platform. This will greatly improve bidding experience for providers with large numbers of assets across multiple competition zones, such as residential flexibility aggregators.
4) We will also introduce a PQ cooling off period to allow providers to appeal PQ results, thus increasing transparency and trust in the PQ process.

Pre-tender activities

The market testing process runs independently from the DNO network planning process illustrated in Figure 5. To ensure market solutions are given every opportunity, we are committed to market testing all of our high-voltage reinforcement requirements driven by background load-growth before we opt for any asset solution. The pre-tender activities include:

- ***Network Data & Load forecasting***: Our 2022 Network Development Plan describes how we convert from DFES to substation demand forecasts. We forecast and monitor the peak demand across our network assets to ensure that they can deliver safe and reliable supplies to our customers. We forecast the future load growth under the four DFES (see Appendix A), which helps us identify where assets might exceed their technical limits due to expected increases in load or generation growth. As asset reinforcement can take a few years to complete, our load forecasting looks sufficiently far ahead to allow reinforcement to be undertaken prior to when our assets are forecast to exceed their technical capacity limits.
- ***Substation area selection and flexibility requirements***: Where our network data and load forecasting indicates that an asset may exceed its technical limits, it is entered into the flexibility tender process. The DFES together with our Strategic Forecasting System (SFS) will identify the substations that are forecast to exceed the capacity limit, the shortfall in capacity (MW of flexibility required) and when this shortfall occurs (service window).
- ***Techno-Economic Assessment of flexibility value***: 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 uses the cost of reinforcement to estimate the net present value of deferring the reinforcement CAPEX by a certain number of years (one year for Tender 1 and up to five years for Tender 2). We use Ofgem'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 commercial services. Further details are provided in Section 5.

Tender stages

The tender takes place through an open and independent procurement platform, Piclo Flex. The stages of the tender includes:

- ***Tender initiation***: We publish network locations and needs. Providers register their resources and capabilities on the Piclo Flex 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 is 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 Piclo Flex. We assess bids based on three criteria: value, volume and budget. Flexibility budgets are determined through Ofgem's 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 and through Piclo Flex 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.

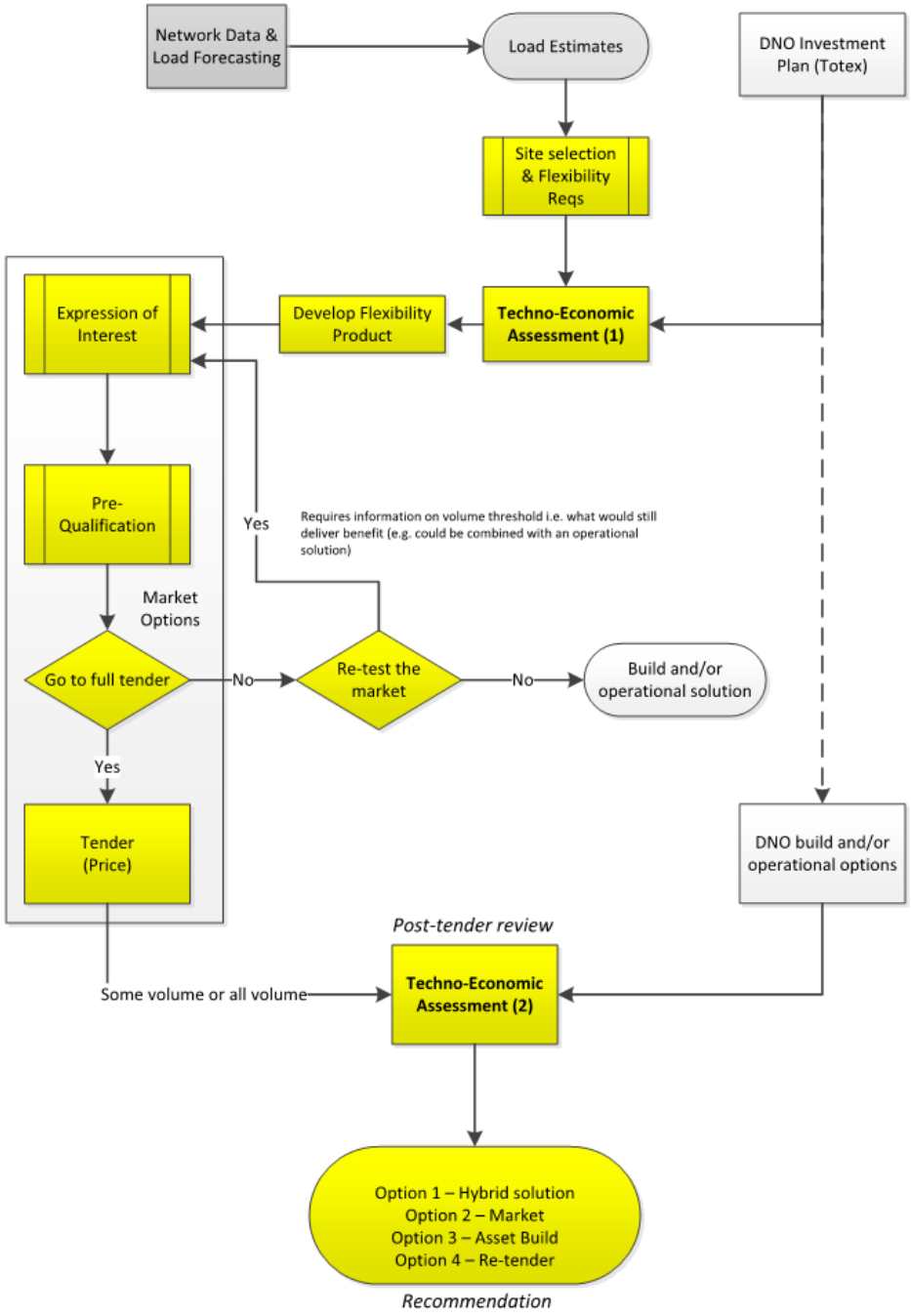

Figure 5: Market testing process

Flexibility Services Procurement Statement

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	• 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 Piclo Flex platform is independent of UK Power Networks.	• 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 Piclo Flex 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.	• Any provider can create an account and register assets on Piclo Flex free of charge. • All providers already registered on the platform are notified by Piclo when assets fall into a competition zone. • Engagement with providers is carried out in conjunction with the independent Piclo team. • Sites selected facilitate assets across all voltage levels (EHV to LV).
Pre-qualification	• Registered assets connected to the constraint and connected at the right voltage on Piclo Flex 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.	• We notify providers when assets in a competition zone are qualified/disqualified with reasons. • We publish assessment criteria in the ITT found on the Flexibility Hub. • Providers declare agreement with standard ENA contract terms before submitting the Dynamic Purchasing System (DPS) application. The DPS allows single registration for multiple tender rounds.	• 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	• We assess bids using a published assessment methodology. • Bid assessment is technology agnostic.	• We notify providers when their accepted/rejected with reasons. • Tender results are publicly available on the Flexibility Hub.	• 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	• We use the standard ENA flexibility contract. • We monitor delivery using a standardised process of tracking Post Tender Milestones submitted.	• ENA standard contract is publicly available on the Flexibility Hub and providers are required to agree to terms in order to pre-qualify. • Post tender milestones are included in contract schedules.	• Long and short-term contracts (one to five years) possible depending on provider preference. • Contract performance incentives limit provider payment deductions to their total potential revenues.

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 results[13]. 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 the Secure Product, flexibility providers competitively bid availability and utilisation fees as they see fit. 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 through the CBA (see Section 5 for more detail).

For the Dynamic Product, we provide site-specific ceiling prices. Providers set the utilisation price which can be adjusted on a monthly basis provided that it remains below the ceiling price. This pricing reflects the incentive required by providers to deliver energy on a close to real-time basis. 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.

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	September 2021	27 May 2022
	Tender documentation published	4 April 2022	26 August 2022
Stage 2: Pre-Qualification (PQ)	PQ Open	4 April 2022	26 August 2022
	PQ Submission Deadline	6 May 2022	30 September 2022
	PQ Results	23 May 2022	21 October 2022
Stage 3: Competition	Competition Open		26 October 2022
	Competition Close		4 November 2022
	Competition Results		30 November 2022
Stage 4: Pre-delivery	Signed Contract deadline	30 June 2022	13 January 2023
	Solutions delivered in accordance with Post Tender Milestones	In accordance with contract	In accordance with contract
Stage 5: Delivery	Solutions complete and delivering flexibility	1 July 2022	May 2023

[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

Flexibility market trends

We have seen rapid growth in awarded contracts since our first tender in 2017 as shown in Figure 6. 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.
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 6: Flexibility procurement trend

As more awarded contracts come online, we are also significantly increasing spend on flexibility. Figure 3 and Figure 4 show that we expect at least a five-fold increase in flexibility spend in the next regulatory year to over £1m. There is potential for this spend to increase further through contracts awarded in the abovementioned 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.
- 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.

4. Stakeholder engagement

Stakeholder engagement is crucial to expand the diversity and scale of the flexibility marketplace. During 2021/22, we spoke with a varied audience, including, but not limited to DER developers/owners, electricity heating consumers, hydro plants and energy users. A diverse customer base helps to maximise participation in our tenders and assists with co-design of the products and services. Furthermore, we continue to work with other DNOs and the 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.

Description of stakeholder engagement

We will continue to engage with flexibility providers, customers, and interested stakeholders though multiple channels:

- ***Biannual Flexibility Forum***[14]: We will organise two online forums. Our next summer forum will be in June 2022 where we will announce results from Tender 1 and plans for the remainder of the year, such as plans for Tender 2. Our next winter forum will be in November 2022 where we will announce results from Tender 2. We will invite webinar attendees to give their feedback, fostering a collaborative approach to flexibility market design.
- ***Webinars***: We will hold a webinar prior to inform providers of the process for participating, the services sought and key tender dates. 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. During the pre-qualification phase of each tender, we will provide finer details, such as the services being procured, the tender timeline and steps to be taken in order to participate.
- ***Flexibility Mailing list***[15]: We will regularly send the latest news and announcements regarding flexibility services throughout the year. The mailing list currently has over 360 stakeholders subscribed.
- ***Industry events***: We will attend and present at industry conferences and workshops organised by third parties. We will join at least five industry events in 2022/23.
- ***Biannual Connections and DER Forums***[16]: We will present at forums catered for our connections and DER customers. These forums provide a valuable opportunity to engage a large audience.
- ***Incentive on Connections Engagement (ICE)***[17]: We will engage with the wide and varied range of customers looking to connect to our networks and develop products and services that meet their needs through our ICE initiatives. Our workplan is developed through extensive stakeholder engagement over a 12 month period which includes customer forums, scrutiny panels, customer surgeries and one-to-one meetings. We also deliver flexibility markets improvements through ICE.
- ***Market Platform:*** In addition to the regular stakeholder engagement that we do with our market platform partner, Piclo, we will continue discovery work for our enduring market platform requirements. We will continue conducting one-to-one interviews with existing and potential FSPs to understand what is working well, their challenges and how we can increase participation in local markets. We will investigate opportunities to align flexibility services with wholesale and ESO markets, many of which are traded day ahead. This is a clear opportunity for improvement and aligns with our RIIO-ED2 intent to procure a portion of our requirements closer to real-time. We are also hearing the importance of continuing to reduce up-front barriers to participation, and of giving FSPs confidence that any time and resource they do spend to enable participation in UK Power Networks' flexibility markets is no-regrets for the future. A number of FSPs participating in ESO services have also raised the importance of clear testing and performance management rules, particularly as

[14] Winter and summer forum slides in the events section - https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/
[15] Providers can sign up to the Flexibility Mailing list by contacting the Flexibility Mailbox (flexibility@ukpowernetworks.co.uk).
[16] Connection and DER forum slides - https://www.ukpowernetworks.co.uk/engaging-with-our-connections-customers

stacking services becomes more common. FSP perspectives are a critical input to the scope and design of our future market platform and we will continue this engagement throughout 2022/23.

- ***Open Data Portal***[17]: We will publish our flexibility zones on the Open Data Portal prior to each tender. This gives greater visibility of the opportunity for participation. It also allows interested parties to layer multiple data sets, which are relevant to the individual to understand the bigger picture.
- ***Social Media:*** We will launch social media campaigns for each tender to capture attention from potential future flexibility providers.
- ***Stakeholder Engagement and Consumer Vulnerability (SECV):*** Every year we take the opportunity through the **SECV** Incentive to summarise how we engage with our wide range of stakeholders and address key consumer vulnerability issues. These reports can be found on our website[18]. We always encourage and are receptive to stakeholder feedback. Some significant changes we have made to our offering since inception of our flexibility tenders are given in Table 3.

Table 3: Responding to market feedback

Market feedback	UK Power Networks' response
Closer to real-time services and forward contracts	Tendering a combination of closer to real-time services through the Dynamic product and forward contracts through the Secure product to cater to different business and operational models.
Short and long term contract lengths	Offering a range of contract lengths from one to five years across Tenders 1 and 2
Lowering barriers to participation for low carbon technologies	Using the findings from our Shift innovation project we are offering a new baseline methodology to represent the counterfactual to a dispatch instruction – the Home-based Electric Vehicle Charging Baseline – is a diversified curve representing non-smart charging from a single at-home EV.
Greater variety of products	We will build on three Expressions of Interest we ran last year for outage needs which resulted in a Restore contract with a 16MW asset in Sheerness. We are working closely with our planning teams to continue to identify new opportunities and refine our approach. For example we have introduced a standard internal template to capture the key requirements of the outage for quick conversion into commercial requirements.
Easier access to information	Launched our Open Data Portal which allows users to overlay flexibility requirements against other UK Power Networks open source data such as the Embedded Capacity Register, stimulating innovation and market development.
Aligning participation criteria	Accommodating half-hourly meter data to align with minimum requirements of other markets.
Improving tendering process	Simplification of tender documentation and improving bidding experience for providers with large numbers of assets.

[17] https://www.ukpowernetworks.co.uk/open-data-portal
[18] https://www.ukpowernetworks.co.uk/engagement/engaging-with-our-stakeholders

We are collaborating with National Grid Electricity System Operator (ESO) on Regional Development Programmes (RDP) and ESO and the other DNOs on the Energy Networks Association (ENA), Open Networks Project.

- ***Open Networks Project***: The project managed through the ENA brings together all the UK and Ireland local distribution networks and transmission networks to standardise approaches, processes and to improve whole system coordination.
- ***Regional Development Programmes***: We continue to collaborate with the ESO on the South Coast RDP, which to date has enabled a further c.1GW of DER capacity to connect in the region. Work is currently underway developing the service design and dispatch mechanisms to compliment the control and visibility element of these new customer connections. We have also now embarked on an accelerated RDP in our East Anglia area, where significant constraints on transmission capacity are driving 7 year lead times for new connections. The work to date has initially targeted a new approach to modelling and accommodating high volumes of electricity storage looking to connect in the area, and is working with customers to test different options.

Through the Open Networks project we have made significant progress in establishing common rules for procurement and use of flexibility over the last 12 months, the highlights include:

- ***DSO CBA (2021 WS1A P1)***: Co-development of the CEM for network investment decisions to incorporate carbon value and identification of methodologies for incorporating option value. This tool is used to decide which intervention to procure to mitigate a reinforcement need, whether that be a flexibility service, an asset reinforcement or an alternative innovative solution.
- ***Whole system CBA (2021 WS4 P1)***: Co-developing with other network companies a tool to enable the comparison of costs and benefits across different sectors, regulated and non-regulated stakeholders, and a number of scenarios.
- ***Procurement processes (2021 WS1A P2)***: We investigated with other network companies the potential to create concurrent DNO and ESO procurement timelines.
- ***Review of legacy ANM contracts, apportioning curtailment risk and curtailment information (2021 WS1A P3/P8/P9)***: Worked with other DNOs to develop exit guidance for customers, assess new methods for ANM curtailment apportionment and improve provision of curtailment information.
- ***Standard flex contract (2021 WS1A P4)***: We co-developed a new version of the standard flexibility agreement which aligns DNO and ESO procurement.
- ***Primacy rules for service conflicts (2021 WS1A P5):*** Co-developing primacy principles for network coordination and co-optimisation.
- ***Baselining (2021 WS1A P7)***: Developing a set of standardised baseline methodologies with other network companies and flexibility provider input. Delivering a baselining tool that can be used by the market and system operators to calculate baselines using the standard methodologies.

Planned engagement with the ESO and DNOs

We are continuing our collaboration with the ESO and other DNOs through the Open Networks project and the Regional Development Programme (RDP). The Open Networks detailed work plan for 2022 provides more information[19]. Some of the key priorities for the upcoming regulatory year are:

- Enhancements to the Common Evaluation Methodology (CEM) (and tool) used to evaluate flexibility and traditional intervention options
- Alignment of Flexibility services procurement processes across DNOs and ESO, including pre-qualification and planning move to real time procurement
- Review of dispatch interoperability of systems across DSO and ESO. Review approach to settlement across DSO services

[19] https://www.energynetworks.org/industry-hub/resource-library/on22-prj-2022-programme-initiation-document-(pid)-(13-jan-2022)-published.pdf

- Improvement to existing Standard agreement for procuring Flexibility services across DSO and ESO.
- Defining and implementing ‘Primacy Rules’ for the ESO and the DNOs to manage service conflicts
- Review of existing and new Flexibility products and undertaking further analysis on stackability to address barriers
- Support the Ofgem/BEIS initiative to achieve common methodologies for carbon reporting and monitoring across DNOs
- Improved provision and accessibility of curtailment information for ANM enabled Flexible Connections
- Integrating the various aspects of flexibility into a coherent framework. Setting out a clear strategic view of further development required to mature processes across key aspects of flexibility (e.g. real time procurement)

5. Quantitative assessment

Ensuring flexibility services are the most economic solution

We undertake the CBA 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 will be 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	$NPV_{Deferal-Baseline}$	Flex	Flex	Flex	

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 website[20].

Assessment of competitive bidding

We publish our bid assessment methodology for the Secure product within the ITT documentation on the Flexibility Hub[21]. 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.

[20] Revenue Ranges spreadsheet available on the Flexibility Hub – https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/

[21] https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/

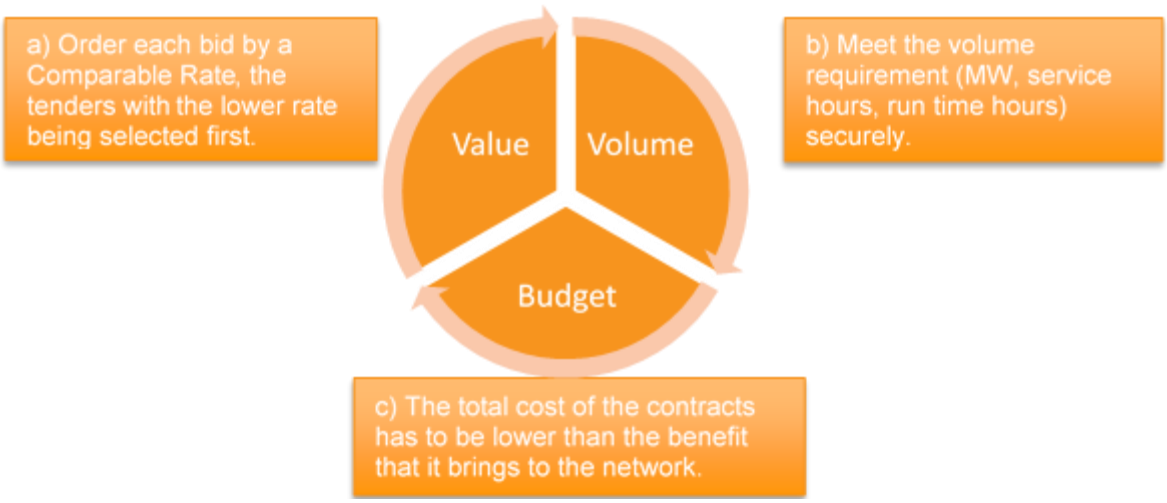

Figure 7: Bid assessment process

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 carried out in our most recent tender at the Burwell Milton Arbury Histon flexibility zone in Appendix D.

For the Dynamic service, providers set their utilisation price. They can change their price on a monthly 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 2). This merit order approach to dispatch encourages providers to compete on utilisation price, thus driving further efficiencies.

6. Summary

We have compiled this Procurement Statement as part of reporting requirements under SLC31E. We welcome any questions the reader may have on its contents. Please send these to flexibility@ukpowernetworks.co.uk.

Key documents	
Future Smart Consultation	https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2019/11/FutureSmart-Consultation-Report.pdf
Flexibility Roadmap	https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2019/11/futuresmart-flexibility-roadmap.pdf
Key websites	
Flexibility Hub	https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/
Piclo Flex	https://picloflex.com/
Engagement	
Flexibility Forum	Document Library>Events https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/
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
Incentive on Connections Engagement (ICE)	https://www.ukpowernetworks.co.uk/engaging-with-our-connections-customers
Stakeholder Engagement and Consumer Vulnerability (SECV)	https://www.ukpowernetworks.co.uk/internet/en/have-your-say/events-consultations/reports-presentations/
Market Information	
Live tenders	Piclo Flex - https://picloflex.com/
Tender documentation and methodologies	Document Library>Flexibility Services - Procurement February 2021>ITT+Appendices https://smartgrid.ukpowernetworks.co.uk/flexibility-hub/
Standard contract	Document Library>Flexibility Services - Procurement February 2021>Appendix 1 https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2020/12/Appendix-1-ENA-Standard-Flexibility-Services-Agreement-PE1-0056-2020-rev-1.1.pdf
Revenue Range	Document Library>Flexibility Services - Procurement February 2021>ITT Appendix 6 - revenue ranges https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2020/11/Appendix-6-Revenue-Ranges_v1.0.xlsx
Post-tender market reporting	Document Library>Flexibility Services - Procurement April 2020>Post Tender Report and Bids https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2020/06/Flexibility-Services-Post-Tender-Report-17-June-2020.pdf https://smartgrid.ukpowernetworks.co.uk/wp-content/uploads/2020/07/Flexibility-Post-Tender-Report-Bids-2020.xlsx
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	Steady Progression	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: decarbonisation	Low	Medium	Medium	High
Heavy duty vehicles: decarbonisation	Baseline	Hydrogen world	High electricity	Fast rollout
Decarbonised Heating				
Heating technologies	Low electrification	Medium electrification with conversion to H_2	High electrification	Early high electrification
District heat uptake	Low	Medium	High	High
District heat supply	Baseline	Decarbonised gas	High electrification	Decentralised
Distributed Generation				
Small-scale solar PV	Low	Medium	High	Medium
Large-scale solar PV	Low	Medium	Medium	High
Onshore wind	Low	Medium	High	High
Renewable engines	Low	Medium	High	High
Non-renewable CHP / Decentralised biomass	High	Medium	Medium	low
Gas engines/ Energy from waste	High	Low	Low	Low
Battery Storage				
Domestic battery storage	Low	Medium	High	Medium
I&C behind-the-meter battery storage	Low	Medium	High	Medium
Co-located battery storage	Low	Medium	Medium	High
Flexibility				
Flexibility	Low	Medium	High	High

Appendix B: Tender 1 Site Summary

The table below summarises the 113 flexibility zones which will be included in the first tender of regulatory year 2022/23.

Flexibility Zone	Licence Area	Maximum connection voltage (kV)	Capacity required (MW)
Aldreth	EPN	11	0.8
Alresford	EPN	11	0.1
Basildon Local	EPN	11	0.5
Bellhouse Ln	EPN	11	0.1
Brandon	EPN	11	2.0
Brockenhurst Mill Hill Total	EPN	11	3.4
Buckingham Road	EPN	11	1.5
Burwell Milton Arbury Histon	EPN	132	38.5
Caister	EPN	11	0.6
Canvey	EPN	11	1.4
Central Harpenden	EPN	11	1.5
Cheddington	EPN	11	1.5
Chelmsford East Local	EPN	11	1.9
Cherry Green	EPN	11	3.7
Chisbon Heath	EPN	11	1.5
Church End	EPN	11	1.5
Cockfosters	EPN	11	3.0
Elstree 132	EPN	132	5.0
Exning	EPN	11	1.6
Eye	EPN	11	1.5
Fleethall Grid 33	EPN	33	1.1
Guyhirn	EPN	11	0.6
Halstead	EPN	11	1.5
Hardingham	EPN	11	1.5
Haverhill	EPN	11	2.1
Hendon Way	EPN	11	2.5
Ilmer Grid 33	EPN	33	1.5
Kings Langley	EPN	11	1.5
Leighton Buzzard	EPN	11	0.2
Lewsey	EPN	11	0.2
Luton North Grid	EPN	11	0.7
Manton Lane	EPN	11	1.5
Martlesham	EPN	11	1.5
Melbourn Grid 33	EPN	33	10.8
Merryhill	EPN	11	0.5
North Drive	EPN	11	2.8

Flexibility Zone	Licence Area	Maximum connection voltage (kV)	Capacity required (MW)
Rainbow Lane Total	EPN	11	0.1
Rickmansworth	EPN	11	0.2
Sawston	EPN	11	1.5
Southery	EPN	11	1.5
St Anthony Street	EPN	11	0.1
Stickfast Lane	EPN	11	2.2
Sundon Little Barford	EPN	132	1.2
Trowse Grid 33	EPN	33	5.0
Uplands Park	EPN	11	0.6
West Green	EPN	11	0.5
West Horndon	EPN	11	2.4
West Letchworth Shefford Biggleswade	EPN	33	1.5
Wickford	EPN	11	0.4
Aberdeen Place B	LPN	11	2.9
Amberley Road	LPN	11	1.0
Back Hill	LPN	11	0.1
Bankside D	LPN	22	27.2
Bloomfield	LPN	6.6	1.5
Bow	LPN	11	1.0
Carnaby Street	LPN	11	8.7
Deptford 22	LPN	22	2.8
Hyde Park A	LPN	11	0.8
Hyde Park B	LPN	11	0.6
Kimberley	LPN	11	1.4
Lithos Road	LPN	11	2.9
Merton	LPN	11	4.0
Nelson Street	LPN	11	1.0
Old School Close	LPN	11	1.0
Whiston Road	LPN	11	2.3
Aggregates	SPN	11	1.5
Beddington	SPN	33	2.6
Broadoak 33	SPN	33	11.9
Burgess Hill	SPN	11	1.5
Capel SW	SPN	33	1.5
Capel Total	SPN	11	1.1
CERL	SPN	11	0.3
Chartham	SPN	11	1.7
Chatham West	SPN	11	5.5
Chertsey	SPN	11	0.1
Coulsdon	SPN	11	1.3

Flexibility Zone	Licence Area	Maximum connection voltage (kV)	Capacity required (MW)
Cranbrook	SPN	11	0.3
Crowborough Town	SPN	6.6	1.0
Dover	SPN	11	14.6
DWS	SPN	6.6	2.7
Dymchurch	SPN	11	0.6
Edenbridge	SPN	11	1.8
Guildford A	SPN	11	2.9
Hurstpierpoint	SPN	11	2.8
Kenardington	SPN	6.6	3.9
Lewes Central	SPN	11	1.1
Leysdown	SPN	6.6	1.5
Little Chart	SPN	6.6	0.1
Mereworth	SPN	11	0.2
Northiam	SPN	11	4.0
Nutfield	SPN	11	4.1
Rainham	SPN	11	1.6
Ramsgate	SPN	11	1.5
Ripe	SPN	11	3.1
Romney Warren	SPN	11	1.5
Shepway	SPN	11	0.9
Smeeth	SPN	11	1.5
St Helier	SPN	11	0.1
St Peters	SPN	11	0.6
Steel Cross	SPN	6.6	1.5
Stelrad	SPN	11	1.5
Sundridge	SPN	11	5.7
Sutton B	SPN	11	1.5
Tenterden	SPN	6.6	0.1
Townsend Hook	SPN	6.6	3.3
Warehorne	SPN	11	1.0
West Hoathly Forest Row	SPN	33	0.6
West Worthing	SPN	11	1.5
Weybridge	SPN	11	1.9
Wingham	SPN	11	10.2
Wittersham	SPN	6.6	1.5
Worthing Grid A	SPN	33	0.8
Wrotham	SPN	11	1.5

Appendix C: Tender 2 Site Summary

The table below summarises the 40 flexibility zones which will be included in the second tender of regulatory year 2022/23.

Flexibility Zone	Licence Area	Maximum connection voltage (kV)	Peak requirement (MW)
Aldreth	EPN	11	2.4
Alresford	EPN	11	1.7
Basildon Local	EPN	11	1.5
Brandon	EPN	11	1.5
Burwell Milton Arbury Histon	EPN	132	25.0
Caister	EPN	11	1.5
Central Harpenden	EPN	11	3.3
Cherry Green	EPN	11	1.8
Cockfosters	EPN	11	9.9
Exning	EPN	11	2.1
Guyhirn	EPN	11	1.5
Haverhill	EPN	11	5.0
Hendon Way	EPN	11	7.2
Leighton Buzzard	EPN	11	1.5
Luton North Grid	EPN	11	11.0
Merryhill	EPN	11	1.5
North Drive	EPN	11	6.0
Rickmansworth	EPN	11	2.4
Stickfast Lane	EPN	11	2.9
Uplands Park	EPN	11	1.5
West Horndon	EPN	11	2.1
Wickford	EPN	11	1.8
Aberdeen Place B	LPN	11	1.5
Carnaby Street	LPN	11	12.0
Nelson Street	LPN	11	6.0
Beddington	SPN	33	5.2
Capel Total	SPN	11	1.5
Cranbrook	SPN	11	1.5
Hurstpierpoint	SPN	11	1.5
Kenardington	SPN	6.6	3.7
Lewes Central	SPN	11	1.5
Little Chart	SPN	6.6	1.5
Rainham	SPN	11	3.3
Ripe	SPN	11	3.4
St Helier	SPN	11	1.8
St Peters	SPN	11	1.5

Flexibility Zone	Licence Area	Maximum connection voltage (kV)	Peak requirement (MW)
Tenterden	SPN	6.6	1.5
Warehorne	SPN	11	1.5
Wingham	SPN	11	9.8
Wittersham	SPN	6.6	1.5

Appendix D: Example Bid Assessment

The table shows details of the bid assessment carried out for the Secure service at Burwell Milton Arbury Histon from our most recent tender.

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