



# Distribution Flexibility Services Procurement Statement

December 2022 Update

**Electricity  
Distribution**

**nationalgrid**

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# Executive summary

Following our initial publication in April, we are publishing this update to our Distribution Flexibility Services Procurement Statement to enact the changes proposed. As such we have focussed on updated to the process, with new forecasts of requirements to be added in next year's statement.

The changes were driven from our engagement with stakeholders last year, covered in the initial statement via call out boxes, and now are being implemented. These aim to delivery our new Sustain product and the longer term versions of Secure and Dynamic. This is coupled to the delivery of our new procurement process supported by our Market Gateway, and the introduction of ceiling prices.

In parallel we continue to engage with stakeholders to understand the changes proposed for next regulatory period.

We expect to see continues improvement into the ED2 period as we continue to build out volumes and capabilities.

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# 1. Introduction

National Grid Electricity Distribution is a Distribution Network Operator (DNO) and a Distribution System Operator (DSO), responsible for distributing electricity to 8 million customers. We look after a network of wires, poles, pylons, cables and substations; distributing electricity to homes and businesses across the West Midlands, East Midlands, the South West and South Wales as shown in Figure 1.

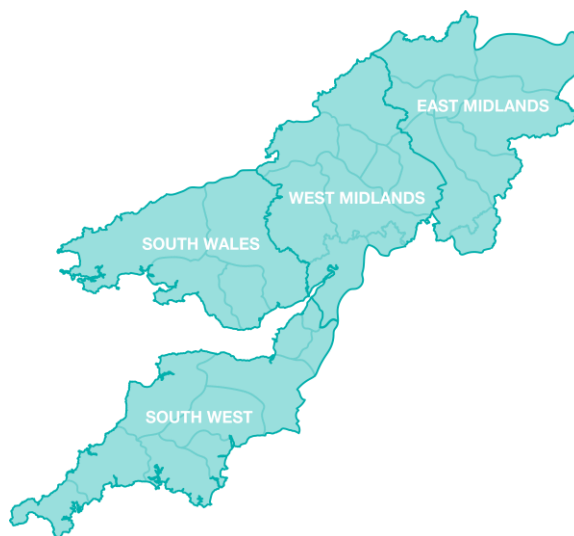


Figure 1: Licence Areas

The distribution network sits between the transmission network and our customers. The drive towards a low carbon economy has led to increasing levels of generation directly connected to our distribution network along with new forms of electricity demand such as electric vehicles, heat pumps and battery storage.

The energy system is undergoing a huge transition because of the changes to electricity generation and use, including the growth of distributed generation and the increasing popularity of electric vehicles and heat pumps. These changes and the associated increases in demand have required us to develop new processes and systems, such as adopting flexible solutions to manage different power flows on the network. To continue to operate a smarter, more efficient energy system, we are carrying out the functions of a Distribution System Operator.

An infographic with a teal background containing five icons in white diamonds, each with a title and a brief description below it.

- Keep the power flowing**  
by operating and protecting our assets
- Maintain equipment**  
so that the network remains reliable
- Connect customers**  
by utilising existing capacity or upgrading our network
- Fix the network**  
if the equipment gets damaged or is faulty
- Operate a smart system**  
by managing two way power flows and flexibility services

As these functions develop, we are committed to providing clear information about what Flexibility Services we need and how we procure them.

This document, an update to our second Distribution Flexibility Services Procurement Statement, is one element of that commitment and draws together information to provide an overview of how we intend to procure services for the remainder of the regulatory year (April 22-March 23). It will sit alongside the Distribution Flexibility Services Procurement Report which will detail what services we have procured over the same period, to be published by the end of April. We see these documents, required as part of our Distribution Licence, as base requirements for market information and transparency, which are supported by a host of publically available information and data to provide more details where necessary. These are referenced throughout the document, and are collated in section 7.

All relevant information, including previous documents are available on our Website: [National Grid - Distribution Flexibility Services Reporting](#)

Within this document we cover a number of key topics such as:

- Why we procure services,
- How we procure these services,
- The process for identifying and publishing the needs,
- Our tendering processes,
- How we engage with stakeholders,
- The future services we are developing, &
- What data is available and where.

## 2. Flexibility Service Requirements

### 2.1 Why we procure Flexibility Services

Traditional network design was based on passive networks designed to deliver peak demand with minimal intervention with a specified level of redundancy. To enable a greater volume of demand, generation and storage to be connected, our networks are becoming smarter and more active. Creating a more efficient and flexible system will benefit all customers and empower them to be at the centre of the energy revolution. The core driver for our procurement of flexibility is the deferral of network reinforcement. By managing temporal peaks on the network, we can avoid overloading assets and hence push back the need to invest in more assets.

As detailed in section 5.1, we have developed robust processes to help us understand where the deployment of flexibility services is the most cost effective solution

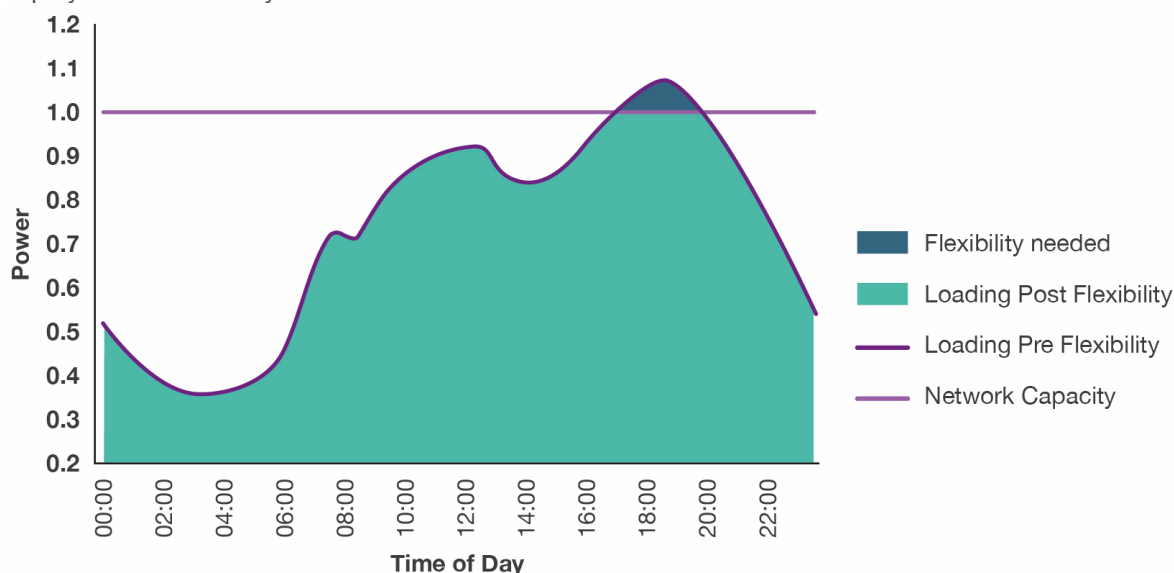


Figure 2: The need for Flexibility

Flexibility can provide more granular increases in network capacity, better reflecting the in-year requirements of network users. Flexibility can also help to manage capacity shortfalls economically and responsively until the need for conventional reinforcement is established. In some circumstances, a longer period of flexibility may allow for more appropriate, long term investment plans to be implemented. Flexibility can also be used to connect new customers to heavily loaded parts of the network without the need for reinforcement. Our 'Flexibility First' approach can soften the criticality of timing for the intervention, if sufficient flexibility is available and economic, by managing peak demand leading up to and beyond the capacity limit of the network. The extent to which flexibility is used will be determined by an industry standard cost benefit analysis

While we will be making greater use of flexibility, there will still be situations where it is necessary to carry out conventional network reinforcement, for instance, where there is insufficient flexibility provision to tackle the level of network constraint. The following diagram illustrates the different approaches that may arise.

Network Loading	100%		
<b>Conventional Reinforcement</b>	Accept additional connections until network reaches capacity	Reinforce conventionally	
<b>Flexibility First</b>	Accept additional connections until network nearing capacity	Use flexibility to manage network up to capacity and beyond where available	Reinforce conventionally where economic

Figure 3: Options for constraint resolution

Flexibility Services are one of many new active solutions being used DSOs to help manage networks effectively including the use of smart grid technologies such as enhanced voltage optimisation or automated load transfers.

## 2.2 How we procure Flexibility Services

When we created our initial flexibility service offerings, we established the Flexible Power brand. This aimed to create clear distinction between more traditional DNO roles of offering connections, and the new requirements around the procurement of flexibility services.



Figure 4: Flexible Power Logo

The Flexible Power brand remains at the centre of our procurement and operation of services. It has a suite of core processes which can then be linked to wider market platforms. Since its development, Flexible Power has now been adopted by the majority of UK DNOs, bringing a level of standardisation across the industry.

More details can be found on the Flexible Power website: [www.flexiblepower.co.uk](http://www.flexiblepower.co.uk)

### 2.2.1 Services

To date we have procured three Active Power services: Secure, Dynamic and Restore. These align with the Open Networks [Common Services definitions](#) which were set out by Product 3 of WS1a in 2020. Going forwards we will be adding the fourth service, Sustain to our suite of services. These services are summarised in the figure below.

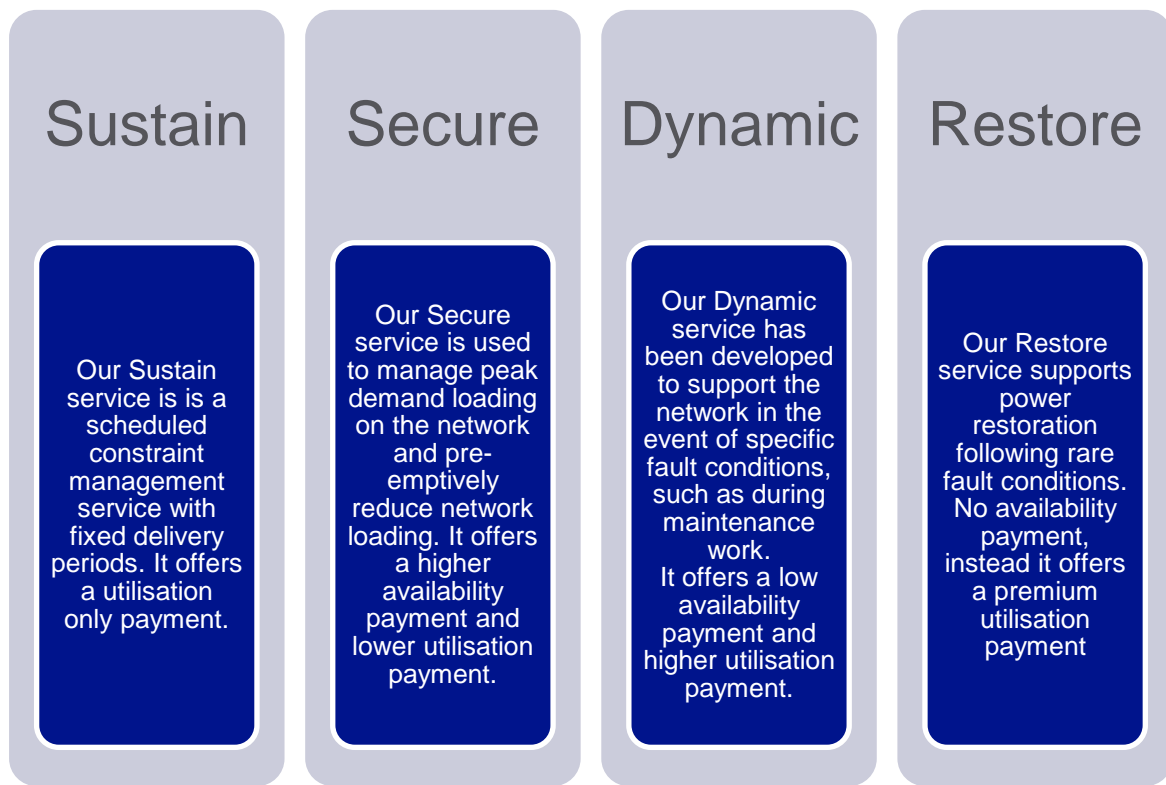


Figure 5: Overview of our Flexibility Services

We do not currently procure any Reactive Power services.

Whilst all distinct and serving different needs, we see all our services as following a common process. This is highlighted in the figure below and starts with our publishing our service needs, moving all the way to service delivery. The same steps need to be carried out in each product, with the key differentiator being when they are completed.



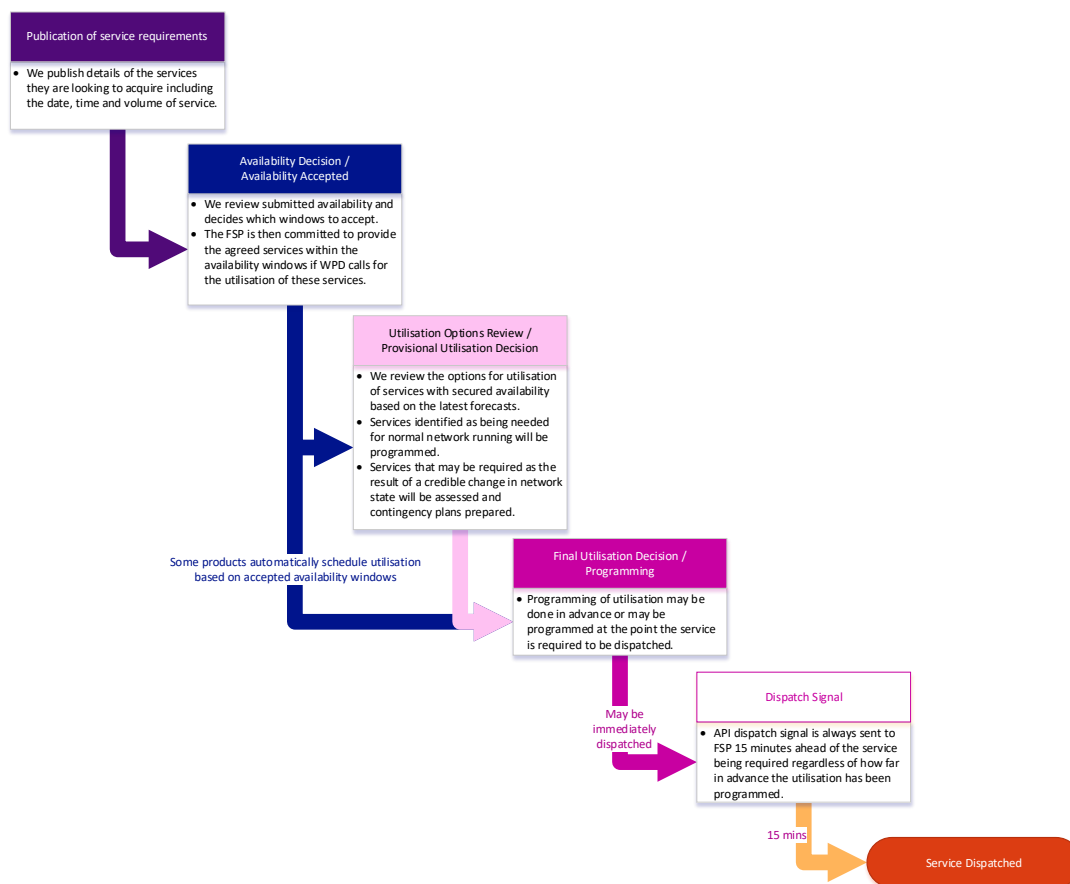


Figure 6: Elements of a Flexibility Product

Our services have previously been focussed at managing constraints on the higher voltage levels (EHV and Primary networks). In addition to using the Sustain product for these voltage levels, we will also be using the Sustain Service to help us manage loadings on distribution transformers (HV/LV transformers).

To accommodate Sustain services, and to help us better manage operational and commercial risk, we are looking to add a new timescale to our service operation. This is detailed in section 2.2.3 and involves the commitment to availability payments 6 months ahead of need. This adds to the current week ahead process.

These new changes, and the suite of products are summarised in the table below.

Table 1: Product Summary

Products	Voltage of Constraint		Trading Timescale	
	EHV & EHV/HV boundary	HV & HV/LV boundary	6 month ahead	week ahead
Sustain	✓	✓	✓	
Secure	✓		✓	✓
Dynamic	✓		✓	✓
Restore	✓			✓

The way each service aligns to the common process is highlighted in the figure and table below.

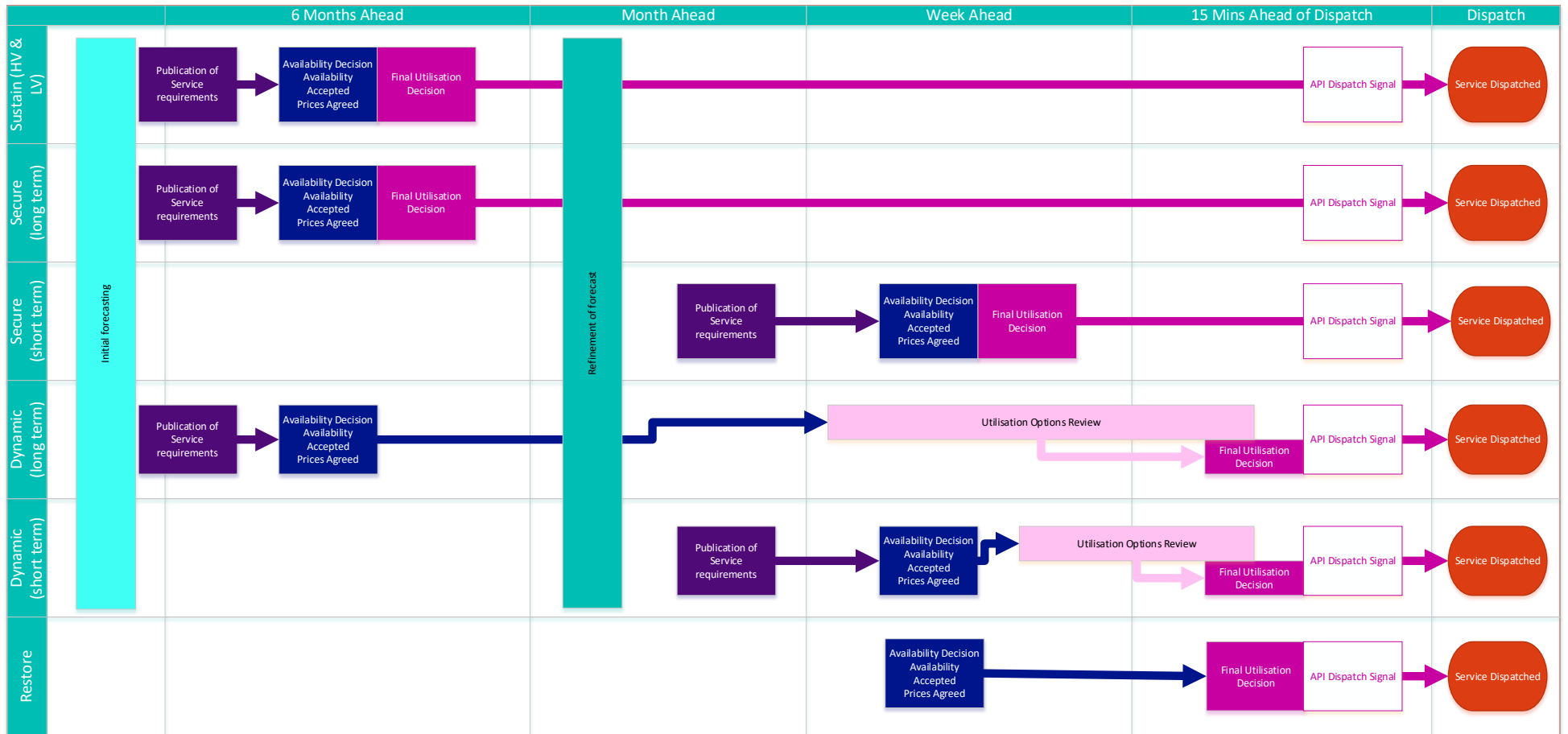


Figure 7: Product Overview

There are many similarities between our Secure (Long Term) and Sustain services. The key difference between the services is the level of targeting seen in the availability/utilisation windows. For Sustain will have common delivery windows that are common across all zones. For Secure (Long Term), these will be zone specific windows. Where assets can be controlled in a more targeted way, we would expect them to opt in to Secure (Long Term) as it would require fewer hours of operation to deliver a similar revenue, however we see the value in simplified control possible through Sustain.

With the creation of new services we will have a number of variants of flexibility services, based on the four Open Networks core products. To simplify the number available in each zone we will continue our current approach of using either allocating a higher voltage zone Secure or Dynamic. The zone would feature both the long term and short term versions of these products. Sustain and Restore will be available in all zones. This allocation is shown in the table below.

Table 2: Products available in each type of higher voltage zone

Products	Secure Zone	Dynamic Zone
Sustain	Yes	Yes
Secure (long term)	Yes	No
Secure	Yes	No
Dynamic (long term)	No	Yes
Dynamic	No	Yes
Restore	Yes	Yes

All LV zones will only operate the Sustain service.

Each service is subject to specific payment mechanics. These are designed to encourage full delivery, whilst balancing the level of penalties to ensure the services remain attractive. These are detailed in our Payment Mechanics document (<https://www.flexiblepower.co.uk/downloads/603>) and are based on a clawback of value for under delivery. For Secure, Dynamic and Sustain, below our 5% grace factor, for every 1% of under delivery, we reduce the payment by 3%. This is measured on a minute by minute basis. There is also a clawback on availability payments. These are designed to encourage accurate declarations of capacity.

The services are also currently subject to our baselining methodology as outlined in our Baselining document. This will be updated in the New Year to have a reduced focus on historic baselines.

We seek flexibility from a wide range of providers and have not set a contractual minimum capacity limit for participation to make participation possible for a larger range of FSPs, including those connected at lower voltages.

To date most procurements have focussed on demand turn down or generation turn up. However, we ran a demand turn up/generation turn down zone last year. As detailed in section 5, we have a robust process for identifying where we procure services. As the impacts of Ofgem’s Access and Forward Looking Charges Significant Code Review are better understood, we anticipate the number of Demand Turn Up zones to increase.

More detail on each service can be found in the overview on the Flexible Power website: [www.flexiblepower.co.uk/about-flexibility-services](http://www.flexiblepower.co.uk/about-flexibility-services)

## 2.2.2 Volumes and requirements

As highlighted in sections 3 & 5, we have a robust process for the identification of system needs, and the assessment of flexibility options through our 6 monthly [Distribution Network Options Assessment](#) (DNOA) process. This sets out in detail its specific requirements including the locations and volumes needed and feeds into the subsequent trading activity. The figure below highlights how our key processes interact.

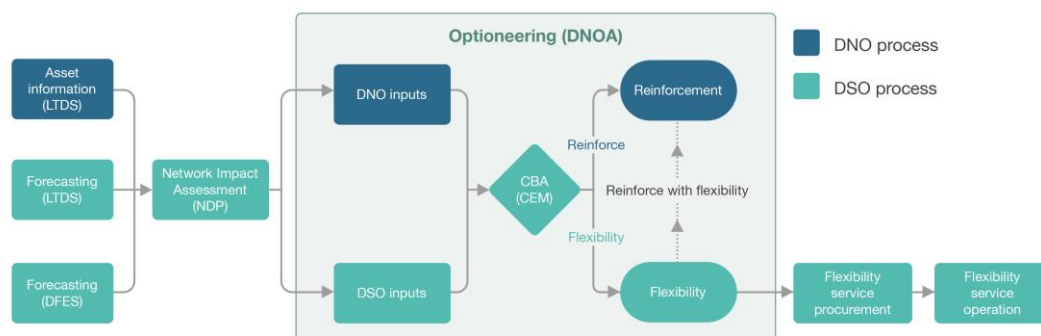


Figure 8: Determining Flexibility Requirements

For our higher voltage zones our [Long Term Development Statement](#) (LTDS) highlights the assets that make up our network. Feeding in the forecasting of Load Growth from our [Distribution Future Energy Scenarios](#) (DFES) allow us to understand how the loadings on the network will change. We set this out, including the key areas for future enhancement in our [Network Development Plan](#). As detailed later in section 5, the DNOA process then compares the options for managing any potential constraint. Built around the ENA's Common Evaluation Methodology, this assesses the most effective routes forwards. The DNOA then feeds into our Procurement of Flexibility Services.

As we move away from fixed pricing for our services (see section 3), the DNOA will help determine ceiling prices for zones. These indicate the maximum price at which the zones remain viable. These feed into our trading decisions.

A forecast of volumes was provided in our previous Procurement Statement, and will be updated in in April.

Each Constraint Management Zone is focussed on the mitigation of a specific network constraint. As such the times and volumes needed are highly diverse. Across the portfolio of zones we have requirements in every month in the year, every day of the week and all half hours for some days. We acknowledge the requirement for comprehensive market information on our detailed procurement needs for each zone and therefore have created a suite of information to the market to communicate our latest needs. These include:

**Network Flexibility Map** (<https://www.nationalgrid.co.uk/network-flexibility-map-application>): We publish comprehensive data on signposting and forecasting of our Higher Voltage zones through our Network Flexibility Map. This includes the availability windows and expected market volumes required for all our Distribution Future Energy Scenarios (DFES) for a five year period under the Signposting process. Visualisations of the data are available online through the mapping tool and datasets are downloadable without registration. The Network Flexibility Map also presents our firm flexibility requirements which feed into our procurement process. This shorter term view, gives

clarity on our needs and is refreshed every six months in line with our procurement timeline. We are reviewing the best approach to viewing data for LV zones.

**Flexible Power Map** (<https://www.flexiblepower.co.uk/map-application>): The Flexible Power Map replicates much of the functionality of the Network Flexibility Map but focusses on the requirements against which we will procure. It highlights the required volumes and forecast availability windows. This map is held on the Flexible Power website and hosts data from the other DNOs who are also involved in the Flexible Power Collaboration. Again we are reviewing the best approach to viewing data for LV zones.

**Procurement documents** (see latest here: <https://www.flexiblepower.co.uk/downloads/1093>): For every six monthly cycle of procurement, we publish market information detailing the requirements for procurement at each of the CMZs. This includes information such as the MW required, expected MWh availability windows and MWh estimated utilisation volumes.

**Distribution Networks Options Assessment (DNOA)** (<https://www.nationalgrid.co.uk/network-strategy/distribution-future-energy-scenarios/distribution-network-options-assessment>): Our DNOA process provides a systematic methodology to recommend a single investment option for potential constraints. (See section 5.1). As part of the DNOA process we publish the outcomes of our assessment on a six monthly basis. This highlights why we have gone out to procurement for each zone

**Raw data on the Connected Data Portal:** ([Flexibility - Groups - National Grid's Connected Data Portal](#)). We now operate a Connected Data Portal. This is a platform for the hosting of datasets across the business. It allows data to be accessed via API, allowing easy processing at scale. We have committed to publishing the data behind the above publications on the portal. This includes, the detailed requirements in each zone as well as the associated geographic polygons. It allows for the

These publications link together as shown in the figure below.

### Flexibility Service Requirements

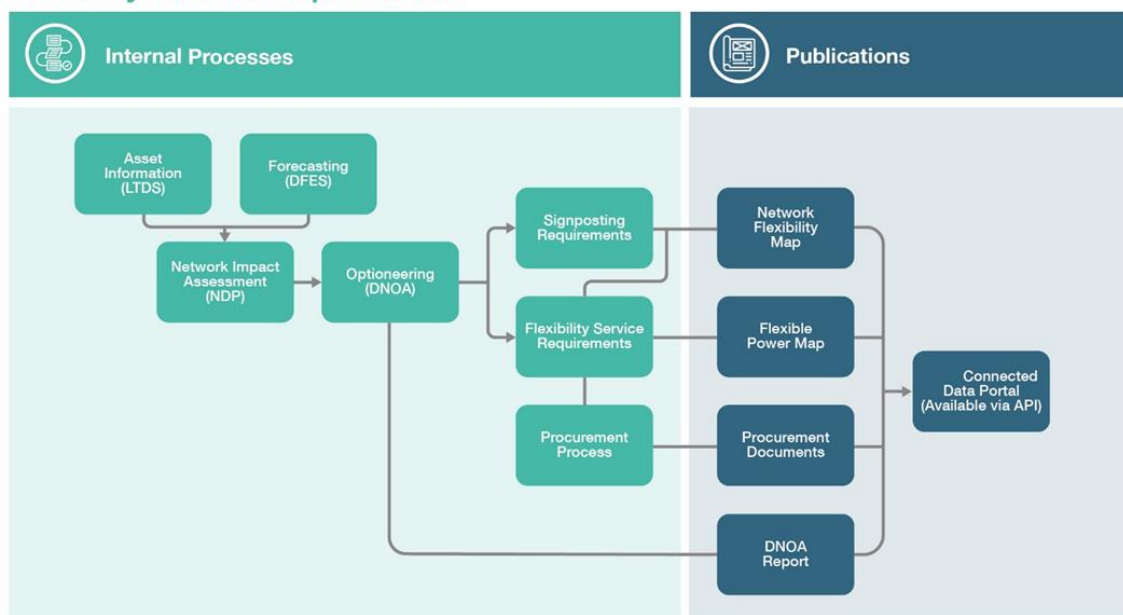


Figure 9: Network Requirement publication and signposting

We also provide a number of additional tools to aid FSPs in understanding our requirements such as a [Post Code checker](#) and a [service value calculator](#).

### Monthly Forecasting

On a monthly basis we update the market with the outcomes of the previous month as well as our best forecast of requirements for the coming month. These are published on the Flexible Power website. (<https://www.flexiblepower.co.uk/tools-and-documents>).

### 2.2.3 Operational Processes and Dispatch Principles

The services we procure are detailed in section 2.2.1. Once services have been procured (see section 3) we have clear and transparent processes for operating our services.

As detailed in section 3, the procurement process focusses on the qualification of assets for operation. Once both commercial and technical qualification are complete Trades can be entered into.

Trades are the vehicle for the regular allocation of service windows. They form the detailed requirements for availability (and potentially utilisation depending on the service), specifying the expected response, the assets being utilised and the associated price. These will be administered through our new online Market Gateway.

Our Shorter Term products will continue operate within the current week-ahead timescales. In addition to offering availability windows, as they currently do, FSPs will also offer capacity and Availability/Utilisation prices. These will be matched against requirements and clear according to our pricing strategy. The timings are highlighted in the figures below. We will formally move across to using trades for these products in the next regulatory year.

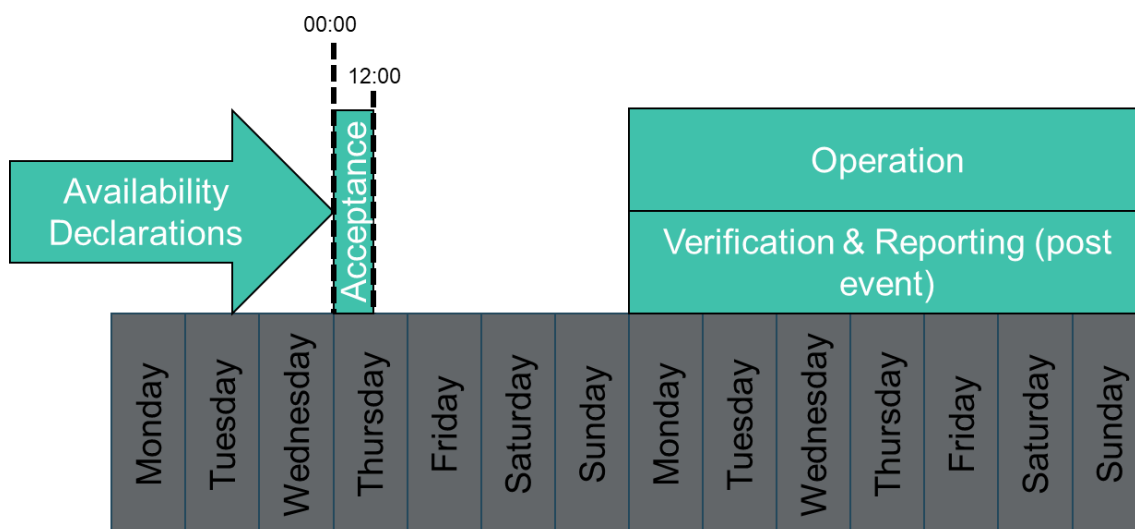


Figure 10: Weekly Operational process

**Availability Declarations:** By midnight on Wednesday, FSPs provide us with their trade responses for the following operational week (Monday to Sunday). This includes providing details such as the available capacity they can provide, the price and key operational parameters such as maximum and minimum run times.

**Acceptance:** On Thursday morning, before 12:00, we assess the available volume declared and accept availability to meet the volumes required for us to manage the relevant constraint. These will be subject to the joint utilisation competition for the Dynamic Product

As Restore has no availability payment, all availability declarations are accepted automatically. After 12:00 this is communicated to FSPs via the Market Gateway.

Longer Term products will Trade in much the same way, however they will happen over a longer timeframe. We currently plan to operate at 6 months ahead, but expect this may change and extend out over time. The timings are highlighted in the figure below.

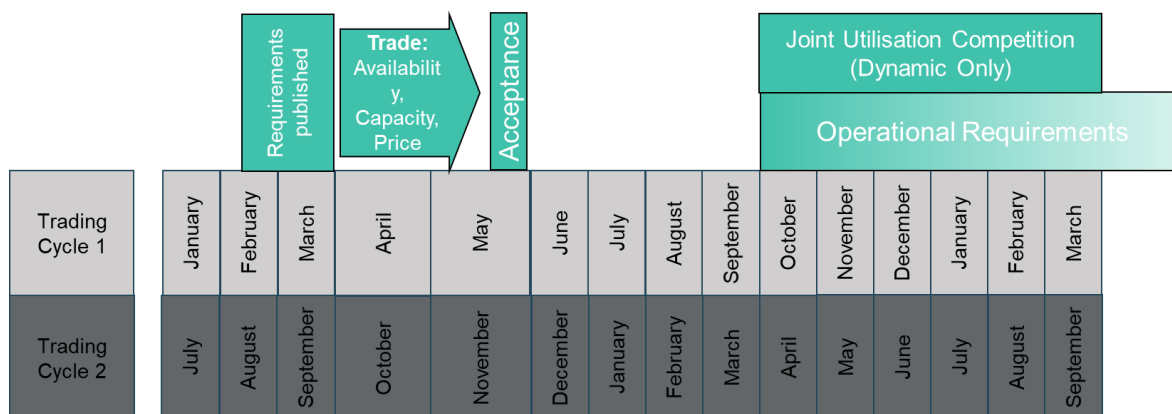


Figure 11: Long Term Operational process

**Availability Declarations:** Following publishing results in February and August, FSPs will be able to submit their availability declarations in from April/May or October/November in their trade response. This includes providing details such as the available capacity they can provide, the price and key operational parameters such as maximum and minimum run times.

**Acceptance:** We will accept or reject trades by the end of May/October.

Once Trades have been cleared, our dispatch processes then focusses around the Flexible Power Portal (<https://flexiblepowerportal.co.uk>) and it's associated API. This is a simple API used to send Start/Stop messages and receive metering data (see our [Flexible Power Guide to API Set-up and UAT testing](#)).

### Operation

When we instruct FSPs to deliver flexibility depends on the service being used. These will always be within periods of accepted availability.

- For Secure, the default is that once accepted, the service will be utilised. FSPs can opt to schedule their asset operations and a Utilisation Instruction is sent via the API 15 minutes ahead of the requirement.
- For Dynamic, Utilisation is triggered by network conditions, after the acceptance of availability. A Utilisation instruction is sent via the API 15 minutes ahead of the requirement.
- For Restore, Utilisation is triggered in response to network conditions. FSPs are expected to provide response as soon as possible following receipt of the Utilisation Instruction sent via the API.

As we currently operate a pay-as-clear pricing structure (see section 3.3), there is no differentiation in price between FSPs. However we do optimise our instructions, instructing in an order which most closely aligns to the required flexibility. We will consider the following factors to optimise our decisions.

Table 3: Dispatch Principles

Principle	Description	In Practice
<b>Security</b>	The needs of the system will be met using flexibility in such a way that security of supply is maintained.	DSO/DNO requirements: Conform with applicable standards with an appropriate management of risk.
<b>Cost</b>	Flexibility will be operated to meet system need at the minimum level of cost.	Lowest prices per MWh and minimum levels of over procurement. Flexibility will be procured in cost order and will not unduly discriminate against any provider.
<b>Operability</b>	DSOs will seek to instruct services that offer compatible levels of operability.	Provider characteristics: availability, reliability, run times, response times etc... Accepted offers need to match/partially match requirements.

As our operational experience increases, we will use this information to provide feedback to FSPs in areas and support them to maximise their value to the system.

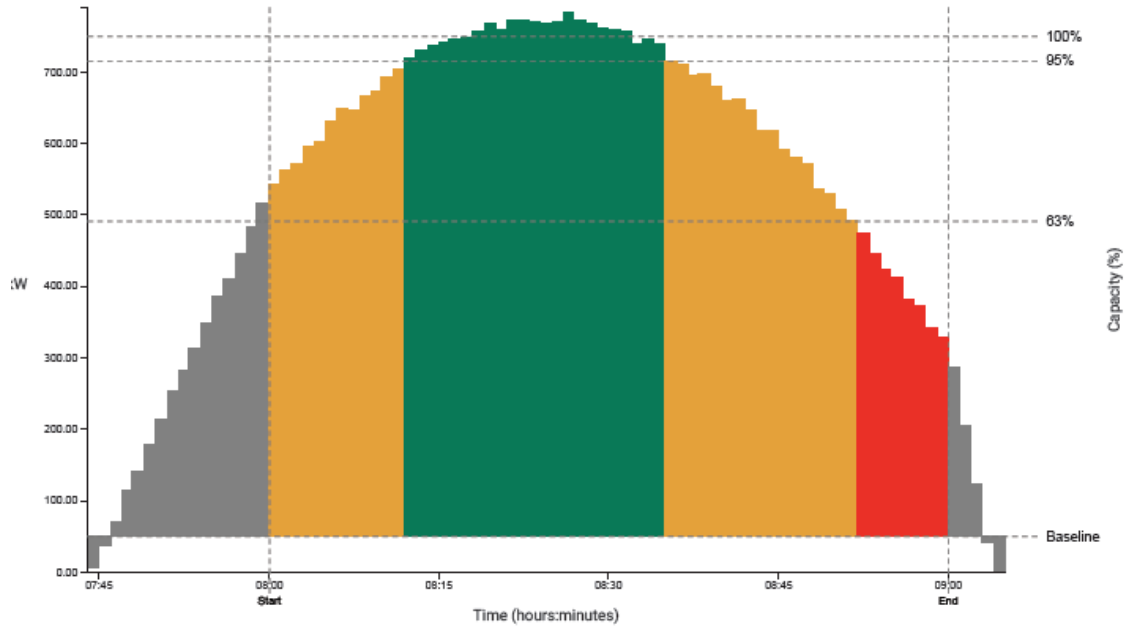
More details about this process can be found in our Acceptance and Dispatch Document: <https://www.flexiblepower.co.uk/downloads/681>.

### Reporting & Settlement

Event [performance](#) and [earnings reports](#) are automatically generated shortly after the close of each instruction. These allow FSPs to easily assess their performance. Examples are available on the [Flexible Power Website](#). A sample Performance Report is shown below.



## Event Overview

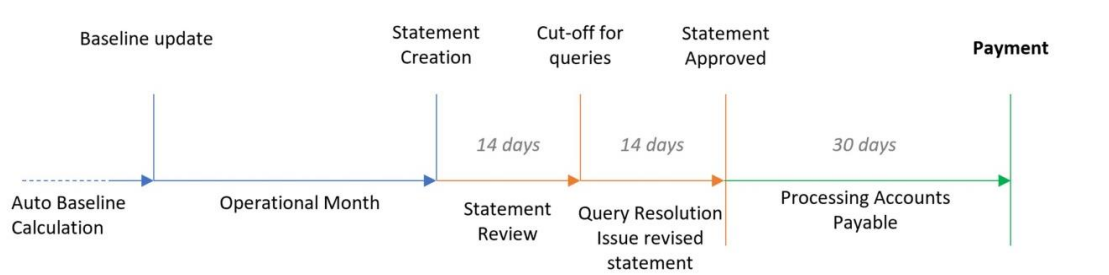


## Performance Highlights

Expected Total Volume	700.00 kWh
Actual Total Volume	592.92 kWh
Baseline	50.00 kW

Figure 12: Example Performance Report

Self-Billing invoices are then created on a monthly basis aggregating all the monthly events and follow the process highlighted below. This gives time for the review of the invoice, as well as well as any follow up queries ahead of payment.



More details about our settlement process can be found in our Billing Guide (<https://www.flexiblepower.co.uk/downloads/594>).

### 3. Tendering Process

#### 3.1 Process

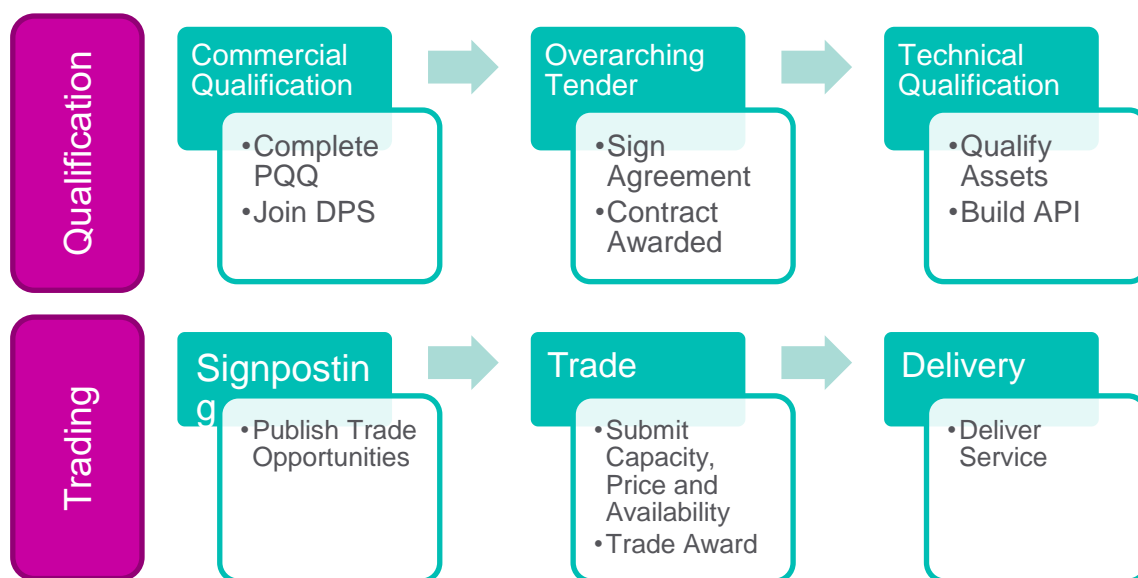
We have developed our tendering process to be objective, transparent and market based. They are designed to be as simple as possible whilst maintaining compliance with the Utilities Contract Regulations. These regulations impose strict requirements on how utilities procure services. Since 2019 we have used a Dynamic Purchasing System (DPS) to manage pre-qualified parties enabling their eligibility to tender into all our published procurement cycles. Our experience of using the DPS has fed into the procurement processes developed within the Open Networks project (WS1A P2).

We are now evolving to align with the approach taken by the ESO where market participants are pre-qualified and awarded a framework contract ahead of being able to bid for Market opportunities. This allows us to accommodate new products at different timescales and builds a process that can be translated to closer to real time procurement.

This process, still uses a DPS, and is split into an initial qualification, where the formal procurement is carried out, and then a repeating operational trading phase.

This process will be administered on our new online Market Gateway (see details in section below).

This new process will be rolled out for our new longer term and Sustain products this year. We will then transition our week ahead products in the next regulatory year.



We understand the need to further improve the standardisation of processes across the industry. In the last year we have:

- Adopted the latest ENA Standard Flexibility Services Agreement developed as part of WS1A P4.
- In line with the work from WS1A P2, we have adopted the common DNO procurement timelines. This ensures that we adhere to a common view of minimum time periods for signposting, and responses to ITTs

We will continue to align with the outcomes of the Open Networks project.

## Qualification

The qualification process is designed to prepare the FSP and Assets for participation in a Trade and Service delivery. It has 3 distinct phases.

### Commercial Qualification

Commercial qualification involves some the submission of some basic information to gain access to the DPS. The PIN response is effectively an expression of interest to join, based on basic company information (Name, address, company type and number....)

This is followed up by the PQQ where some compliance statements must be approved. These are not technical, and are based on the standard UCR questions.

Once complete, the FSP is added to the DPS and invited to the overarching tender. Commercial qualification is always open.

### Overarching Tender

The tender for an over-arching contract is then available immediately after commercial qualification and only includes the Terms and Conditions and associated schedules. Acceptance of the Terms & Conditions are the only criteria for pass/fail. Pricing, capacity and asset qualification will not be considered at this stage. Once accepted this will be enduring with re-acceptance only needed for significant updates to the terms and conditions.

This approach replicates that seen in the ESO Framework approach and also retains the requirement for UK DNOs to comply with the Utility Contract Regulations (UCR), however, unlike a Framework, it doesn't have a time limit on when parties can join

Once an over-arching tender is awarded an FSP is commercially eligible to participate in Trades, however in order to be fully eligible to enter into Trades the Technical Qualification requirements must then be completed.

### Technical Qualification

Technical qualification focussed on ensuring FSPs are ready to conduct trades.

It includes the registration and validation of assets, the creation of logical grouping of these assets, and building out the API to our operational portal so that start stop signal can be received and metering data can be shared for verification and settlement purposes.

Typical details include:

- The location of the asset
- The energisation status of the asset
- The technology type
- The tendered peak capacity (in MW)
- The Minimum and Maximum Operating Duration

Assets can be added, updated and deleted at any time by the Contracted FSP, as can the logical grouping. Only assets that are registered and have been verified by National Grid can be selected for participation in a Trade.

## New online Market Gateway

In order to better manage the frequency of Trades and the anticipated growth in market participation, we are developing an online procurement hub that will digitalise the end to end procurement process and accelerate platform and marketplace interactions.

FSPs will be able to create an account through which they will complete all the Commercial and Technical Qualification Requirements, including the overarching Tender.

Upon completion of the qualification requirements, the account will then allow FSPs with access to participate in Trades. The Trade area will allow FSPs to view Trade Opportunities, enter bids for Trades within which they have qualified assets and receive their Trade Award Notices.

Trade data that is produced within the online procurement hub will be collated within a National Grid Database. This database will have the ability to pass relevant Trade data to existing operational portal and populate it with the awarded service windows, capacity and pricing.

The operational portal is then responsible for instructing utilisation events and gathering metering data for settlement. Performance reporting and Monthly settlement will continue to be carried out by the Portal.

New capabilities on the Market Gateway will be rolled out incrementally. The first release is expected in January 2023. Please do feedback with any suggestions for improvements.

Our new longer term and Sustain products will be facilitated by the Market Gateway. The week ahead products will move across in the next regulatory year.

## 3.2 Pricing Strategy

Since 2019, we have been operating a pricing structure that is dependent on the level of competition revealed through the procurement process. Each CMZ is assessed independently because of variations in the number of FSPs and scale of flexibility provision. We established a multi layered strategy, with each phase reflecting the maturity of the market. The prices paid are based on the availability of flexibility in each CMZ.

In the next year we will adapt our rules for clearing to accommodate per zone ceiling prices.

These will be calculated as part of our DNOA process and will be used to cap pricing. If we do not have sufficient liquidity, these will be the fixed prices utilised.

Where we have liquidity we will operate a Pay-as-Clear (PaC) mechanism. This will be used for our Secure, Dynamic and Sustain products

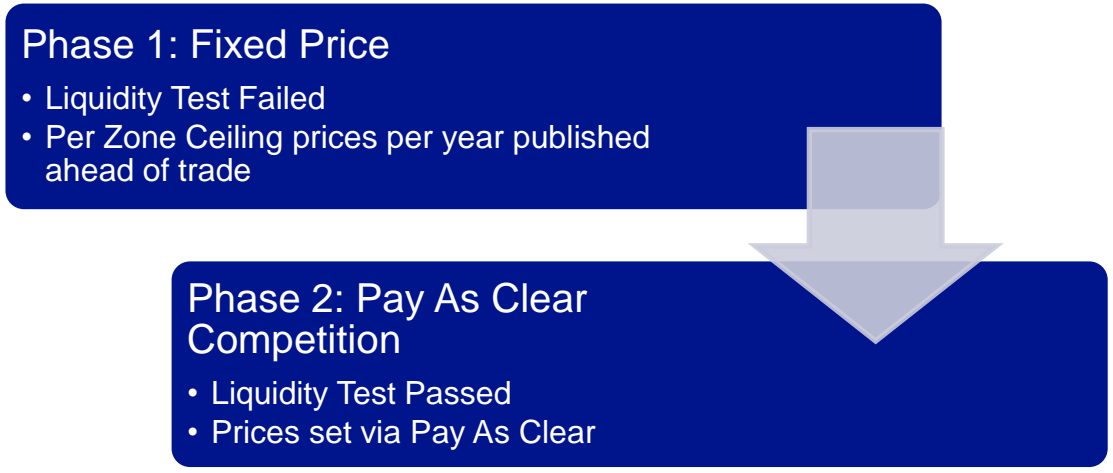


Figure 13: Updated Pricing Strategy

For Restore, we will maintain our Fixed Pricing strategy for the remainder of this reporting year. However we will update this price to reflect the value of Customer Minutes Lost next year.

Our Pricing Strategy, for competitive markets is summarised in the table 6.

We have considered if Secure should transition to a Utilisation only service. As the Utilisation is decided at the same time as the Arming, splitting the value now has limited benefit. We see this as the long term direction, however due to the changes that would be required to the payment mechanics (as the monthly performance adjustments are claimed against arming payments) and internal processes, the change has not been prioritised for the next reporting year.

Table 4: Product pricing

Service	Pricing			
	Secure Zone		Dynamic Zone	
	Arming	Utilisation	Availability	Utilisation
<b>Sustain</b>	N/A	PaC capped at ceiling price. Cleared at the Trade months ahead	N/A	PaC capped at ceiling price. Cleared at the Trade months ahead
<b>Secure (long term)</b>	PaC capped at ceiling price. Cleared at the Trade months ahead	PaC capped at ceiling price. Cleared at the Trade months ahead		
<b>Dynamic (long term)</b>			PaC capped at ceiling price. Cleared at the Trade months ahead	Prices Capped months ahead. Final Price set through the Joint Utilisation Competition at

				week ahead stage which is Pay As Clear
<b>Secure</b>	PaC capped at ceiling price. Cleared at the Trade at the week ahead	PaC capped at ceiling price. Cleared at the Trade at the week ahead		
<b>Dynamic</b>			PaC capped at ceiling price. Cleared at the Trade at the week ahead	Final Price set through the Joint Utilisation Competition at week ahead stage which is Pay As Clear
<b>Restore</b>	N/A	Fixed Price	N/A	Fixed Price

These prices feed into the performance related payment mechanics. More details can be found in our Payment Mechanics document (<https://www.flexiblepower.co.uk/downloads/603>)

### Joint Utilisation Competition

To encourage competition between the different timescales, we will look to operate a Joint Utilisation Competition (JUC) for our Dynamic Products. This is detailed in Figure 8.

Where Long terms products are trading months ahead, we will look to acquire the Allocated Volume. Within this process Availability prices will be set for the Dynamic (Long Term) product and Utilisation pricing will be capped.

This Utilisation will then be entered into a competition with the existing Dynamic product at the week-ahead stage.

This competition will be for the total required volume. As such the shorter term Dynamic participants will be competing for:

- the combination of the allocation for the short term market,
- any unfulfilled volume in the long term allocation, &
- any instances where their combined availability and utilisation is more economically effective than the utilisation of longer term participants.

Long term participants will automatically be entered into the competition at their capped rate, but will be encouraged to update their pricing to reflect any efficiencies that can be made closer to real time.

We will not be operating this Joint Utilisation Competition for our Secure Zones due to the structure of the Secure Product.

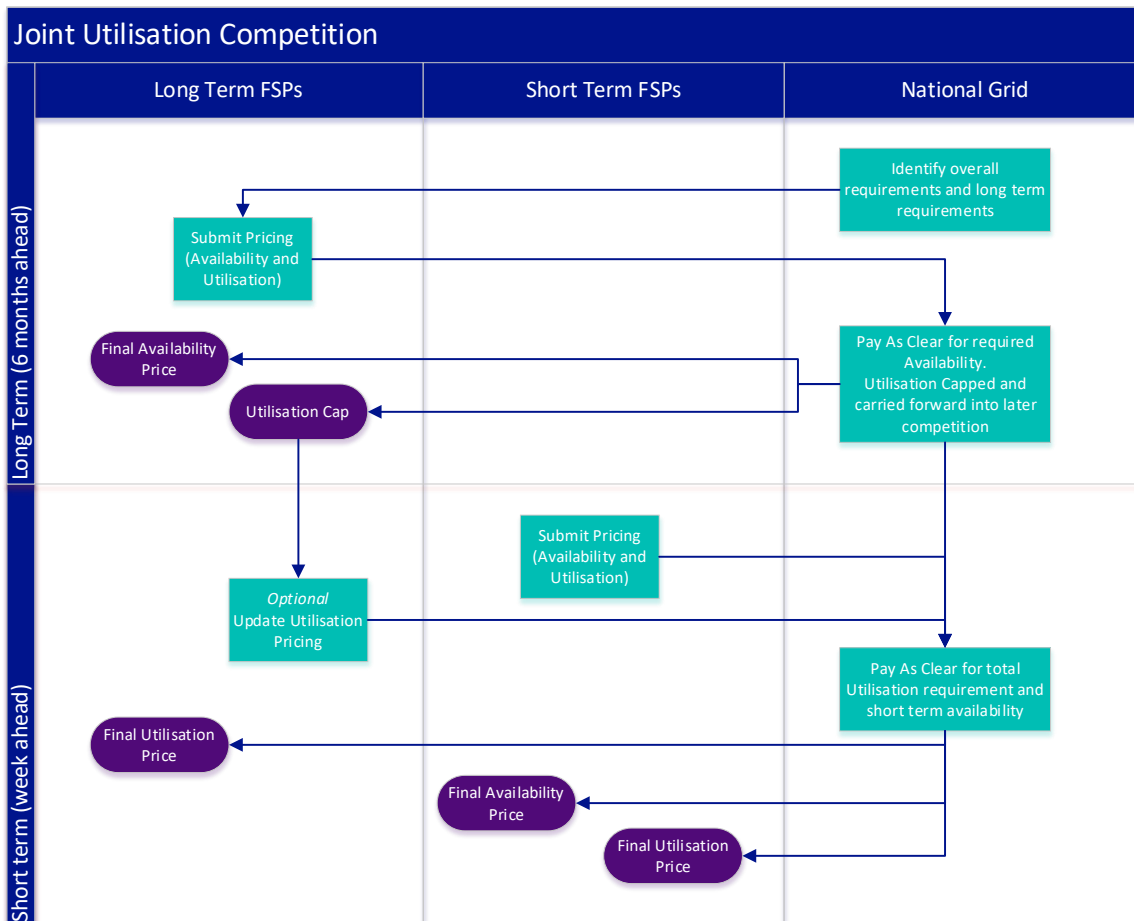


Figure 8: Joint Utilisation Competition

### 3.3 Timelines

As detailed in section 3.1, our new commercial and technical qualification processes are now open all year round.

The equivalent of our 2 procurement cycles will be retained, as we will update our flexibility requirements every 6 months and open associated windows for longer term trades. The windows for shorter term trades will then be opened weekly. These will not open until next regulatory year as highlighted in the Gantt chart below.

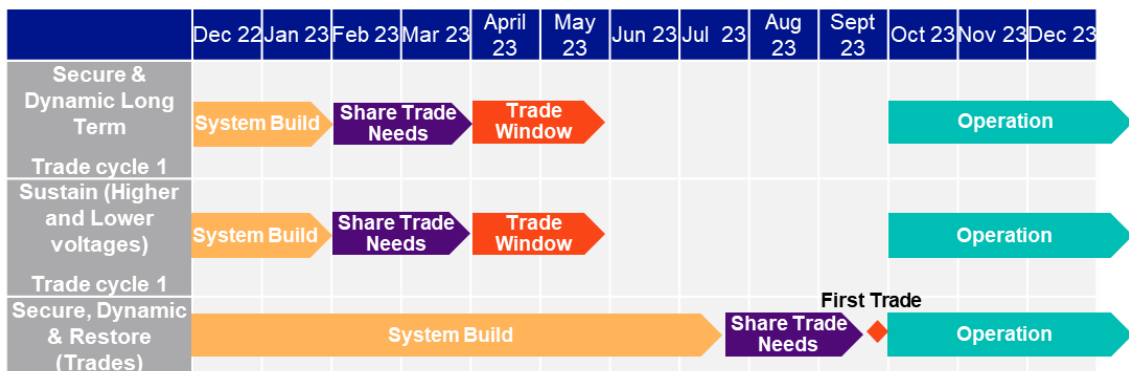


Figure 14: Product Timelines

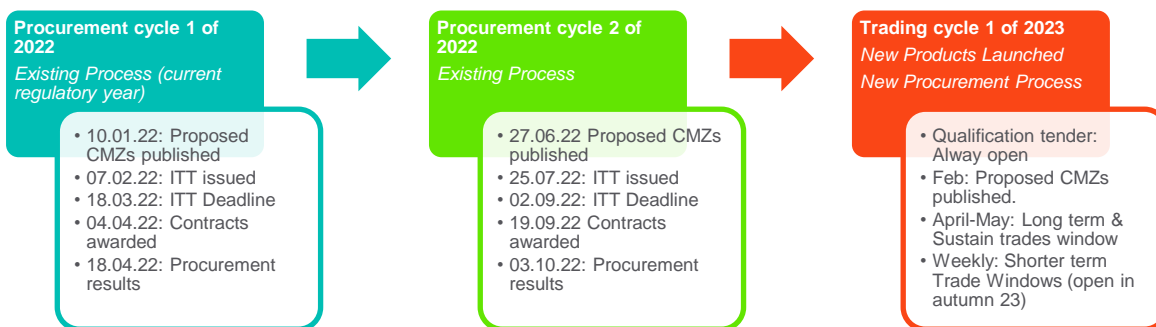


Figure 15: Procurement Timeline

As highlighted in section 2.2. The requirements are published across a number of publications. On publication of needs we also remind our Update Service, with the links required to the requirements, links to DPS registration and any further information (such as webinars). Registration to the update list is available here: <https://www.flexiblepower.co.uk/contact>

All Trade Opportunities will be issued to all relevant members of the DPS.

Procurement Results are then published on the [Flexible Power Website](#).

A summary of all relevant documents is provided in Section 7.

### 3.4 Contract Award Process

FSPs respond to the Qualification Tender by accepting the latest terms and conditions, a self-billing agreement and providing billing details. No asset details are collected at this stage. These are collected later at the technical qualification stage.

It should also be noted that the following requirements in the qualification tender are assessed on a simple Pass/Fail basis;

- Commitment to build/integrate with the Application Programme Interface (API).
- Ability to provide relevant metering data over API.
- Asset ability to respond within 15mins and hold response for minimum of 30mins.
- Acceptance of CMZ Terms & Conditions.



Following the qualification tender, a contract is awarded to the FSP.

We have worked collaboratively with industry through the ENA's Open Networks project WS1A Product 4 to develop a common set of terms and conditions and were the first DNO to adopt these. We will continue to use the latest version of the common terms as they get updated. Informed by stakeholder feedback, the terms and conditions provide low barriers of entry, maximise participation and reduce complexity. They include:

- Mutual and capped liabilities
- Performance based payment mechanisms to incentivise participation
- No penalties for non-delivery, only loss of potential revenue
- No exclusivity clauses
- No obligation to provide availability

Our contracts do not have any exclusivity, maximising the ability for a flexibility provider to increase revenue opportunities by providing services to other parties.

The Contract is available on the website (<https://www.flexiblepower.co.uk/tools-and-documents>). The terms must be accepted as part of the qualification tender. As it is a standard, cross party contract, it is non-negotiable, however feedback will be collated and fed back into future reviews, both within National Grid and with the wider ENA standard terms.

As detailed in Section 3.1, there are a number of further steps before any availability is committed to, and to which pricing is agreed.

First we have the Technical Qualification in which we collect data such as:

- The location of the asset
- The energisation status of the asset
- The technology type
- The tendered peak capacity (in MW)
- The Minimum and Maximum Operating Duration

FSPs may provide multiple assets and portfolios per zone. These can be contracted directly or via a supplier or aggregator. We have no minimum volume threshold, however we need FSP to be able to adequately fill in the above parameters to allow for consistent treatment of assets in the procurement.

Following Technical Qualification, the capacity, availability requirements and price are determined within the Trade process.

As highlighted in section 3.2 the level of volume provided will impact the pricing strategy used within the zone.

Since 2018, we have published data to communicate the procurement cycle results within one month of contract award (see example here: <https://www.flexiblepower.co.uk/tools-and-documents>), summarising the various stages and results of the tendering process.

As the procurement process moves forward, award data will fall across two categories:

Contract Award data:

- The counterparty to the contract

Trade Award data:

- The counterparty, technology type, capacity, length of trade, and price awarded to each contracted party

- A summary of the outcomes per CMZ. This includes, the volumes required, the number of bids received, the volumes awarded and the zone price.

We are committed to publishing data associated with both within a month of the award. Where possible we will accelerate this timeframe.

## 4. Stakeholder Engagement

We have a wide range of options for engaging with stakeholders as highlighted below.

To join our Update Service please use our contact form: <https://www.flexiblepower.co.uk/contact>. You can also contact us directly at [NGED.FlexiblePower@nationalgrid.co.uk](mailto:NGED.FlexiblePower@nationalgrid.co.uk).

### 4. 1 Engagement around Flexibility requirements

As detailed in Section 3.2 we operate two procurement cycles a year. The timings are set years ahead to provide certainty for FSPs. These are surrounded by a mix of promotional activities to maximise participation, as well as feedback processes to allow us to continually improve our processes. Information on our pre-qualification requirements as well as all other relevant information are available on the [Flexible Power Website](#). We have summarised the full list of relevant documents in section 7.

The publication of our requirements, are accompanied by promotion to increase market awareness and drive participation. This includes promotion to our [update service](#)., social media posts, [webinars](#), surgeries, one to one engagement and the attendance of relevant events. This targets a wide range of stakeholders to ensure all relevant parties are aware of the opportunity and the response required.

Once each procurement round has been completed, we then focus on collecting feedback on how we could improve how we publish requirements and the DNOA process. The associated timings are covered below.

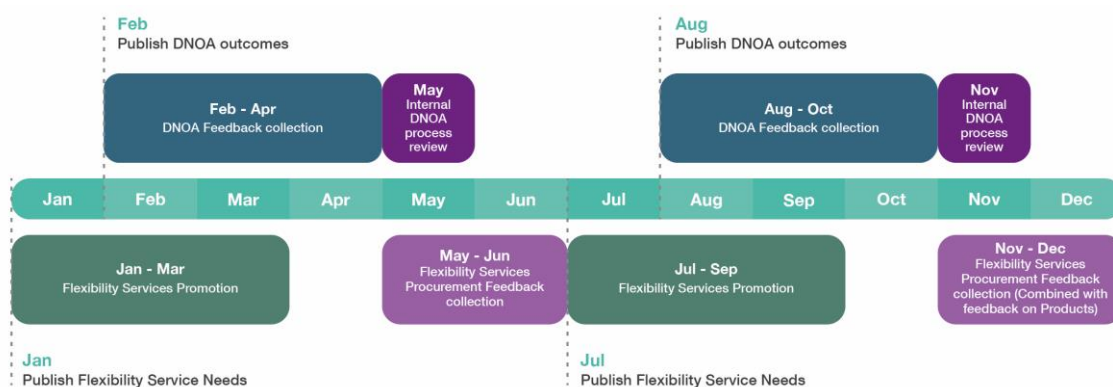


Figure 16: Timeline for our engagement around flexibility requirements

We are always looking at how to improve this process and ensure we are engaging in accessible and meaningful ways. If there are any options we should be considering, do let us know.

### 4.2 Engagement about products and process

In addition to what we procure, we also seek stakeholder feedback on how we procure services. We aim to target key stakeholders including those who have been involved in various elements of **National Grid | December 2022 Update | Distribution Flexibility Services Procurement Statement** 26

the process as well as wider industry stakeholders, including the ESO and other DNOs. As well as ad hoc feedback we see two key processes;

- We have established an annual process for reviewing and improving our services. This has stakeholder engagement built into the process. In September and October we have the opportunity to develop any proposed changes for our services. This will incorporate any feedback collected in the year. We then engage in informal engagement with stakeholders over November and December. This revolves around our [Evolution of Flexibility Services document](#), with its accompanying webinar and workshops. Last year this fed into a formal consultation. In our Latest Evolution engagement, we are consulting on this approach and the stakeholder burden it creates. **We may drop the formal consultation in the New Year subject to this engagement.** All this information is available on the [website](#). We also feed the findings into the Open Networks Project.
- As part of our work in the Open Networks project (see section 4.3) we collaborate with the other DNOs to deliver more standardised processes for procurement and operation of Flexibility Service. As part of the WS1A process, a formal consultation is conducted in July. We used this feedback to inform ON work as well as our internal process.



Figure 17: Timeline for engagement around products and processes

In addition to these two formal routes. We collect ad-hoc feedback which is fed into the relevant processes. Stakeholder engagement is also a key part of any new service development work (see section 6).

### 4.3 Engagement with ESO and DNOs

We recognise that National Grid is one actor amongst many in an ever more complex energy market place. As such, in addition to our wider engagement, we endeavour to engage heavily with the other network licensees.

A key part of this is through our active involvement at the Energy Network Association, especially the Open Networks project, where we work with the other licensees to develop and adopt common approaches across a range of DSO related activities. Workstream 1A is focussed on the development of Flexibility Services. Its key objectives include:

- Bringing more transparency in how DNOs facilitate local markets for flexibility and make decisions to provide more confidence in independent decision making.
- Simplifying participation in local flexibility markets through standardisation of approaches across DNOs and between DNOs and the ESO.
- Addressing barriers to participation in flexibility markets and facilitate stacking of revenues across multiple markets.

As highlighted in section 4.2, the Open Networks project build stakeholder engagement into processes. This covers regular engagement via the Challenge and Dissemination Groups as well as consultations on the Program of Works as well as the content of the work-streams.

In addition we engage actively with other licensees directly when needed. Examples of this include:

- Our collaboration with the ESO and other relevant DNOs on the Regional Development Programmes (RDPs). The RDPs look across the whole-system landscape to identify key areas of development to unlock additional network capacity, reduce constraints and open up new revenue streams for market FSPs. Building on the work of Open Networks we are developing flexibility markets to manage distribution and transmission system needs.
- Tied to the above, we engage in the monthly Whole Electricity Join Forum with the ESO, DNOs and TOs.
- By opening up our Flexible Power brand and processes to other DNOs we have looked to increase alignment and collaboration within the industry. The collaboration will help streamline the process for flexibility providers and make interfacing with DNOs simpler and easier by avoiding the complexities and resource intensity associated with liaising with numerous network operators. We intend to work in partnership to further develop the Flexible Power brand and develop the portal functionality to enable interface capability with other flexibility platforms so wider market participation options can increasingly be made available to providers.

## 5. Detailed Quantitative Assessment

### 5.1 Flexibility Service Requirements

Our [Long Term Development Statement](#) (LTDS) highlights the assets that make up our network. As highlighted in section 2.2.2, our [Distribution Future Energy Scenarios \(DFES\)](#) provides data on the predicted growth in generation and demand across the 4 licence areas on a yearly basis. This scenario growth data allows areas on the network expected to be constrained to be identified. Forecasts carried out using this data feed into the upcoming Network Development Plans (NDP) and are used to plan conventional network build solutions and/or flexibility procurement based on system needs. The decision making process for determining the optimal solution for each constraint is called the [Distribution Network Options Assessment \(DNOA\)](#). This is carried out on a biannual process, leading to two rounds of Flexibility Service Procurement each year. The DNOA process is used to both look forward and identify which services should have services procured to help mitigate them, as well as looking backwards to ensure they continue to provide value.

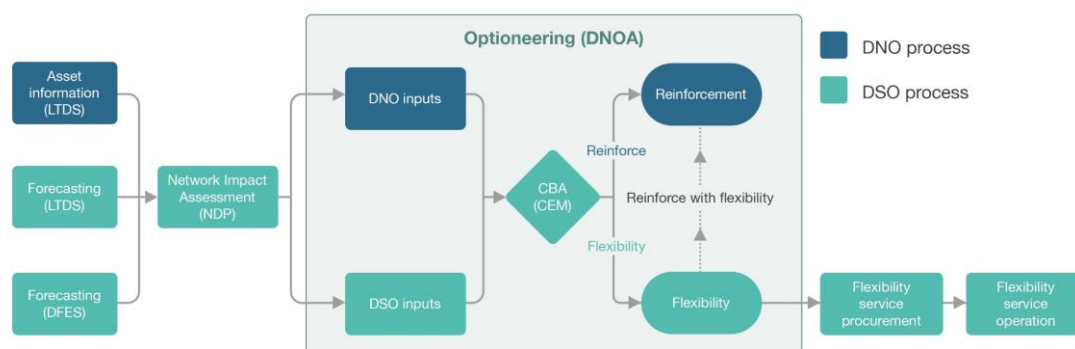


Figure 18: Determining Flexibility Requirements

The DNOA outlines the decisions made to meet the future needs of the distribution network. A smarter network needs smarter decisions: the DNOA outlines the options considered to provide the best consumer value in investments made on the distribution network and how cost-benefit analysis is employed to determine the optimal investment path. The decisions show in a transparent manner how we are optimising our investment to deliver secure, sustainable and affordable electricity to meet the changing needs of the areas we serve.

To improve transparency in how DNOs reach decisions for the flexibility procurement and the potential to delay conventional reinforcement, a Common Evaluation Methodology (CEM) Cost-Benefit Analysis (CBA) tool has been created by Baringa Partners as part of the Open Networks project. This tool is used in the DNOA process to assess the net benefit of flexibility against a baseline of conventional reinforcement for scenarios over a number of years. The economic analysis is based on the Time Value of Money wherein delaying reinforcement costs creates a significant economic benefit. If this benefit is greater than the cost of flexibility required during the deferral period, then flexibility procurement is deemed the optimal solution and could create savings that can be passed on to customers and stakeholders.

The decision tree below demonstrates the different choices our analysis can lead to. Firstly, the schemes that do not require any intervention are removed from future DNOAs. Among the

schemes which do require intervention, if the constraint cannot be managed using flexibility then reinforcement is pursued. If the constraint can be managed using flexibility but no intervention is required within the next year signposting is published. The schemes which require flexibility services within the next year are put through cost-benefit analysis to determine if flexibility can be used to defer reinforcement. This is further detailed in the latest DNOA document (<https://www.nationalgrid.co.uk/DNOA>)

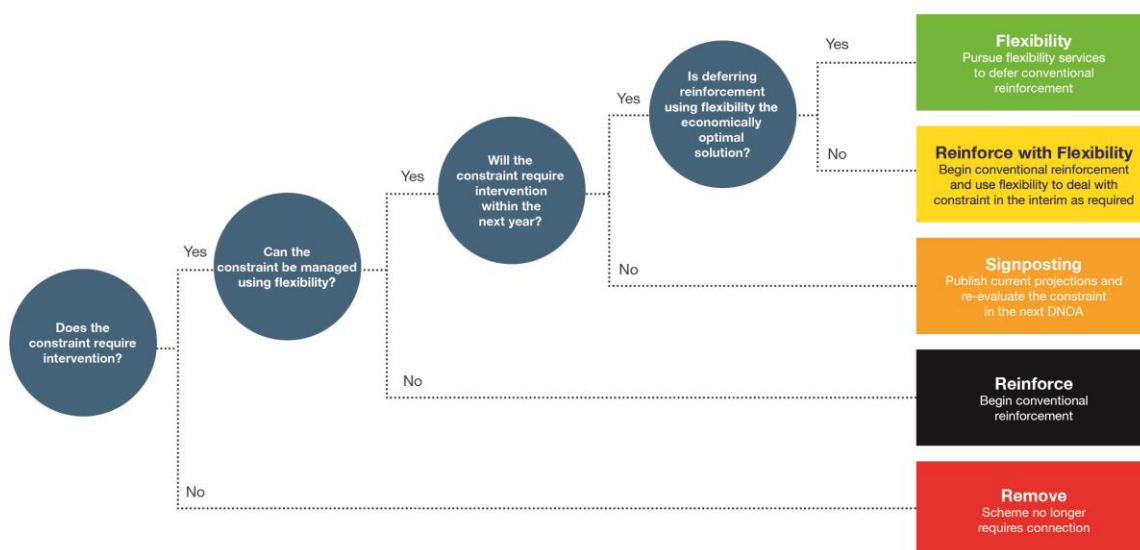


Figure 19: DNOA decision tree

For the next run of the DNOA we are adjusting our process to deliver ceiling prices for each zone. These will feed into our pricing strategy.

To support this we are developing the concept of a minimum value threshold for going out to market. This is intended to focus our procurements on zones where there is genuinely the potential for market viability. We are currently engaging with stakeholders to set this value.

## 5.2 Flexibility Service Selection

As detailed in section 3, we have a detailed process for the procurement of Flexibility Services, including a clear methodology for how we select which services to procure and then instruct.

As we implement the new structure of trades, we are reviewing how we select services. We need to balance the needs for transparency, efficiency and deliverability. These are interlinked with our dispatch principles, set out in section 2.2.3

We are currently engaging with stakeholders on the approach to be taken going forwards. This can range from adjusting our requirements to simplify the trading mechanics, to looking to better match our requirements with more complex selection decisions.

The outcome of this engagement will impact the processes and systems needed.

Initially our selection will be built on manual processes, aiming to provide the lowest total cost to the DNO and function on a Pay as Clear basis. As we progress we will look to develop robust service selection systems.

## 6. Services in Development

Since developing our initial processes and procedures through innovation trials, our processes for procuring Flexibility have been evolving and maturing. As we build learning and scale, we expect to continue developing and improving our processes. Alongside the existing products mentioned in the sections above, we have a number of other services in development. These range from innovation trials to BaU development work.

Depending on the learning generated as part of their development they may, or may not be implemented in the next reporting year.

### Flexibility from low carbon heating

Our [Equinox project](#) will be developing three novel commercial methods that are designed to maximise participation in domestic DNO flexibility services. The range of methods will demonstrate how varying risk/reward frameworks between DNOs, suppliers and customers can influence the amount, cost, & reliability of flexibility from portfolios for varying customer segments incl. fuel poor and vulnerable.

### Coordinated Constraint Management services with the ESO

As mentioned in section 4.3, as part of our RDPs, we are working with the ESO to develop services to help with the coordinated management of Transmission and Distribution constraints. The latest information is available here: [Regional Development Programmes \(RDPs\) | National Grid ESO](#).

### Closer to real time Procurement

As part of our IntraFlex NIA project we trialled the use of the NODES market platform to procure services closer to real time via a continuously clearing market. Following the positive learning from the trial, we are now looking to deploy closer to real time markets. However given the complexity of these services, we are targeting deployment in 2024.

### Energy Efficiency

Our work on the Sustain Product has delivered learning on the structuring of a Drop-To services. The wider Future Flex project also highlighted further challenges associated with such products. We remain committed to the development of an offering for Energy Efficiency in ED2.



## 7. Data and Publications

We acknowledge there is a significant amount of data and information involved in the procurement of our services, as well as wider DSO processes.

As such we have summarised the key references in this section.

To provide a live view of this we will shortly publish a Flexibility document and data catalogue.

### 7.1 Distribution Flexibility Services Regulatory Reporting

Publication	Description	Location
Distribution Flexibility Services Procurement Statement	A forward looking report on how we will procure services in the coming regulatory year.	<a href="#">National Grid Website &amp; Flexible Power Website</a>
Distribution Flexibility Services Procurement Report	A report, and supporting data table, detailing how and where we have procured flexibility services in the past regulatory year.	<a href="#">National Grid Website</a>
Ongoing Reporting	We publish the outcomes of our Flexibility Service procurement. This is covered by our Procurement Results document.	<a href="#">Flexible Power Website</a>
Evolution of Distribution Flexibility Service Procurement Document and Webinar	Our initial, informal engagement on the changes we would like to make to how we procure flexibility services.	<a href="#">National Grid Website</a>
Distribution Flexibility Services Procurement Consultation Document, Webinar and Outcomes	Our formal consultation on changes we have proposed on how we procure flexibility services.	<a href="#">National Grid Website</a>
Ofgem Guidance	The Ofgem guidance determining what should be covered in the regulatory reporting.	<a href="#">Ofgem Website</a>

### 7.2 DSO process (and inputs)

Publication	Description	Location
Long Term Development Statement (LTDS)	The Long Term Development Statement provides an overview of the design and operation of the distribution network, together with data on the 132kV, 66kV and 33kV systems and the transformation levels down to 11kV. This is produced by DNO rather than DSO functions.	<a href="#">National Grid Website</a> (registration needed)
Distribution Future Energy Scenarios (DFES)	The Distribution Future Energy Scenarios outline the range of credible futures for the growth of the distribution network out to 2050.	<a href="#">National Grid Website &amp; Connected Data Portal</a>

Network Development Plan (NDP)	The Network Development Plan provide stakeholders with transparency on network constraints and needs for flexibility. The NDP has been created to present the 'best view' of planned asset based and flexible network developments over the five to ten-year period	<a href="#">National Grid Website</a>
Distribution Network Options Assessment (DNOA)	The Distribution Network Options Assessment (DNOA) is a publication which outlines reasons behind investment decisions made in order to deal with constraints on our network.	<a href="#">National Grid Website &amp; Connected Data Portal</a>

### 7.3 Flexibility Requirements

Publication	Description	Location
Network Flexibility Map	The Network Flexibility Map includes the availability windows and expected market volumes required for all our DFES scenarios for a five year period under the Signposting process. Visualisations of the data are available online through the mapping tool and datasets are downloadable. The Network Flexibility Map also presents our firm flexibility requirements which feed into our procurement process. This shorter term view, gives clarity on our needs and is refreshed every six months in line with our procurement timeline.	<a href="#">National Grid Website &amp; Connected Data Portal</a>
Flexible Power Map	The Flexible Power Map replicates much of the functionality of the Network Flexibility Map but focusses on the requirements against which we will procure. It highlights the required volumes and forecast availability windows. This map is held on the Flexible Power website and hosts data from the other DNOs who are also involved in the Flexible Power Collaboration.	<a href="#">Flexible Power Website &amp; Connected Data Portal</a>
Procurement documents	For every six monthly cycle of procurement, we publish market information detailing the requirements for procurement at each of the CMZs. This includes information such as the MW required, expected MWh availability windows and MWh estimated utilisation volumes.	<a href="#">Flexible Power Website &amp; Connected Data Portal</a>
Procurement results	The results documents provides detailed information on the volumes procured through each cycle.	<a href="#">Flexible Power Website &amp; Connected Data Portal</a>
Post Code Checker	A simple look up tool to assess the allocation of postcodes to CMZs. The background data is available as and excel sheet and on the connected data portal.	<a href="#">Flexible Power Website &amp; Connected Data Portal</a>
Service Value Calculator	A tool to provide a view on the maximum potential revenue available to a provider.	<a href="#">Flexible Power Website &amp; Connected Data Portal</a>

Month Ahead Availability Forecasts	Updated ahead of each new month with a forecast of our availability requirements for each operational zone. Active participants can use this to inform their week ahead declarations.	<a href="#">Flexible Power Website</a>
Flexibility Zone Activity Timetable	A spreadsheet detailing which months of the year each zone has a requirement for provider availability	<a href="#">Flexible Power Website &amp; Connected Data Portal</a>

## 7.4 Flexibility Process

Publication	Description	Location
Procurement Timetable	We conducts 2 procurement cycles per year. This document provides the proposed procurement window dates for the next 2 years.	<a href="#">Flexible Power Website</a>
NGED_ENA Standard Flexibility Services Agreement	The latest version of the T&Cs applicable to our Procurement of Flexibility Services	<a href="#">Flexible Power Website</a>
Flexible Power Billing Guide	An overview of the monthly billing cycle and the form to send us your payment details.	<a href="#">Flexible Power Website</a>
Operational Process Guide	A guide to the weekly process applicable to our operation of flexibility through Flexible Power.	<a href="#">Flexible Power Website</a>
Procurement Process Guide	Details of the full process all interested parties are required to follow in order to be eligible to tender for participation in Flexible Power.	<a href="#">Flexible Power Website</a>
Clearing Process Guide	Details of the process we will apply when assessing zonal pricing during the procurement stage.	<a href="#">Flexible Power Website</a>
Pricing Strategy	Details of both our fixed price and 'best offer' pricing.	<a href="#">Flexible Power Website</a>
Acceptance and Dispatch Principles	An explanation of how we select services to accept for availability and utilisation.	<a href="#">Flexible Power Website</a>
Flexible Power API Set-up and User Guide	A guide on how to build and test the Application Programme Interface (API) and how to carry out necessary testing within the User Acceptance Testing (UAT) environment.	<a href="#">Flexible Power Website</a>
Routes To Participation - Webinar	Slides and Recording on our Webinars on how to participate in our services.	<a href="#">Flexible Power Website</a>
Flexible Power Payment Mechanics	An overview of the Flexible Power Payment Mechanics	<a href="#">Flexible Power Website</a>
Flexible Power Example Event Performance Report	An example of the performance report created post a response event.	<a href="#">Flexible Power Website</a>
Flexible Power Example Monthly Invoice	An example of the monthly invoice created at the end of each month.	<a href="#">Flexible Power Website</a>
Flexible Power Example Event Earnings Report	An example of the payment breakdown of utilisation earnings created post a response event.	<a href="#">Flexible Power Website</a>
Flexible Power Historic Baseline Methodology	An overview of the Flexible Power Baseline Methodology	<a href="#">Flexible Power Website</a>

## 7.5 Flexibility Updates

Publication	Description	Location
Flexibility Update Service	A mailing list to receive Updates on our Flexibility Services	Email. Sign up at: <a href="https://www.flexiblepower.co.uk/contact">https://www.flexiblepower.co.uk/contact</a>
Flexibility Year in Numbers	An infographic summary of how we have been actively using Flexible Power across its network.	<a href="#">Flexible Power Website</a>

## 7.6 Other relevant information

Topic	Description	Location
Open Networks	An overview of the Open Networks Project and all the relevant documentation.	<a href="#">ENA Website</a>
RDPs	Overviews of the Regional Development Programmes	<a href="#">National Grid ESO website</a> & <a href="#">National Grid website</a>
Innovation	An overview of the National Grid Electricity Distribution innovation portfolio	<a href="#">National Grid Website</a>