



Western Power Distribution - DG Owner Operator Forum

10 May 2022



Our Engagement Groups

Our Customer Engagement Group

Connection Customer Engagement

Customer Panel

Future Forum Meeting Dates



Our future dates will be 11 May 2022 (webinar/in-person) and 9 August 2022 (webinar).

If you or a colleague would like to join the forum then please contact Olly at Regen on: ofrankland@regen.co.uk for further details.

Attendance is free of charge and limited to MW scale owner/operators of DG assets.

Distributed Generation Owner Operator Forum

Meeting notes & slides from previous events

We hold a regular forum aimed at owners and operators of MW scale renewables connected to WPD's network. Working in partnership with Regen, these meetings provide an opportunity for DG owners and operators to engage with us, contribute towards improved processes and tackle arising issues.

Previous areas of discussion have included:

- WPD work to address grid constraints;
- Improving communication with generators on outages and constraints; and
- Potential approaches for forecasting and mitigating outages.

2022



10 February presentation slides


PDF / 3 MiB



10 February notes

PDF / 223 KiB

2021



**Western Power
Distribution
Generation Portal**

[Click here for our Post Energisation Document](#)

This leaflet has been designed to try to offer you a synoptic review of some areas you may wish to investigate further with us and that may pop into your mind once you have a connection to your site.

Remember, we are here to help you generate onto our network, so please take a moment to familiarise yourself with the document's contents, and for those of you who are familiar with WPD, hopefully it will be a handy aid memoir on who to contact within our organisation.

Log in

You are being granted access to Western Power Distribution's Generation Portal. You understand that your access to this website is subject to the website's [Terms of Use and Privacy Policy](#).

User name:

Password:

PLEASE NOTE, THESE TERMS AND CONDITIONS GOVERN THE USE OF OUR GENERATOR PORTAL. BY CLICKING ON THE "ACCEPT" BUTTON BELOW OR USING THE GENERATOR PORTAL, YOU AGREE TO THESE TERMS AND CONDITIONS, WHICH WILL BIND YOU. IF YOU DO NOT AGREE TO THESE TERMS AND CONDITIONS, YOU MAY NOT USE THE GENERATOR PORTAL AND YOU AGREE THAT YOU WILL CEASE TO DO SO IMMEDIATELY.



WPD Post-energisation Guide

WPD operate a Distributed Generation Online Portal where users can view upcoming outages/export constraints and access general background information for each generator site.

This information is focussed, at the moment, on generator connections at 33kV, 66kV and 132kV. Please visit generation.westernpower.co.uk to access the portal. To sign up to the portal, or if any contact details (and gate access codes etc.) have changed for a generator site within our area please contact; wpdswestwalesgen@westernpower.co.uk.

Please ensure WPD have up to date contact details for your generation site.

Timescales for Planned Outages

WPD receive notification from National Grid of Year Ahead (April through until end of March) planned outages on the England & Wales Transmission System at the end of Week 49 every year. WPD then begin planning the Year Ahead work on our Distribution System. All outages (including National Grid outages) are entered into WPDs Outage Management

Export Constraints/ Interruption to Supply

For certain system planned outages WPD might apply a full or partial export constraint to a generation site. In some cases, the generation connection may be within the isolated section where WPD wishes to undertake work.

In such cases, the generator site will be temporarily disconnected from

Outage Notification

DG customers can access any upcoming planned outages via the Generation Portal. A Four Week Report is also sent out by our Control Centre every Friday. This report details any export constraints/ interruptions to supply that a DG customer can expect at their generation site within the next four weeks.

Chair: Olly Frankland, senior project manager, Regen

13.00 Introduction, action review and objective setting from the chair and WPD

13.10 Improving industry and WPD communications to address outages/constraints

- Forum member feedback on communication
- Latest information regarding the generation portal
- Overview of a selection of previous planned outages of significant length
- Options for restricted export for generation during planned outages

13.35 Outage KPI update

Danielle Greedy, control support engineer, Western Power Distribution

14.00 Break

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15.00 Close

WPD Outage Plan Update

WPD 132/33kV Outage Plan for 2022/23 now complete.

- All planned NGC outages from April 2022 – March 2023 now in WPDs Outage Management System.
- WPD planned 132kV / 33kV outages that affect DG customers reflected on DG Portal.
- Each outage planner has the the task of coordinating / merging outages where possible.
- DG customers can also contact WPD to let us know when they would like to do planned maintenance at their sites. We can then inform local area to see if we have any works to complete on the circuit in question. If yes, the outages can then be merged into one single outage, therefore reducing the impact on DG sites.

WPD Control Centre - Outage Planning

South West and South Wales

Enter New Outage

Outages awaiting approval: 499

Edit Outage View Archive

Outage Scheduler Comments (145)

Administration Reports

Number of Outages in Inbox: 1

Inbox

LTP Import / Reports Quit

dgreedy OMS App 3.50.29 Lib 1.00.12

WPD 2022/23 Planned Outages

Planned EHV outages per area for 2022/23

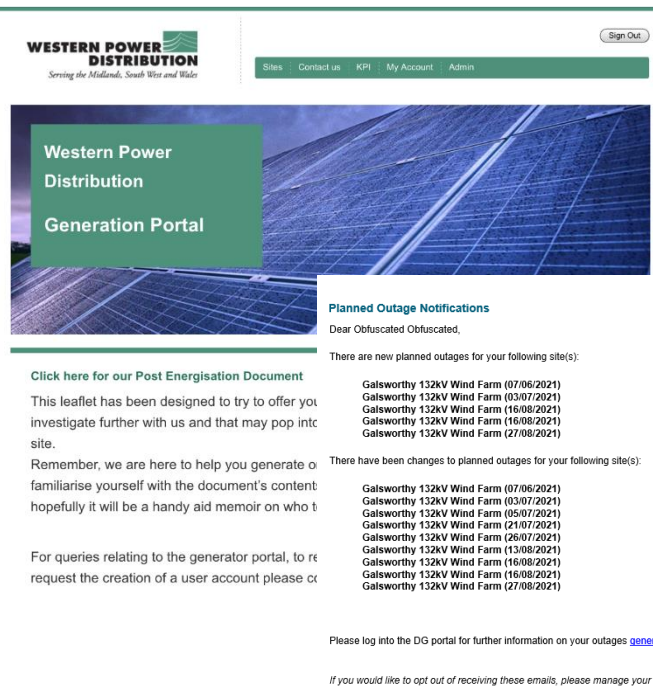
Area	No. of Planned Outages
South West & Wales	1057
East Midlands	842
West Midlands	576

- These numbers include outages on our 132/66/33kV network and a select number of 11kV outages.
- Planned works only. Do not include any faults / emergency short notice outages.
- Large number of outages mean chance to merge outages can sometimes be missed. This is where we rely on our customers to inform us of any outages they can see which could be merged (depending on work detail / POI / studies by Outage Planner).

DG Owner Operator Portal Update

EMAIL NOTIFICATION PROJECT

Project went live in January 2022. Been running for five months.

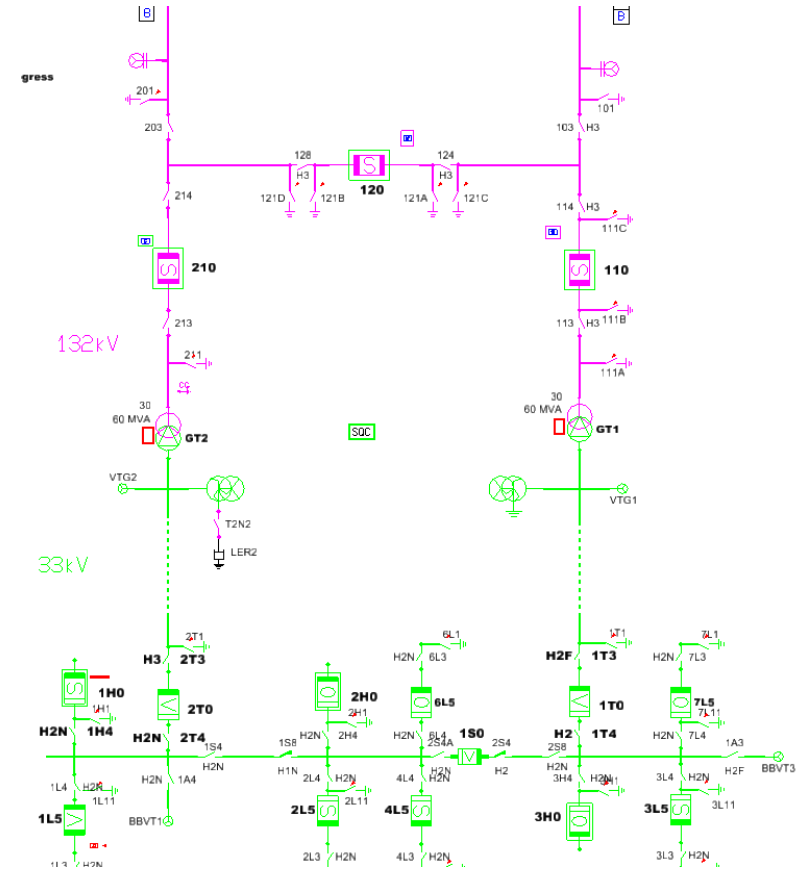


- Few issues with WPDS Outage Management System Overnight Functions over the past few weeks which have prevented these emails from being sent.
- Web developers are aware of these issues and they are being investigated as we speak.
- Recommend logging into the DG Portal once a week to check for any upcoming outages at your sites until our email notifications are back running successfully every day.



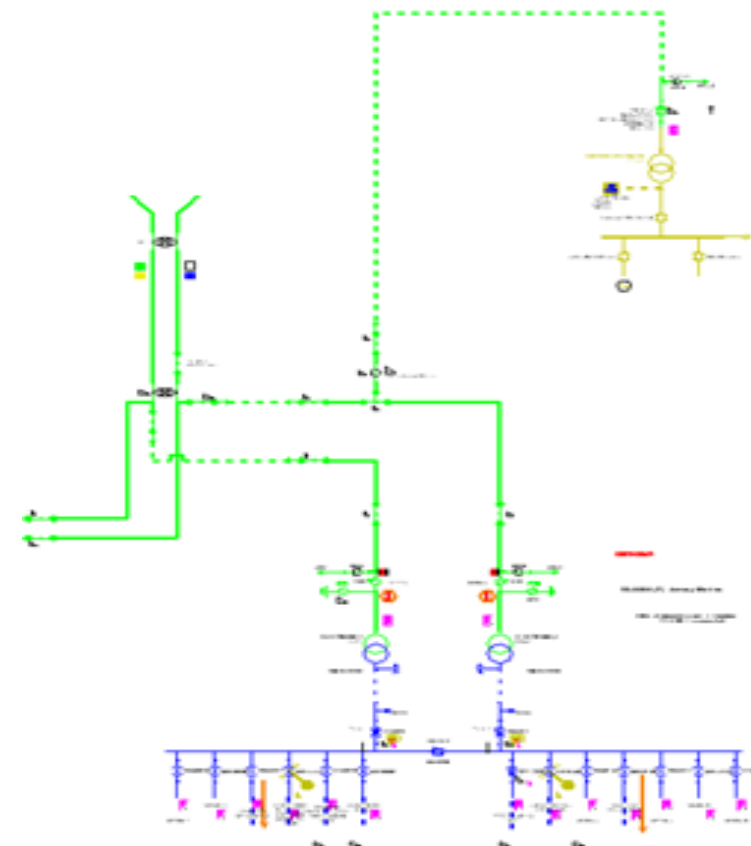
Ongoing EHV Outages

- **Avonmouth – Weston BSP 132kV Circuit**
- 3rd May – 31st May 2022
- Outage as part of ongoing works to connect Hinkley Point C Nuclear Substation.
- Requires re-configuration of our 33kV network in order to maintain security of supply for a fault on the adjacent 132kV circuit between Avonmouth and Weston.
- Ordinarily this outage would require the constraint of four 33kV Solar Parks connected between WPDs Churchill BSP and Weston BSP.
- Bespoke studies undertaken due to the long duration outage. All constraints lifted due to generation not yet connected in the group.



Ongoing EHV Outages

- **Jersey Marine 33/11kV Transformer No.2**
- 21st March – 8th July 2022
- Outage to replace primary transformer.
- 33kV Solar Park connected directly to transformer feeder.
- Ordinarily this outage would require the constraint of said 33kV solar park. Bespoke studies were undertaken due to long outage duration to assess if generator can continue to export with T2 out of service.
- Works have been undertaken in such a way that the generator will only be interrupted / constrained on the first and last day of the outage.



Options for Restricted Export

- Mentioned during last DG00 Forum in February 2022.
- Would be dealt with on a case by case basis.
- Require bespoke studies to be undertaken by Outage Planner / Primary System Design.
- Only considered for outages of significant length (usually greater than five days).
- Options to share export capacity with another generator would require an agreement between sites before WPD could get involved / start altering pre-approved constraints.



Managing SF6 Leaks

Sulphur Hexafluoride (SF6) – A gas which is used throughout the electricity industry as an insulating medium in switchgear.

- Provides many tangible benefits (inflammable, low maintenance, competitive cost), however it is a potent greenhouse gas with a high Global Warming Potential (GWP).
- Working at an industry level with manufacturers, WPD are helping to develop alternatives to SF6.
- Graph shows our annual SF6 leak rate is very small at 0.11% and we are meeting our RIIO-ED1 target.
- Environment & Innovation OFGEM Report available to view on WPDs website.

Emission data is collated from the following data sources;

- SF₆ top-up figures as reported on our company asset database.
- Decommissioned units returned to our company plant centres.
- Units returned to manufacturers for further investigation.

Fig 2.4.2a Annual SF₆ Leakage rate (top-ups only)

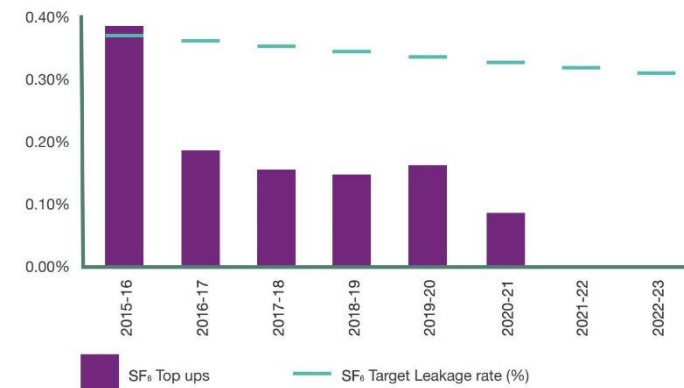
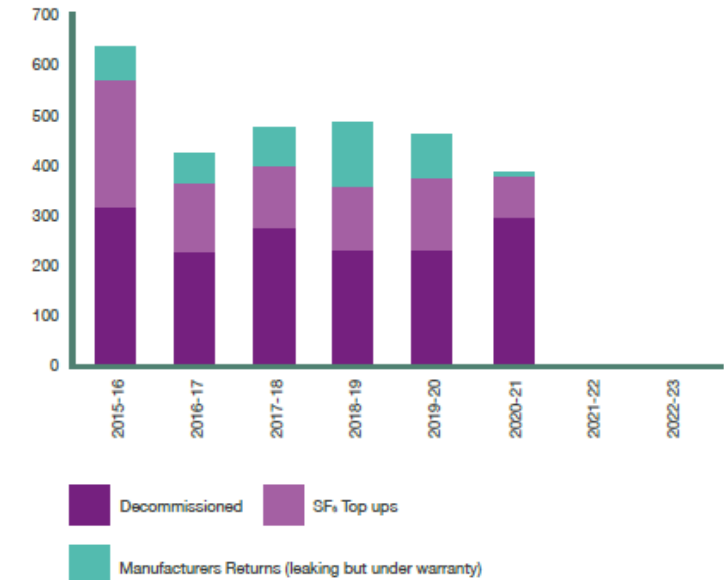


Fig. 2.4.2b Annual SF₆ emissions (kg)



WPD SF6 Mitigation Schemes

- During RIIO-ED1 we have undertaken 24 SF6 mitigation schemes, of these 18 have been in the South West, 5 in West Midlands and 1 in East Midlands.
- We continue to use SF6 detection cameras to enable us to identify the source of leaks quickly and efficiently. We replace any 11kV distribution assets that leak.
- For EHV assets we are taking a more proactive approach. We replace EHV assets where repair is not possible. Units previously repaired but which leak again are also replaced.
- We take a responsible and proactive approach in monitoring our SF6 emissions. We report and record leaks in our business KPI information and regularly review SF6 management performance at company board level.

Environment & Innovation OFGEM Report available to view on WPDs website. Also contains information on Oil Leakage mitigation schemes.



WPD KPI Update

- Current KPIs being captured;
- Number of Short Notice Outages (including how many of these have impacted on Generators with less than 6 weeks notice)
- Number of Users on WPDs DG Portal
- Number of Accelerated Loss of Mains Change Program Applications Received & Completed.
- Number of DG Customers / Sites enquiring about and / or making changes to their assets to reduce impact of outages.
- **We'd welcome any feedback / other KPIs customers would like to see in our DG KPI packs going forward.**

KPI: Measure the number of Short Notice Outages

Overview: Following on from discussions with DG customers at recent DG forums, WPD have been asked to measure the number of short notice outages received with less than four weeks' notice that have affected DG sites (interruption to supply or constraint) connected to WPDs network.

Target: To minimise the number of short notice outages that affect DG sites. The number of Short Notice outages from April 2022 are shown below.

South West & Wales		
		% of Total
No. of Short Notice Outages requested	71	
No. of Short Notice Outages requested by a DG customer	4	5.6%
No. of Short Notice Outages requiring Generator Constraints	15	21.1%
Total number of DG sites affected by the above outages	17	

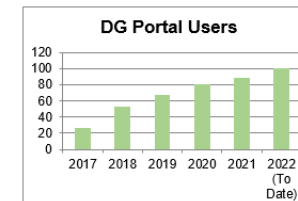
East Midlands		
		% of Total
No. of Short Notice Outages requested	52	
No. of Short Notice Outages requested by a DG customer	0	0%
No. of Short Notice Outages requiring Generator Constraints	3	5.8%
Total number of DG sites affected by the above outages	3	

West Midlands		
		% of Total
No. of Short Notice Outages requested	52	
No. of Short Notice Outages requested by a DG customer	1	1.9%
No. of Short Notice Outages requiring Generator Constraints	6	11.5%
Total number of DG sites affected by the above outages	7	

KPI: Measure number of users on WPD DGOO Portal

Overview: WPD created the DG portal in 2016/17 to improve communication with DG operators / owners with regards to outage / constraint information.

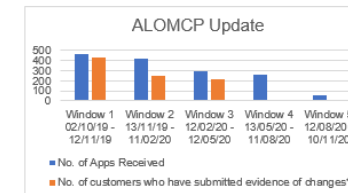
Target: To increase the number of registered users each year from when the DG portal was introduced in 2016/17. The total number of registered users now stands at 101.



KPI: Measure the number of ALOMCP applications received & completed.

Overview: The Accelerated Loss of Mains Change Program is a project led by National Grid ESO and Distribution Network Operators (DNOs). The project's objective is to accelerate compliance with new requirements in the Distribution Code.

Target: To inform DG customers of the number of ALOMCP applications and completions WPD have processed since the program began.



* Evidence has not necessarily been approved but receipt suggests work has been carried out.

KPI: Measure number of sites enquiring about and / or making changes to their assets to reduce the impact of outages.

Overview: During the October 2019 DGOO forum WPD did a short presentation on the possibility of upgrading DG connections to reduce the impact of outages. This presentation outlined ways DG owners / operators could opt to install additional equipment on WPDs network to reduce the impact of future outages on their sites.

Target: WPD would hope to see multiple enquiries from DG sites who are looking to upgrade their connection in order to see a reduced impact of outages.

Update: As of May 2022 there have been thirteen enquiries across all four of WPDs licence areas. Of these, four sites have opted up upgrade their connections and all upgrades are complete.

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Accelerated Loss of Mains Change Programme update

Andrew Akani

Primary System Design Manager

10th May 2022



ALoMCP Background

- G59/3-3 published on 1 Feb 2018 to include new LOM settings:
 - Removed **Vector Shift** as Loss of Mains protection.
 - Increased **ROCOF settings** to 1Hz/s, 500ms time delay.
 - Retrospective for existing sites, implementation by **31st Aug 2022**.
 - Non-Domestic generators greater than 16A/phase (3.68kW single phase, 11.04kW three phase).
- Inverters may contain G59 settings
 - These settings also need to either be changed or disabled
 - ENA guidance on inverters <https://www.ena-eng.org/ALoMCP/mankb>



ALoMCP Background

- The ALoMCP is a joint initiative with the NGENSO, Energy Networks Association, distribution network operators and independent distribution network operators.
- The ALoMCP is offering funding to non-domestic distributed generators that were connected before 1 February 2018 to upgrade their hardware in a move that will improve network resilience, and support wider initiatives helping meet the UK's net zero targets.
- Grants are available through quarterly application windows.
- Today, **10th May 2022** , is the final application deadline for funding through the programme ([registration portal](#)) and for owners to take advantage of financial support to carry out the work.



ALoMCP Background

- The initial incentive payment is **£4,000** + VAT per relay replacement* and **£1,500** + VAT (capped at £4,000) for settings changes/disablement of protection settings.
- Applies to G59 protection settings on relays and inverters on site.
- £500 + VAT per site if a Post-Work Sample Site Visit is required.
- Link to ENA webpage: <https://www.ena-eng.org/ALoMCP/>
- Recognised contractors list published <https://www.westernpower.co.uk/our-network/loss-of-mains>
- There is additional information and support for generators at www.futureproofyourpower.co.uk to help determine next steps at their site

** Applies to Synchronous Generation only*



Tapered Payments

- Sites completing the changes after **24th March 2022** but on or before **23rd June 2022** will be paid **80%** of the funding amount.
- Sites completing the changes after **23rd June 2022** but on or before **31st August 2022** will be paid **70%** of the funding amount
- Plenty of funding left – please apply!
- ALoMCP funding deadline: **10th May 2022 (today)**
- Generators must be complaint by: **1st September 2022**
- Enforcement action to follow post September 2022



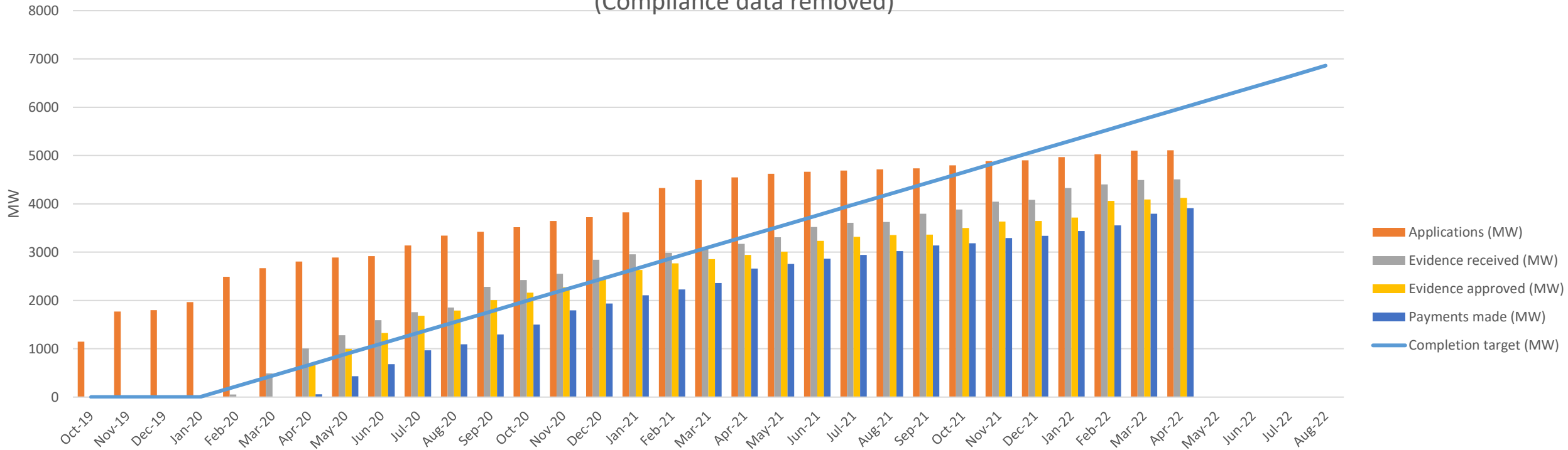
ALoMCP Progress Update

- 2,611 applications received (5.1GW) out of approx. 21,000 sites (approx. 8.6GW).
 - 1,914 sites completed works (evidence received 4.57GW).
 - 1,839 sites paid, over £5.41m.
 - 353 sites have been selected for a virtual sample site visit. 315 Completed.
- Cost and risk to system operation is reducing as a result of changes through the programme.
- **Window 11** is now open and closes on 10th May 2022



ALoMCP Progress Update

ALoMCP Key Milestone Tracker (Capacity MW) - Data as at 12.04.2022
(Compliance data removed)



ALoMCP Customer Engagement

- Multiple attempts to make contact via direct mail.
- Contact through Supplier Channels.
- We are attempting to contact larger generating sites directly as these sites will provide most benefit to the programme – Challenge is finding relevant contact within organisations.
- National PR campaign is underway targeting specific industries and sectors using social media platforms and other media.
- Creation of ALoMC Programme landing page and self-serve tool to help guide all types of generating customer (www.futureproofyourpower.co.uk).



Compliance Outside ALoMCP

- There maybe sites not participating through the programme either due to already having achieved compliance in the past or simply choosing not to receive funding. **These Customers MUST still notify the programme of their compliance:**
 - Customers are able to Self-Declare compliance via the ENA Portal.
 - Customers can also contact ALoMCP mailbox to notify us of any G59/3 compliance outside of the programme.
- 1,484 sites (2.59GW) declared Compliance Outside of the Programme declared so far
- Evidence requirements to confirm compliance consist of:
 - Completed Compliance Declaration Form provided by DNO
 - G59/3 Test sheets for all generation that shows the compliant settings, or
 - Manufacturer Data sheet/Picture of device model (to confirm compliance at inverters).



Compliance Outside ALoMCP

- Some sites declaring compliance outside the programme will be picked for Sample Site Visits (SSVs), but will be eligible for some funding (£500 + VAT per site) under our **Contractor Incentive Scheme**.



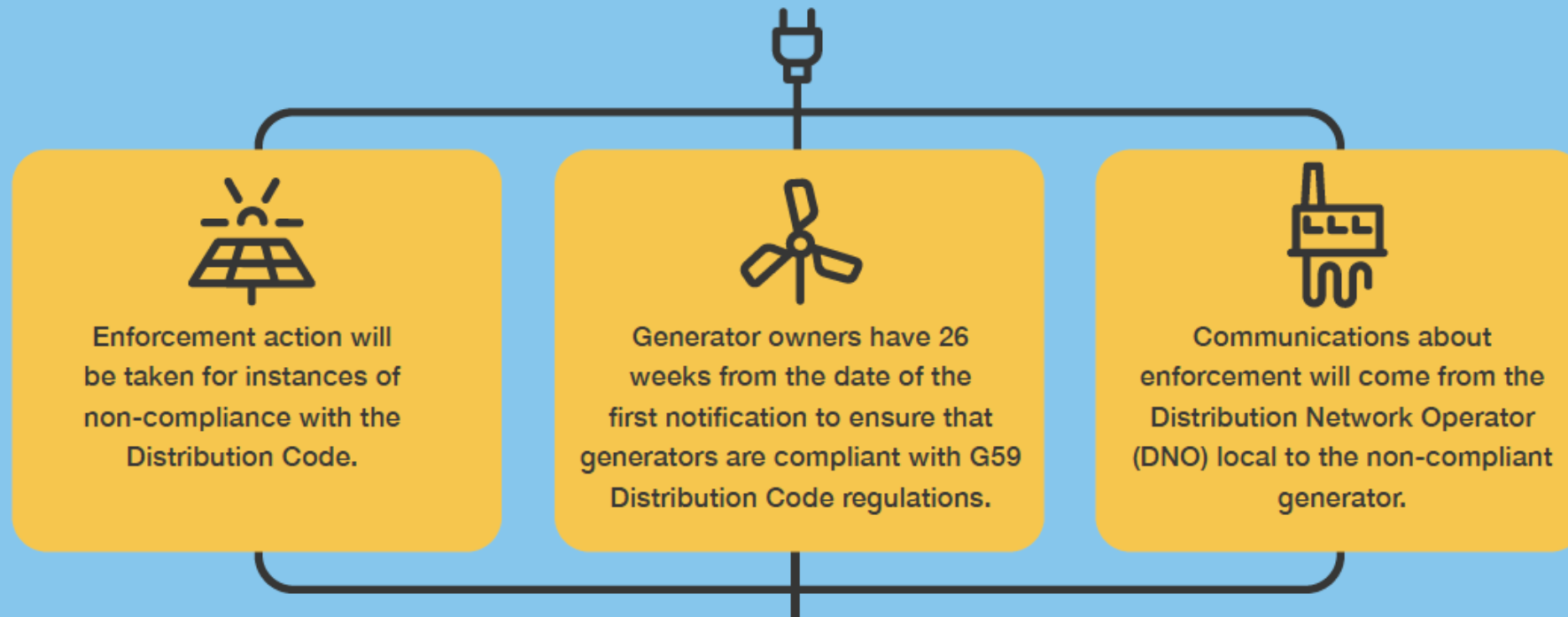
What if I am not compliant?

- Compliance with the Loss of Mains regulations is **not optional**.
- The changes are **mandatory**, and there is funding available to incentivise compliance.
- Generators that are not compliant after the deadline will not be tolerated due to the inherent risk that they pose to Great Britain's power supply and communities.
- Those not compliant from 1st September will be subject to an **enforcement process** that could result in the de-energisation of your site.



Enforcement measures for non-compliance

Enforcement process for non-compliance with the Distribution Code



Enforcement measures for non-compliance

Escalating warnings and enforcement action



WEEK 0 first notice

Written notification sets out to generator owner the non-compliance or unknown status of their generator site and sets out the actions to address non-compliance.



WEEK 4 second notice

Written notification sets out whether a response has been received to the first notice. If no response is provided then a physical, durable copy of the notification will be attached at, or as close to, the generator site as possible. The notification will repeat the actions to address non-compliance.



WEEK 8 third notice

Repetition of second notice: written notification sets out whether an appropriate response to non-compliance has been provided. If no response is provided, another physical copy of notification attached at, or close to, the generator site.



WEEK 16 fourth notice

Repetition of second notice.



WEEK 22 final notice

Repetition of second notice.



WEEK 26 de-energisation

If no evidence of compliance provided or evidence is not sufficient to demonstrate compliance with the Distribution Code, the DNO will make arrangements to de-energise the generation site's Connection Point in accordance with Distribution Code DGC12.



ALoMCP Contact Details

- WPD ALoMCP Contact details:

- Email: ALOMCP@westernpower.co.uk

- Telephone: 0800 0328880

- **Please contact us with any queries**

Any
questions?



westernpower.co.uk



Questions ?

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DG Owner Operator Forum: Flexibility Services

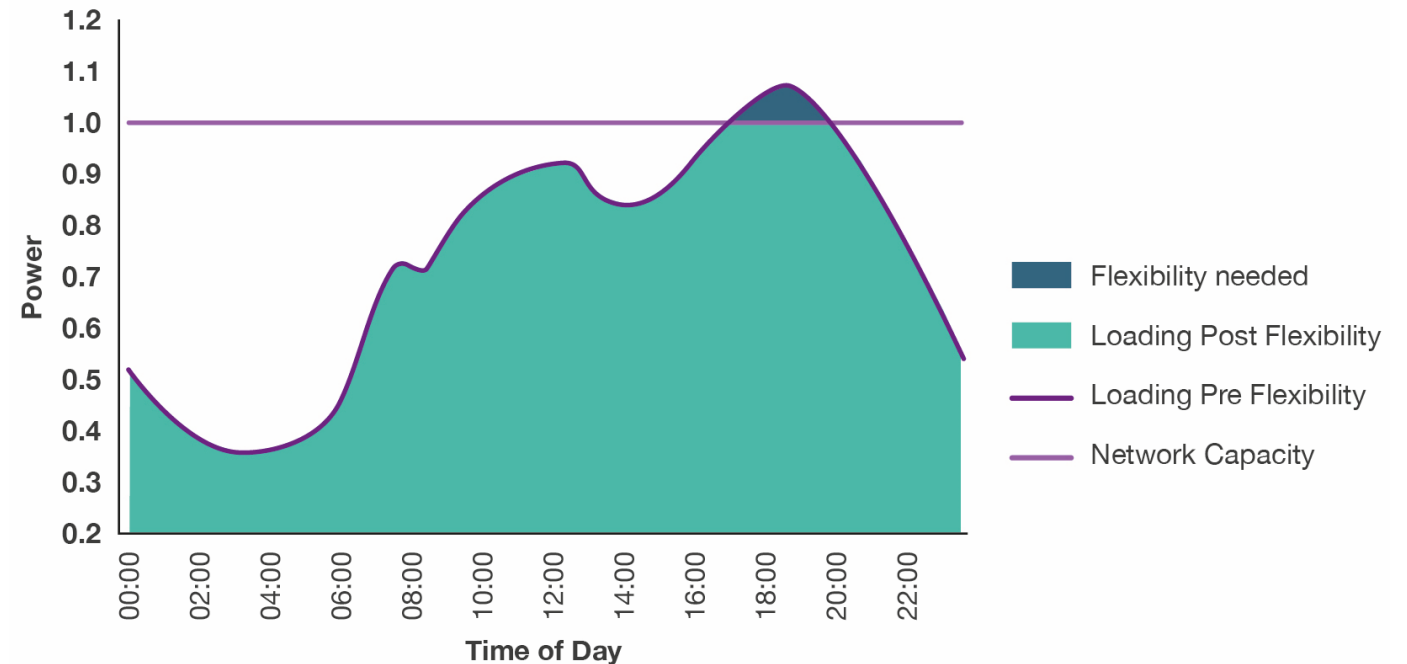
Matt Watson

Network Strategy Engineer

10/05/2022

Why DNOs need Flexibility Services

- Traditionally we would build bigger networks to accommodate.
- Shift towards EVs, electric heating, etc. increasing electrical demand.
- We are looking for customers that can increase generation or decrease demand at these peak times.
- Flexibility means we can avoid or defer reinforcement works.
- Reduce socialised cost to customers.
- We now adopt a Flexibility First Approach



How we procure Flexibility Services

We currently procure 3 of the 4 ENA Open networks products via our Flexible Power brand.

www.flexiblepower.co.uk



Secure

Our **Secure** service is used to manage peak demand loading on the network and pre-emptively reduce network loading. It offers a higher availability payment and lower utilisation payment.

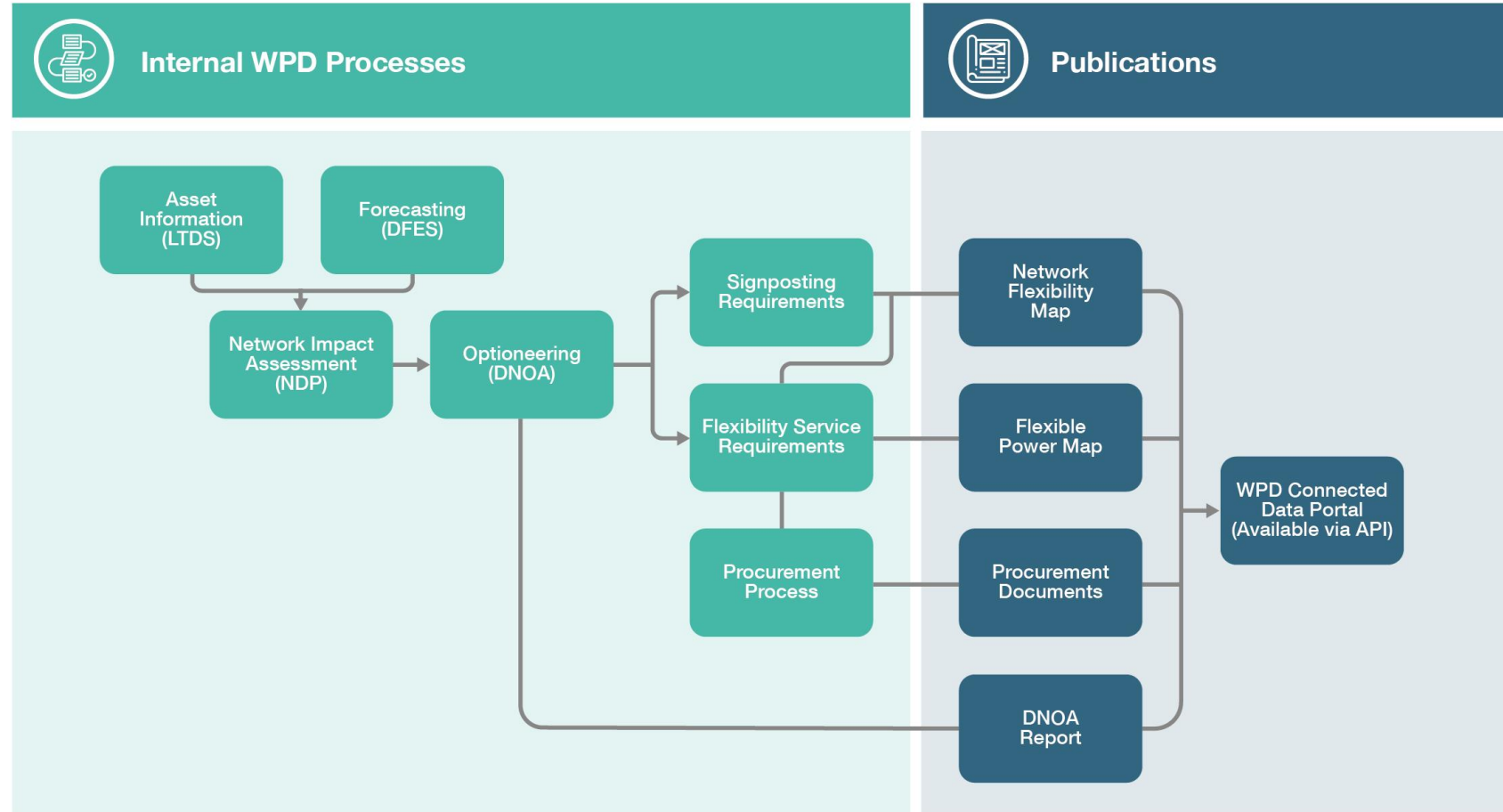
Dynamic

Our **Dynamic** service has been developed to support the network in the event of specific fault conditions, such as during maintenance work. It offers a low availability payment and higher utilisation payment.

Restore

Our **Restore** service supports power restoration following rare fault conditions. No availability payment, instead it offers a premium utilisation payment.

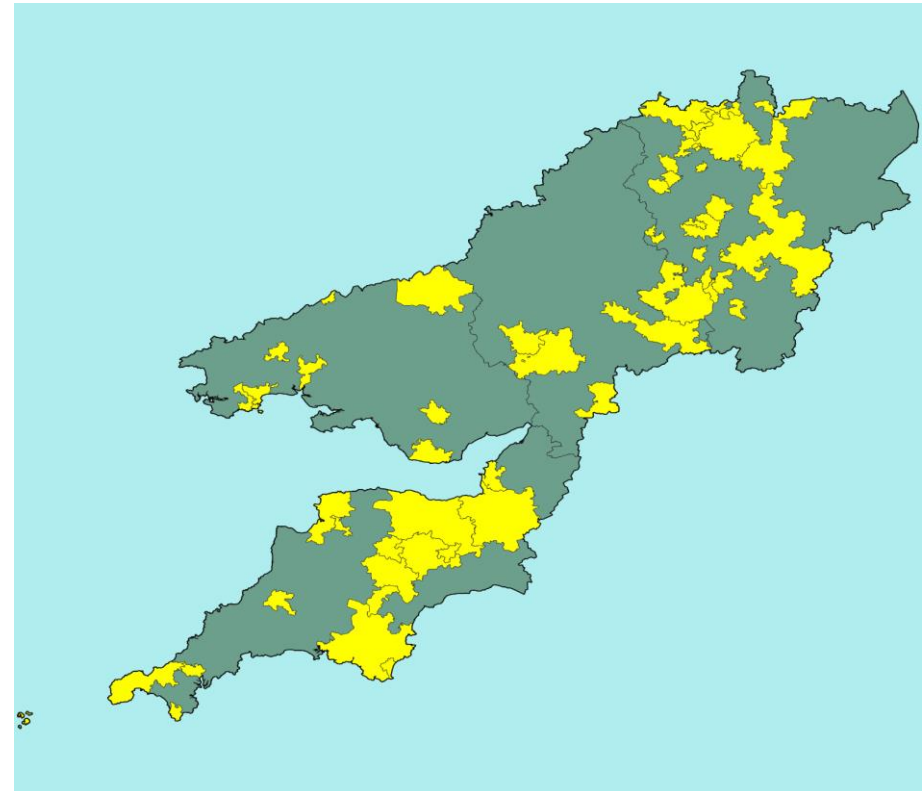
Flexibility Service Requirements



Current CMZ requirements

We procure services in specific Constrain Management Zones (CMZ). These define specific geographical locations.

- 41 Locations across all 4 of our licence areas.
- Peak requirements totalling 278.34MW.
- Each CMZ will have requirements for specific times of the year. We provide a detailed forecast that includes:
 - Days of the week and months of the year we have a requirement.
 - Times of day availability required.
 - Forecast utilisation volume.
 - Data can be downloaded in pdf or csv.
- Use our interactive map/postcode checker/raw data to check eligibility
- We also have an online value calculator. The average zone value is £5,903/MW/yr



Pricing

We have calculated a maximum fixed price for flexibility within our **Constraint Management Zones (CMZs)** based on cost efficiency.

Our fixed prices are operating at...

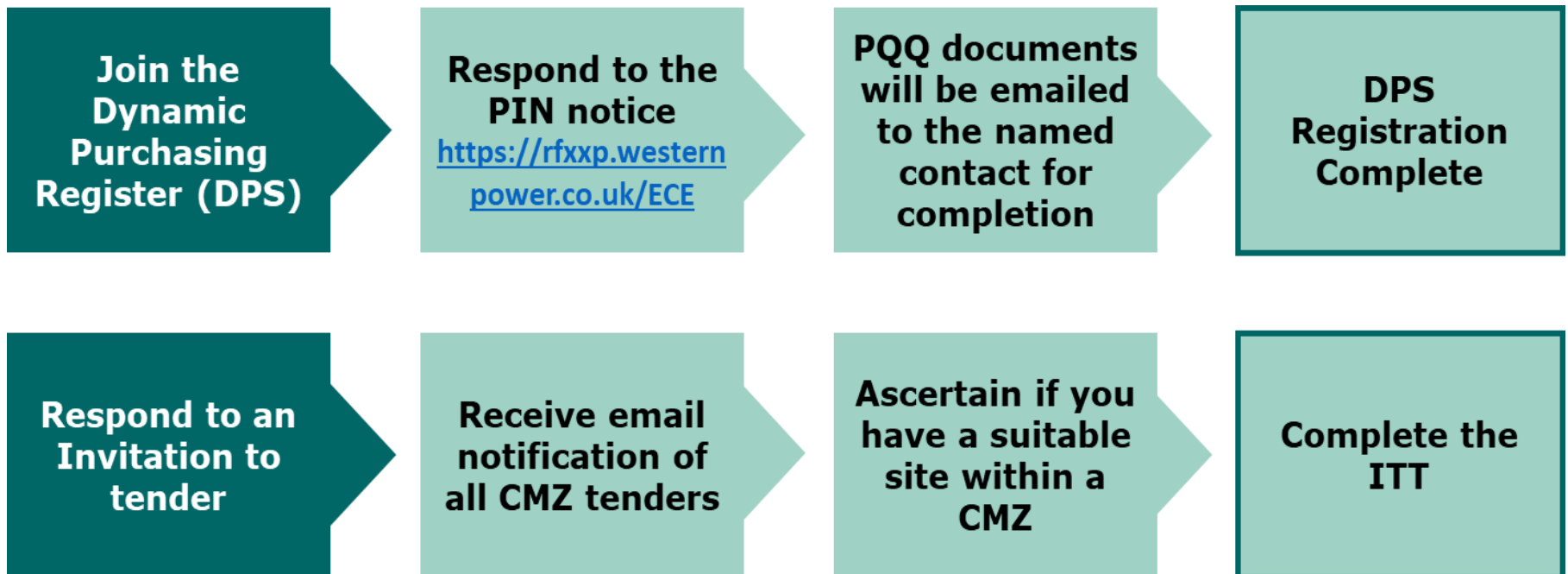
	Arming	Availability	Utilisation
Secure	£125/MWh	N/A	£175/MWh
Dynamic	N/A	£5/MWh	£300/MWh
Restore	N/A	N/A	£600/MWh

These prices will only be applicable to CMZs that do not have multiple flexibility providers with a total capacity that exceeds the CMZs needs. Zones with a sufficient level of competition will proceed to Clearing. Here best offers will be assessed to established a zonal clearing price which will be awarded to all bidders.

Tendering Process

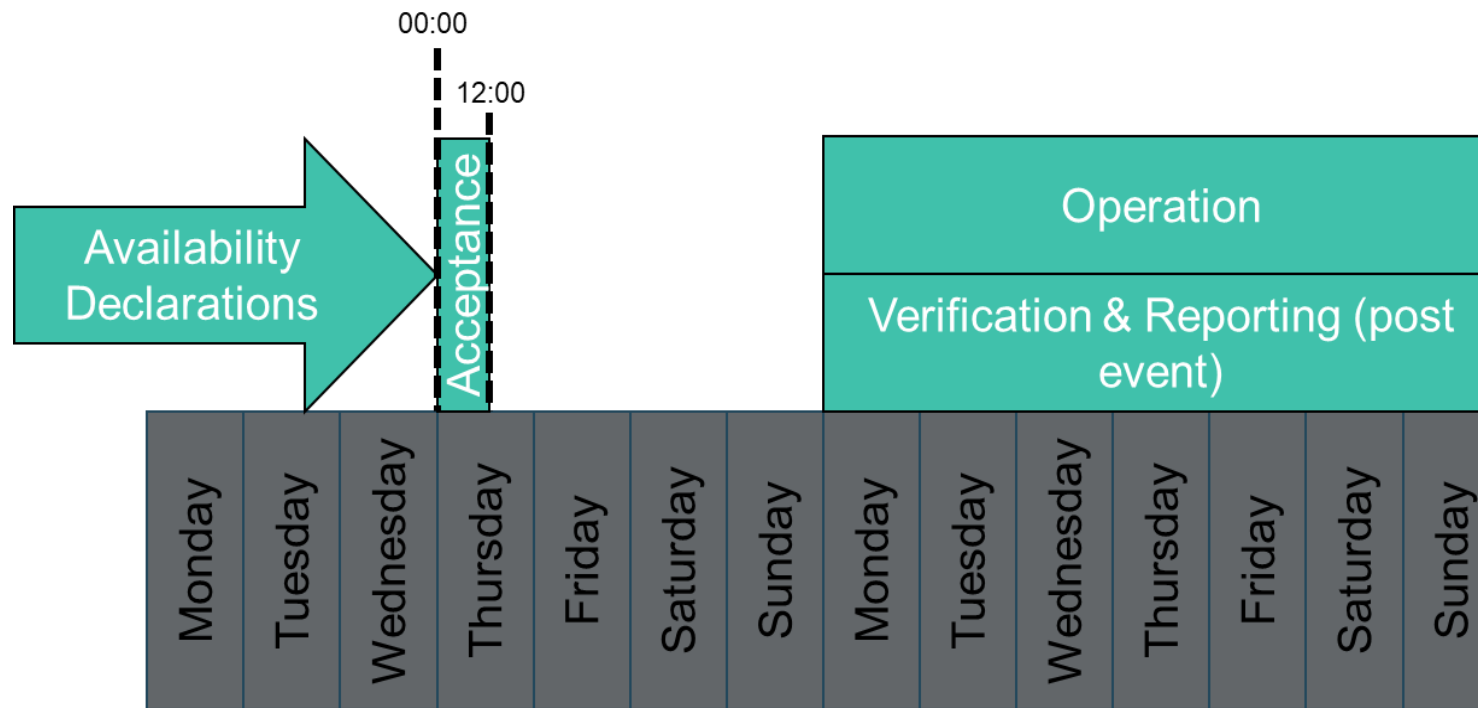
Key Dates for the next procurement cycle:

- **27th June** – flexibility zones and supporting information published
- **25th July** – Invitation to tender (ITT) issued to all participants who have registered their interest and passed a pre-qualification (PQQ) stage
- **2nd Sept** – ITT deadline
- **3rd Oct** – Procurement results.

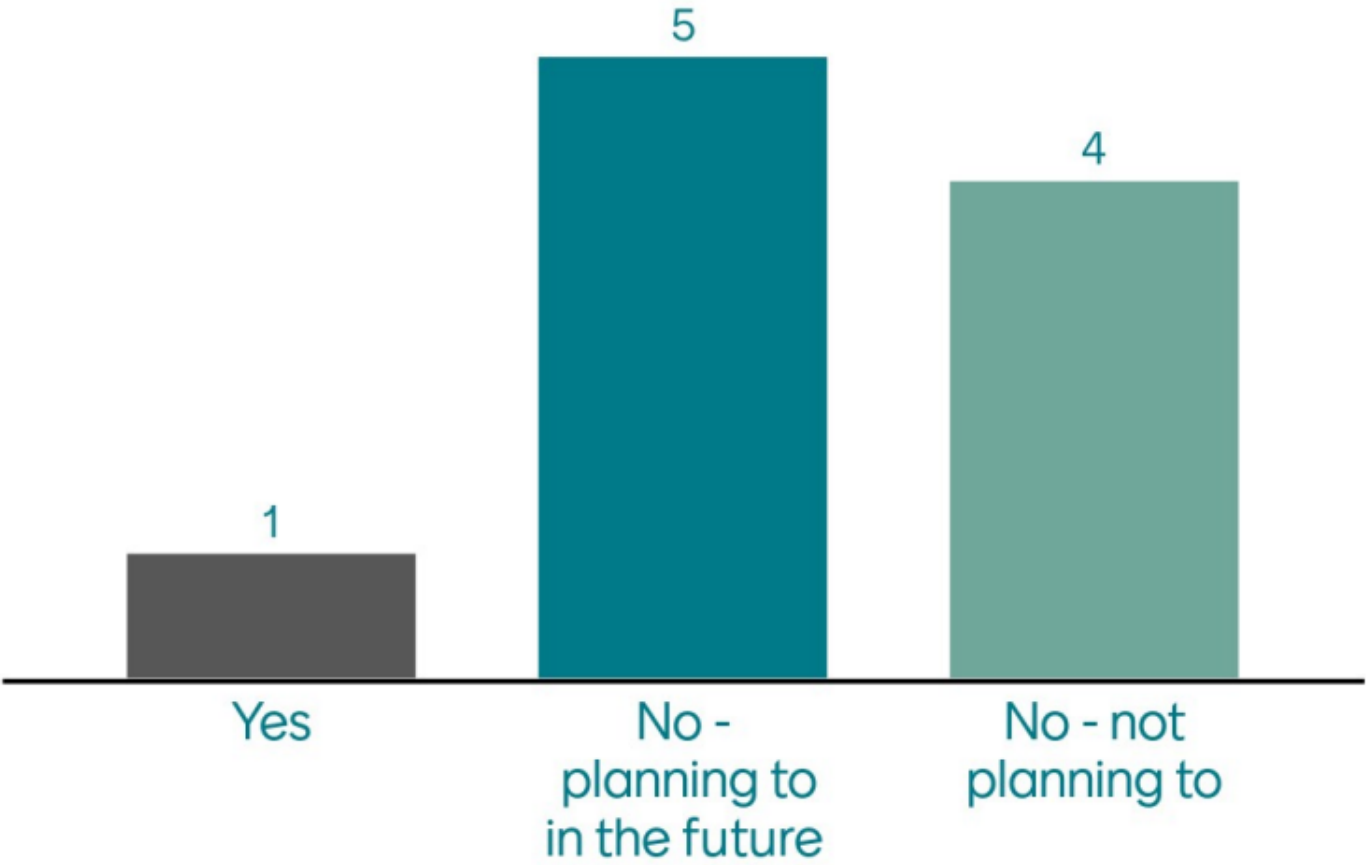


Operational Process

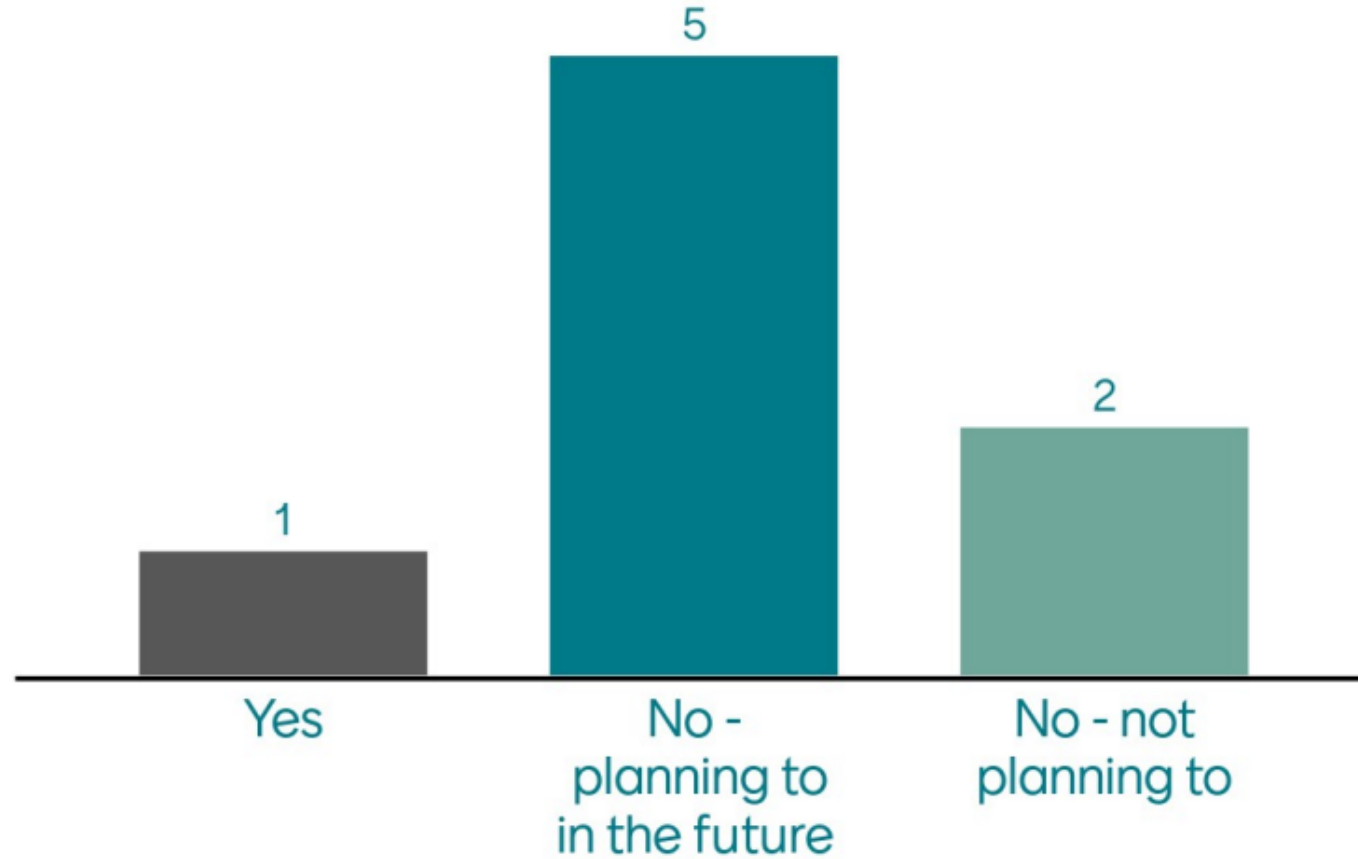
We currently operate a weekly process



Have you participated in wider Flexibility Services?



Have you participated in WPD Flexibility Services?



What are the key barriers you have faced with the Flexibility Services or what has prevented you from participating?

Not my department so unsure if there's an appetite within the company

Not core business stream

Changes going forwards

We are always looking to improve how we procure.

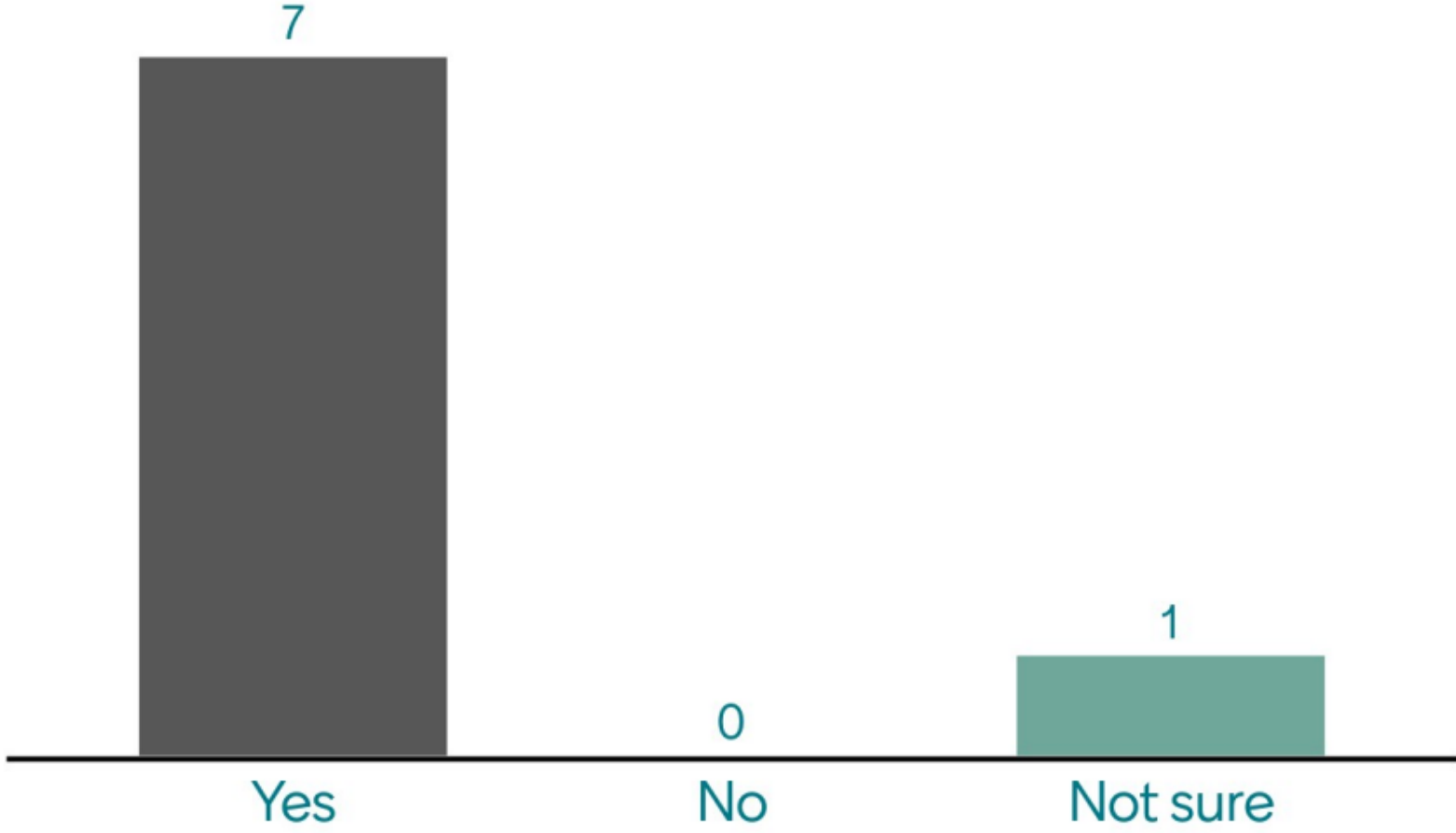
Following engagement with our stakeholders we are looking at a few key topics.

These include

- Adding in more timeframes for procurement. Initially rolling out longer term markets, whilst building capability for shorter term procurement
- Amending and digitising our Procurement Processes to simplify and ease scaling
- Addition of the Sustain Product
- Facilitation of Secondary trading
- Improving access to market data.

For more information see our Consultation on Distribution Flexibility Services.

Will the changes make it easier to participate?





Serving the Midlands, South West and Wales

If you have any questions get in touch.

Email: WPDFlexiblePower@westernpower.co.uk

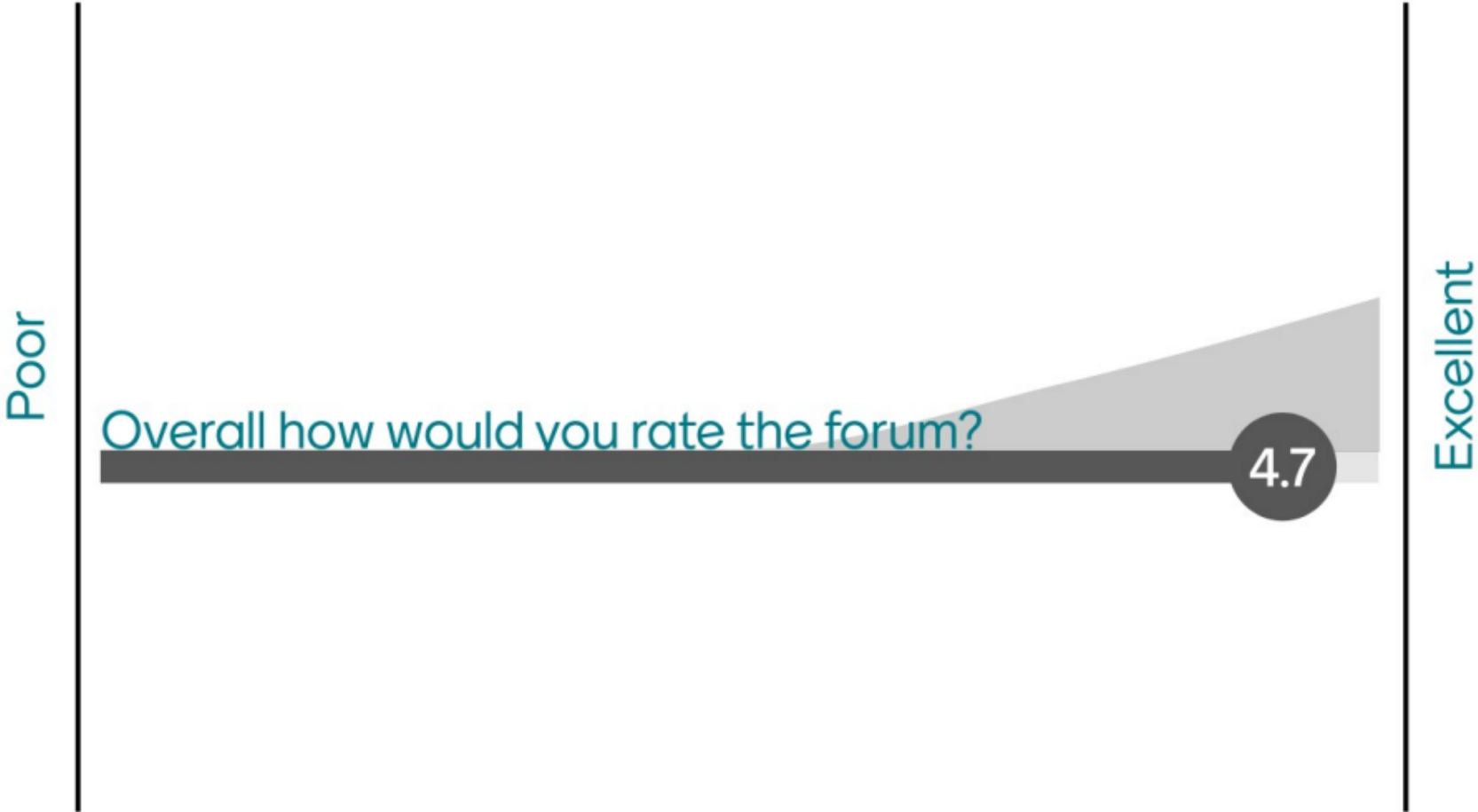
Visit: www.flexiblepower.co.uk

Read our Distribution Flexibility Service Procurement Statement

westernpower.co.uk



Feedback



What topics would you like to see further information on from WPD at future sessions?

Connection control panels

Constraint panel system

Sf6

Flexibility provision