



Emerging DNO Flexibility Opportunities – Flexible Power

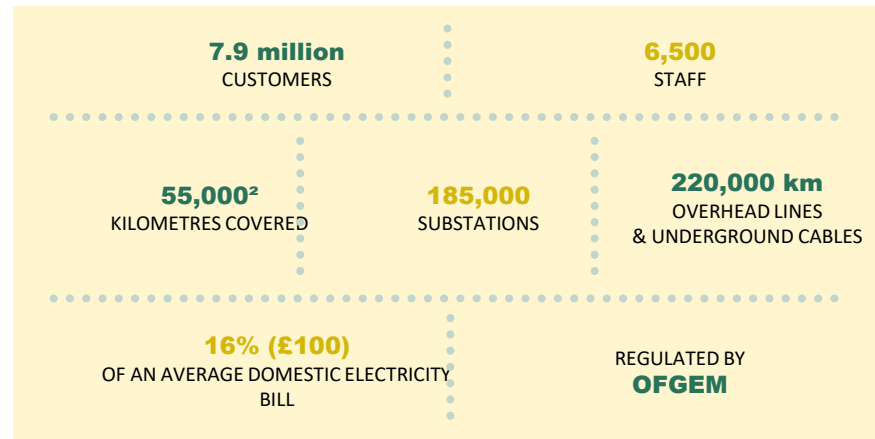
Helen Sawdon
Flexible Power Commercial Officer, Western Power Distribution
Thursday 7th Feb 2019

Who is Western Power Distribution?



WESTERN POWER DISTRIBUTION

Serving the Midlands, South West and Wales



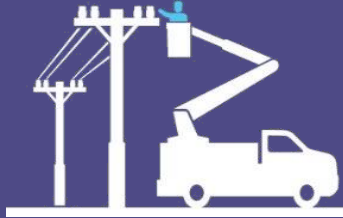
What WPD do as a Distribution Network Operator (DNO)

Four traditional tasks:



Keep the lights on

by operating our network assets effectively



Maintain equipment

keeping the network in a reliable condition



Fix the network

if equipment is damaged or develops faults



Connect customers

by upgrading existing networks or building new ones

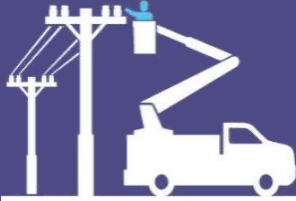
Safety

What WPD do as a Distribution **System** Operator (**DSO**)



Keep the lights on

by operating our network assets effectively



Maintain equipment

keeping the network in a reliable condition



Fix the network

if equipment is damaged or develops faults



Connect customers

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Operating a smart system

Managing two-way power flows and flexibility services

Safety

What is Flexible Power?

Flexible Power has been created by Western Power Distribution (WPD) to deliver the procurement of **demand response services**.

Benefits of Flexible Power

- Generate new income from your existing power assets
- Reduce your future energy costs
- Contribute to a smarter and better utilised network for the whole community

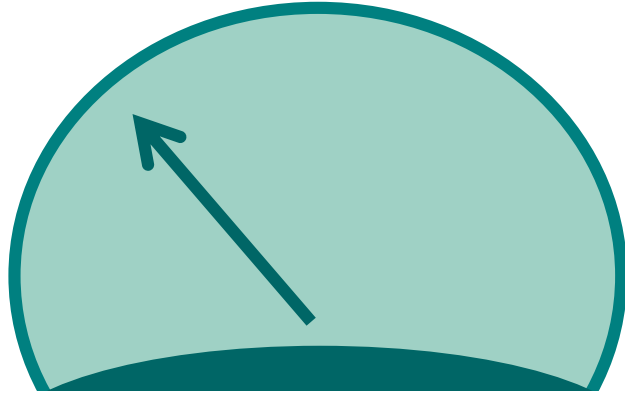
Why partner with WPD

- You don't need any additional power assets to partner with us
- We'll communicate in advance what we need and when we need it
- Transparent contracts with no exclusivity clause means you can stack flexibility/revenue
- We offer scalable arrangements over multiple sites

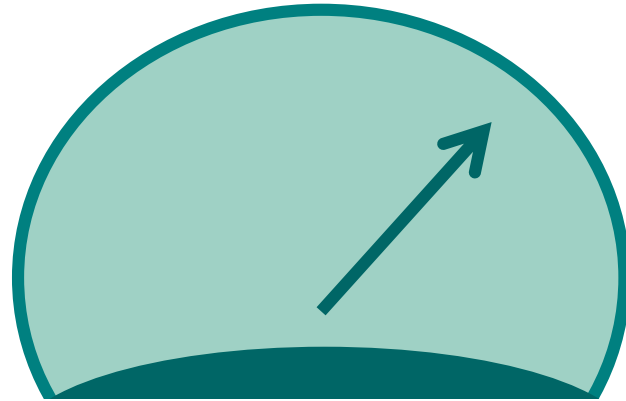


What is Demand Response?

Many electricity consumers have the potential to reduce demand for electricity during peak periods by shifting energy use to other times or have the ability to increase energy supply by using existing on-site generation.



Reduce electrical
demand, import less
power



Increase onsite
generation output,
export more power

What is Demand Response?

For example at times of peak network demand...

- **a supermarket could turn down/off air-conditioning or refrigeration systems**
- **a factory with back up diesel generators could switch them on**

Other generation types are just as suitable, such as Battery Storage, CHP, Natural Gas...

Where we have a known constraint on our network, we're building partnerships that utilises this demand and generation flexibility in return for a financial payment through our Flexible Power offering.

How does Flexible Power work?

**Register to be added
on our dynamic
purchasing register**

**Set up the API
comms link to
enable us to send
stop/start signals**

**Use our dedicated
Participant Portal to
declare asset
availability**

**If you have a
suitable site within
one of our published
zones - respond to a
tender**

**We open zones up
for formal tender at
least once a year,
awards are made
within 3 months**

**Payments for
utilised availability
are made to
participants on a
monthly basis**

How does Flexible Power work?

Flexible Power is procuring flexibility through three products, these are:

Secure

Pre-Fault Constraint Management

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

Post-fault Constraint Management

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

Restoration Support

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

What's the earning potential?

We calculate a 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

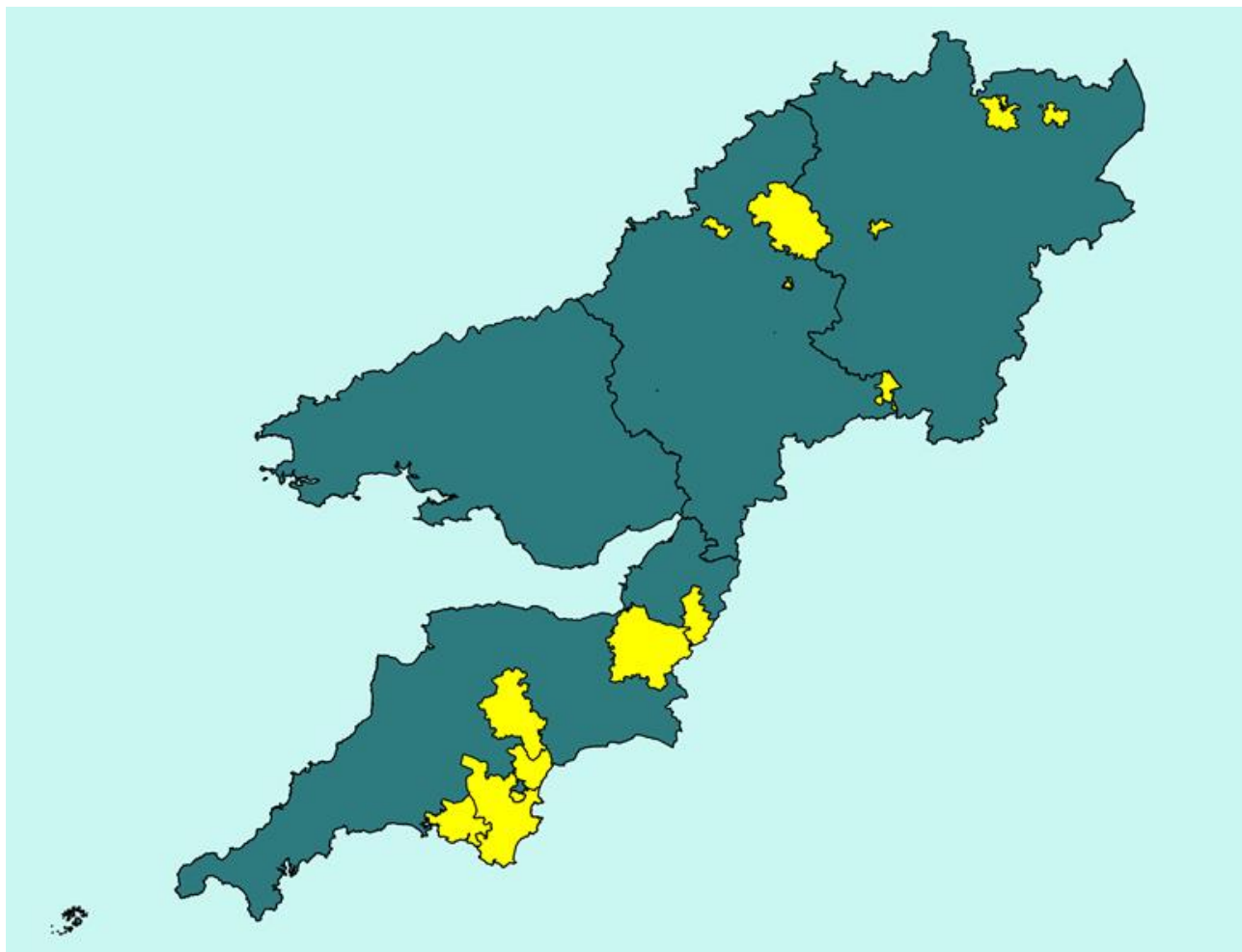
Our online value calculator tool will help you estimate the potential revenues available, you just need to know the name of the zone you are looking to participate in and the size of your asset; www.flexiblepower.co.uk

On average, participants can make between **£1,500 - £6,000 per MW** they make available over the course of a year.

Where is Flexible Power available?

Constraints on our network are confined to specific geographical locations. CMZs we're currently procuring for are;

1	Banbury	Banbury, Oxfordshire	7	Plymouth/South Hams 1 & 2	Plymouth & South Hampton, Devon
2	Bridgwater/Street	Bridgwater, Somerset	8	Newton Abbot	Newton Abbot, Devon
3	Donnington	Donnington, Ledbury	9	Radstock	Radstock, Somerset
4	Lincoln/Beevor Street	Lincoln, Lincolnshire	10	Woodhall Spa	Woodhall spa, Lincolnshire
5	Lincoln/North Hykeham	Lincoln, Lincolnshire	11	Rugeley GSP	Rugeley, Staffordshire
6	Mantle Lane	Coalville, Leicestershire	12	Smethwick	Smethwick, Birmingham



Where could it be available in the future?

We signpost our requirements up to five years across our network on the WPD website:

www.westernpower.co.uk/network-flexibility-map

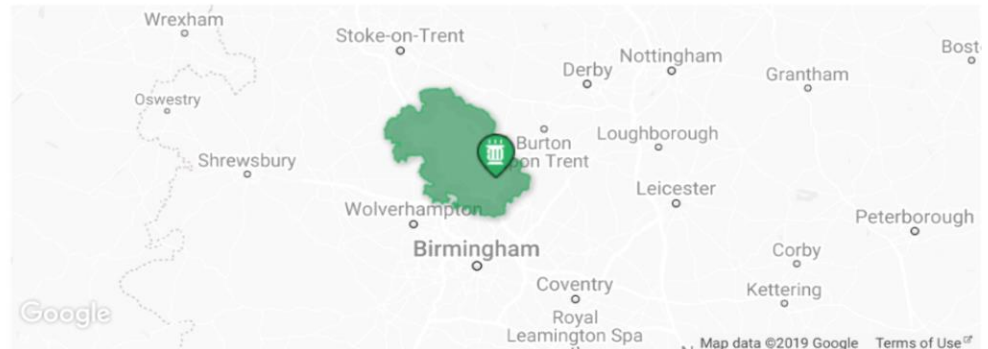
Substation number	680056
Status	Live Procurement
CMZ reference	CMZ_WM_0001
CMZ name	Rugeley



CMZ_WM_0001 - Availability Windows.csv



CMZ_WM_0001 - 2020 - WPD BEST VIEW - Availability Windows.pdf



Upcoming Tenders

First 2019 Procurement cycle:

4th February 2019 – Proposed CMZs published on our website

19th March 2019 – ITT issued to all participants accepted onto the DPS

22nd April - ITT Deadline

13th May – Procurement results

1	Banbury	Banbury, Oxfordshire	7	Plymouth/South Hams 1 & 2	Plymouth & South Hampton, Devon
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Find out more

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