DSO Functions:
Data and Flexible Services

Wednesday 14 December 2022

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www.enwl.co.uk

Welcome

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Please keep your videos switched off

Please type any questions you may have into the chat

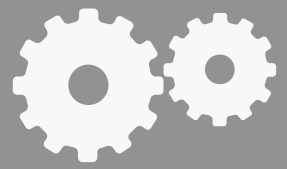
This webinar is being recorded

Agenda

Forecasting & planning data

- Long Term Development Statement (LTDS)
- Distribution Future Electricity Scenarios (DFES)
- Network Development Plan (NDP)
- Heatmaps and future heatmaps
- Embedded Capacity Register (ECR)
- Network Asset Viewer (NAV)

Operational data



- GSP / BSP boundary flows
- Curtailment information in the future
- BiTraDER

Flexible services

- Consultation feedback and next steps
- Our current flexibility requirements

Meet the presenters

Ian Povey
DSO Data Manager

Christos Kaloudas
Capacity Strategy Lead

Gavin Anderson
Network Strategy & Compliance Manager

Kate Stewart
Flexible Solutions Analyst

Rebecca Hassall-Lees
Project Manager

Introduction to data and digitalisation

Ian Povey, DSO Data Manager

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Distribution System Operation (DSO) – enabled by data

Undertaking new DSO roles enables a smart and flexible system that:

- Adapts to changing customer behaviour,
- Delivers network capacity for use by customers at the most efficient price.

Delivering network capacity means we will 'buy' and 'build' more capacity. To do so we need to develop the market to source this flexibility where and when it is needed:

- Choose flexibility first,
- Promote and purchase energy efficiency solutions.

Only possible from sharing our data!

Forecasting and planning data

Christos Kaloudas, Capacity Strategy Lead

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Standardised planning processes and publications

Stakeholder engagement
Ongoing
DFES considers local stakeholder plans & actions (Local Area Energy Plans, decarbonisation & other plans) together with national policies and regional data..

Long Term Development Statement (LTDS)
November and May update (annual)
Future distribution network requirements for the next five years.

Distribution Future Electricity Scenarios (DFES)
(annual Nov-Dec)
A range of scenarios for electricity demand, distributed generation and battery storage. Reflect DSO stakeholder engagement inputs, ie both direct data inputs and learnings from our interactions.

Network Development Plan (NDP)
(annual , May)
NDP (from 2022), part of Clean Energy Package, details future distribution network requirements for one to ten years beyond publication.

Data publications from our load related investment process

DFES
(historical to 30 years)

monitoring → forecasting

LTDS
(1 to 5 years focus, based on DFES Best View scenario)

NDP
(1 to 10 years focus, based on all DFES)

network impact assessment → optioneering → load related investment

Commercial/market opportunities through our flexibility service tenders

Step 1:
better understand our network

Step 2:
establish network capacity needs

Step 3:
promote flexible & innovative solutions

Step 4:
develop our network in the right place & at the right time using the optimal solutions

Electricity North West's DFES

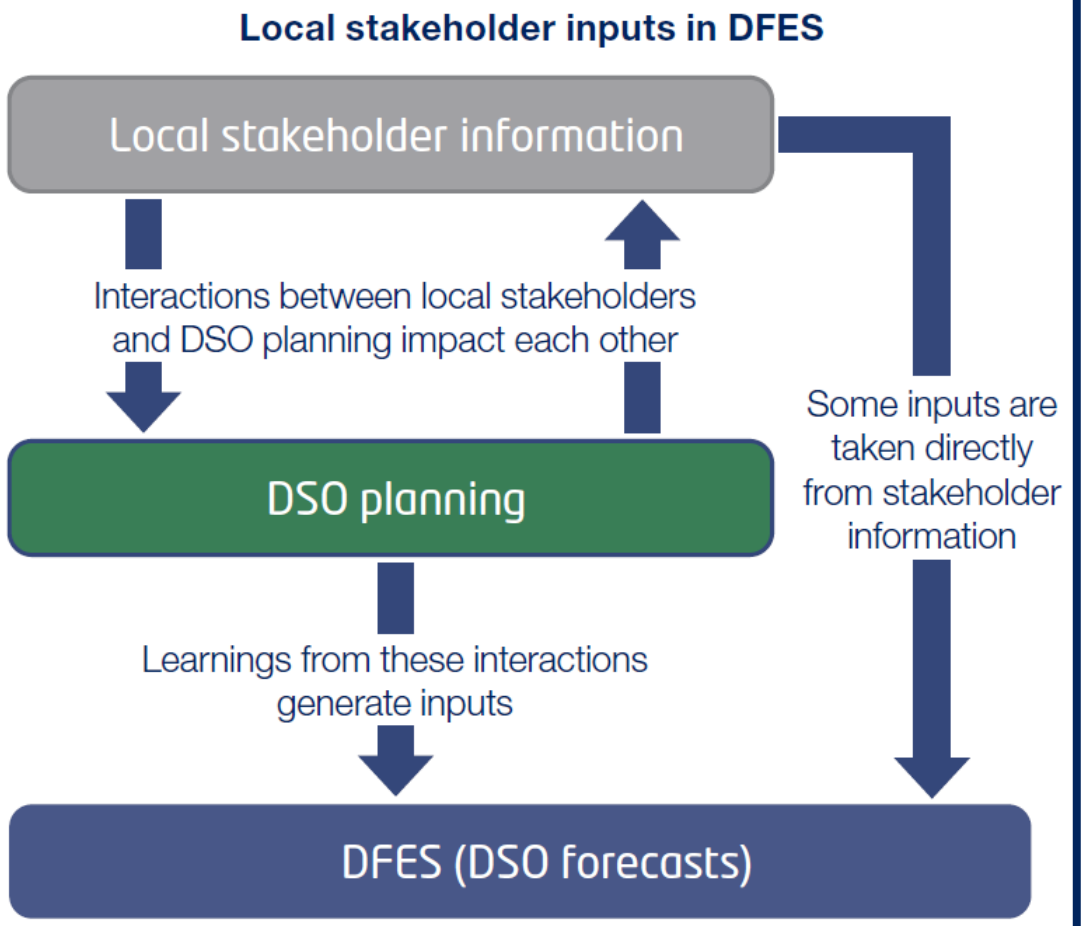
Bottom up forecasting using ATLAS methodology

A single forecasting methodology - ATLAS

Demand and DG forecasts produced using the ATLAS methodology. DFES are subsets of the ATLAS outputs.

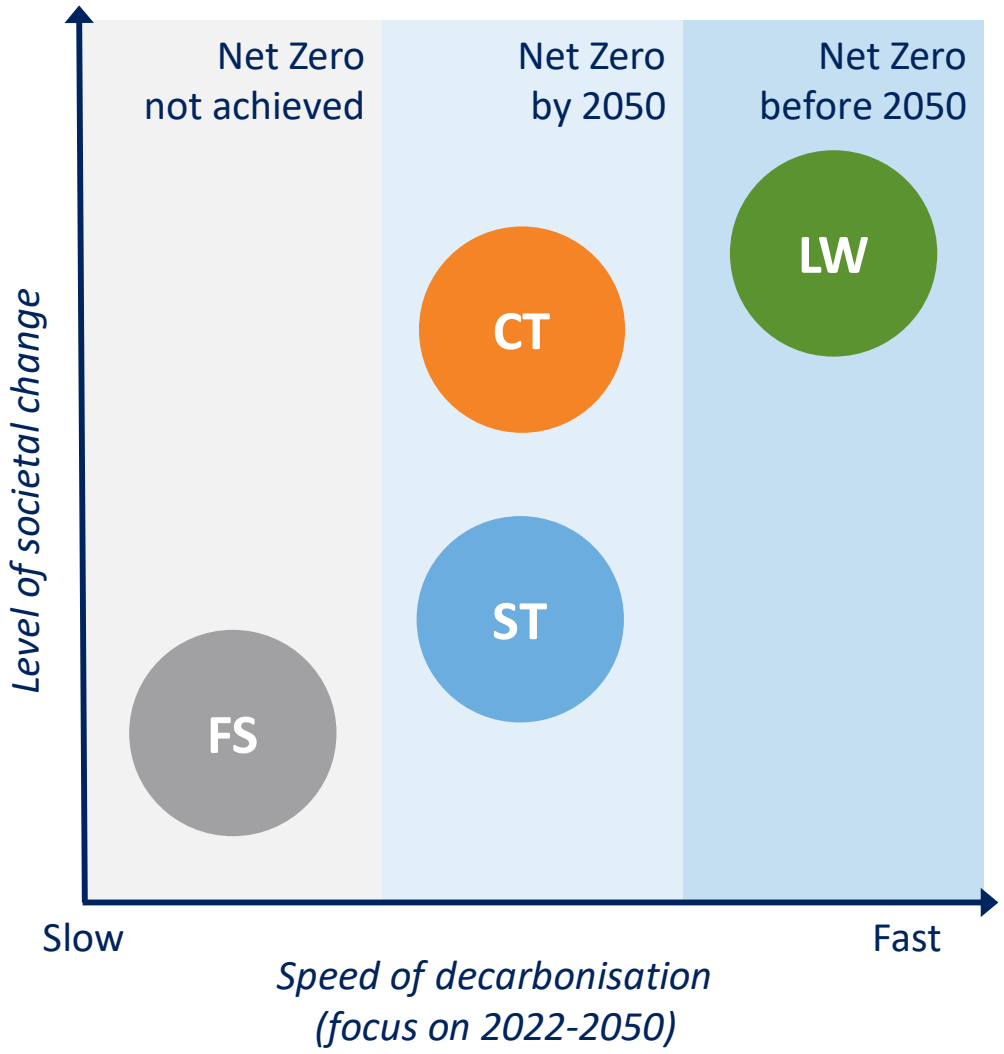
ATLAS website (methodology reports):
www.enwl.co.uk/atlas

DNO/DSO best positioned to produce DFES

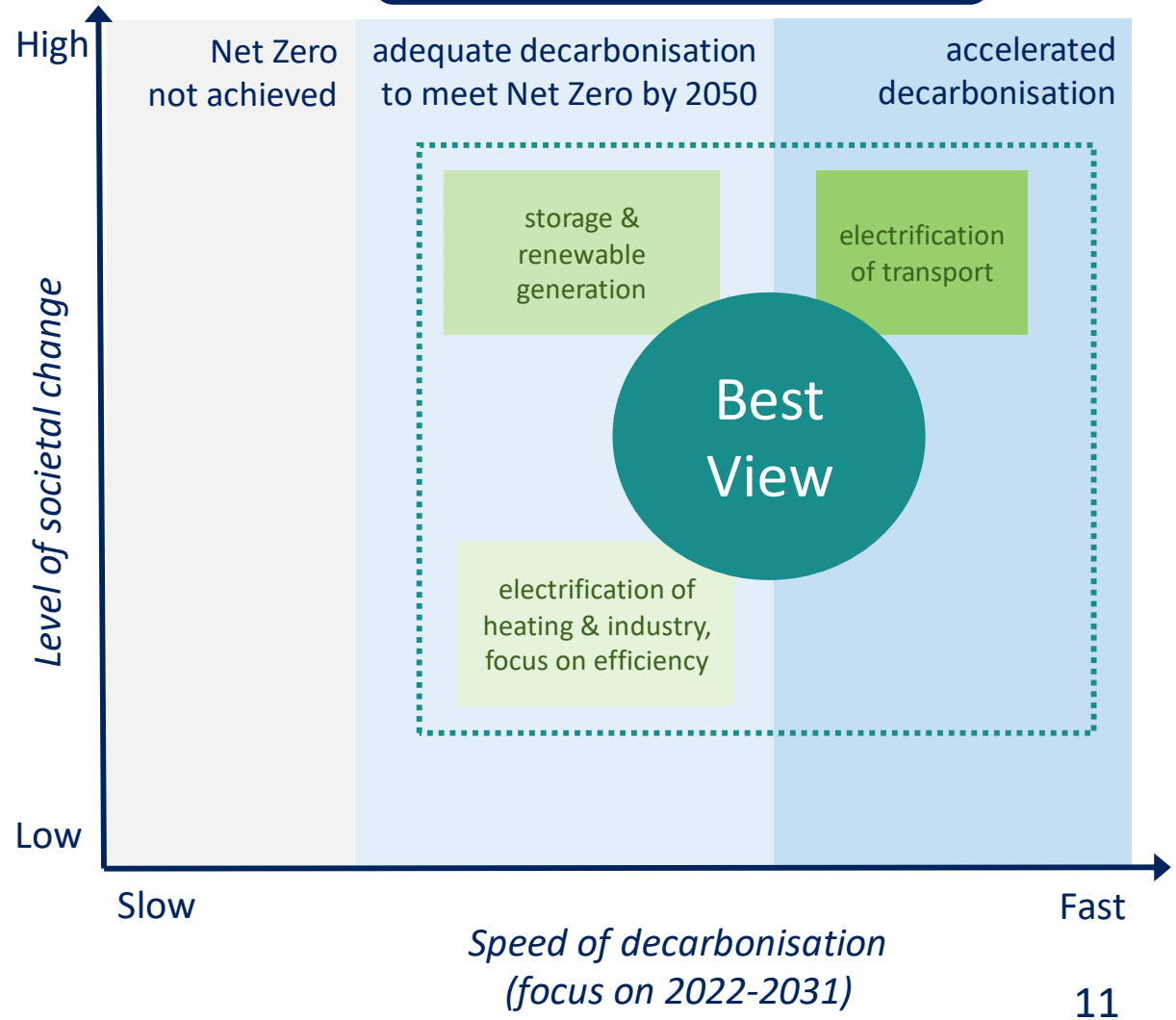


Our 2022 scenarios

common scenario framework (DFES and FES)



Best View scenario (DFES high certainty view)



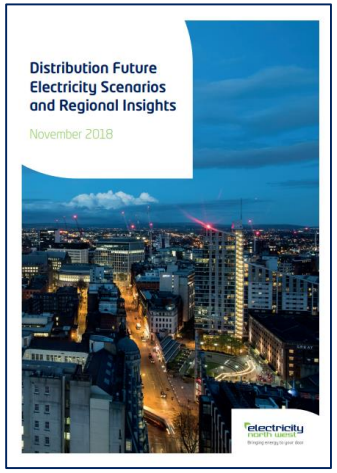
DFES reports

Electricity North West was the first DSO to publish a DFES in 2018. Our DFES captures stakeholder engagement inputs and learning from DSO planning interactions with stakeholders.

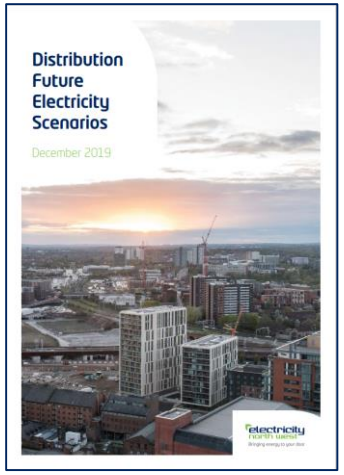
Our DFES present well informed future trends across the North West for the electrification of transport & heating, the penetration of local distributed generation & storage, the future effects of hydrogen and **how all these drive demand growth that our future network needs to supply.**

DFES website (report & data):
www.enwl.co.uk/dfes

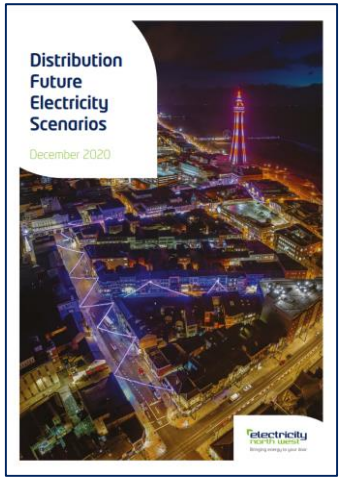
2018



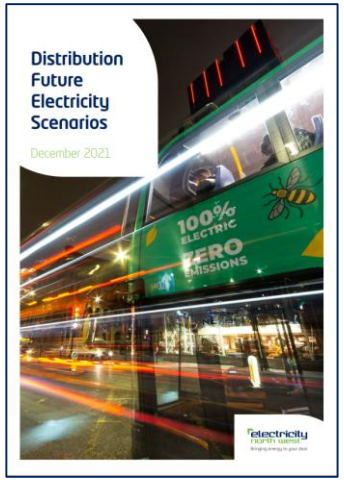
2019



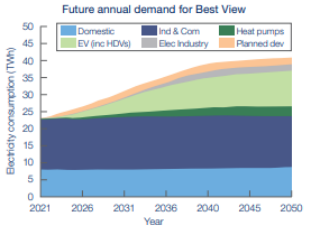
2020

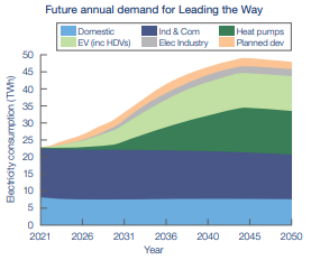


2021

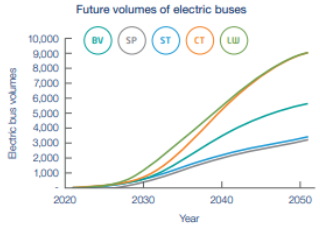


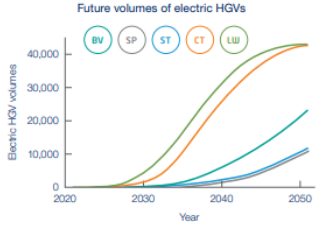
Electricity Consumption



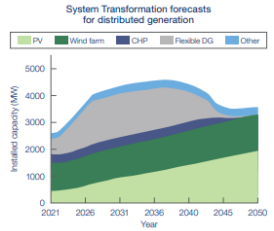


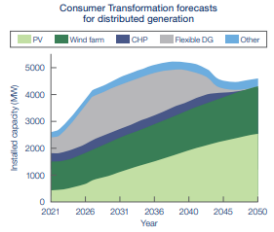
Low Carbon Technologies (EVs, heat pumps)



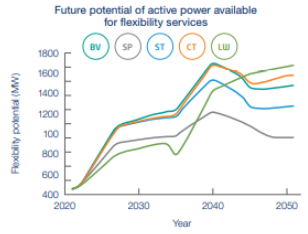


Distributed Generation & Storage





Flexibility Services



Electricity North West's DFES workbook at a glance

electricity demand data

peak demand
min demand
total energy (consumed electricity)
heat pump energy
carbon assessments
EV energy
heat pump volumes (domestic and non)
EV volumes (from cars to HGVs)
industrial & commercial energy
domestic energy

DG data

energy produced
installed capacities
renewables (wind, PV)
other DG types (CHPs, flex units, waste fueled, hydro etc)
batteries (domestic, grid-scale)
per council and higher granularity (substation feeding areas)

DFES workbook

flexibility data

NEW

peak (MW) flex requirements
energy (MWh) flex requirements

visualisation tools

per local authority (LA)
single & multiple primary substations
single & multiple BSP substations
asset geolocation
supply area maps

Electricity North West's DFES workbook in numbers

290,000+ data points

A massive database with demand, distributed generation, battery storage and low carbon technologies data at different voltage levels, years & scenarios.

34 MS Excel tabs

All the data are gathered in one MS Excel file. Easy to use, industry standard. They are ready to use and organized in different tabs.

from LAs to substations

Data is presented at ENWL level, network asset level (BSP and primary substation supply areas), as well as at Local Authority level (counties & councils).

30-year horizon

All data is presented in a 30 year horizon from Financial 2022 to Financial Year 2051 to inform the long-term plans of our stakeholders.

5 scenarios

Data for ENWL's Best View scenario following standardized across DNOs definition, as well as for the four scenarios of common framework between DNOs/ESO. Capturing "best view" and future ranges.

434 network supply areas

Data provide at granular level down to individual BSP and primary substations.

Electricity North West's asset & network development data

Long-Term Development Statement (LTDS)

- fault level data
- generation data
- substation transformer data
- load data (sub-set of DFES)
- circuit data
- geographic & schematic diagrams
- planned network reinforcement (1-5 years)
- LTDS report explaining datasets

LTDS & NDP datasets

Network Development Plan (NDP)

from 2022

- flexible service requirements & network reinforcement options for identified needs (1-10 years focus)
- capacity headroom forecasts for inverter connected and synchronous DG types (all DFES)
- capacity headroom forecasts for demand (all DFES)

going beyond Ofgem requirements

- half-hourly demand data across all (3,000+) HV feeders (11 and 6.6kV) in LTDS
- annual NDP updates and publications

NDP website (report & data):
https://www.enwl.co.uk/get-connected/network-information/network-development-plan/

Network Development Plan (NDP)

Gavin Anderson, Network Strategy & Compliance Manager

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Network Development Plan (NDP) Report

Network Development
2022

Strategic Planning, DSO Directorate

March 2022

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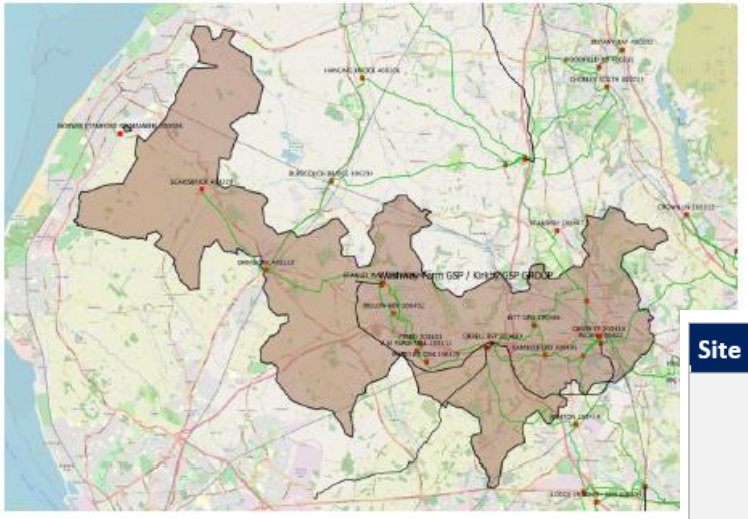
15 Washway Farm / Kirkby GSP

GSP Summary **3 BSPs** **12 Primaries**



Washway Farm GSP / Kirkby GSP Group supplies approximately 74,000 customers across t
Lancashire region of the network. Washway Farm GSP takes its supply from National Grid
network via 2 x 180MVA SGTs. Kirkby GSP which is a SPManweb site affords supply to EN
240MVA SGT. The GSP group feeds into three BSPs and 12 Primary Substations. The Peak
is currently 154MVA.

Intervention Overview

	Demand Driven	Generation Driven
0-2 years		Skelmersdale Primary Skelmersdale BSP
3-5 years		
5-10 years	Ashton (Golborne) Green St T11 Upholland Wigan BSP	

- Report broken down by Grid Supply Point feeding area
- Each intervention detailed including high level asset based solution and a review of the flexible requirements

Site Name	Need	Asset Solution	Flex Plan Location
Upholland X- 352531 Y- 404369	FC first exceeded in FY29 1.6MVA exceedance of FC by FY31	7.4MVA spare capacity on Pimbo primary Lay new HV Interconnector from Upholland to Pimbo ~4km 300 Al XLPE cable to transfer demand Start date: FY28 Completion: FY29	Dynamic response required **Max Flex Required at 2051 - Winter Peak** / **MVA** Best View: 5.2 Consumer Transformation: 16.0 Steady Progression: 4.2 Within 5km of X and Y coordinates

NDP workbook – overview

- Interactive Workbook

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Network Headroom Report 2022
Data Workbook

This workbook is an accompaniment to our 2022 Network Headroom Report. It contai
and interactive tools which allow our customers to understand headroom availability
Supply point, from a Demand and Generation point of view out to 20

The Data contained in this workbook is based on our 2021 DFES data and existing net
value of headroom is calculated from two reference points, Firm Capacity at sites nov
Firm Capacity at sites at the end of RIIO-ED2 (2028) based on changes to firm capacity
investment outcomes. Results should only be used as an indication and will be upd
refresh of the data in two years time.

Version	1.2

Published	Mar 2022

Select Primary →	Upholland		Primary Demand Headroom (MVA)													
BSP	ORRELL															
GSP	KIRKBY															
	Easting	Northing														
Grid Coordinates	352531	404369	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2036	2041	2046	2051
Best View	Firm		3.55	3.09	2.77	2.33	1.79	1.19	0.55	-0.13	-0.78	-1.59	-4.44	-5.72	-5.78	-5.17
	Non Firm		7.05	6.59	6.27	5.83	5.29	4.69	4.05	3.37	2.72	1.91	-0.94	-2.22	-2.28	-1.67
Steady Progression	Firm		3.75	3.50	3.11	2.77	2.35	1.89	1.39	0.87	0.34	-0.20	-1.95	-3.18	-3.85	-4.19
	Non Firm		7.25	7.00	6.61	6.27	5.85	5.39	4.89	4.37	3.84	3.30	1.55	0.32	-0.35	-0.69
System Transformation	Firm		3.56	3.15	2.81	2.40	1.88	1.31	0.69	0.04	-0.58	-1.31	-3.95	-5.06	-5.07	-4.57
	Non Firm		7.06	6.65	6.31	5.90	5.38	4.81	4.19	3.54	2.92	2.19	-0.45	-1.56	-1.57	-1.07
Consumer Transformation	Firm		3.57	3.15	2.82	2.43	1.95	1.41	0.79	0.15	-0.39	-0.93	-3.92	-9.42	-13.31	-16.01
	Non Firm		7.07	6.65	6.32	5.93	5.45	4.91	4.29	3.65	3.11	2.57	-0.42	-5.92	-9.81	-12.51
Leading the Way	Firm		3.52	3.01	2.68	2.30	1.83	1.35	0.82	0.31	-0.25	-1.62	-7.91	-12.53	-14.93	-13.92
	Non Firm		7.02	6.51	6.51	5.80	5.33	4.85	4.32	3.81	3.25	1.88	-4.41	-9.03	-11.43	-10.42

CONTENTS

Section	Tab	Description
INTERACTIVE DATA TOOLS	Local Authority Look Up	List of all Primaries, BSPs and GSPs with a link to the local authrity in which they ar
	Demand Headroom Summary Table	Select specific Primary or BSP to return overview of Demand Headroom 2022-2
	Generation Headroom Summary Table	Select specific Primary or BSP and technology type to return overview of Generation Headr
GROUP,BSP AND PRIMARY SUBSTATION DATASETS	Primary Headroom	All Primary data showing demand headroom by Scenario
	BSP Headroom	All BSP data showing demand headroom by Scenario
	Gen Primary Headroom	All Primary data showing generation headroom by Scenario
	Gen BSP Headroom	All BSP data showing generation headroom by Scenario

Select Primary →	UPHOLLAND		Primary Generation Headroom (MVA)													
Select Technology →	Generation – Synchronous (HV)															
BSP	ORRELL															
GSP	WASHWAY FARM / KIRKBY															
	Easting	Northing														
Grid Coordinates	352531	404369	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2036	2041	2046	2051
Best View	Non Firm		8.66	8.53	8.43	8.30	8.17	8.04	7.91	7.78	7.65	7.50	6.87	6.53	6.56	6.61
Steady Progression	Non Firm		8.69	8.60	8.49	8.38	8.28	8.17	8.09	7.99	7.90	7.81	7.49	7.29	7.22	7.12
System Transformation	Non Firm		8.69	8.59	8.46	8.34	8.22	8.09	7.97	7.86	7.74	7.63	7.17	6.91	6.88	6.79
Consumer Transformation	Non Firm		8.67	8.54	8.42	8.28	8.16	7.99	7.85	7.70	7.55	7.40	6.58	5.65	5.11	4.73
Leading the Way	Non Firm		8.66	8.56	8.45	8.33	8.22	8.08	7.95	7.82	7.68	7.39	6.45	5.58	5.25	5.22

Network Asset Viewer

Gavin Anderson, Network Strategy & Compliance Manager

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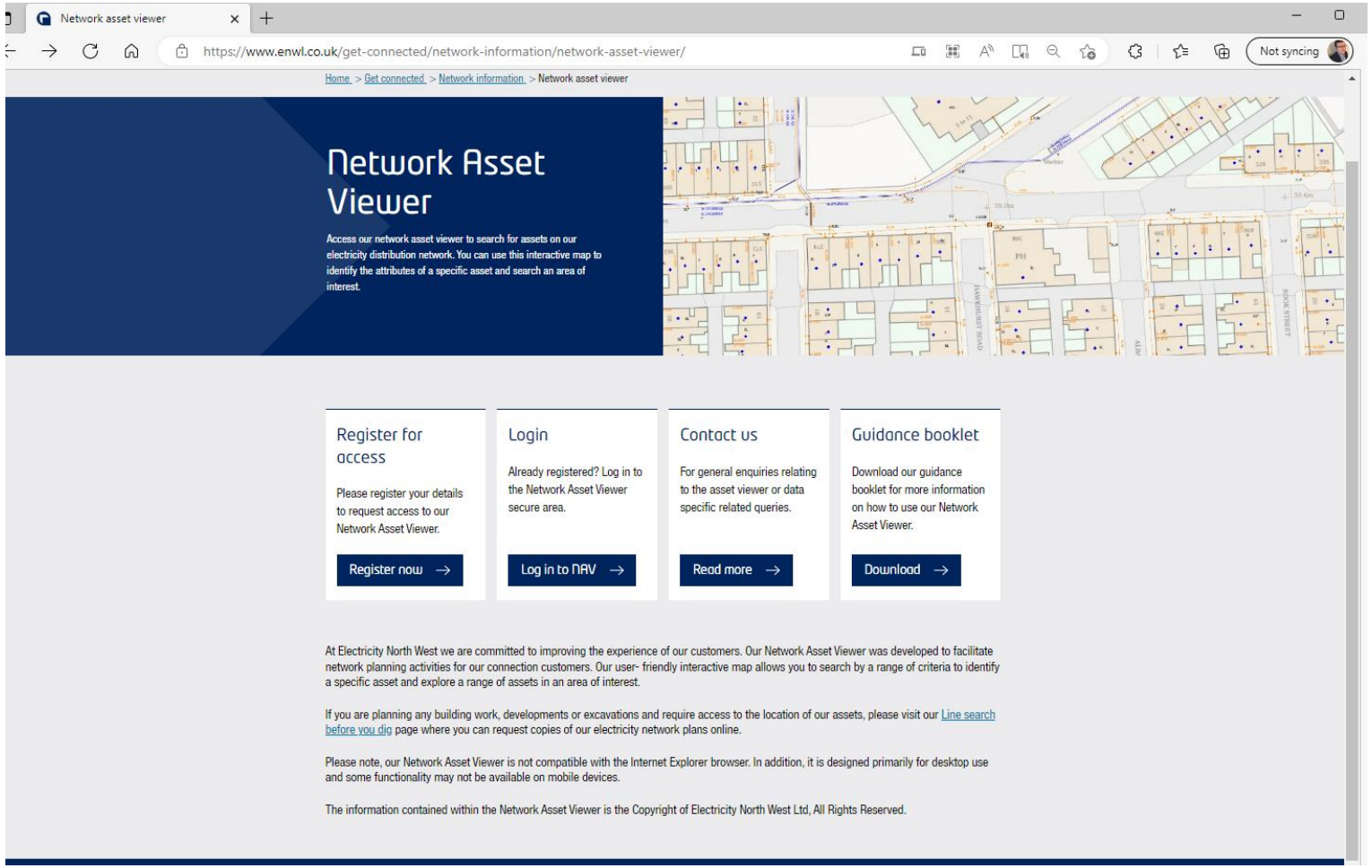
Network Asset Viewer

- This can be used to get a detailed map overview of our assets
- You can search by options such as substation name or number, Postcode or Grid co-ordinates
- Allowing prospective connection customers to facilitate network planning activities.



[Network asset viewer (enwl.co.uk)]

Heatmaps

Gavin Anderson, Network Strategy & Compliance Manager

Heatmap tool and web interface

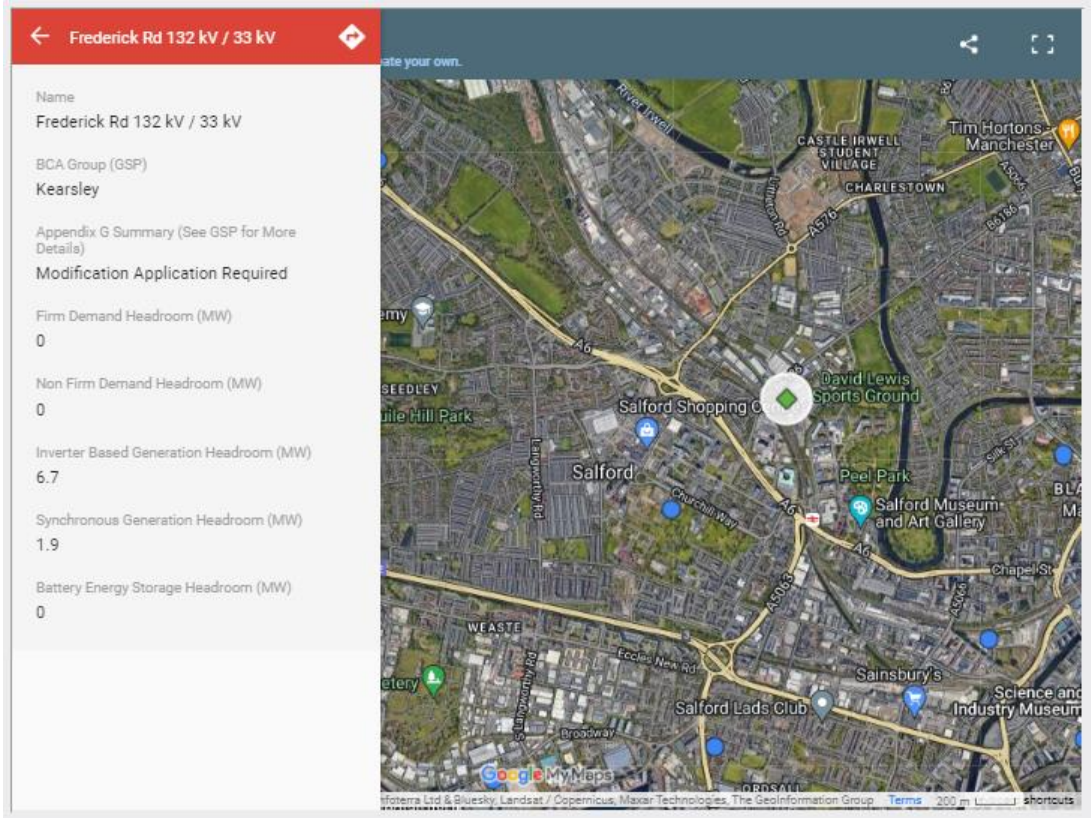
- Heatmap tool: excel workbook that allows user to undertake high level feasibility assessment for connections to 33kV, 11kV and 6.6kV networks (functions summarised on left table).
- Web interface: provides same info with Heatmap Tool. Info accessed by clicking on map substation symbols.

heatmap tool functions

Component	Description
Worksheet 1	User guide and geographic diagrams detailing the location of our primary substations, BSPs and Grid Supply Points (GSP).
Worksheet 2	A user interface that allows the customer to search for substations in the vicinity of their proposed development and receive an estimate of whether there is currently sufficient capacity to accommodate it.
Worksheet 3	
Worksheet 4	The raw data in table format upon which the Heatmap tool is based. Estimated spare capacity is broken down by technology type for each primary substation and BSP.
Worksheet 5	
Worksheet 6	An indication of transmission system constraints provided in worksheet 6 in the form of the latest Appendix G results.

Heatmap tool online available at:
https://www.enwl.co.uk/get-connected/network-information/heatmap-tool/

heatmap - web interface



Heatmap tool – data

- Heatmap tool based on an estimate of spare capacity at each of our Bulk Supply Points (BSP) and primary substations.
- Capacity at these substations is one of the most common sources of constraint to new connections.

An overview of the different substation types featured in the tool is given below:

Substation Type	Description
Grid Supply Point (GSP)	These substations act as the interface between our 132 kV network and the transmission network operated at 400 kV or 275 kV.
Bulk Supply Point (BSP)	BSPs typically consist of two 132 /33 kV transformers feeding several primary substations.
Primary Substation	Primary substations typically consist of two 33 /11 kV or 33 /6.6 kV transformers feeding a radial HV network. It should be noted that the value of spare capacity quoted for a given primary substation takes into account constraints at the associated BSP.

Spare capacity estimated by a high level assessment of typical network constraints including thermal loading of circuits and transformers, fault level and voltage step change. There are however a number of constraints that are not included in the tool. These include 132kV network constraints and the effect of meshed networks i.e. where two or more substations share the same circuits

Heatmap tool – data

- The capacity available is dependent on the type of connection required.
- The following connection types are covered by the tool.

Connection Type*	Description
Demand Firm	A demand connection with a supply secure for the loss of a single circuit. This includes connections secured by post outage switching.
Demand N-0	A demand connection which is constrained off for the loss of the first circuit and remains which off until the circuit is restored.
Generation – Synchronous (LV)	Synchronous generation e.g. gas or diesel, connected to the HV or HV network via a step up transformer.
Generation – Synchronous (HV)	Synchronous generation e.g. gas or diesel, connected to the HV network directly without a step up transformer i.e. use of generators with a HV nominal terminal voltage.
Generation – Inverter Based	Inverter based generation; This includes photo-voltaic sites and many types of wind generator.
Battery Energy Storage	Inverter based energy storage with a Maximum Import Capacity (MIC) equal to the Maximum Export Capacity (MEC). For sites with unequally matched MICs and MECs the MIC and MEC may be assessed independently by selecting the "Demand N-0" and "Generation – Inverter Based" from the menu.

With the exception of "demand firm", the figures for all connection types listed above are based on a N-0 connection i.e. a connection that is constrained off for the loss of the first circuit and which remains off until the circuit is restored.

The values of spare capacity quoted by the Heatmap Tool are based on total capacity available to connections, not the maximum size of an individual connection, which can be significantly less. The typical size of a single connection that can be accommodated at each voltage level is given below:

Voltage Level	Typical Size of Connection
132 kV	>40 MW
33 kV	7 MW-40 MW
11 kV / 6.6 kV	0.2 MW-7 MW
Low Voltage (LV)	<0.2 MW

Heatmap tool – data

- Worksheet 6 shows the Appendix G data
- This is the Generation capacity which is available at the Transmission Interface
- It will also include the Project Progression status if applicable.

- The data consists of 5 parts:

	Description
Part 1	Existing power stations already connected to our network.
Part 2	Power stations connected or contracted to connect to our network for which site specific requirements will apply e.g. power factor and controllability.
Part 3	Power stations connected or contracted to connect to our network for which interim restrictions on availability will apply. Site specific requirements e.g. power factor and controllability, will also apply.
Part 4	Power stations contracted to connect to our network which are unable to connect until transmission works have been completed.
Part 5	Materiality headroom. This is a figure, determined by the transmission system operator, representing the available thermal capacity at the transmission system interface before a Modification Application is triggered.

The Materiality status confirms whether a Project Progression is in progress:

Materiality Status	Description
A	The latest Appendix G return indicates that there is spare transmission system capacity at this location.
B	There is insufficient capacity to accommodate any further sites without undertaking transmission system work. To identify the scope of these works a Modification Application will be required.
C	There is insufficient capacity to accommodate any further connections without undertaking work on the transmission system. These works have already been identified and there are sites in project progression. New sites may still require a new Modification Application

Local Area Energy Planning and Direction of Travel

Christos Kaloudas, Capacity Strategy Lead

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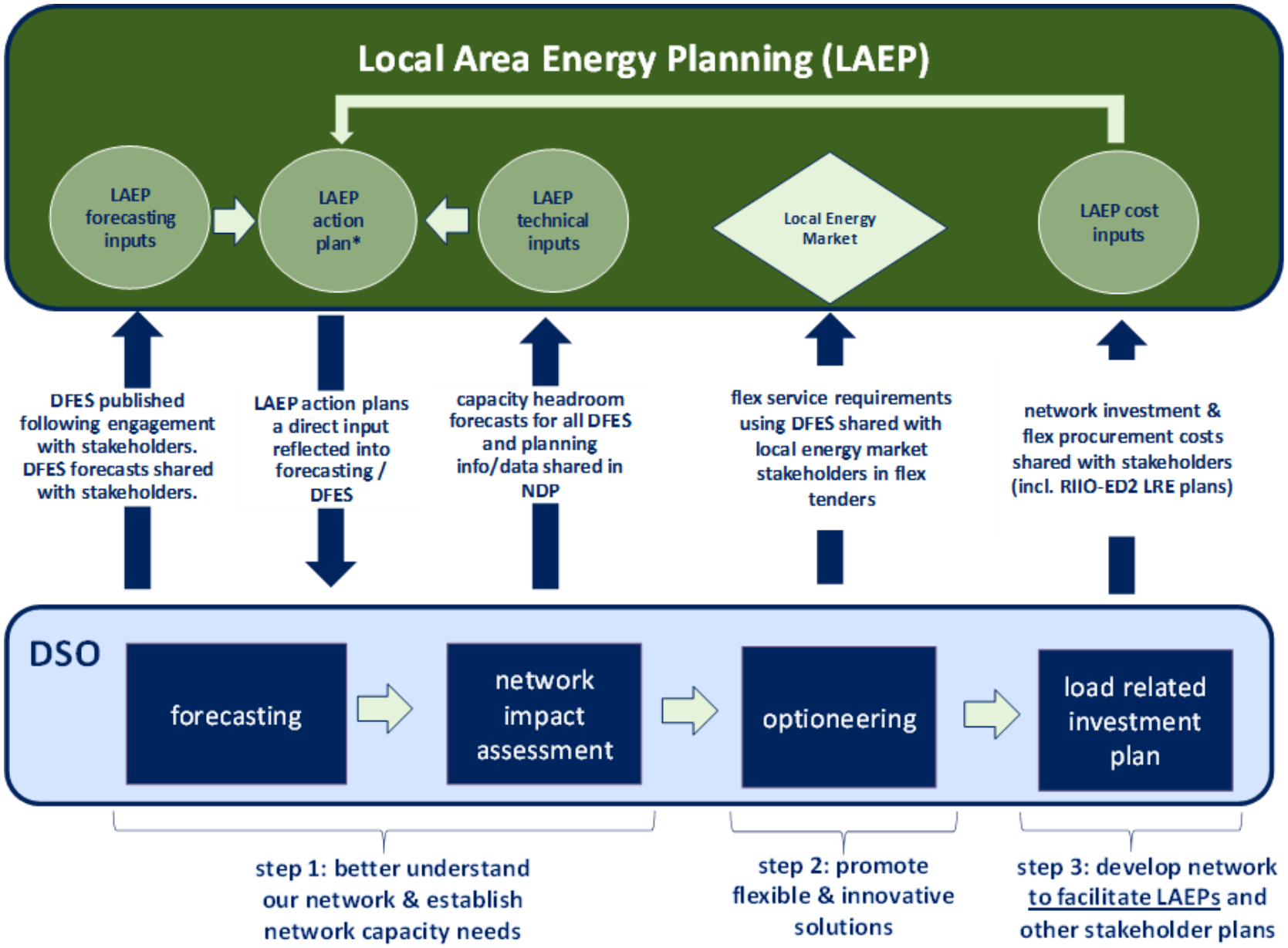
Data exchanges between DSO planning and LAEPs



LAEP – DSO planning interactions:

- LAs expected to act as LAEP creators
- DSO's role as LAEP supporter and facilitator
- LAEP action plans informed by DFES and NDP data
- LAEP action plan data a direct DFES input in our load related investment plan
- DSO flex data support LEMs

**LAEP action plans are mature planed developments where high-certainty can be evidenced, eg secure funding, strong LA/central gov support, ongoing development.*

Direction of travel – forthcoming data publications

coming soon

HV heatmap (March 2023)

Demand and capacity headroom across over 100,000 HV feeder sections and 35,000+ secondary substations. GIS- style heat maps.

monitoring data down to LV

Load measurements across 12,000+ secondary substations and aggregated smart meter data will be published.

data available within RIIO-ED2

(2023-2028)

What do you want to see on our maps?

interactive heatmaps

EHV, HV and LV heat maps. User can specify data layers presented on a single map. GIS style and supply area polygon representations.

HV and LV forecasting data

"As is" and forecasting data for demand and capacity headroom provided at granular level across whole HV network (3,000+ feeders) and downstream 35,000+ secondary substations.

Embedded Capacity Register

Ian Povey, DSO Data Manager

electricity north west
Bringing energy to your door

Evolution of the Embedded Capacity Register (ECR)

The embedded capacity register is one of the first steps we have taken to share more data with our stakeholders.

It's already come a long way and there are still big plans for the future.

JAN 2020

Publication of the System Wide Resource register (SWRR) for Connections >1MW

JULY 2020

Approval of DCP 350 and publication of the Embedded Capacity Register for Connections >1MW

The Future

- ECR extended to Connections >50kW
- ECR available via API

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What does it contain?

Connected generation and flexibility providers

Accepted to connect generation and flexibility providers

Planned reinforcement

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QUESTIONS
&
ANSWERS

GSP / BSP Boundary Flows

Ian Povey, DSO Data Manager

electricity north west

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Operational Data

GSP Boundary Flow Data

BSP Boundary Flow Data

Historical Outage Data

Generation Flow Data

GSP Boundary Flow Data

- Half-hourly data showing voltage and current and power flows between Electricity North West (ENWL) and National Grid Electricity Transmission at each Grid Supply Point
- Based on operational measurements rather than fiscal metering
- Directional current data is provided where suitable power measurements exist
- This data is provided ‘as-is’ from real-time data collected by ENWL and is not subject to any quality checks or data cleanse

GSP Boundary flow data

Records of the current and power flow (active (MW) and reactive (MVAr)) into the Electricity North West Network from National Grid at Grid Supply Points (GSPs),

Historical Outage Data

- Historic outage data from 1984 to present extracted from the National Fault and Interruptions Reporting System (NaFIRS)
- Provides the time, network location, duration and number of customers affected by each outage
- Where available, the equipment involved, cause and approximate geographic location is also provided

Outage Data

The outage data provides details of all recorded power outages on the ENWL network including the time, duration, cause (where known) and approximate location.

BSP Boundary Flow Data

- Half-hourly data showing voltage and current and power flows at each Bulk Supply Point (132kV/33kV substation)
- Based on operational measurements rather than fiscal metering
- Directional current data is provided where suitable power measurements exist
- This data is provided ‘as-is’ from real-time data collected by ENWL and is not subject to any quality checks or data cleanse

Coming soon

Generation Flow Data

- Half-hourly data showing power flow from embedded generation, split by GSP and aggregated by fuel type

- Based on state estimated data from the operational control system
  - State estimation uses the network topology and measurements to estimate the power flow at a point that is not directly measured
  - Whilst less prone to transducer failure, state estimated data can be prone to large errors where power flow direction changes and there are limited measurement points

- This data is provided ‘as-is’ from real-time data collected by ENWL and is not subject to any quality checks or data cleanse

Coming soon

Curtailment information

Gavin Anderson, Network Strategy & Compliance Manager

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Curtailment Information – Current Report

- Due to increased generation and demand application for connection capacity on our network and the need to offer cheaper and quicker connections, by delaying the need of reinforcements to offer Firm capacity. There's been an increase in assets ratings being exceeded (thermal, voltage and fault level), under system normal (N- 0) and system abnormal (N -1) scenarios.
- Flexible Connection offers are made to ensure assets ratings are not exceeded, whereby customers accepts, as part of their connection offer condition to get their sites curtailed (issued curtailment instructions) under some certain scenarios.

Curtailment assessment at present utilise historic circuit fault rates measured over previous 5 years are used to provide an indication of the likely curtailment rates for customers

Curtailment Index – current report format, reflected in relevant customer offers.

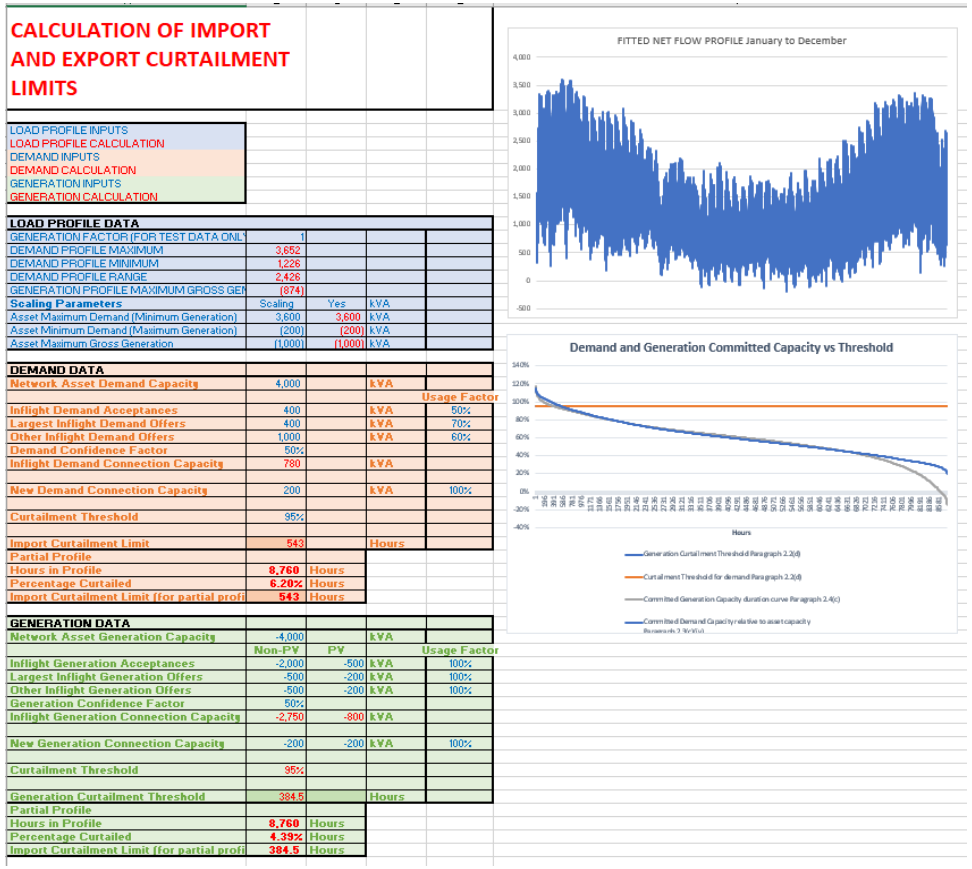
CURTAILMENT INDEX	6.6 & 11kV (HV)	33kV (EHV)	132kV (EHV)
Total Days	11.4 days	29.8 days	49.2 days
Total %	3.00%	8.20%	13.20%

Curtailment Information – Proposed future reports

- As part of our Flexibility First strategy, we will begin to see an increase in ANM managed Flexible Connections on our network.
- Curtailment assessment studies using the following background assumptions:
  - Demand profile – using most recent, past 12 months
  - Generation profile – using Connected, Accepted and proposed schemes
  - Asset ratings – use of cyclic/distribution rating or short term rating wherever available.
  - Scenario – for most Flexible Connections, it will be system normal and system abnormal.

The Curtailment report is based on the recent ENA Open Networks 22 Workstream 1A Product 8 Time based curtailment format
Curtailment is given in Hours

Annual Hours	% Curtailed
<438	<5%
438 - 876	5 -10%
876 - 1752	10 – 20%
>1752	>20%



BiTraDER

Rebecca Hassall-Lees, Project Manager

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BiTraDER – Key aims

- Reluctance to accept flexible connections
- Reluctance to offer flexible services
- Lack of competition
- ESO /DSO conflicts

Investigate, develop and trial an innovative method enabling peer-to-peer trading of curtailment obligations

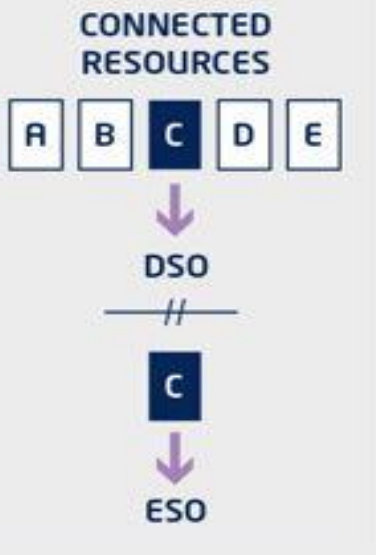
Reduce barriers for the uptake of RES & introducing new sources of flexibility and choice for connected customers

Encourage use of flexibility and reduce whole system costs

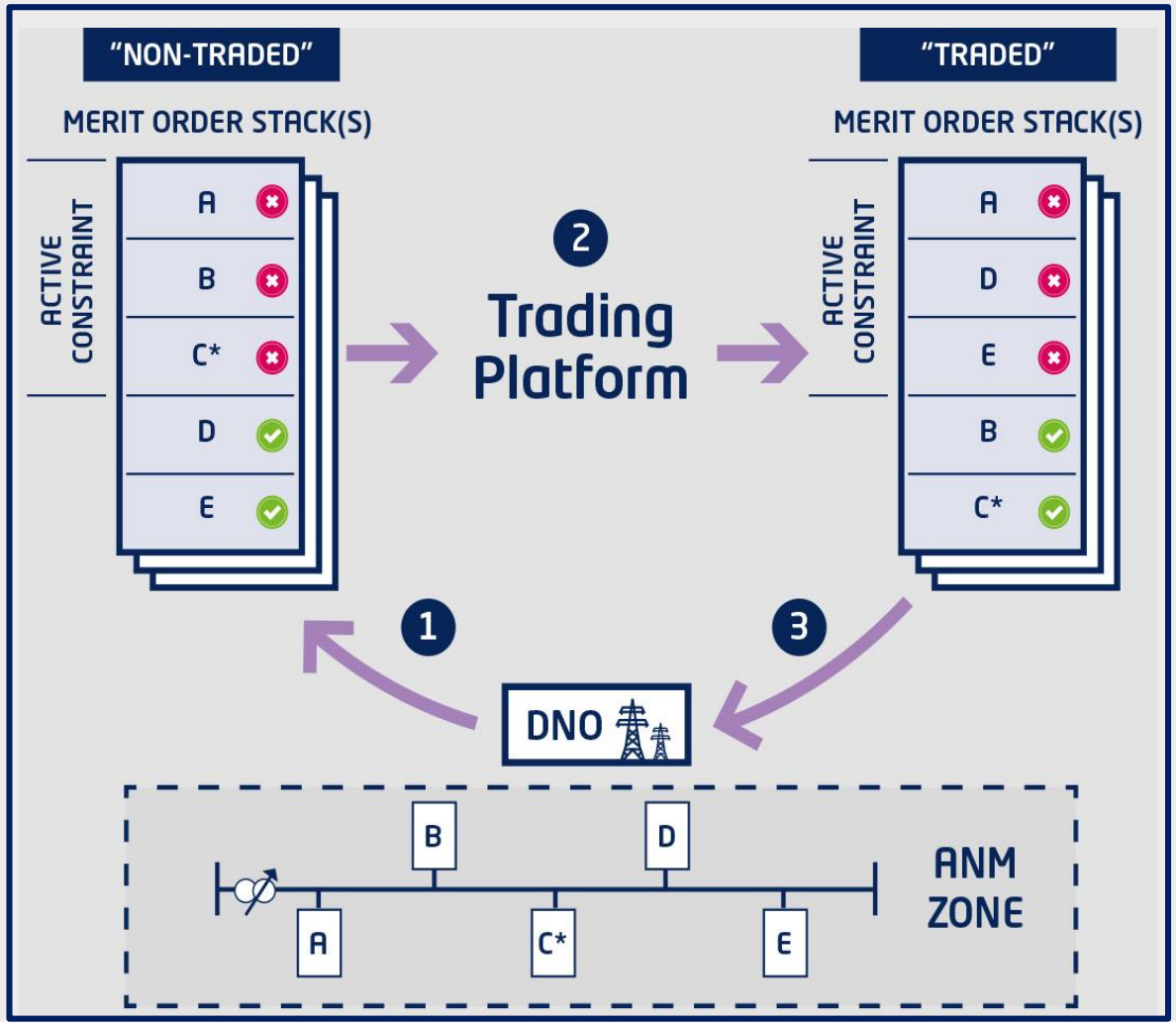
Enabling DNOs to meet the challenge of net zero

BiTraDER – the Solution

The BiTraDER Project will deliver a functional specification detailing the requirements for facilitating bilateral trading, including platform, market model, data requirements and interface.



*C has exclusive contract with ESO. BiTraDER offers potential for C to provide flexibility to both ESO and DSO.



Step:

1. Merit order stock presented to commercially available trading platform.
2. Near real time trades based on new rules developed as part of BiTraDER.
3. Traded merit order stack presented back to DNO

Timescales and how you can get involved

Get involved in shaping the trading rules and trading platform

Feedback on the 'look and feel' and help us refine the solution

Take part in simulation and/or live network trials (subject to limitations), practice 'trading' and feedback on experience

- We're engaging with connected and connecting (large >1MW demand and generation customers) via a combination of:
  - Face to face annual workshops
  - Remote/online webinars
  - Online surveys
  - In depth phone interviews
- Project participants will be reimbursed for reasonable costs associated with time and travel for the project

BiTraDER

Interested? Register on our website: [BiTraDER Recruitment (enwl.co.uk)]

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QUESTIONS
&
ANSWERS

Flexible Services

Kate Stewart, Flexible Solutions Analyst

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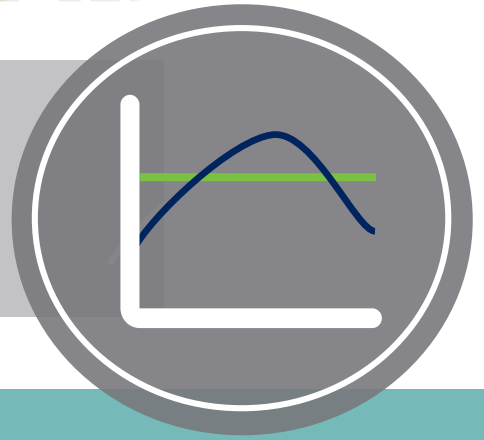
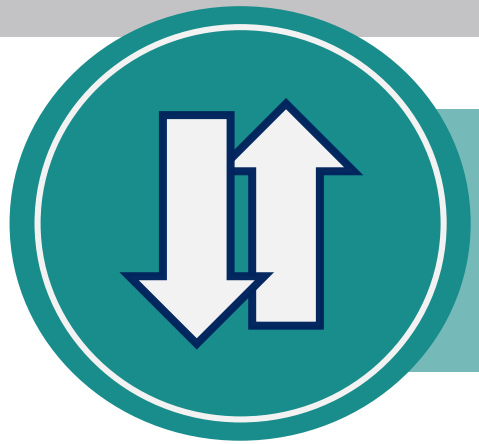
What are Flexibility Services?

When the demand for electricity is greater than the amount that we can provide, flexible services are procured to alleviate constraints on our network during peak times



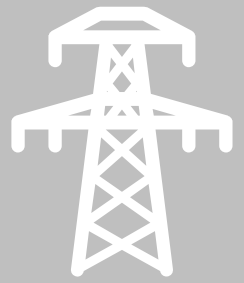


These services are provided by companies or individual customers who own assets in our region that can generate more or use less electricity when required

This allows us to balance supply and demand, ensuring a safe and reliable supply of energy for our customers

Flexibility providers will receive payment from the network for providing this extra capacity

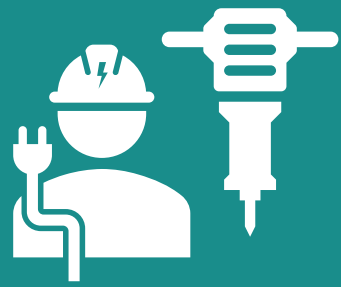
What are the benefits?



Utilises existing assets

Reduces CO_2 emissions

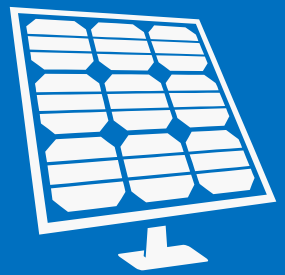
Reduction in supply interruptions



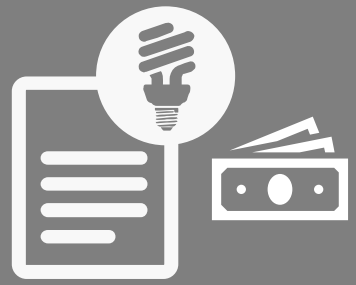
Less disruption

Supports community energy groups

Supports local businesses



Encourages Low Carbon Technologies



Cheaper bills for customers

Who can provide flexible services?

Existing metered customers or anyone interested in building a new asset

Capable of adjusting how much electricity they consume or generate

50kW

Can provide a minimum of 50kW of flexible capacity

Industrial and commercial assets

Aggregated domestic and non domestic portfolios

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Examples of flexible services

Demand

Turning off or shifting intensive processes

Controlling heating systems like heat pumps

EV chargers

Generation

Renewable generators

Batteries

Standby generation

Energy Efficiency

LED lighting

Solar panels

Insulation

https://www.enwl.co.uk/go-net-zero/flexible-services/flexibility-case-studies/

What we've done so far

Since 2018

Carried out

11

tenders

across

212

locations

Totalling

2500MW

requirements

Autumn 2022 tender

30
Locations across the North West

1GW
Of capacity required

£10m
Available for these services

Regional requirements

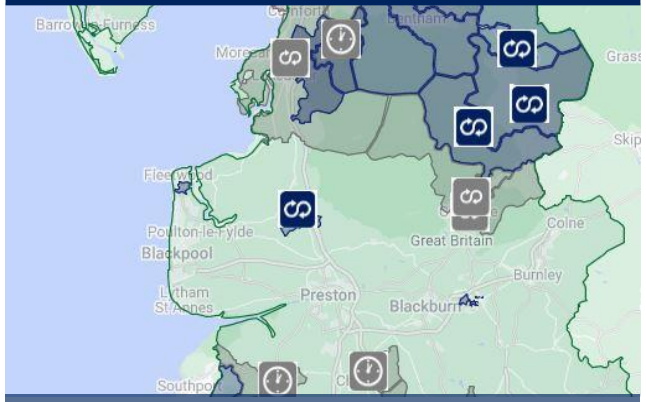
Cumbria

14 Locations

310 MW

£3,171,944

Lancashire



22 Locations

440 MW

£3,969,806

Greater Manchester

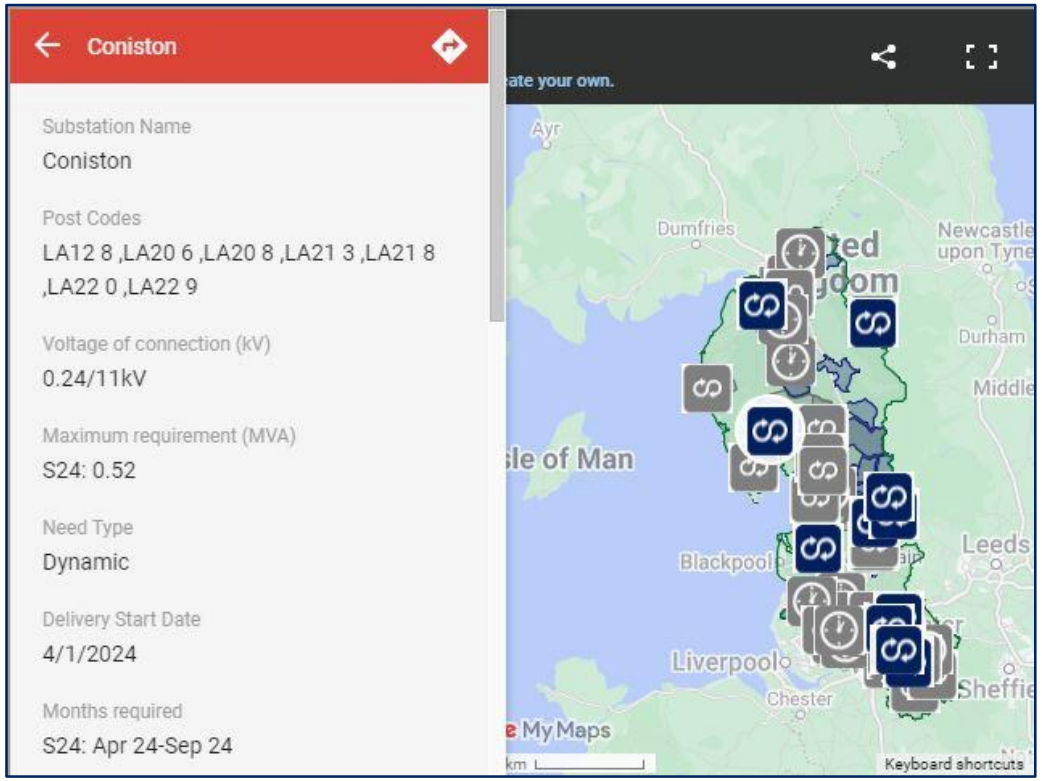
12 Locations

301 MW

£3,103,148

Flexibility requirements map

Our flexibility map displays the locations within our region where we are currently seeking flexible services, or may have a requirement in the future



The icons next to each location name relate to the response type that we are looking for:

- Sustain
- Restore
- Dynamic
- Secure

The grey icons represent our future requirements and have been added to our flexibility map to provide early signposting of future needs.

You can find this map on our flexible services homepage and Current requirements page

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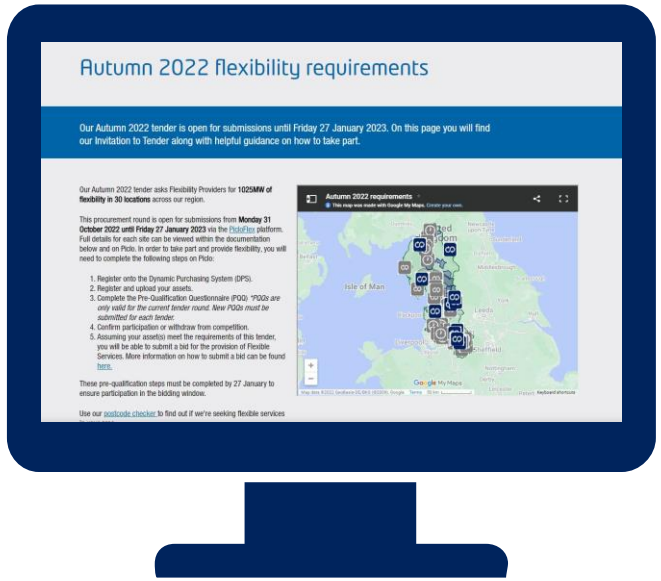
Products

Sustain	Secure (7)	Dynamic (14)	Restore (27)
Pre-fault	Pre-fault	Post-fault	Post-fault
Provides a scheduled response to prevent network constraints	Provides a scheduled response to manage network loading	Keeps the power flowing during an unplanned network event	Gets the lights back on following an unplanned network event
Flex providers flex their supply up or down in accordance with a schedule to help manage network constraints by providing additional capacity and capability	Flexibility Providers are available at peak times to help manage the load on the networks and prevent it from exceeding it's capabilities	Flexibility Providers are available and provide an immediate response following a fault or unplanned network event	Flexibility Providers are available and provide an immediate response to help us restore supplies for customers more quickly following an unplanned network event

Invitation to Tender

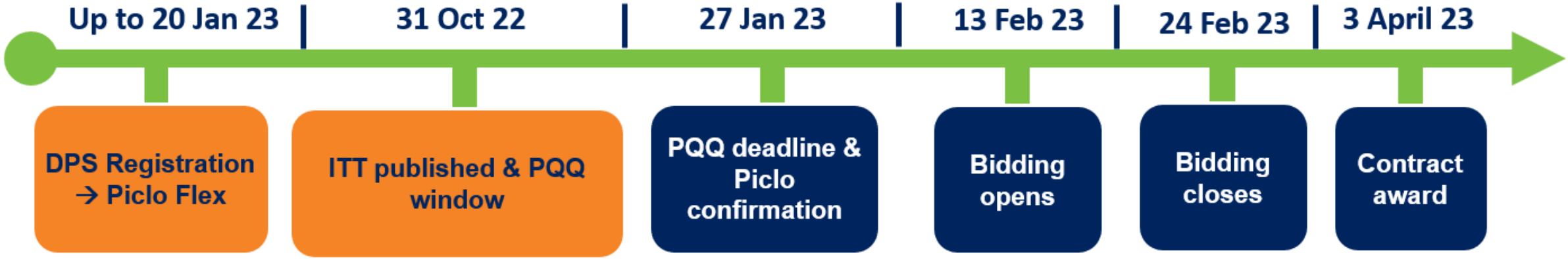
Our full invitation to tender documentation is published on our website alongside our flexibility map, and includes:

- Invitation to Tender terms and conditions
- Appendix 1: Standard Flexibility Agreement
- Appendix 2: Technical specification
- Appendix 3: Site requirements
- Appendix 4: Half hourly requirements
- Appendix 5: Post code checker
- New tool: Cost calculator

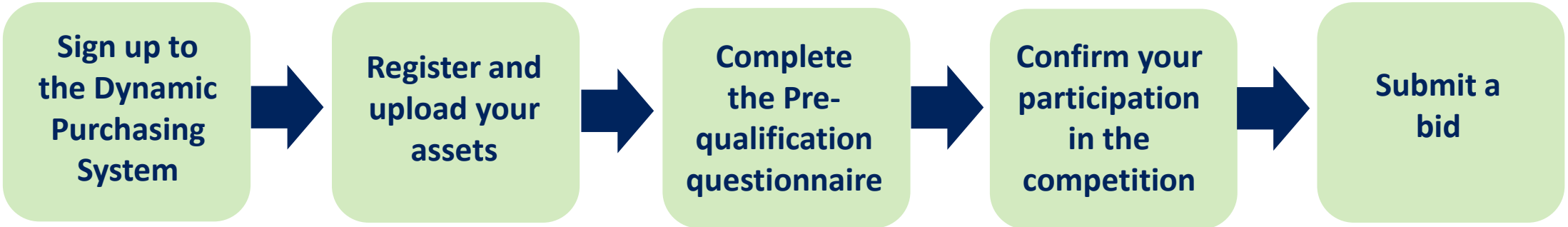


https://www.enwl.co.uk/go-net-zero/flexible-services/latest-requirement/

Procurement timeline and process

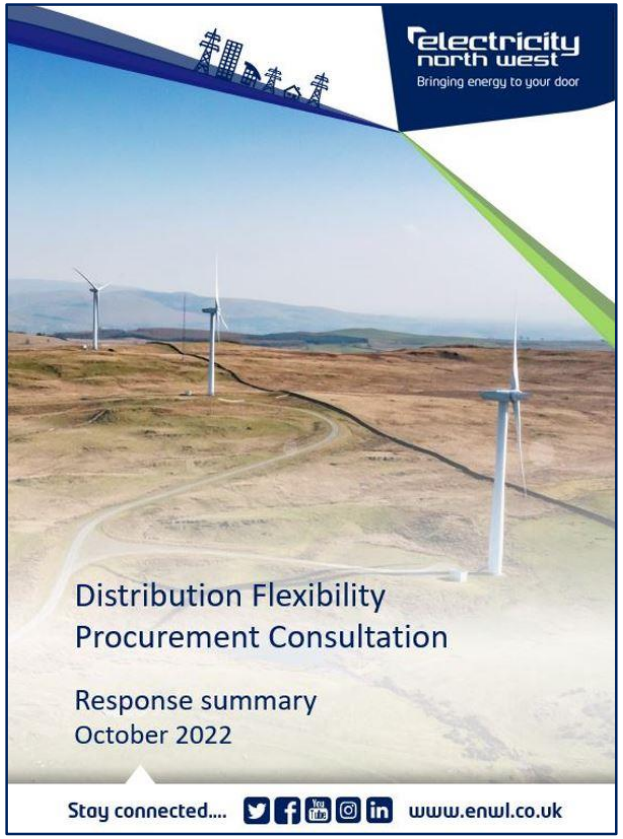


To participate in our tenders, follow these steps on PicloFlex:



Consultation feedback and next steps

- Launched in Summer 2022
- Sought stakeholder feedback on our approach to procuring flexible services and how we engage with our customers
- Remove barriers to participation and encourage growth in the UK Flexibility market space
- Make the process of providing flexibility to the network as simple and seamless as possible for both local and national players



Read the full consultation and our response summary here:
https://www.enwl.co.uk/go-net-zero/flexible-services/flexibility-procurement-statement/

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Your feedback

You said	We will
Combination of webinars and in-person events	Host in-person events alongside our webinars to reach a wider variety of our stakeholders including cross-industry events and regional events
More helpful tools and guidance information	We will continue to publish helpful tools and guides on our website including the addition of new case studies and new Cost Calculator tool on our latest requirements page
Streamlined procurement process	We have been working with Piclo to integrate the Pre Qualification Questionnaire (PQQ) onto their platform to create a more seamless procurement experience
Longer term flexibility contracts	We have published half hourly forecasts of our requirements for the next five years within appendix 4 of our Autumn tender

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Useful links

Piclo Flex	Data portal	1-2-1 discussions	Register for updates	Feedback form
				
Head over to the Piclo Flex platform to view our latest requirements and take part in our tenders by registering onto our DPS and uploading your assets	Head over to our new data portal to find all the documents and datasets featured in today's webinar	We offer 1-2-1 discussions to assist with any queries relating to the process of providing flexibility Book here	Sign up to our distribution list to receive our newsletters, latest requirements and event invites	If you have any questions or feedback relating to flexible services, you can fill out our online feedback form

QUESTIONS & ANSWERS

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www.enwl.co.uk/gonetzero

0800 195 4141

@ElecNW_News

linkedin.com/company/electricity-north-west

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youtube.com/ElectricityNorthWest

Please contact us if you have any questions or would like to arrange a one-to-one discussion