

**electricity
north west**

Bringing energy to your door



DSO functions: Forecasting and flexibility in the North West

Wednesday 27 April 2022

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Meet the presenters



Cara Blockley



Head of DSO

Cara has responsibility for the teams who are charged with leading the North West to Net Zero by ensuring we understand how we can support adoption of LCTs, what the needs of our customers will be in relation to future network capacity requirements and enabling flexibility market participation as we seek to utilise flexibility first for capacity.

Christos Kaloudas



DSO Modelling and Forecasting Lead

Christos leads our Distribution Future Electricity Scenarios (DFES), helping to identify capacity requirements to facilitate decarbonisation plans and developments of our stakeholders and customers.

Gavin Anderson



EHV & Compliance Planning Manager

Gavin is responsible for a team of engineers who deliver various ENWL network compliance and reporting activities. A significant part of this is overseeing the working relationship with NGENSO covering Appendix G submissions and project progressions for new DER connections.

Lois Clark



DSO Commercial Lead

Lois' role is centred around flexible services and contracted capacity, helping to find innovative alternatives to traditional reinforcement solutions.

Keith Evans



Flexible Solutions Manager

Keith's role is to lead activities to develop policies and business processes that will enable the transition to DSO in the areas of flexible solutions i.e. flexibility services and flexible connections and energy efficiency.



			
Introduction	DSO Transition	DFES – Forecasting in the North West	Network Development Report
			
Q & A / Break	Flexibility Services background	Current requirements and PicroFlex	Q&A / Close

The changing energy network: DNO to DSO Transition

Cara Blockley – Head of DSO



Who we are



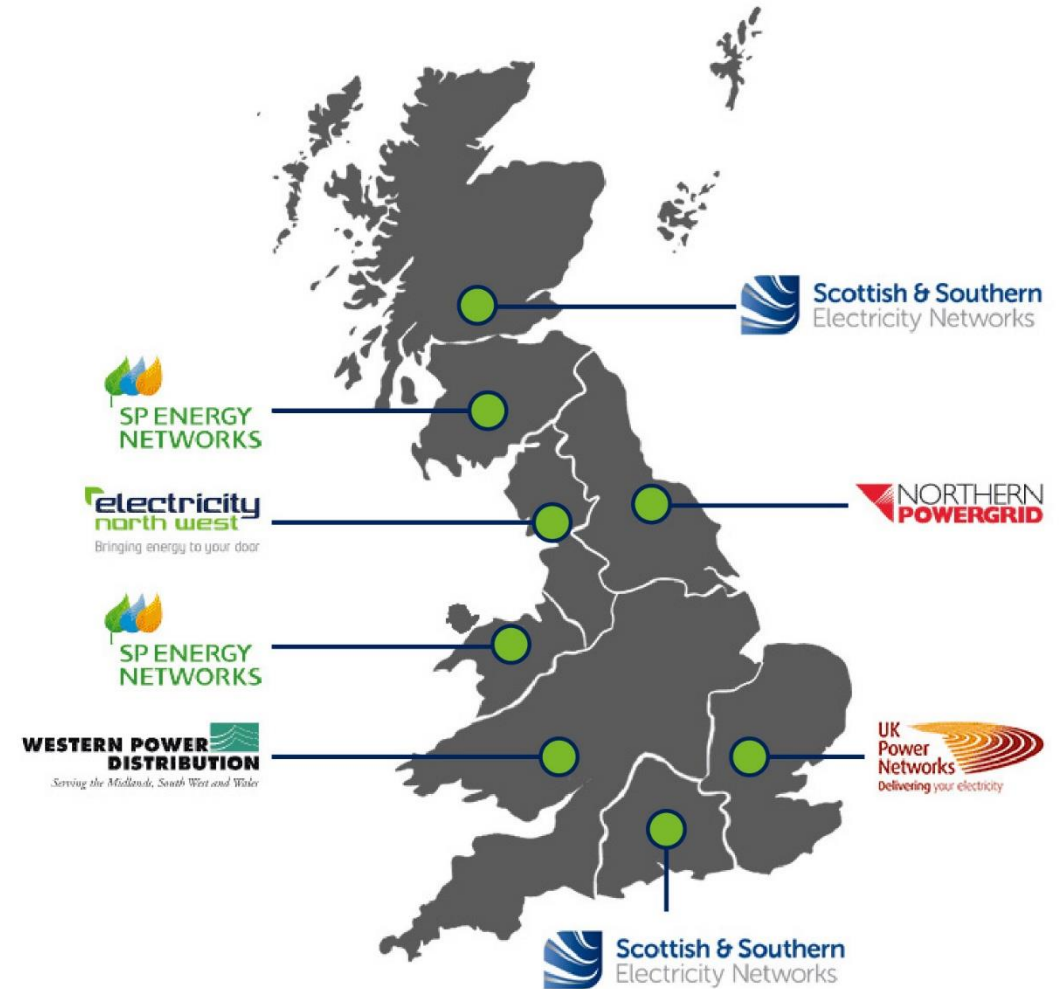
One of six Distribution Network Operators (DNOs)

Responsible for distributing electricity to homes & businesses

Operate in a regulated industry

Our Business Plans are:

- Based on the needs of our customers and stakeholders
- Aligned to Government policy
- Approved by Ofgem
- Business Plan 2015-23 (ED1)
- Business Plan 2023-28 (ED2)



Net Zero - The role of the network operator



As the region's network operator we're key in leading the North West to Net Zero – we're delivering three key activities:

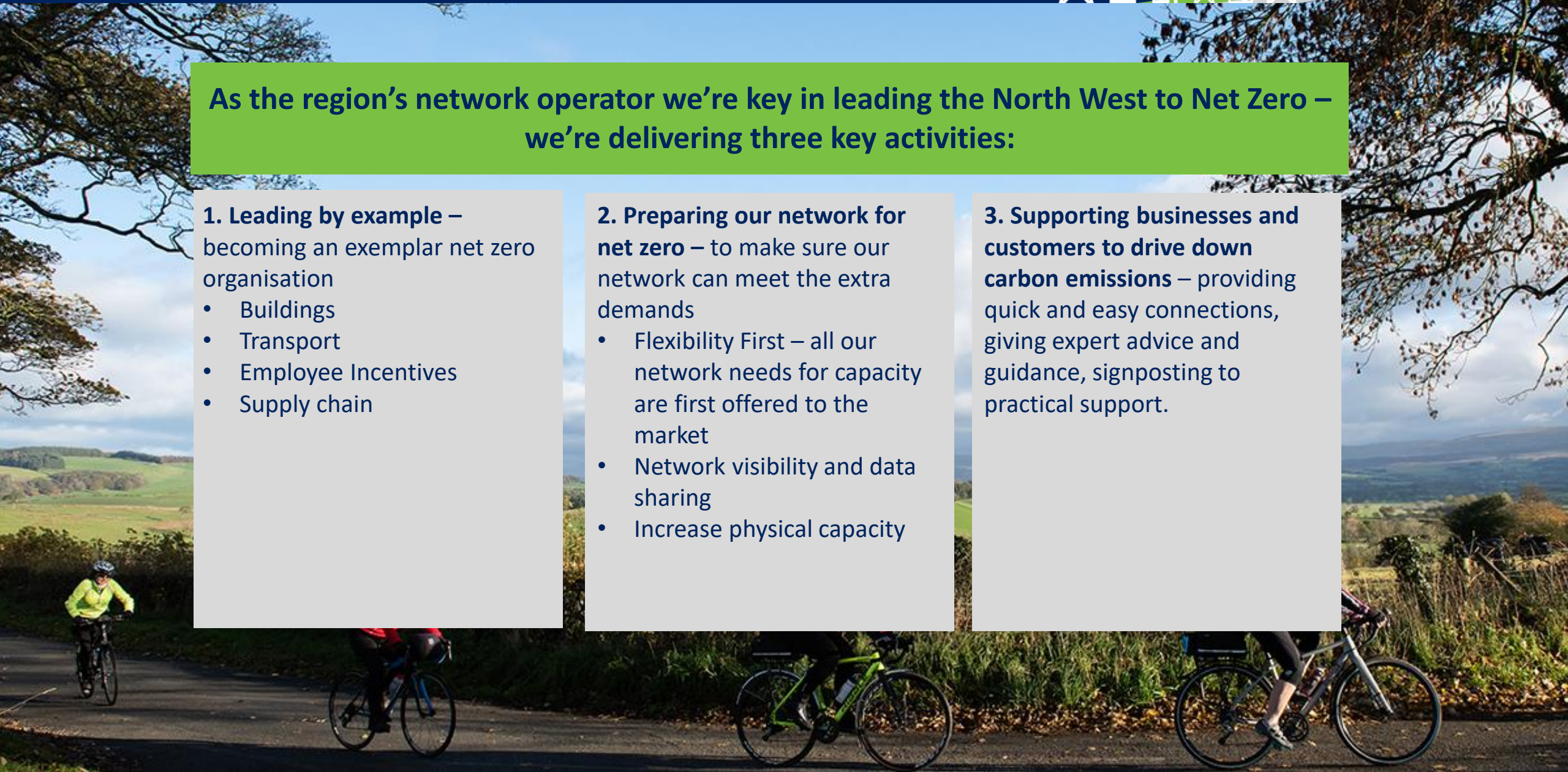
1. Leading by example – becoming an exemplar net zero organisation

- Buildings
- Transport
- Employee Incentives
- Supply chain

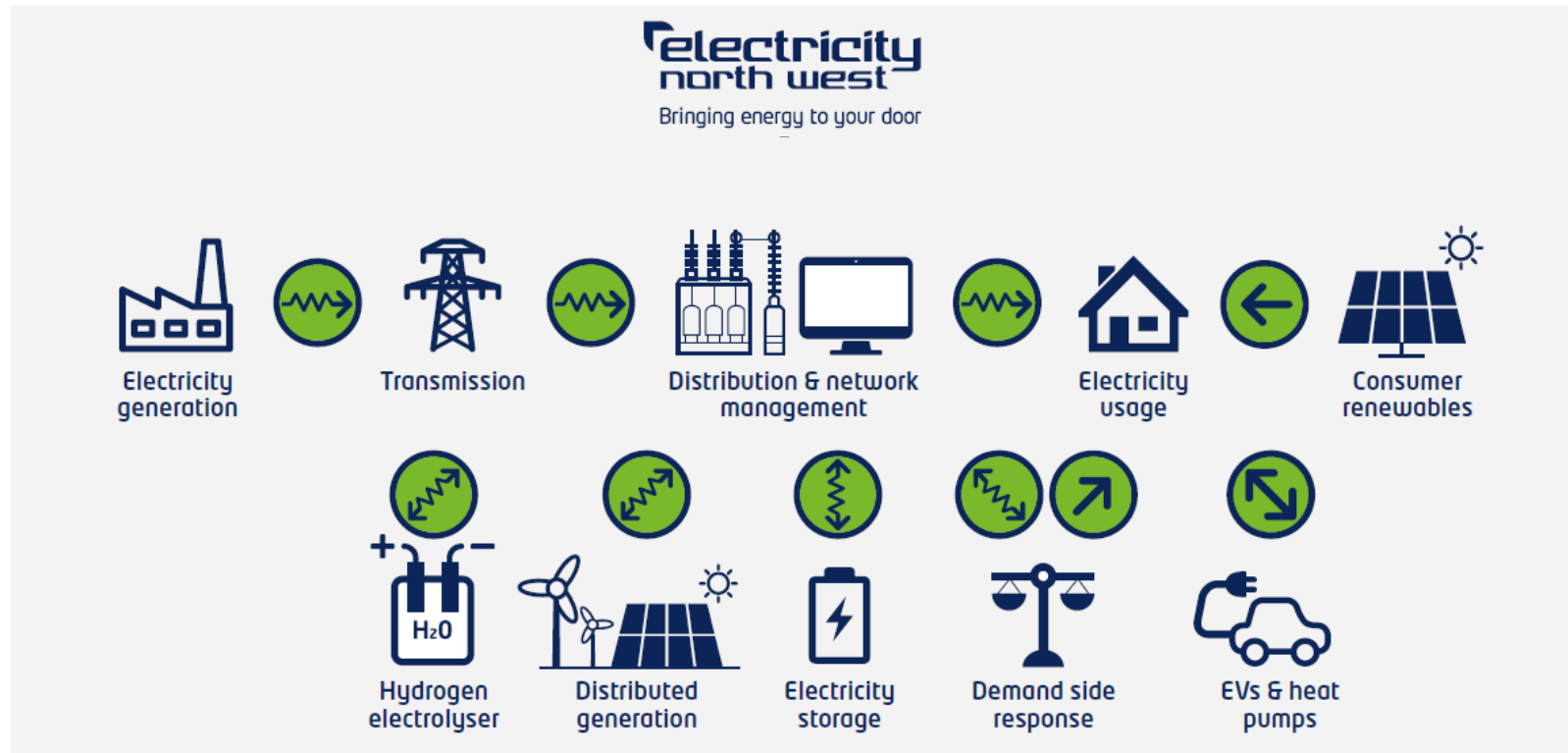
2. Preparing our network for net zero – to make sure our network can meet the extra demands

- Flexibility First – all our network needs for capacity are first offered to the market
- Network visibility and data sharing
- Increase physical capacity

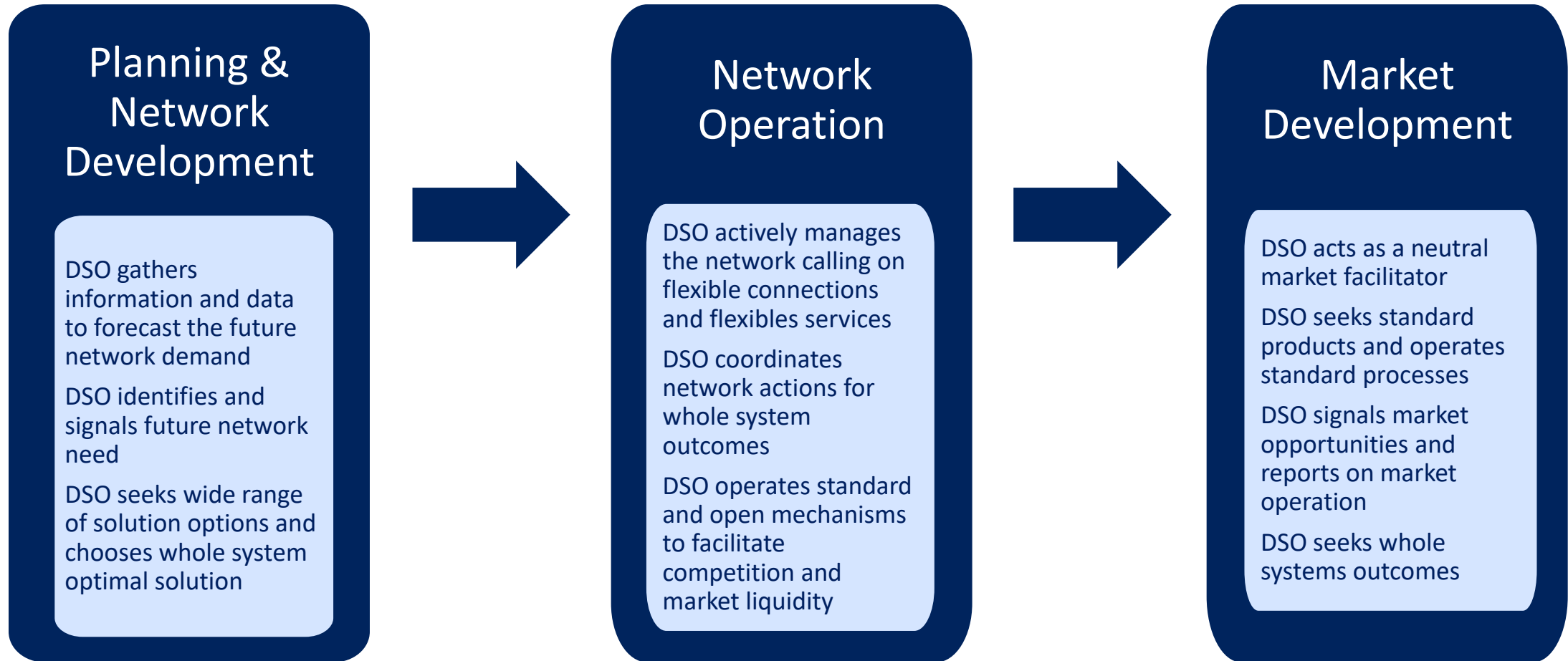
3. Supporting businesses and customers to drive down carbon emissions – providing quick and easy connections, giving expert advice and guidance, signposting to practical support.



Net Zero – how electricity distribution is enabling it



- Electricity generated centrally and distributed to customers
- Now more complicated and multi-directional from encouraging and enabling low carbon technologies to connect
- Electricity demand set to double by 2050
- All customers need cleaner, greener energy to enable and enhance 21st century living



Open data sharing



Transparency and openness

DSO Stakeholder Panel

[right to hear appeals, review decisions and methodologies]

DSO Compliance Officer

Planning &
Network
Development

Network
Operation

Market
Development

Customer
Support

Open data sharing, via data portal

Share existing and new forms of planning data
e.g. LV network heatmaps

Share existing and new forms of operational data
e.g. constraint 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!



Distribution Future Electricity Scenarios: Forecasting future flexibility in the North West

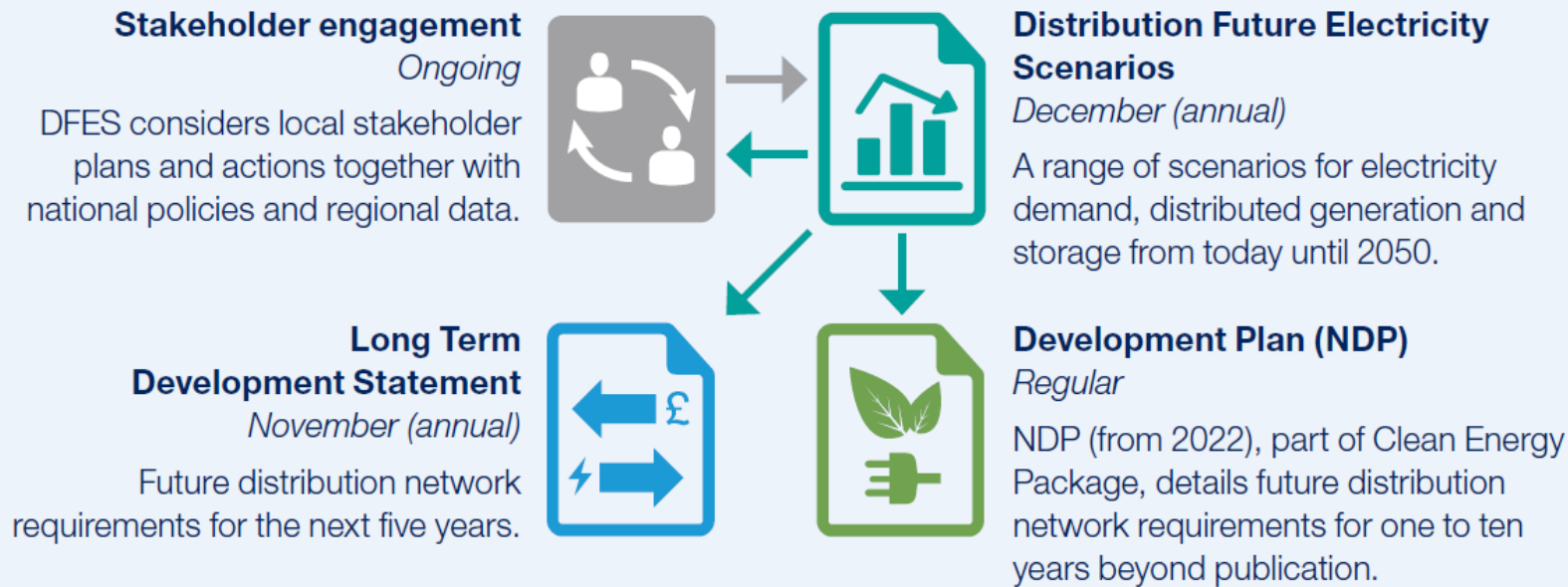
Christos Kaloudas - DSO Forecasting &
Modelling Lead



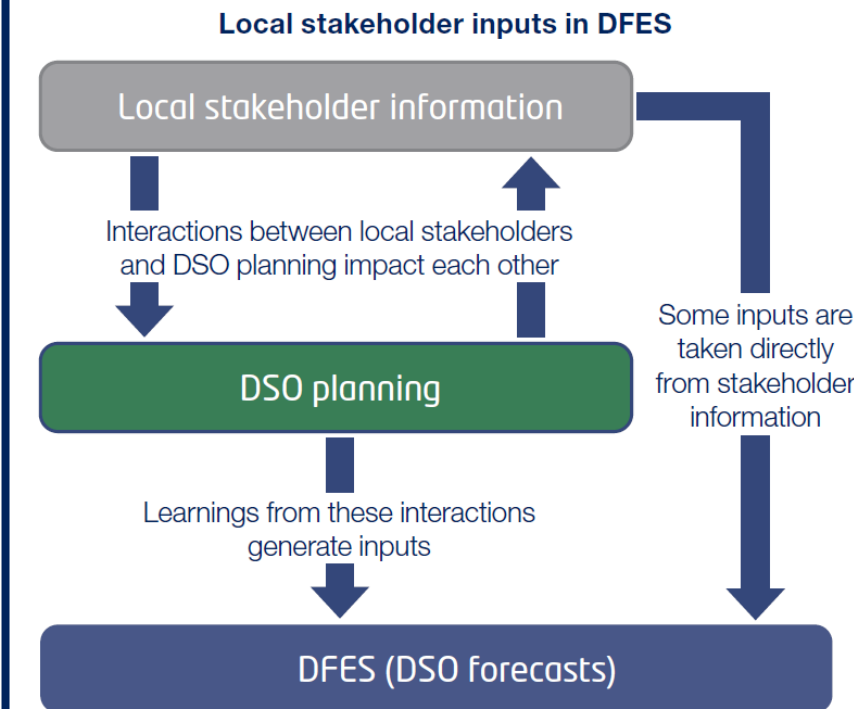


DFES is a key planning and stakeholder engagement process since 2018

DFES and other regular & standardised planning processes



DSO best positioned to produce DFES





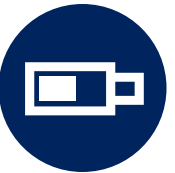
Decarbonisation through electrification

Our updated best view considers faster decarbonisation of transport and heating in North West compared to last year's DFES. This is not only driven by updates on national policies, but also from reduced technology costs.



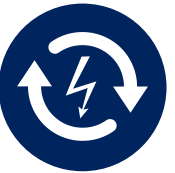
Electrification of transport

Up to 1.2 million electric cars and vans before 2030. Higher certainty that a significant proportion of heavy duty vehicles will be plug in electric. Location and rate of charging critical to define effects on network loading.



Storage and zero carbon renewables

Double capacity and volumes of grid scale batteries in the pipeline compared to last year. PV capacity up to four times higher and wind generation up to double by 2050.



Flexibility services

Requirements for flexibility services will be published in our first Network Development Plan on May 2022 using DFES 2021. The DFES 2021 report presents forecasts of the potential for flexibility.



Electrification of heating

Over 1 million heat pumps before 2040 could accelerate decarbonisation and support an early zero carbon transition before 2050.



Electricity North West business plan

Our RIIO-ED2 load related expenditure was based on DFES 2020 and additional investment was proposed to be funded if our region accelerates decarbonisation before 2040. The DFES 2021 show accelerated decarbonisation, but within the RIIO-ED2 LRE range to be funded under uncertainty.



Network Development Plan

Our first Network Development Plan on May 2022 (license condition) will use DFES to identify network issues, present flexibility service requirements and network reinforcement options.



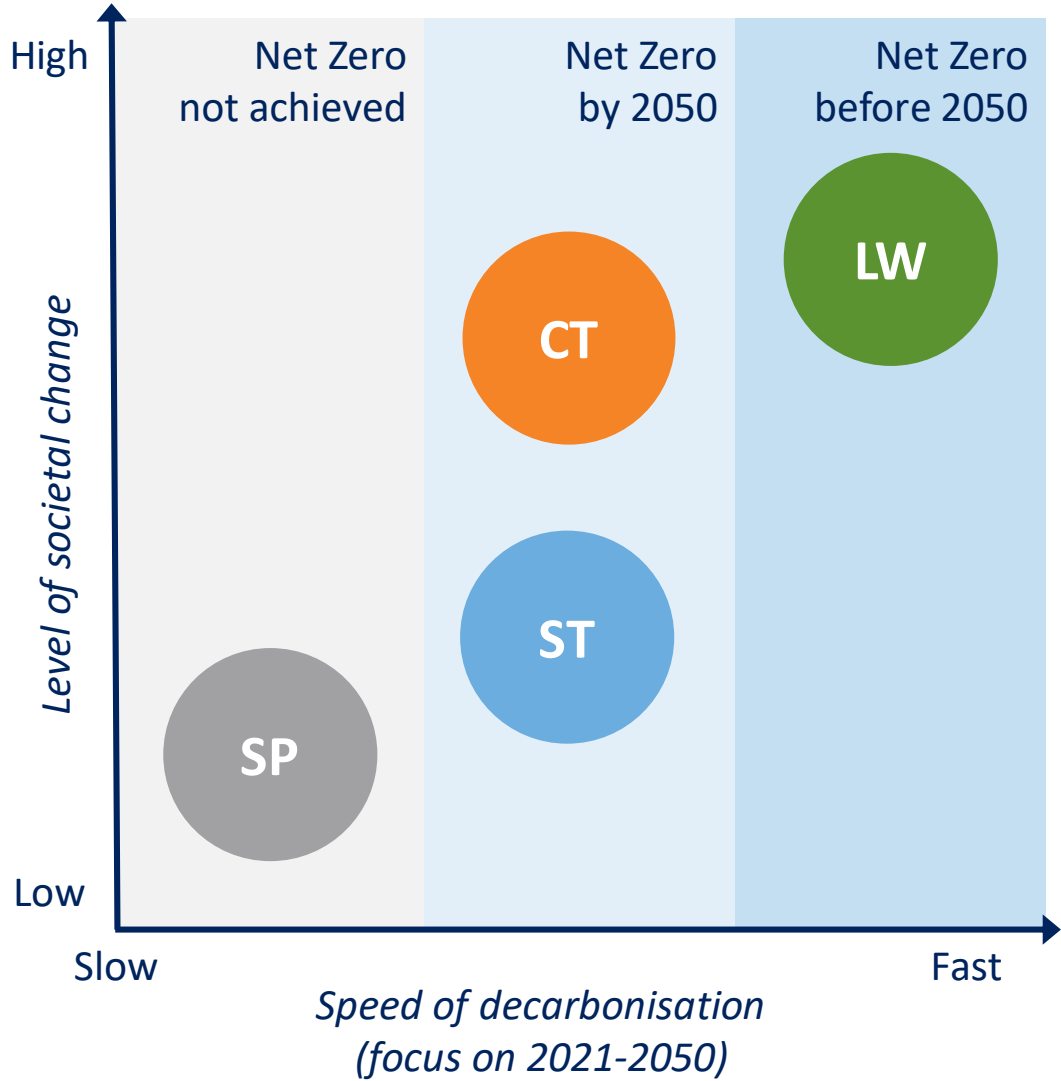
Public and business engagement

DFES has a primary planning focus as requested by Ofgem. But DFES also allows us a) to understand where the different parts of our region are in their transition to net zero and b) to share planning info with local stakeholders.

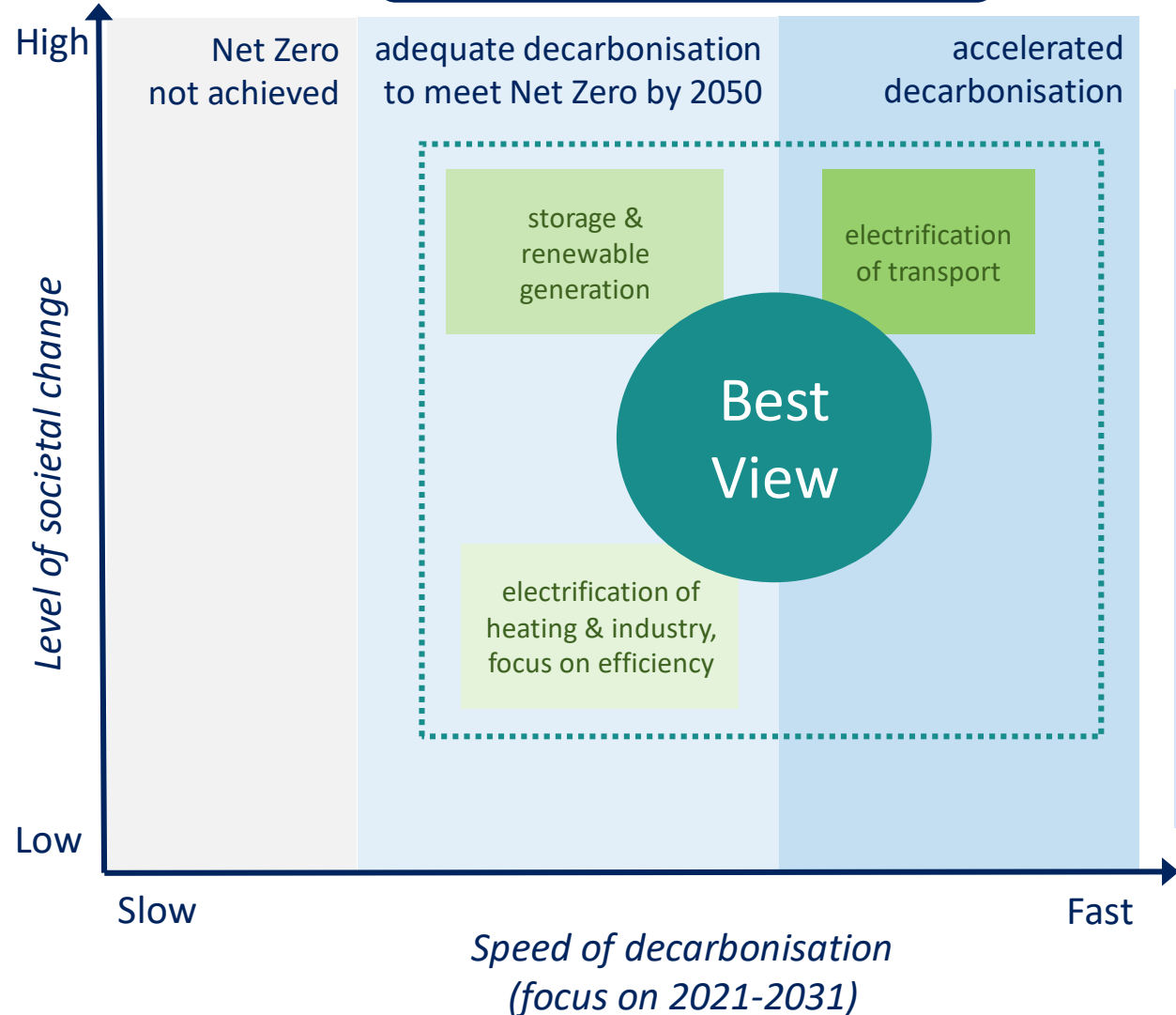
Scenario framework of DFES 2021



**common scenario framework
(DFES and FES)**

































**Best View scenario
(DFES high certainty view)**



Central Outlook scenario not anymore used,
replaced by **Best View (BV)** scenario

DFES 2021 – overview



2021	Scenario		2030	2040	2050
 23 TWh Annual Electricity	Steady Progression		29 TWh	33 TWh	35 TWh
			0.8 million	1.7 million	2.0 million
			0.16 million	0.38 million	0.55 million
			1.7 GW	2.0 GW	2.4 GW
			0.43 GW	0.5 GW	0.6 GW
 13,000 EVs	System Transformation		30 TWh	38 TWh	39 TWh
			1.2 million	2.6 million	2.8 million
			0.2 million	0.58 million	0.75 million
			2.2 GW	2.9 GW	3.7 GW
			0.98 GW	1.2 GW	1.5 GW
 22,000 Heat Pumps	Best View		30 TWh	38 TWh	41 TWh
			1.2 million	2.7 million	2.9 million
			0.2 million	0.58 million	0.75 million
			2.2 GW	2.9 GW	3.7 GW
			1.08 GW	1.2 GW	1.5 GW
 1.48 GW of Zero Carbon DG	Consumer Transformation		31 TWh	44 TWh	52 TWh
			1.2 million	2.7 million	2.9 million
			0.31 million	1.3 million	2.6 million
			2.4 GW	3.6 GW	4.7 GW
			1.0 GW	1.3 GW	1.7 GW
 167 mW of Battery Storage	Leading the Way		31 TWh	46 TWh	49 TWh
			1.3 million	2.7 million	2.6 million
			0.34 million	1.9 million	2.6 million
			2.3 GW	3.2 GW	4.1 GW
			1.09 GW	1.6 GW	2.0 GW

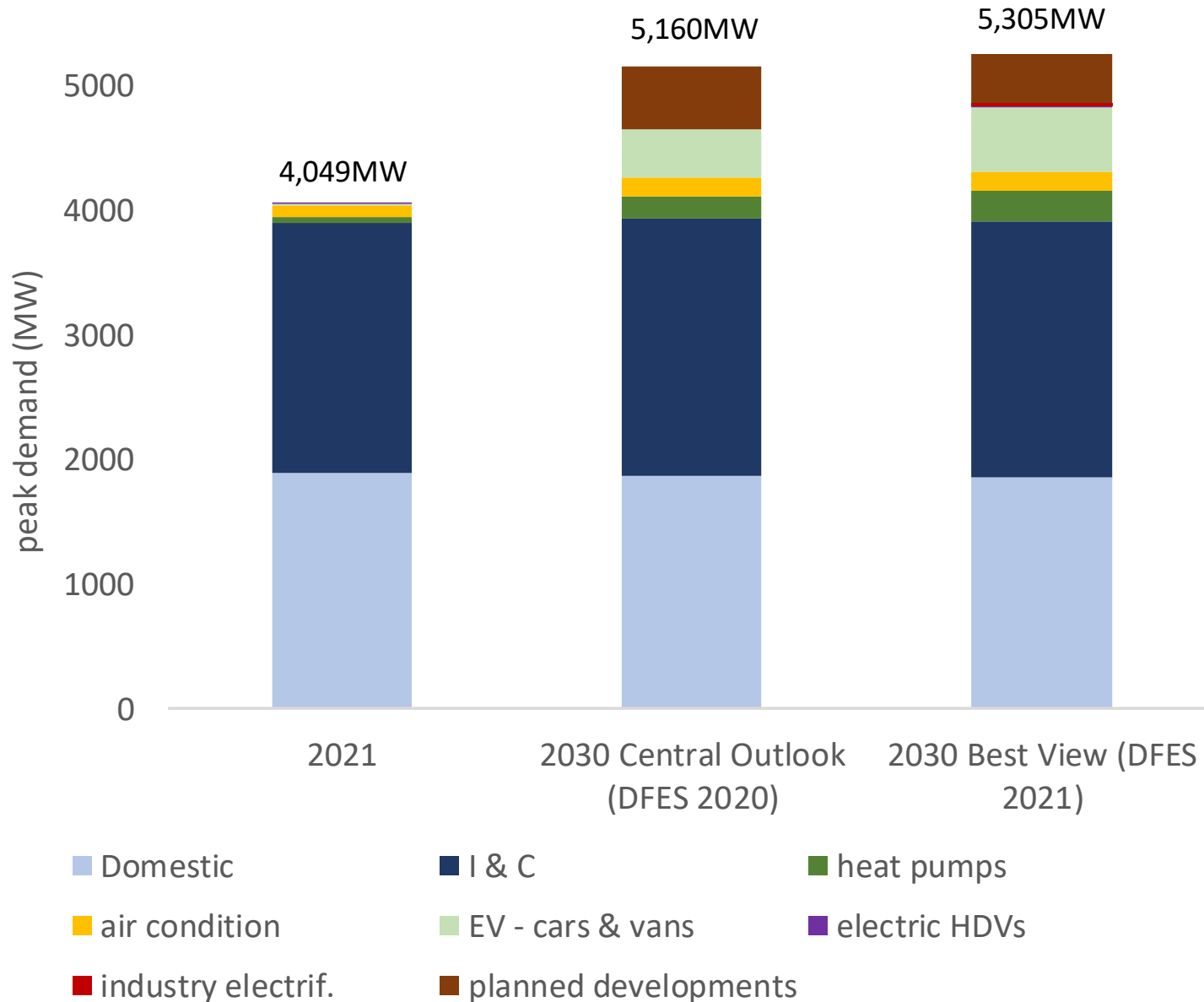
Key takeaways:

- Significant action required by stakeholders and customers before 2030 to not derail from the path to Net Zero by 2050
- Actions to meet Net Zero required around electrification of transport, electrification of heating, increasing efficiencies and penetration of more Net Zero renewable generation

Part 1: Electricity demand
Part 2: Distributed generation & batteries
Part 3: Flexible services



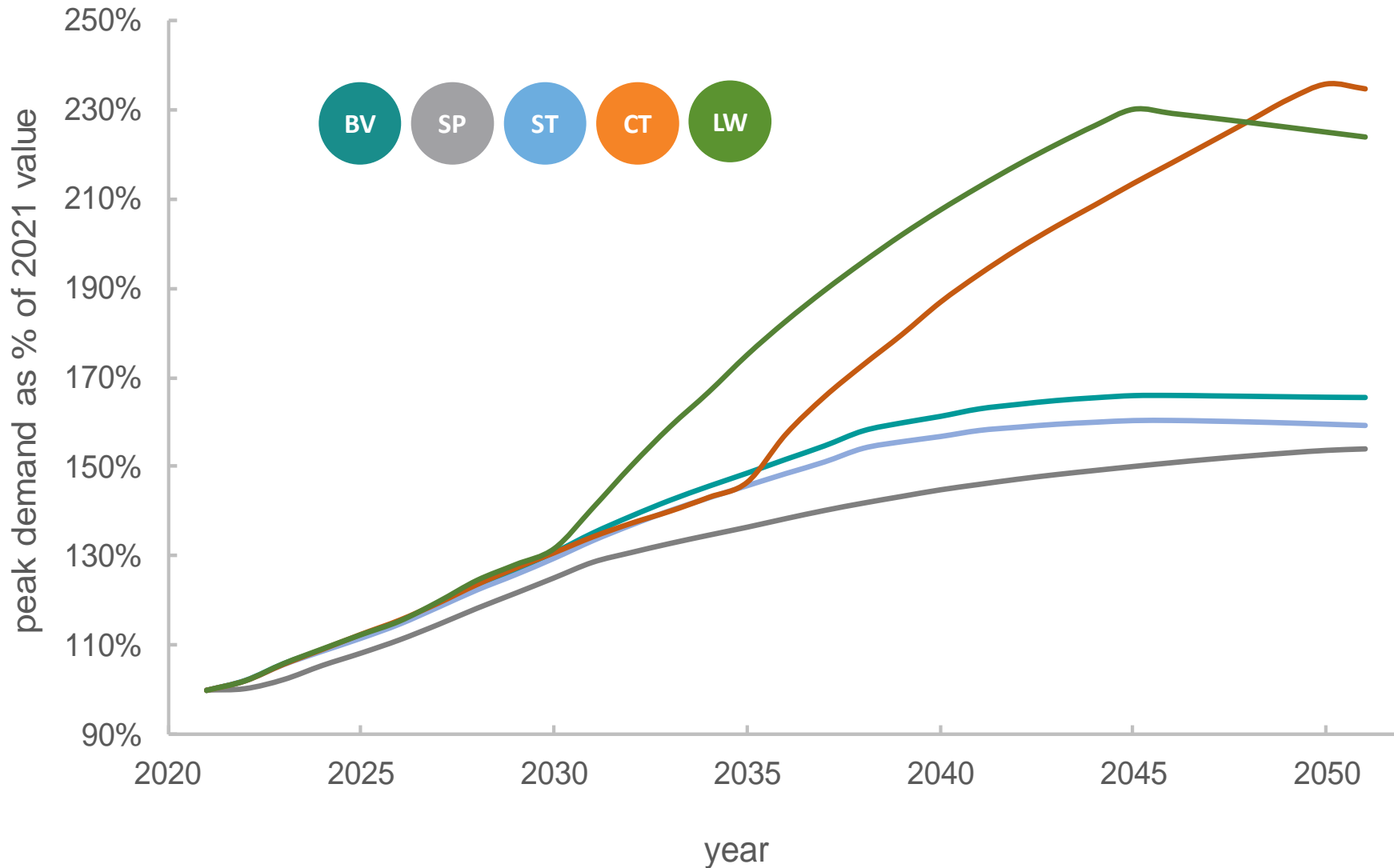
Focus on 2030 peak demand



Key takeaways:

Higher efficiencies and lower demand growth from connections compared to last year's DFES, **but** overall demand going up due to higher EV and heat pump uptakes resulting from lower battery costs and latest policies

Peak demands comparison



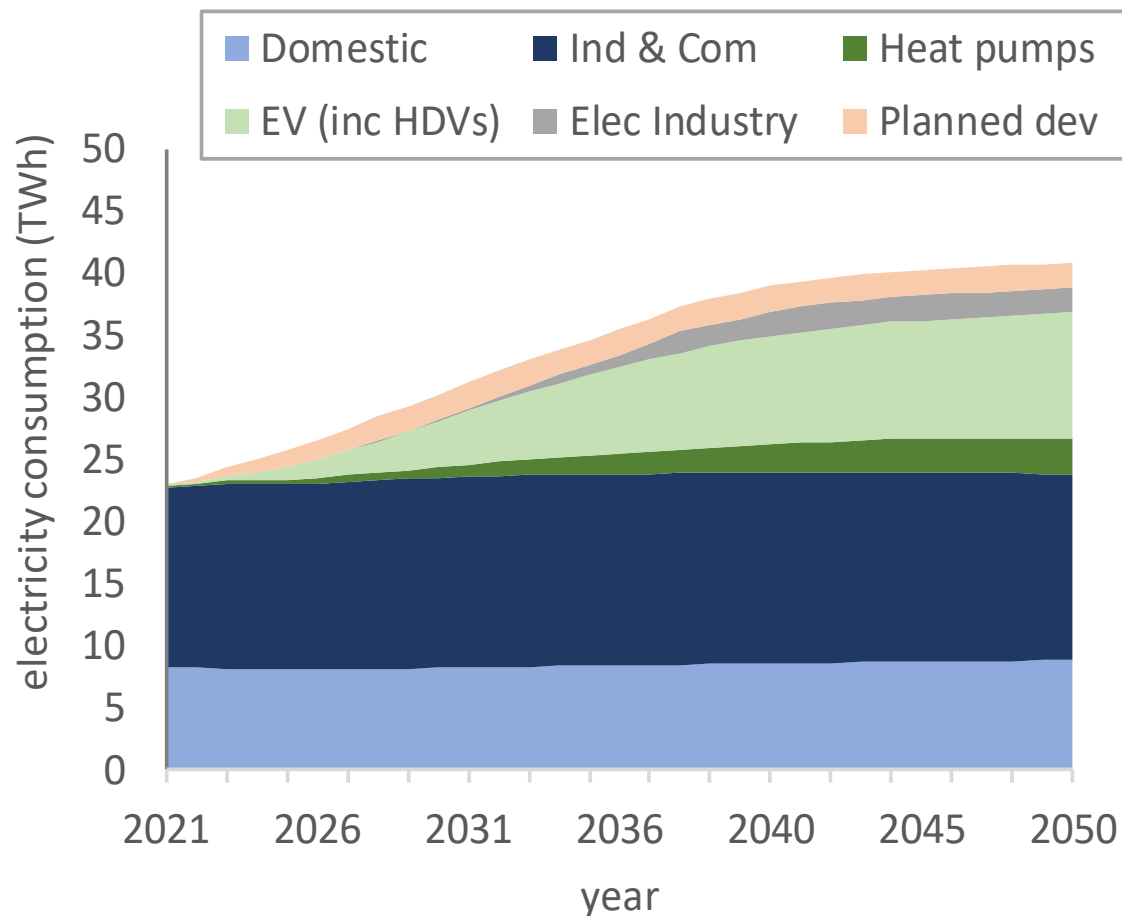
Higher demand growth in 2020-2030 from last year's scenarios due to higher EV and heat pump volumes

Hydrogen is still a key uncertainty post 2030, but higher levels due to electrification of industry and electric HDVs

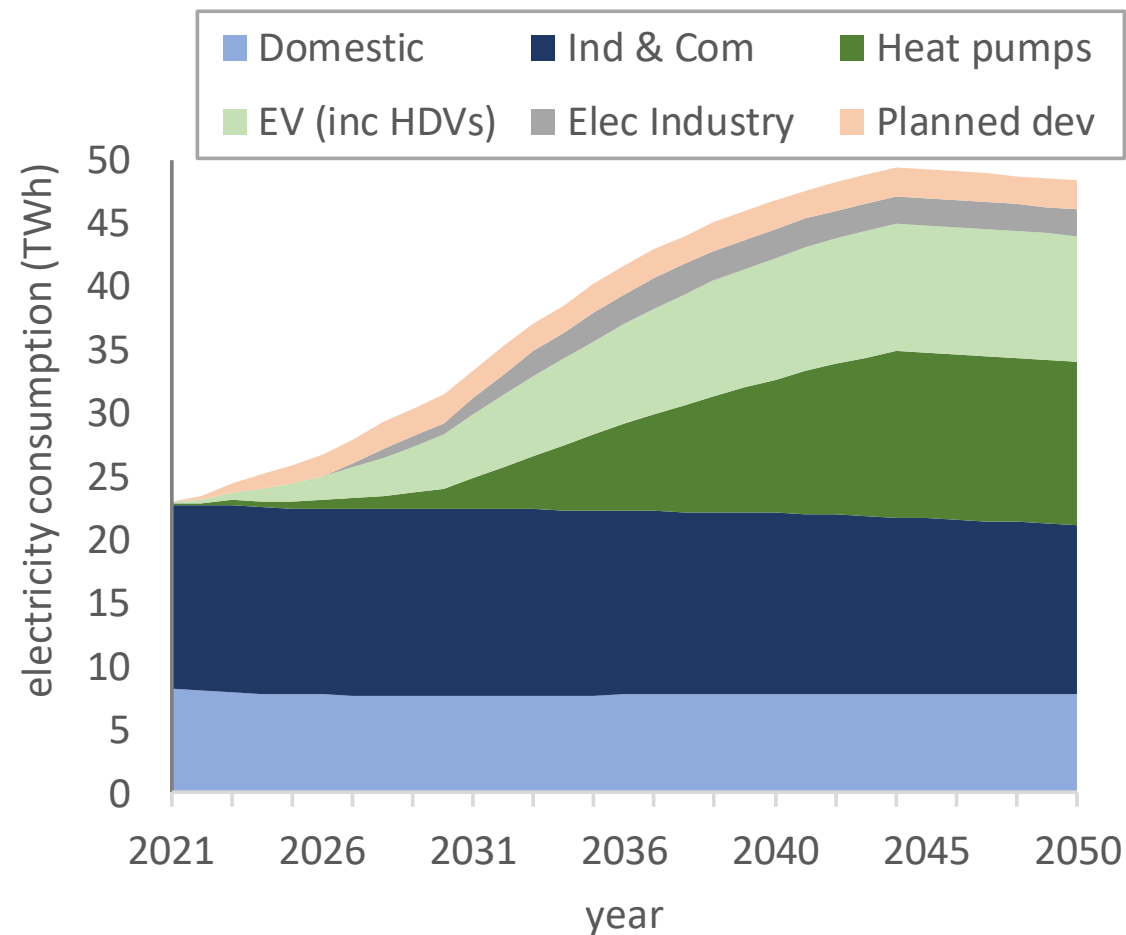
Electricity consumption



Best View



Leading the Way



Key takeaway: Higher demand compared to last year as a) HDVs and electrification of industry are included for first time and b) higher EV and heat pump uptakes due to cost and policy updates

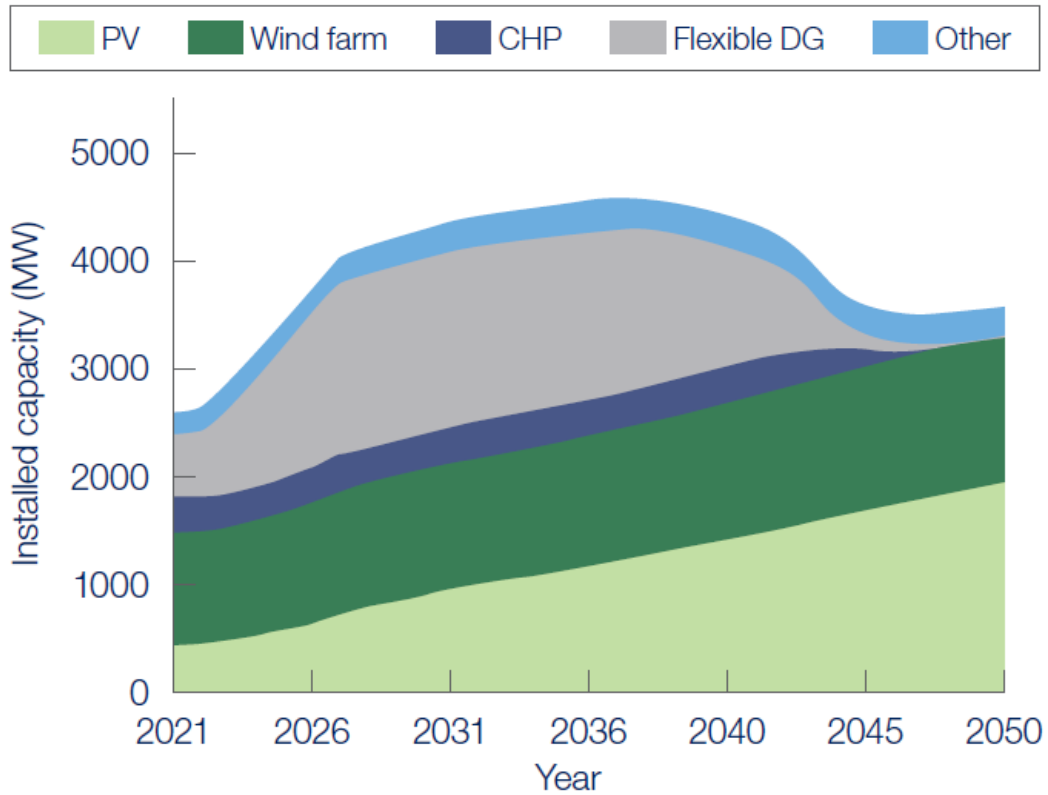
Part 1: Electricity demand
Part 2: Distributed generation & batteries
Part 3: Flexible services



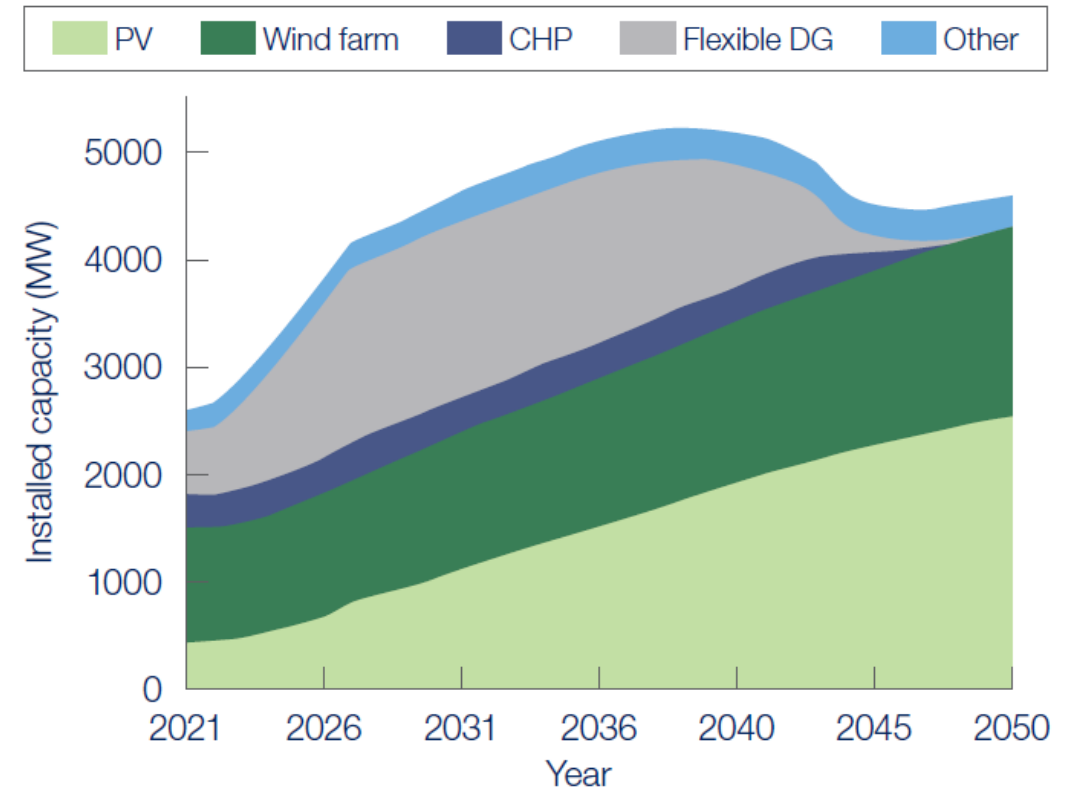
Renewable Distributed Generation (DG)



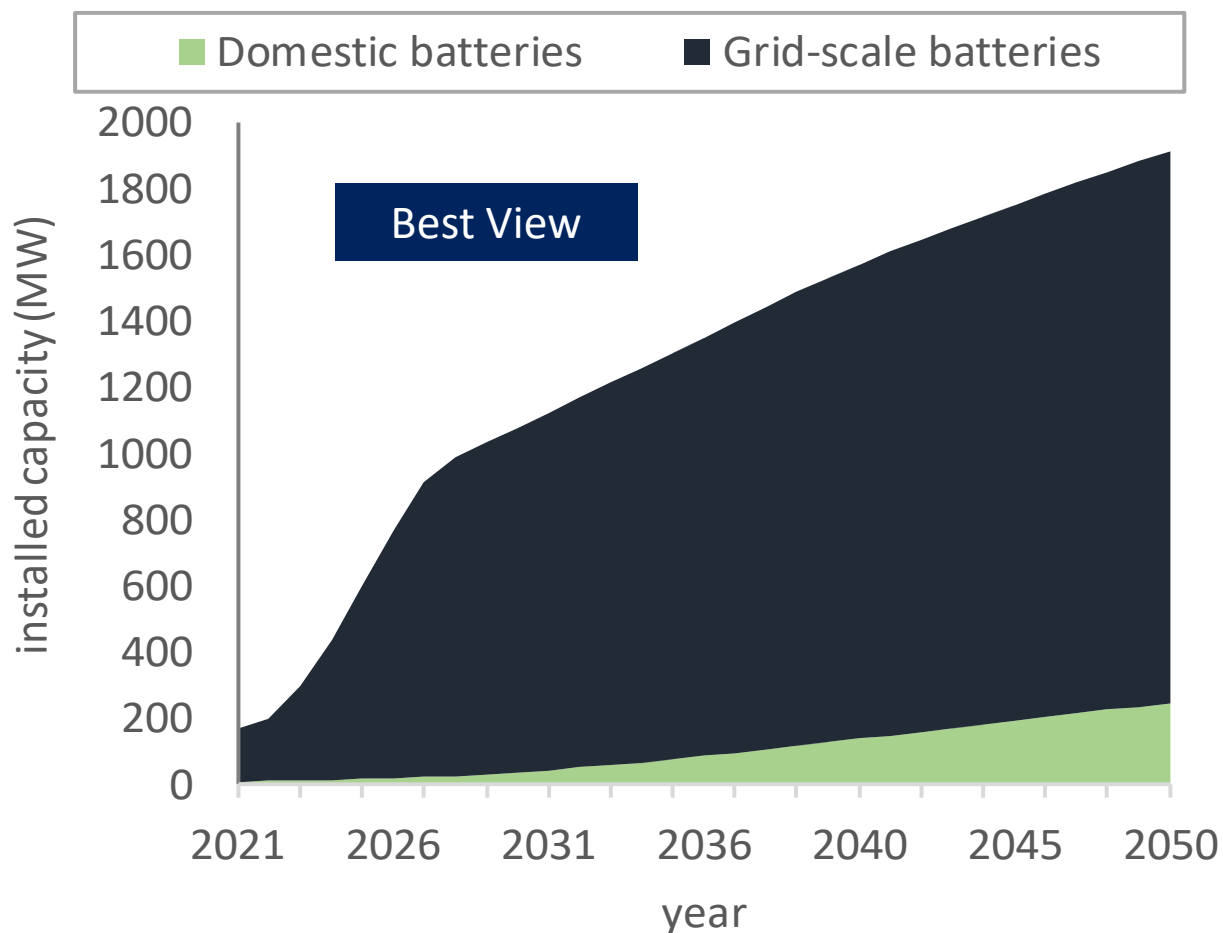
Best View forecasts for distributed generation



Consumer Transformation forecasts for distributed generation



Key takeaway: Renewable DG can go over double by 2050, **but** our scenarios are aligned with National Grid forecasts for transmission connected renewables following the common scenario framework. Any delays in offshore wind generation or implementation of efficiency measures would required more renewable DG to fully decarbonise electricity supply sector.



Grid scale batteries connection currently driven by frequency response, **but** price arbitrage the main driver in the long term

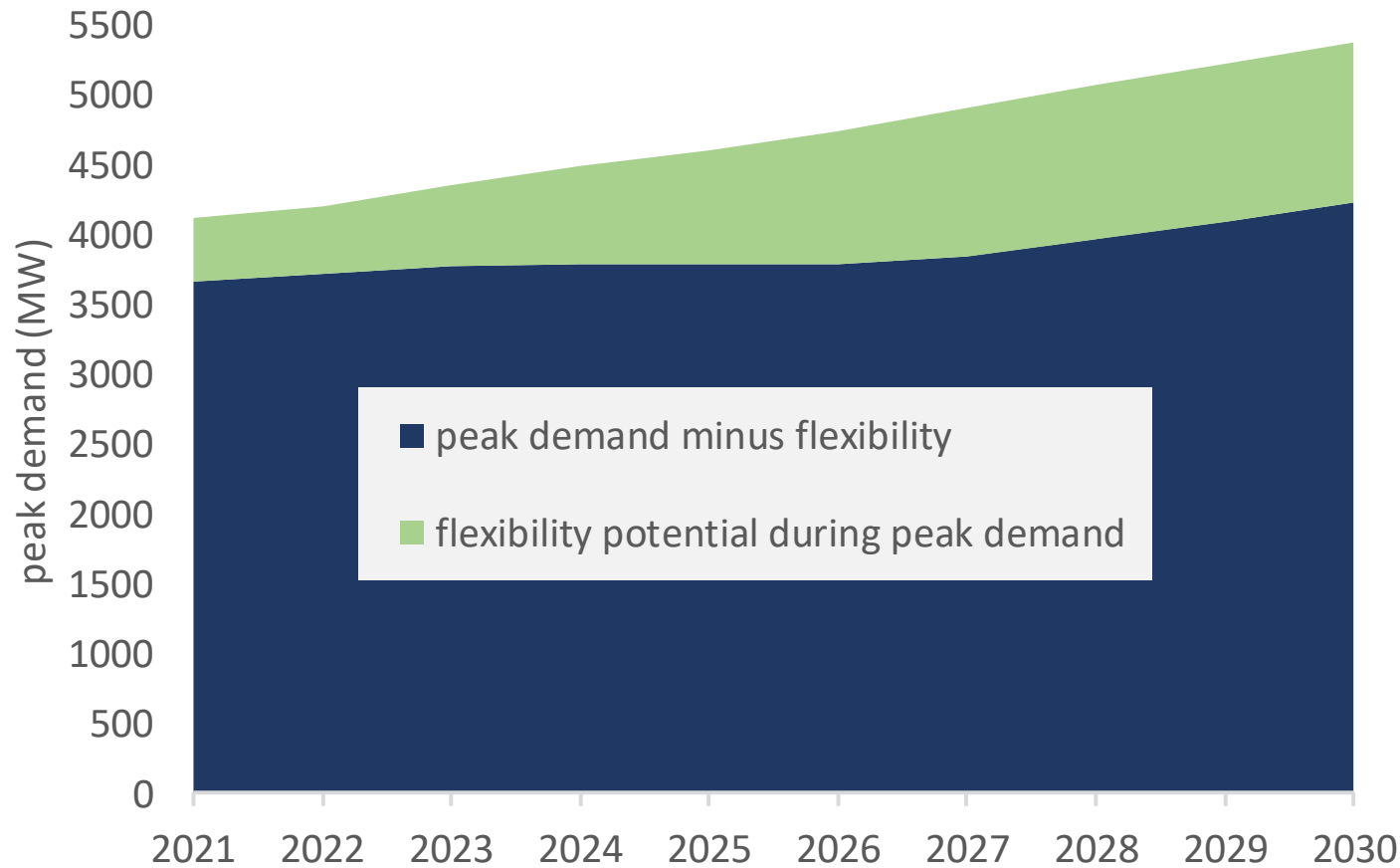
Accepted EHV and HV connections drive the high uptake in the following 3-5 years

Best View scenario: High uptake trend used as it is justified by connections pipeline with more effects beyond 2030 as high vs medium scenarios very similar before 2030

Part 1: Electricity demand
Part 2: Distributed generation & batteries
Part 3: Flexible services



Flexible energy potential



DFES includes for first time our “best guess” of flexible service potential from local stakeholders. This comes from DSR, flexible generators and batteries.

Flexible service requirements already calculated for DFES 2021 and included in Autumn 2021 tender. This will be part of Network Development Plan in the future

Network Development Plan

Gavin Anderson – EHV & Compliance
Planning Manager

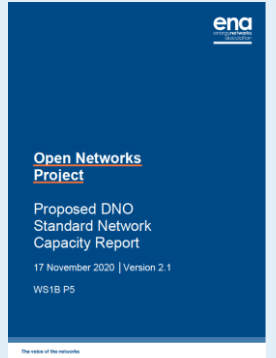


Background & Timeline



WS1B P5
commences
work

WS1B P5
Reports on
Network
Capacity
Report



DNOs
publish
Network
Headroom
Report
defined by
WS1B P5 '20

WS1B P5
Reports on
NDP
Form
of
Statement

DNOs
publish final
NDPs

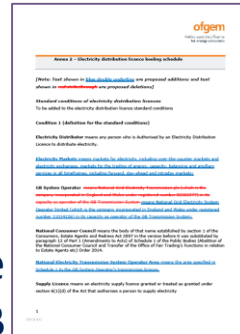
Feb 2020 August 2020 November 2020 December 2020 August 2021 December 2021 April 2022 May 2022

BEIS issue draft
licence
conditions
for GB
implementation
of the EU Clean
Energy Package



New licence
conditions
effective

NDP = Licence
Condition 25B



DNOs
publish Draft
NDPs for
Consultation

NDP Form of Statement: Network Headroom Reporting



Scope of Network Headroom Reporting	Deliverable
Date range	Every year to be covered individually between 1-10 years
	After the 10th year, this requirement moves to every five years up to 2051 aligning with DFES timescales;
Scenarios	Four DFES scenarios, plus a ‘best view’ scenario where different;
Network capacities and assessment methodology	Demand and generation capacities in terms of spare margin in MW per year per scenario
	This will reflect approved network developments in delivery including asset-based enhancements
	Information to be considerate of thermal loading and fault level constraints as a minimum
Coverage	Capacity information to be provided for all BSP and primary substations down to and including the primary secondary voltage, typically HV (11kV or 6.6kV)
Format and publication	The format of the network capacity reporting part of the NDP will be tabular in nature with the respective DNOs to add interactivity to the workbook if required.
	A short guidance document shall be included to explain the scope of the data workbook, define each data element and give user instructions.
Information sources	Annual update
	Network parameters underlying the capacity reports shall be based on the latest LTDS Existing and future network demand and generation shall be based on the latest DFES

The NDP Form of Statement comprises 3 parts



Parts of the network most suited to new connections

Parts of the network where reinforcement required

Parts of the network where flex required

1) Network headroom reporting

New infrastructure

Flex services

2) Network development reporting

Methodology for preparing the network development plan

Assumptions

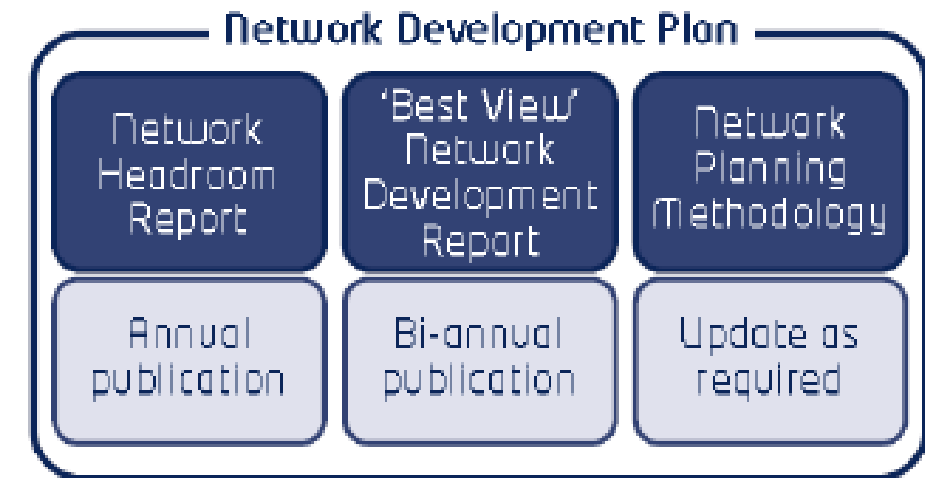
3) Methodology



ENWL published on the 25 March 2022 four key documents for consultation:

Document	Summary	Type
Draft Network Development Plan	Introductory document giving an overview of our publication	Document
NDP Methodology	Methodology behind the preparation of our NDP	Document
NDP Report	Identifying by each GSP intervention areas and flexibility options	Document
NDP Workbook	Interactive workbook covering scenarios and capacity headroom based on our Demand and Generation forecasts	Interactive Excel Workbook

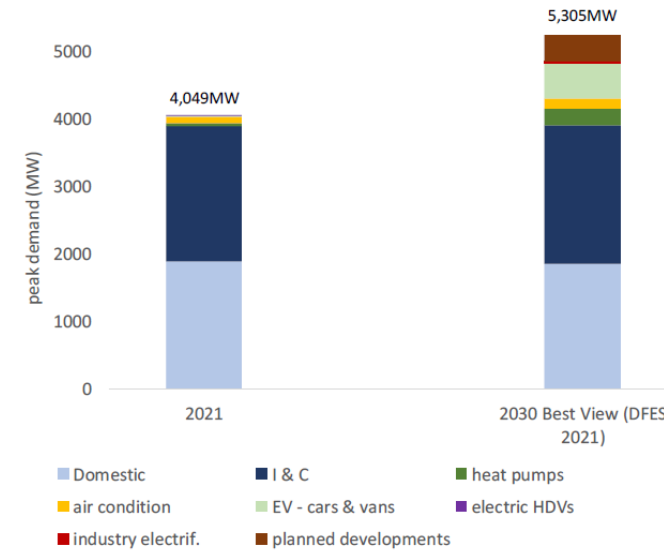
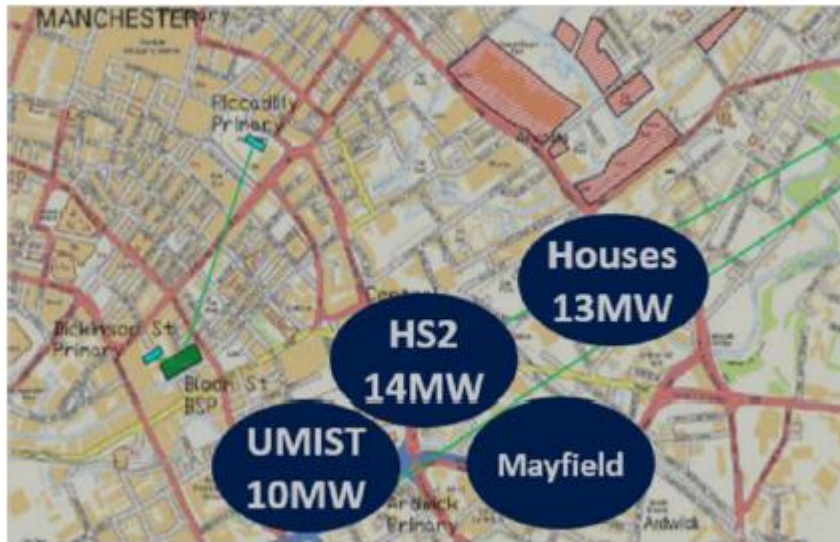
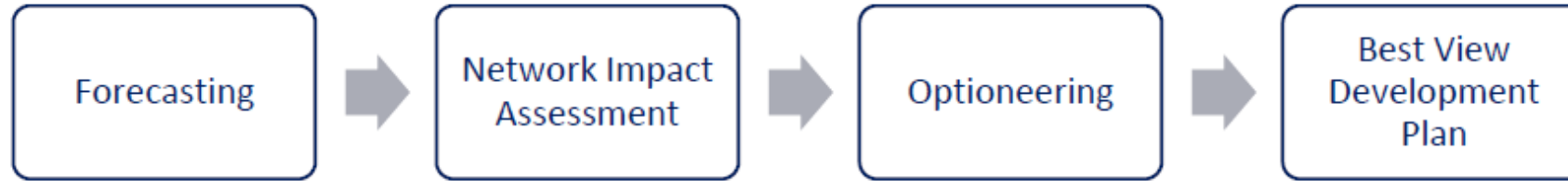
THREE PARTS OF THE NETWORK DEVELOPMENT PLAN



Network Development Methodology



- Methodology part of the NDP provides an overview of the process of how we arrive at our plan
- Forecasts and stakeholder engagement plays key parts in this journey



- Key developments can be baked into our plans to ensure capacity is available

- Collection of all the data then allows us to have a final Best view of the demand required at any given time



List of high level plans for network interventions and flexible service requirements:

- For years 1 to 10
- Location of the intervention, covering whole network down to primary substation HV bars
- Development requirements for flexibility services and new infrastructure (table below)
- Justification for the need for network developments
- Where it resides on the delivery lifecycle (signposting, approved plan, in delivery etc.)

Flexibility services	New infrastructure
<ul style="list-style-type: none">○ Magnitude;○ Year of intervention, likely duration i.e. number of years in the future;○ Nature of requirement / flexibility product;	<ul style="list-style-type: none">○ Timing and high level scope of intervention; construction duration (start & finish)○ Details of connectivity; link to the LTDS○ Asset quantities approx. circuit lengths, no. txs etc○ Equipment ratings.



Network Headroom Report 2022 Data Workbook

This workbook is an accompaniment to our 2022 Network Headroom Report. It contains detailed datasets and interactive tools which allow our customers to understand headroom availability by Primary and Bulk Supply point, from a Demand and Generation point of view out to 2051.

The Data contained in this workbook is based on our 2021 DFES data and existing network. Please note the value of headroom is calculated from two reference points, Firm Capacity at sites now, and the anticipated Firm Capacity at sites at the end of RII0-ED2 (2028) based on changes to firm capacity driven by anticipated investment outcomes. Results should only be used as an indication and will be updated upon the next refresh of the data in two years time.

Version 1.2

Published Mar 2022

CONTENTS

Section	Tab	Description
INTERACTIVE DATA TOOLS	Local Authority Look Up	List of all Primaries, BSPs and GSPs with a link to the local authority in which they are located.
	Demand Headroom Summary Table	Select specific Primary or BSP to return overview of Demand Headroom 2022-2051
	Generation Headroom Summary Table	Select specific Primary or BSP and technology type to return overview of Generation Headroom 2022-2051
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

- Opening tab allows user to head to the area of key interest.
- Published originally in August 21, updated version now includes a local authority look up

NDP Workbook Overview



- Interactive Workbook – example Upholland Primary

Select Primary	Upholland		Primary Demand Headroom (MVA)													
BSP	ORRELL															
GSP	KIRKBY															
Grid Coordinates	Easting	Northing	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2036	2041	2046	2051
	352531	404369														
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

Select Primary	UPHOLLAND		Primary Generation Headroom (MVA)													
Select Technology	Generation – Synchronous (HV)															
BSP	ORRELL															
GSP	WASHWAY FARM / KIRKBY															
Grid Coordinates	Easting	Northing	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2036	2041	2046	2051
	352531	404369														
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 Development | 2022

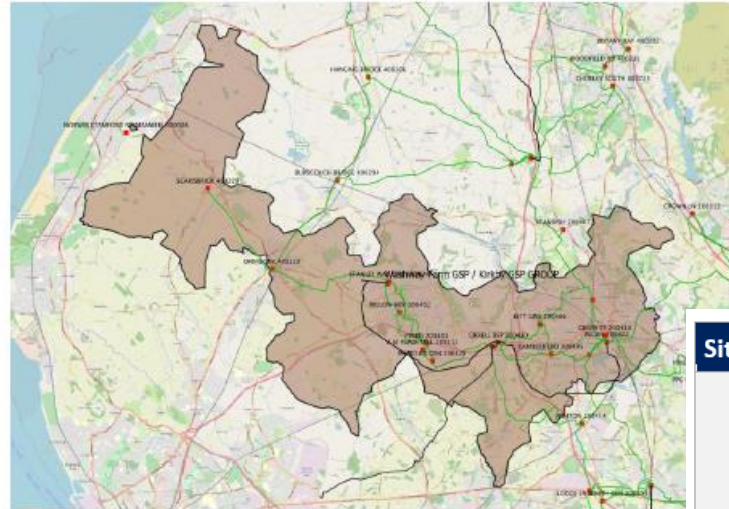
Strategic Planning, DSO Directorate

March 2022



Brin 15 Washway Farm / Kirkby GSP

GSP Summary 3 BSPs 12 Primaries





Washway Farm GSP / Kirkby GSP Group supplies approximately 74,000 customers across the 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 ENI 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 <u>Pimbo</u> primary Lay new HV Interconnector from Upholland to <u>Pimbo</u> ~4km 300 Al XLPE cable to transfer demand Start date: FY28 Completion: FY29	Dynamic response required  <table border="1"> <thead> <tr> <th>Max Flex Required at 2051 - Winter Peak</th> <th>MVA</th> </tr> </thead> <tbody> <tr> <td>Best View</td> <td>5.2</td> </tr> <tr> <td>Consumer Transformation</td> <td>16.0</td> </tr> <tr> <td>Steady Progression</td> <td>4.2</td> </tr> </tbody> </table> Within 5km of X and Y coordinates	Max Flex Required at 2051 - Winter Peak	MVA	Best View	5.2	Consumer Transformation	16.0	Steady Progression	4.2
Max Flex Required at 2051 - Winter Peak	MVA										
Best View	5.2										
Consumer Transformation	16.0										
Steady Progression	4.2										



There are 55 locations identified across the North West

Covering the next 10 years

Identified in the Flexibility Map by the grey icons!

[Home](#) > [Go net zero](#) > [Flexible services](#) > [Latest requirement](#) > Spring 2022

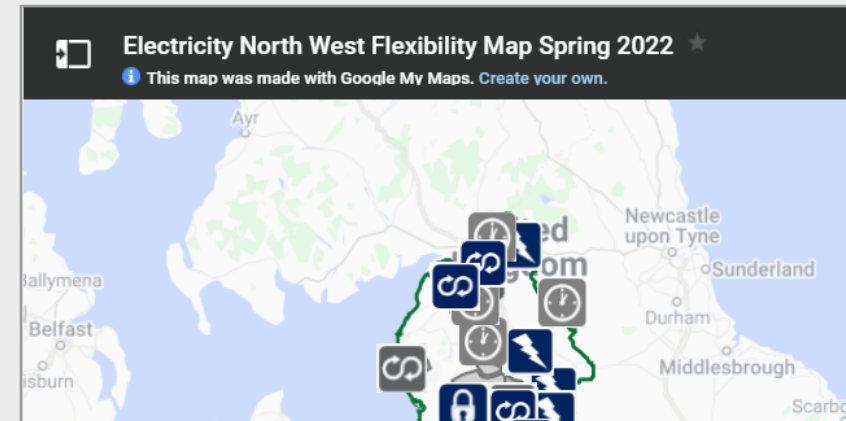
Spring 2022 flexibility requirements

Our Spring 2022 requirements are now live. Full details can be found below in our Invitation to Tender documents, interactive flexibility map and post code checker.

Our Spring 2022 tender asks Flexibility Providers for **748MW of flexibility in 57 locations** across our region.

This procurement round is open for submissions from **Monday 28 March 2022 until Friday 24 June 2022** via the [PicloFlex](#) platform. Full details for each site can be viewed within the documentation below and on Piclo. In order to take part and provide flexibility, you will need to:

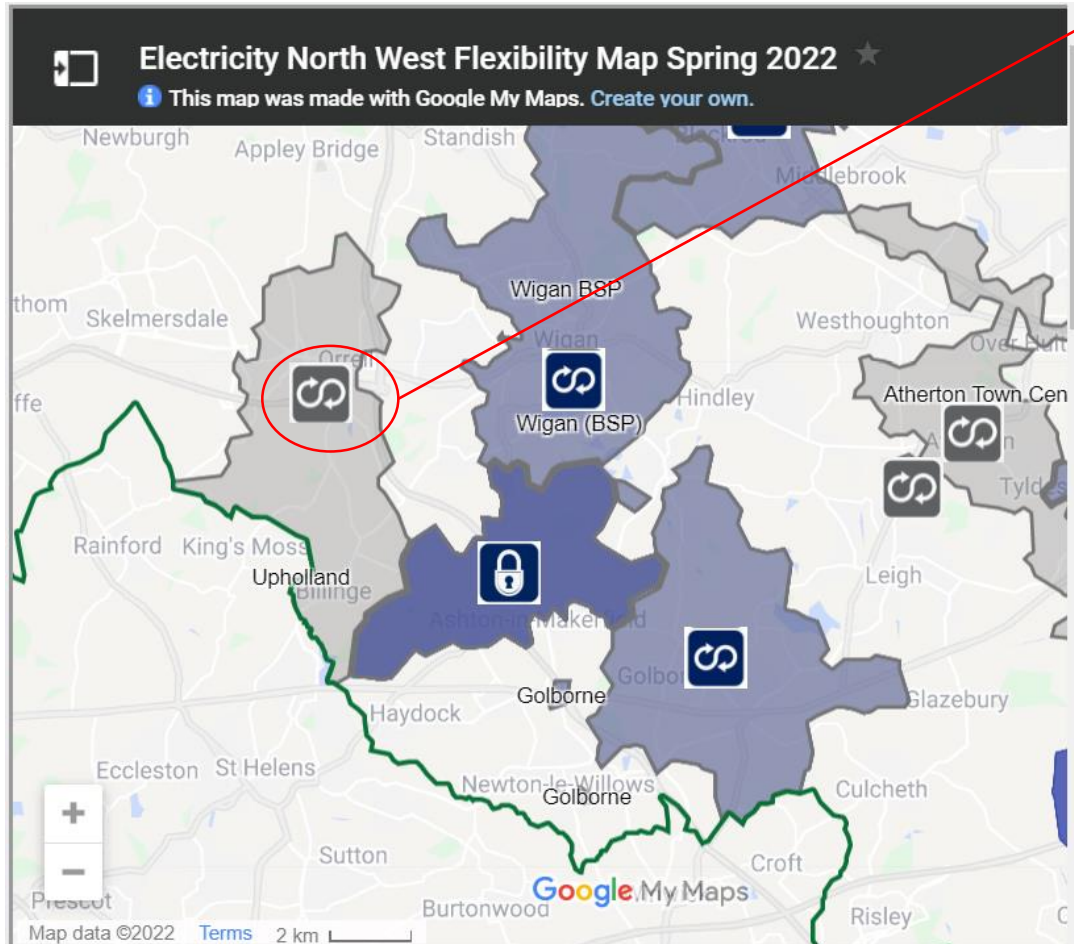
1. Register onto the Dynamic Purchasing System via [Piclo](#)
2. Register and upload your assets via [Piclo](#)
3. Complete our online [Pre-Qualification Questionnaire](#)



Signposting Flex requirements



- NDP Flex requirements included in the flex tender to give early signposting and linkage through to published NDP plan



← Upholland

Substation Name
Upholland

Need Type
Dynamic

Comments
This site is forecasted to require flexible services in the next 5-10 years. However this is not guaranteed and will be subject to future capacity reviews. Exact location data will be confirmed if and when we publish an ITT for this site.

More information
<https://www.enwl.co.uk/get-connected/network-information/network-development-plan/>

Easting
352522

Map Spring 2022

Questions & Answers



Please type questions in the chat box or
raise your hand



Flexible Services Overview

Lois Clark – DSO Commercial Lead



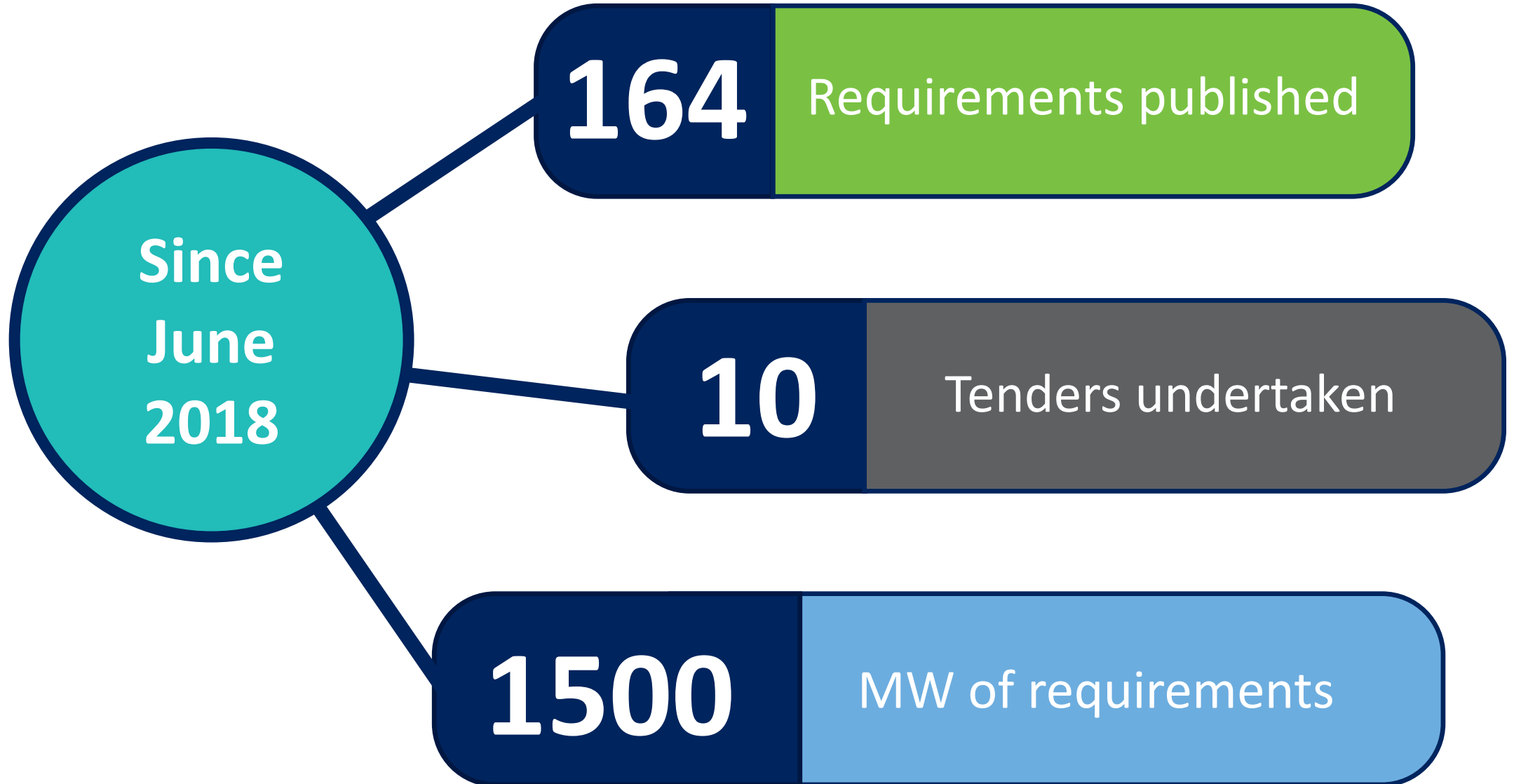


Before we get started, we'd like to find out more about our audience today to help us gauge everyone's understanding of Flexible Services

- 1** Have you participated in our Flexible Services tenders before?
- 2** Have you participated in other DNO's Flexible Services tenders?
- 3** What do you feel are the biggest barriers to providing Flexible Services?
 - Cost - revenue available
 - Location - if there are no requirements in your area
 - Timescales - having several years notice of requirements
 - Contract length.



Please take a minute to answer the quick poll that will appear in the chat window

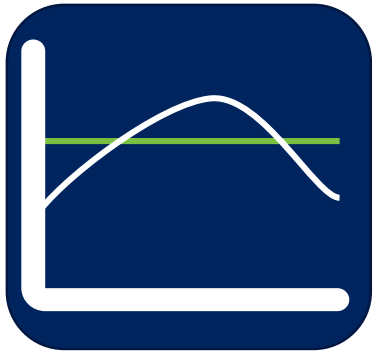


What are Flexible Services?



Flexible Services is the term given to the act of reducing or increasing consumption or generation following receipt of a signal, due to a network constraint.

In simple terms, it means a customer generating more or using less electricity after we've asked them to.



A network constraint is when safe network operating limits are breached.

This means the requirement for electricity in the area is greater than the amount that the local network is capable of providing.

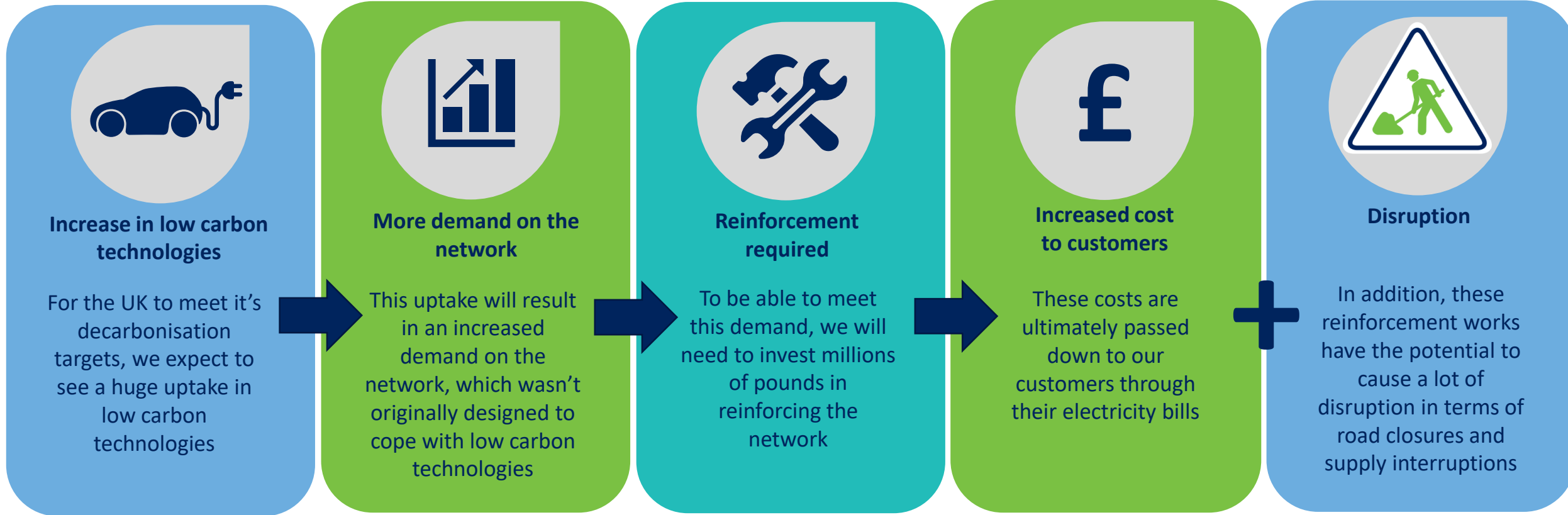
In return for providing Flexible Services a customer will **receive payment**



So why now?

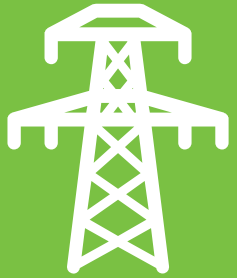


A revolution is currently underway as the UK embraces a zero carbon future, and the way energy is generated, stored, consumed and traded is all evolving at a significant pace. The electricity industry is facing one of its biggest challenges yet.



It's our responsibility to find smarter, more flexible ways to meet future needs, and procuring Flexible Services is one of the ways in which we plan to tackle this challenge.

What are the benefits?



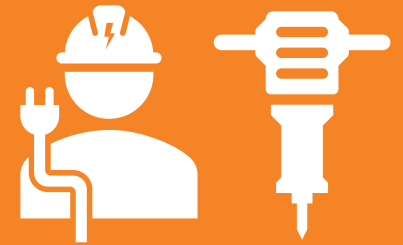
Utilises existing assets



Reduces CO₂ emissions



Reduction in supply interruptions



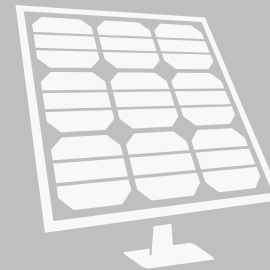
Less disruption



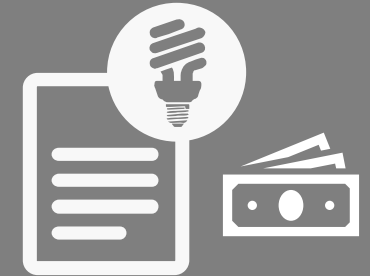
Supports community energy groups



Supports local businesses



Encourages Low Carbon Technologies



Cheaper bills for customers



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

Types of flexibility



Service parameters	 SUSTAIN	 SECURE	 DYNAMIC	 RESTORE
Maximum Ramping Period	N/A	<15 mins	<2 mins	<2 mins
Availability Agreement Period	N/A	Contract stage	Contract stage	Contract stage
Utilisation Instruction Notification Period	Scheduled in advance	Contract stage	Real Time	Real Time
When required?	Scheduled forecast overload	Pre-fault / peak shaving	Network abnormality / planned outage	Network Abnormality
Risk to Network	Low	Medium	High	High
Utilisation Certainty	High	High	Low	Low
Frequency of Use*	High	Medium	Low	Low

Current requirements in Spring 2022

Keith Evans – Flexible Solutions Manager





Launched on 28 March 2022, our Spring tender asks for:

57

Locations within the
North West

**748
MW**

Of capacity required

£5m

Available for providing
these services

See if you can get involved today!



Service	Sustain	Secure	Dynamic	Restore
Spring-22 Requirements (MW)	0	164	132	452

Our Spring 2022 tender is looking to procure more Secure services than our previous tenders, this is our biggest yet!



Manchester

24 sites

373 MW

£2.48m

Lancashire

13 sites

271 MW

£1.47m

Cumbria

20 sites

104 MW

£1.17m

Flexibility requirements map



Our flexibility map displays the locations within our distribution area 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

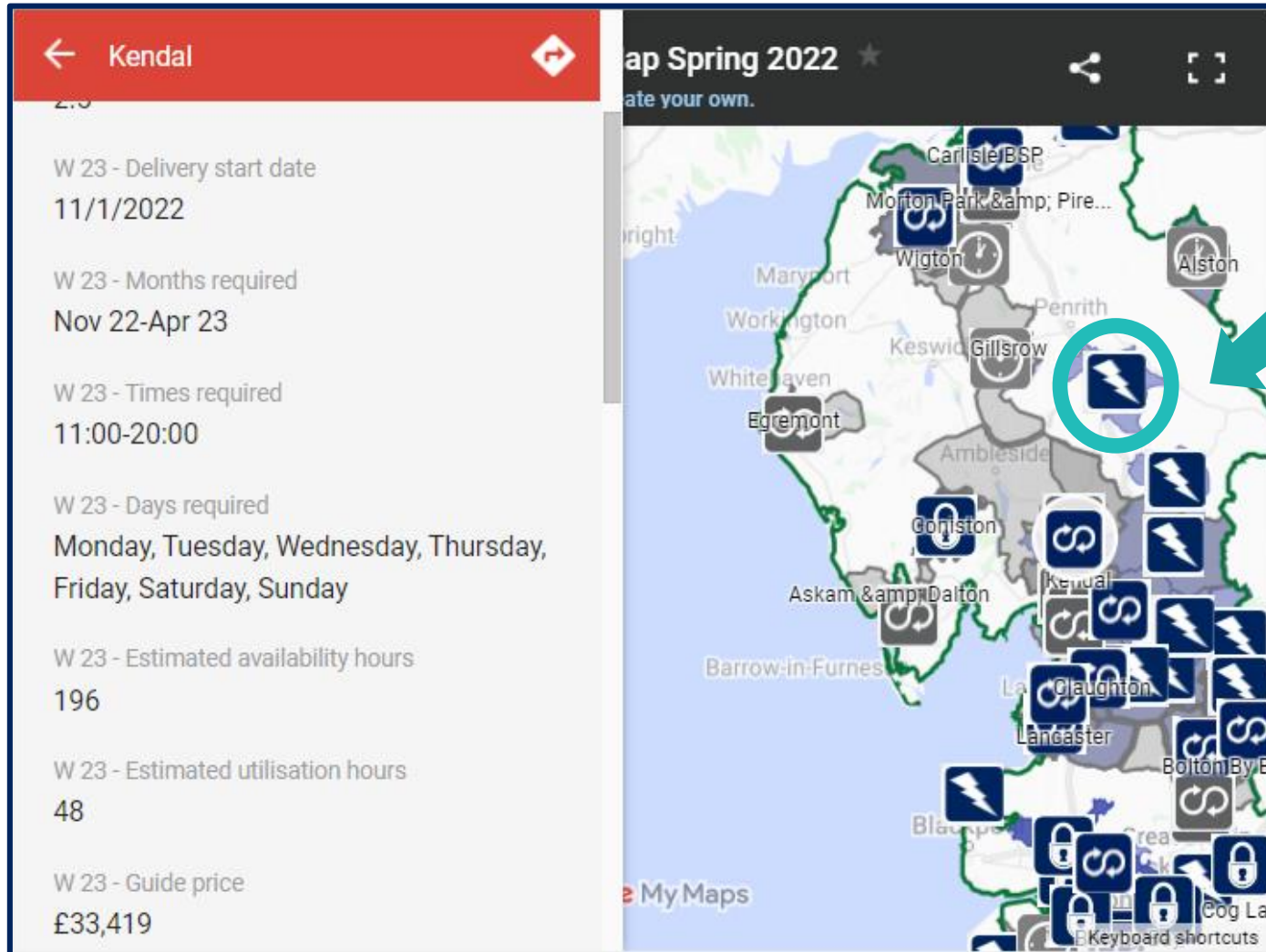


Dynamic



Secure

Flexibility requirements map



Select an icon to expand the details of each site requirement

You can find this map on our:

- [Flexible Services homepage](#)
- [Current requirements page](#)

The grey icons correlate to the information in the NDP, showing you whether a site is expected to require flexibility in the next **3-5** or **5-10** years.

Flexibility requirements map



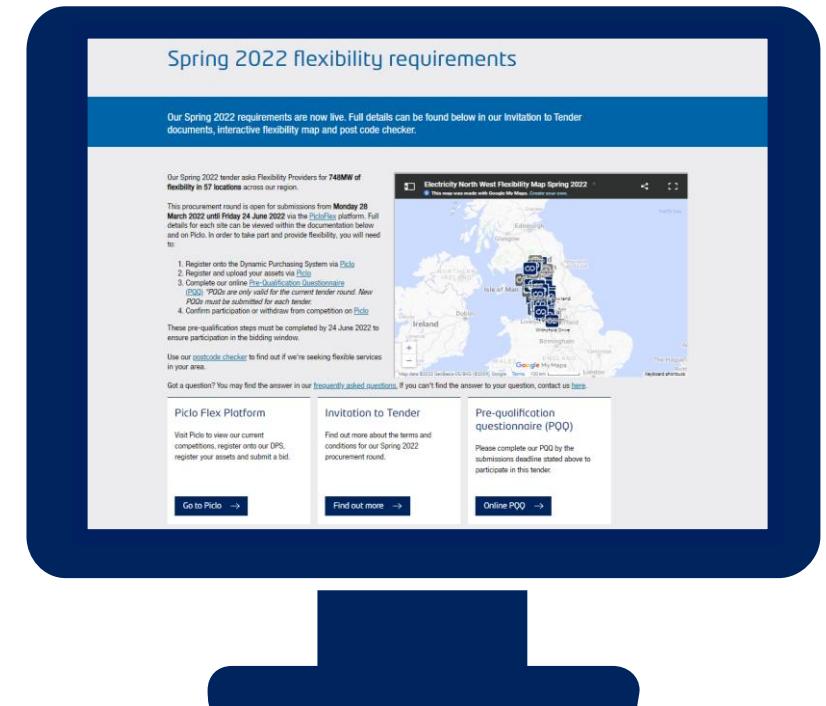
- On the map, our requirements have been split into Summer & Winter requirements for the site over the next 2 years.
- We provide the:
 - Capacity
 - Estimated no. of hours of utilisation and availability
 - The period of service is required for (months, Days, & hours)
 - A guide price etc

← Irlam	
Substation Name	Irlam
Need type	Secure & Dynamic
W 23 - Maximum requirement (MVA)	5.1
W 23 - Delivery start date	11/1/2022
W 23 - Months required	Nov 22-Mar 23
W 23 - Times required	08:00-22:00
W 23 - Days required	Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday
W 23 - Estimated availability hours	1563
W 23 - Estimated utilisation hours	100
W 23 - Guide price	£29,115
S 24 - Maximum requirement (MVA)	2.14
S 24 - Delivery start date	4/1/2023
S 24 - Months Required	Apr 23-Sep 23
S 24 - Times required	08:30-22:00



Our full invitation to tender documentation is on our website, and includes:

- Invitation to Tender terms and conditions
- Standard Flexibility Agreement
- Technical specification
- Summary site requirements
- Half hourly flexibility requirements
- Online Pre-Qualification Questionnaire
- Post-code checker
- Bid calculator



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

Procurement timeline



We are here!



Put this in the diary!



Pre Qualification Questionnaire (PQQ)



Flexibility Providers are required to complete our [PQQ](#) to participate in our tenders. This questionnaire can be submitted once you have already:

- ✓ Successfully registered onto our Dynamic Purchasing System (DPS) on Pico.
- ✓ Uploaded your assets on Pico.

- Asks for technical details of the site and the capability for delivering flexibility.
- **All fields must be accurately completed by 24th June 2022** to receive an invite to submit a bid.
- If you need assistance when completing the PQQ, you can [book a 1-2-1 surgery appointment](#) with a member of our team.

Details of protection arrangements including loss of mains protection	<input type="text" value="e.g. RoCoF, Vector Shift, Intertrip."/>
Is this site already connected to the ENWL network?	<input type="radio"/> Yes
	<input type="radio"/> No
If not, does this site have an accepted offer for connection to the ENWL network?	<input type="radio"/> Yes
	<input type="radio"/> No
If the site has an accepted offer please provide quote reference number	<input type="text"/>
If not already connected to the network, please indicate development timescales for this site including progress of application, and energisation date, and upload development proposals if available	<input type="text"/>
Upload	<input type="button" value="Choose File"/> No file chosen
If not currently connected, please outline the expected typical demand/ generation profile and upload data/charts if available	<input type="text"/>
Upload	<input type="button" value="Choose File"/> No file chosen



We utilise the ENA ONP CEM methodology and tool to calculate a ceiling price per service requirement, this shows the optimal deferral value where flexible services would be cheaper than conventional reinforcement solutions

Feedback from participants of previous tenders was that they sometimes struggled to translate the guide price into an availability and utilisation bid price that was within an acceptable range

Guide prices have been provided for a single service period and represent a maximum budget available assuming that all the service requirements are met (availability, utilisation, capacity)

Note that contracts spanning multiple years may be eligible for increased revenues where this provides guaranteed deferment of reinforcement

We have developed a simple to use cost calculator that can summate a draft bid and determine if this falls below the guide price





The welcome screen includes a brief description of the tool and a help guide to using it

The simplest way to utilise the tool is to use the Tender Finder tab

The screenshot shows the 'Flexible Services cost checker' tool interface. At the top left is the Electricity North West logo with the tagline 'Bringing energy to your door'. To the right is a large button labeled 'Flexible Services cost checker'. On the far right are three links: 'Click here to visit Piclo' with the Piclo logo, 'Click here to visit our website' with the Electricity North West logo, and 'Click here to contact us' with an email icon.

Description:
The aim of this tool is to allow potential participants of ENWLs flexible services contracts to be able to check the prices they are offering for availability and utilisation prior to submitting a bid. This will allow users to identify if their bid process exceed the ceiling price which ENWL are offering as part of this tender. It should be noted that a positive or negative result from this tool does not guarantee that a bid will or will not

Help Guide:
This tool offers to methods to calculate costs.

The **Tender Finder** tab allows users to search for the specific tender they are looking to participate within. A successful search for the tender will automatically compete the variables for the tender. The user will need to compete the Name of the tender, the period of the tender, and the type of service; additionally users should complete the details for their proposed availability, utilisation, and capacity offering.

The **Manual Entry** tab requires users to manually enter the details relating to the competition. These details can be ascertained from Appendix 3 of the tender documents. As with the Tender Finder the users should complete the details for their proposed availability, utilisation, and capacity offering.

Details of th tender requirements are provided within the **Competition Data** tab

If you encounter any issues whilst utilising the tool please feel free to get in touch:
flexible.contracts@enwl.co.uk

At the bottom, a navigation bar contains the following tabs: 'Introduction & Help', 'Tender Finder' (circled in red), 'Manual Entry', 'Competition Data', and a plus sign icon.



Flexible Services cost checker

Click here to visit Piclo

Click here to visit our website

Click here to contact us

Insert Bid Details Here

Competition details	Competition Name		Enter data
	Period		Enter data
	Service Type		Enter data

Bid Details	Availability £/MWh		Enter data
	Utilisation £/MWh		Enter data
	Capacity MW		Enter data

Competition details (auto-populated)

Competition ID	No Tender matching these parameters
Celling Price per annum	No Tender matching these parameters
Availability Hours	No Tender matching these parameters
Utilisation Hours	No Tender matching these parameters
Capacity Required MW	No Tender matching these parameters

Total Bid Price			% of capacity required	Total price if scaled up to total capacity required			% of celling Price
Availability £	Utilisation £	Total Bid Price		Availability £	Utilisation	Total Bid Price	

Result:



Flexible Services cost checker



Insert Bid Details Here

Competition details	Competition Name	Baguley
	Period	W23/24
	Service Type	Dynamic

Bid Details	Availability £/MWh	€60.00
	Utilisation £/MWh	€200.00
	Capacity MW	0.7

Competition details (auto-populated)

Competition ID	ENWL-101
Celling Price per annum	€4,853.00
Availability Hours	13
Utilisation Hours	24
Capacity Required MW	0.7

Total Bid Price			% of capacity required	Total price if scaled up to total capacity required			% of ceiling Price
Availability £	Utilisation £	Total Bid Price		Availability £	Utilisation	Total Bid Price	
€546.00	€3,360.00	€3,906.00	100.00%	€546.00	€3,360.00	€3,906.00	80.49%

Result:

Your tendered price is within the ceiling price.
Note: This is not a guarantee that your submission will be accepted.



Flexible Services cost checker

Click here to visit Piclo

Click here to visit our website

Click here to contact us

Insert Bid Details Here

Competition details	Competition Name	Baguley
	Period	W23/24
	Service Type	Dynamic

Bid Details	Availability £/MWh	£200.00
	Utilisation £/MWh	£200.00
	Capacity MW	0.7

Competition details (auto-populated)

Competition ID	ENwL-101
Celling Price per annum	£4,853.00
Availability Hours	13
Utilisation Hours	24
Capacity Required MW	0.7

Total Bid Price			% of capacity required	Total price if scaled up to total capacity required			% of ceiling Price
Availability £	Utilisation £	Total Bid Price		Availability £	Utilisation	Total Bid Price	
£1,820.00	£3,360.00	£5,180.00	100.00%	£1,820.00	£3,360.00	£5,180.00	106.74%

Result: Your tendered price is not within the ceiling price. You may wish to consider revising your costs in order to improve the likelihood of being a successful participant.



Flexible Services cost checker



As well as a Tender Finder, there is the option to manually enter a tenders details

Insert Bid Details Here

Bid Details		
Availability £/MWh		Enter data
Utilisation £/MWh		Enter data
Capacity MW		Enter data

Competition details (Manually-populated)

Celling Price per annum		Enter data
Availability Hours		Enter data
Utilisation Hours		Enter data
Capacity Required MW		Enter data

Total Bid Price			% of capacity required	Total price if scaled up to total capacity required			% of celling Price
Availability £	Utilisation £	Total Bid Price		Availability £	Utilisation	Total Bid Price	
£0.00	£0.00	£0.00		£0.00	£0.00	£0.00	

Result:



All the information required to complete the calculator, such as the competition name, service period, and competition type is available via the 'Competition Data' tab for easy reference

Competition Name	Period	Competition type	Capacity				Competition R
			Utilisation (hrs)	Availability (hrs)	Required (MW)	Ceiling Price per annum (£)	
Alston	W22/23	Restore	100	0	1.67	£12,360	ENWL-91
Alston	W23/24	Restore	100	0	1.67	£12,360	ENWL-91
Ardwick	W23/24	Secure	100	806	2.96	£137,254	ENWL-92
Ardwick	W23/24	Restore	100	0	12.74	£34,196	ENWL-93
Ashton (Golborne)	W22/23	Secure	100	894	5.13	£17,793	ENWL-94
Ashton (Golborne)	W22/23	Restore	100	0	16.29	£89,510	ENWL-95
Ashton (Golborne)	S23	Dynamic	48	82	3.22	£5,552	ENWL-96
Ashton (Golborne)	W23/24	Secure	100	1833	7.1	£17,793	ENWL-94
Ashton (Golborne)	W23/24	Restore	100	0	16.29	£89,510	ENWL-95
Ashton (Ribble)	S23	Dynamic	48	289	2.14	£4,169	ENWL-97
Ashton (Ribble)	W23/24	Secure	100	1969	6.64	£17,104	ENWL-98
Ashton (Ribble)	W23/24	Restore	100	0	6.41	£37,748	ENWL-99
Ashton (Ribble)	W22/23	Secure	100	752	4.36	£17,104	ENWL-98
Ashton (Ribble)	W22/23	Restore	100	0	6.41	£37,748	ENWL-99
Askerton Castle	W22/23	Restore	100	0	1.337	£4,286	ENWL-100
Askerton Castle	W23/24	Restore	100	0	1.337	£4,286	ENWL-100
Baguley	W23/24	Dynamic	24	13	0.7	£4,853	ENWL-101
Barton Dock Rd	W22/23	Dynamic	48	98	0.5	£73,195	ENWL-102
Barton Dock Rd	W23/24	Dynamic	48	211	0.78	£73,195	ENWL-102
Bentham	W22/23	Restore	100	0	4.49	£20,318	ENWL-103
Bentham	W23/24	Restore	100	0	4.49	£20,318	ENWL-103
Blackfriars	W22/23	Secure	100	711	4.21	£18,084	ENWL-104
Blackfriars	W22/23	Restore	100	0	12.7	£41,217	ENWL-105
Blackfriars	W23/24	Secure	100	1097	5.09	£18,084	ENWL-104
Blackfriars	W23/24	Restore	100	0	12.7	£41,217	ENWL-105
Bolton By Bowland	W22/23	Dynamic	48	68	0.27	£48,526	ENWL-106
Bolton By Bowland	W23/24	Dynamic	48	125	0.3	£48,526	ENWL-106
Botany Bay	W23/24	Dynamic	48	108	0.94	£19,777	ENWL-107
Bradshawgate	W22/23	Dynamic	48	390	1.49	£23,195	ENWL-108



In order to participate in our procurement rounds, you will need to:

1

Sign up to the
Dynamic
Purchasing System
via [PicloFlex](#)

2

Register and
upload your
assets via
[PicloFlex](#)

3

Complete the
pre-qualification
questionnaire on
[our website](#)

4

Submit a bid
via [PicloFlex](#)



In 2018 we began signposting our flexibility requirements on the Piclo Flex platform and last year we joined UKPN and SPEN in utilising the platform for the procurement of our tenders and the Dynamic Purchasing System (DPS)

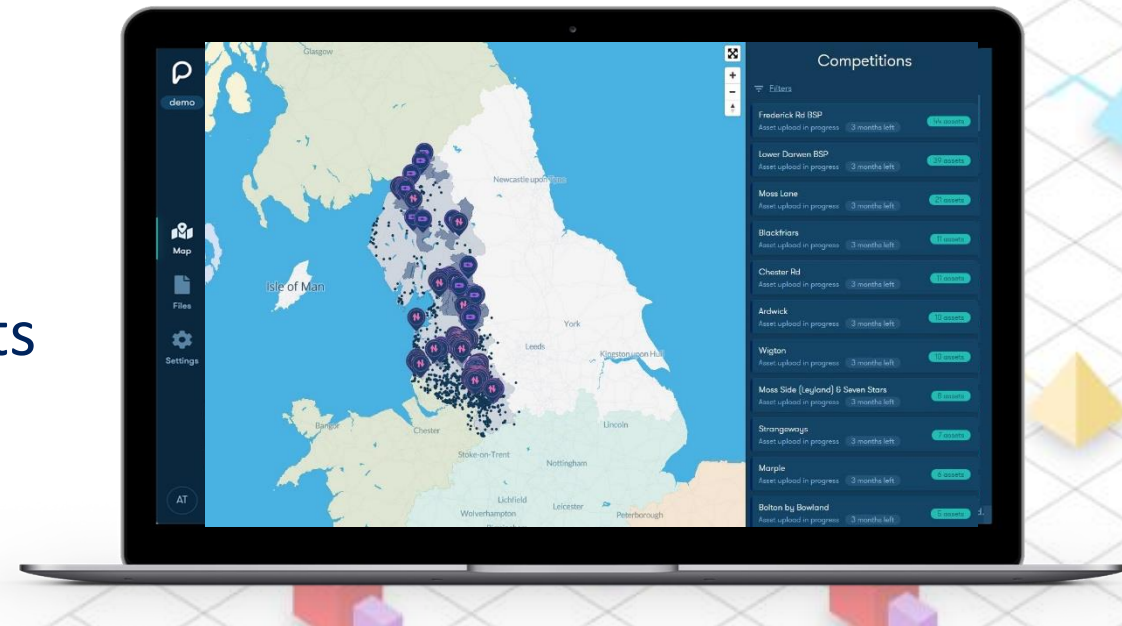
Benefits:

- ✓ UK's leading marketplace for DSO flexibility procurement
- ✓ Provides market visibility and transparency
- ✓ Streamlines processes for flexibility procurement (qualification, auctions and contracts)
- ✓ Stimulates participation from Flex Providers



Visit <https://picloflex.com/> to:

- View our current requirements
- Sign up to the free DPS
- Upload and pre-qualify your flexibility assets
- Submit a bid
- View past competition data



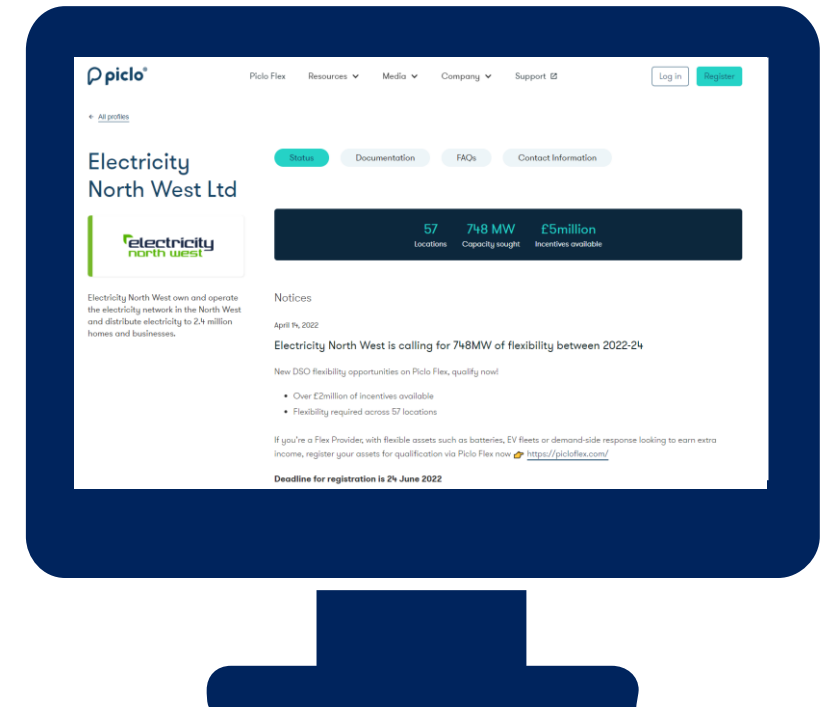
Contact support@picloflex.com for all queries relating to the platform or to book a personalised demo with a member of the team



A summary of our current tender is available via our dedicated [profile page](#) on the Piclo website

This provides:

- an update as we go through the tender process
- links to all of our tender documents
- FAQ's
- Contact information and feedback form



Status

Documentation

FAQs

Contact Information



Growing DSO flexibility markets to reach net zero

Collaborate with System Operators and influence the future of flexibility services

Join us for a day of in-person collaboration, panel discussions and market insights.

14 June 2022



We are co-hosting a round table event to allow stakeholders to collaborate with us and influence our future developments of flexible services.

At Museum of Science and Industry, Manchester

Event is between 11 and 5pm, followed by networking and a drinks reception

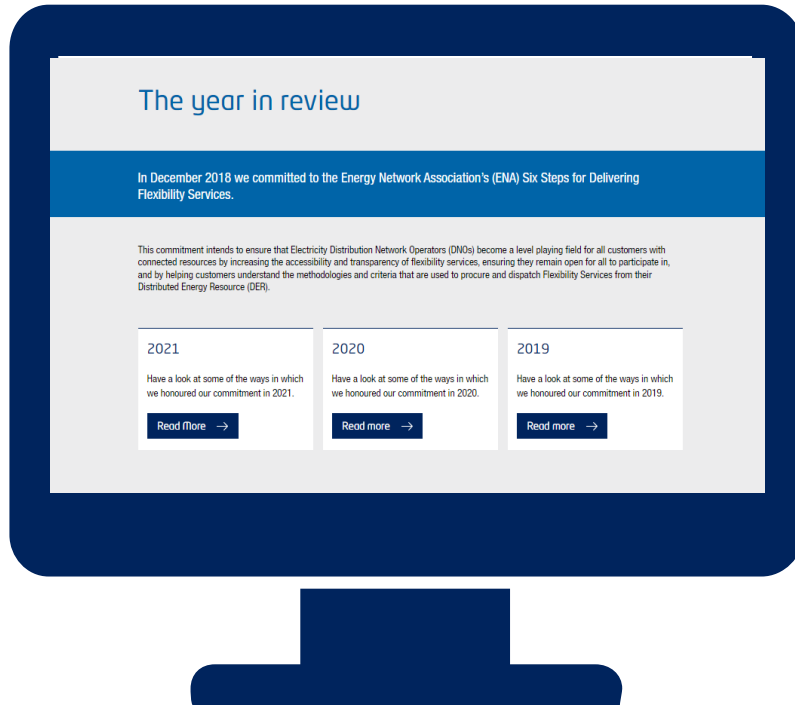
[Register here!](#)

Key developments and ongoing work





We published our third 'year in review' document in January 2022, summarising our progress throughout the year in line with the ENA's 'Six steps for delivering flexibility services'



- ✓ Champion a level playing field
- ✓ Ensure visibility and accessibility
- ✓ Conduct procurement in an open and transparent manner
- ✓ Provide clarity on the dispatch of services
- ✓ Provide regular, consistent and transparent reporting
- ✓ Work together towards whole energy system outcomes

Key developments in 2021



Implementation of our NMS system

Standardisation of Pre-Qual criteria

Simplicity

Began rolling out LV monitoring on our network

Published ceiling prices to guide bids

Transparency

Secured several contracts from our Spring-21, and Autumn-21 tenders

Implementation of Flexible Power

RIIO-ED2 business plan – DSO Annex and consultation

Standardisation of reporting being developed

Accessibility



You said

Would like the option of being dispatched via an API, as well as by RTU

More visibility upfront of the maximum costs available for flexible services

You sometimes struggle to calculate bid prices which would fall within our ceiling prices

You would like to see the results of previous tenders, including prices agreed

You wanted us to standardise baselining methodologies for service settlement

We did

We adopted the Flexible Power platform which allows for the dispatch of services via API; but dispatch via an RTU is still possible

We have published guide prices for each service which gives indicative thresholds for acceptable bids

We developed a [cost calculator tool](#) which helps with evaluation the bid prices compared to the ceiling price

We publish a results overview on our [Previous Requirements](#) showing an overview of the tenders outcome including prices agreed (available from 2021)

We worked via the ENA ONP to produce common baselining methodologies and [a tool](#) to facilitate transparent baseline calculation.



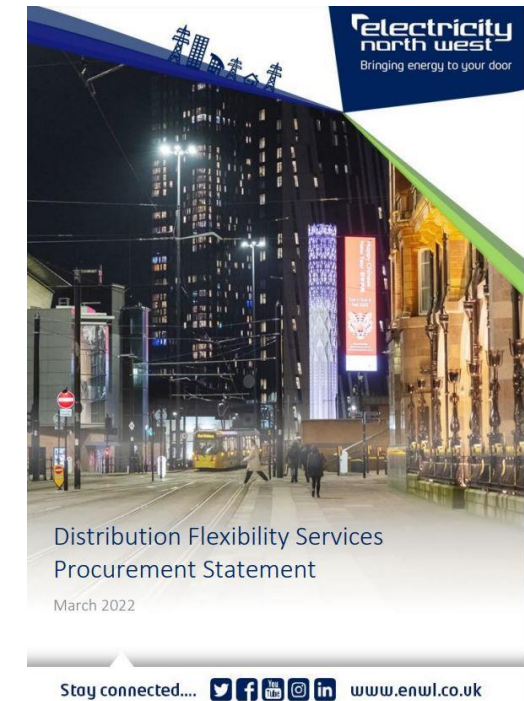
- *Clean Energy for all Europeans Package* introduced by UK Government in December 2020
- Ofgem added a new condition to our Electricity Distribution Licence:
Condition 31E: Procurement and use of distribution flexibility services

We published our second [Distribution Flexibility Procurement Statement](#) which sets out our plans for procuring Flexible Services for the upcoming regulatory year and supports the flexibility market in Great Britain as we cooperate with other DNOs and IDNOs to deliver:



throughout our flexibility processes in this fast-developing new sector.

Keep an eye out for our first Distribution Flexibility Procurement **Report**, which will be published next week!



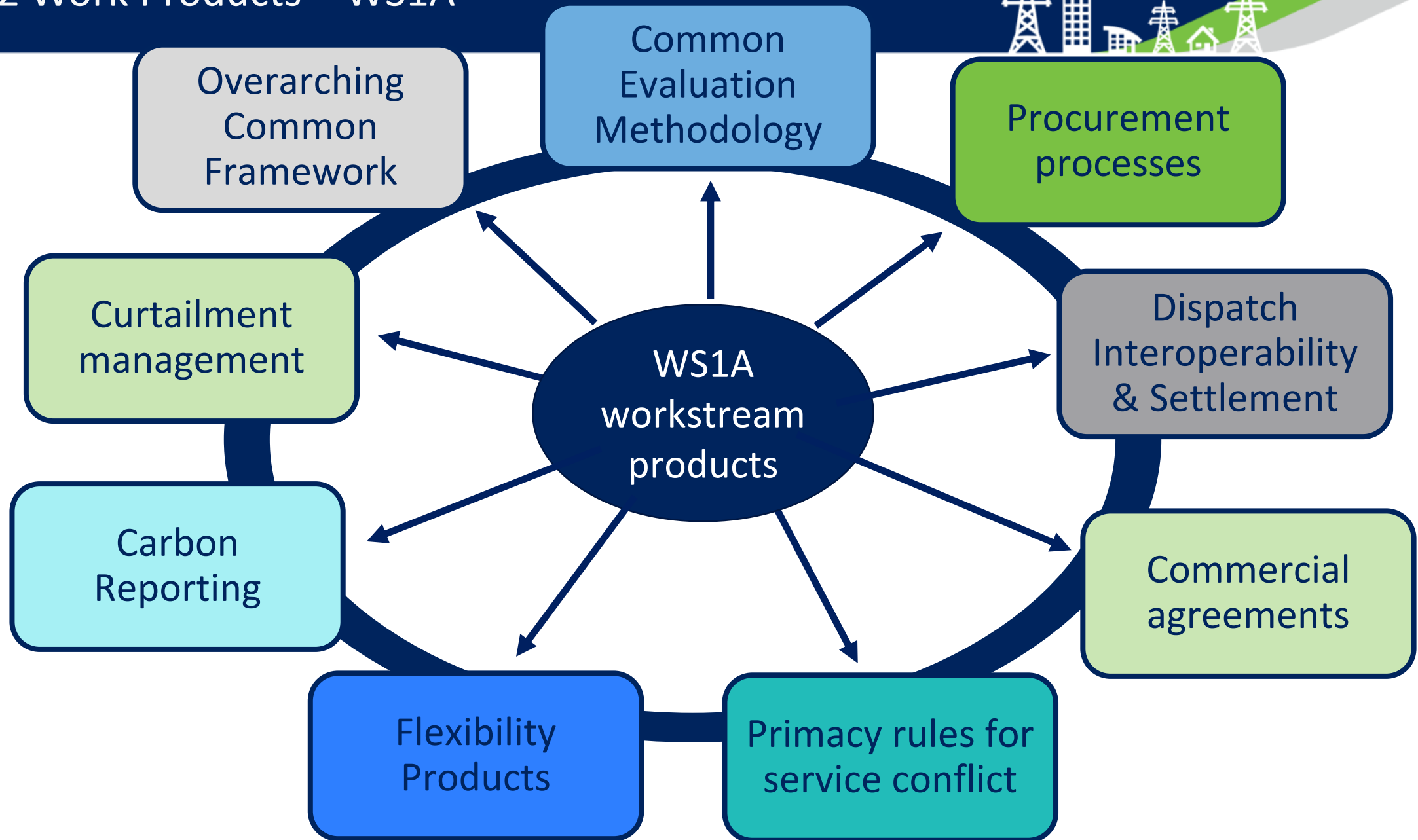


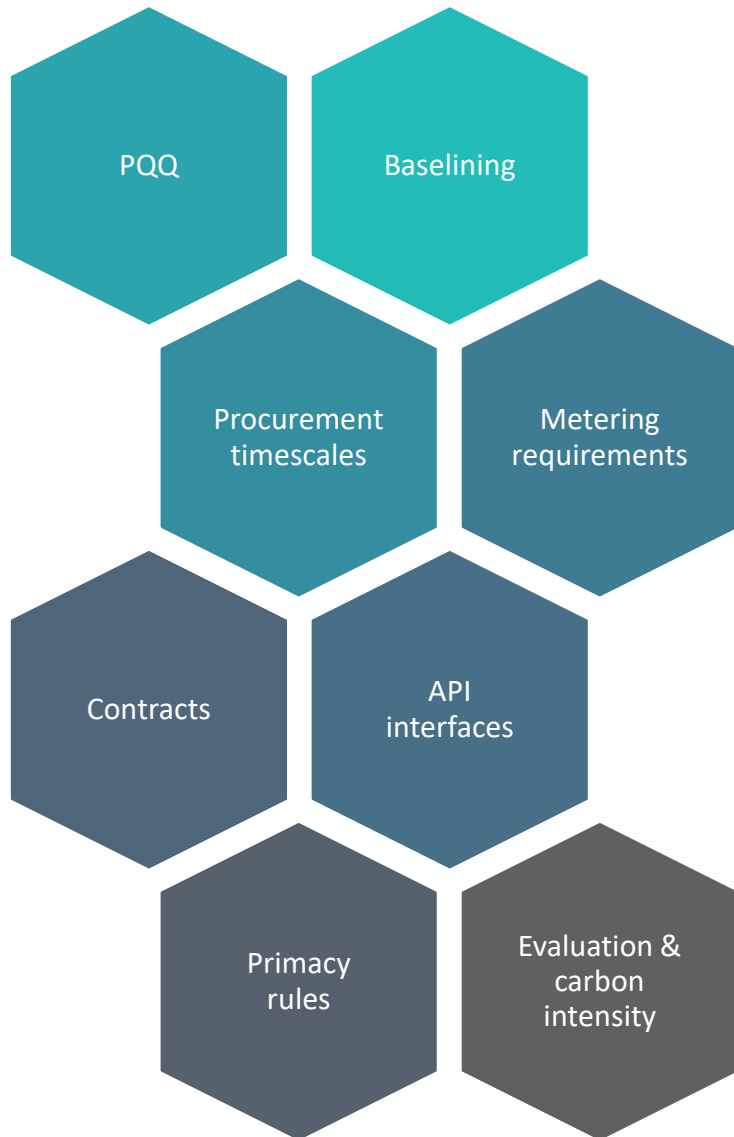
We participate in the **Open Networks Project** hosted by the Energy Networks Association

This project sees all six DNOs working together along with BEIS, Ofgem and the Transmission Owners



2022 Work Products – WS1A





The Smart Systems & Flexibility Plan was published in July-21 by Ofgem & BEIS in the context of transitioning to a net zero energy system

Enable stacking

Facilitate smart appliances

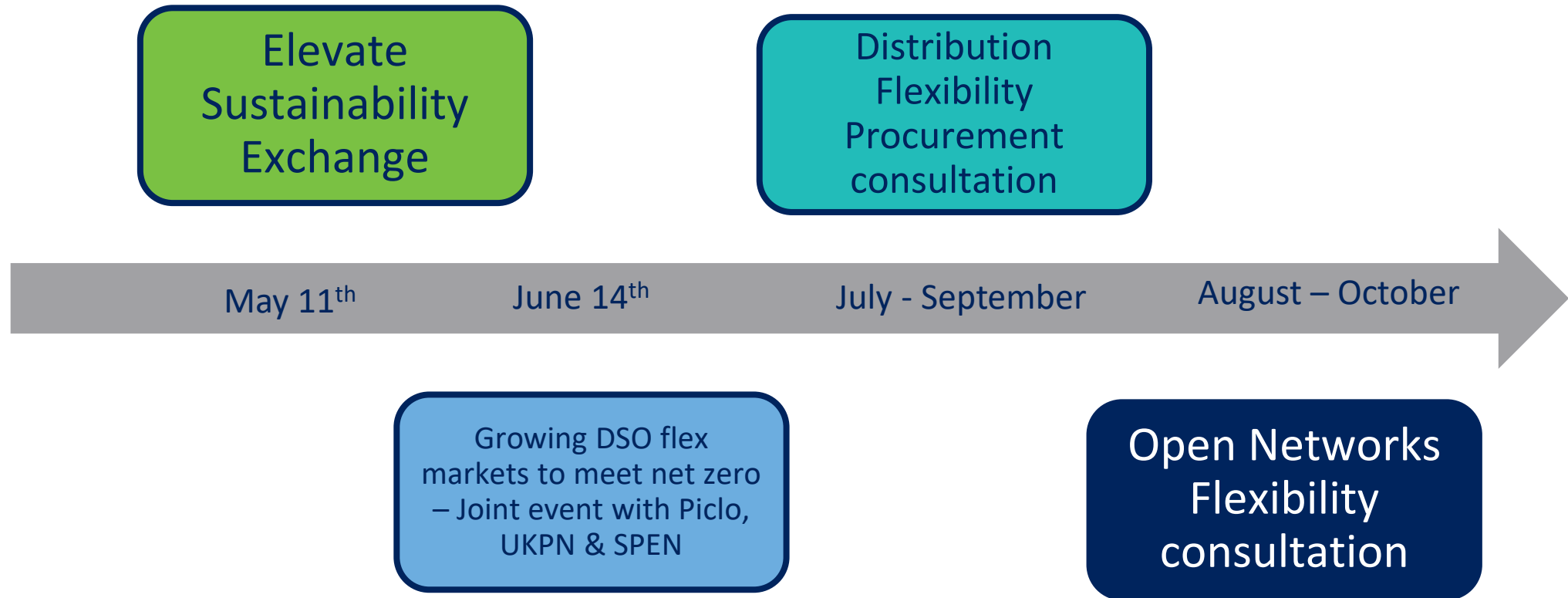
Facilitate smart charging

Local engagement – whole system

Open & accessible data

Improved locational signals

Dates for the diary



To view our full schedule of planned engagements for the 22/23, please see our [Distribution Flexibility Services Procurement Statement](#)



Email

For all queries relating to this event, or flexibility services, please contact our team at flexible.contracts@enwl.co.uk



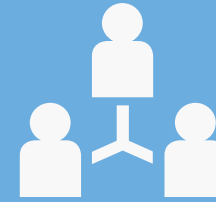
Feedback form

Alternatively, you can fill out our [online feedback form](#)



Register asset

You can [register your asset\(s\)](#) on our website to be notified when we have a requirement in your area



Surgery appointments

We offer 1-2-1 surgery appointments to assist with any queries relating to the process of providing flexibility
[Book here](#)



Sign up

[Sign up to our distribution list](#) to receive our newsletters, tender information and event invites



QUESTIONS & ANSWERS



Flexible.contracts@enwl.co.uk



www.enwl.co.uk/go-net-zero/flexible-services



0800 195 4141



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linkedin.com/company/electricity-north-west



[@ElecNW_News](https://twitter.com/ElecNW_News)



youtube.com/ElectricityNorthWest

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