

WEBINAR WILL BEGIN AT 14:05

FLEX Launch Webinar

Monday 15 February 2021

NIE Networks



WELCOME TO NIE NETWORKS FLEX WEBINAR

Monday 15 February 2021

NIE NETWORKS

Agenda

14:05	Welcome	Edel Creery	Head of Communications & Stakeholder Engagement, NIE Networks
14:10	Flexibility in the Energy Transition	Roger Henderson	Network Assets Director, NIE Networks
14:15	Open Networks Project & Flexibility in Great Britain	Randolph Brazier	Director of Innovation and Electricity Systems, ENA
14:25	Engage, Enable & Empower	Tanya Hedley	Networks Director, Utility Regulator
14:30	Innovation Overview	Jonathan Pollock	Network Development Manager, NIE Networks
14:35	Flexibility Services & Route to Participation	Cormac Bradley	FLEX Project Manager, NIE Networks
14:55	Q&A	Panel	Chaired by Andrew Cupples, Future Networks Manager, NIE Networks
15:10	Closing Remarks	Edel Creery	Head of Communications & Stakeholder Engagement, NIE Networks

This is your event

Get involved

You will be automatically set to mute upon entering the webinar

Use the Q&A function to ask questions and share your ideas with our panel (you can 'post anonymously')

Recording

Please note this webinar is being recorded

Slides will be made available

Audio Settings ^



Chat



Raise Hand



Q&A

Leave

Flexibility in the Energy Transition

Roger Henderson

Network Assets Director

Open Networks Overview & Flexibility Markets Update

Randolph Brazier, Director of Innovation

February 2021

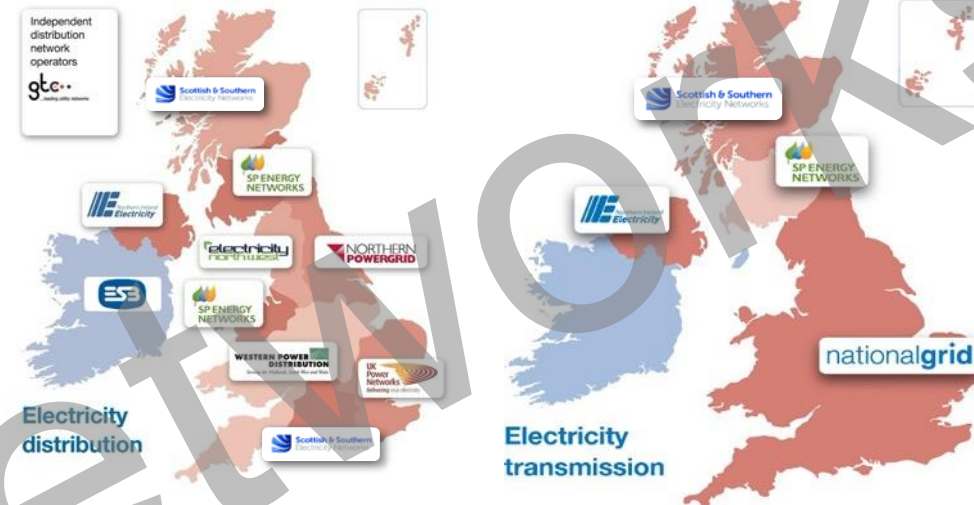
Introduction to ENA

The voice of the networks

- 29 million electricity customers
- 21.5 million gas customers
- 180,000 miles of gas network
- 519,304 miles of electricity network

Distributed Energy Resources (DER)

- Over 30GW of distributed generation is currently connected in the UK
- DER uptake (especially EVs!) is increasing rapidly



Gas Distribution



Gas Transmission



Open Networks – Delivering a Smart Grid



ENA's Open Networks Project is a major energy industry initiative that will transform the way that both local Distribution Networks and national Transmission Networks will operate and work for customers. This is being driven by the 3Ds; digitisation, decentralisation and decarbonisation



The Open Networks Project will help customers connect and realise value; as well as reducing cost for consumers through more cost effective planning

ofgem

Making a positive difference
for energy consumers



HM Government

The Open Networks Project is a key initiative to deliver Government policy set out in the Ofgem and BEIS Smart Systems and Flexibility Plan, the Government's Industrial Strategy and the Clean Growth Plan



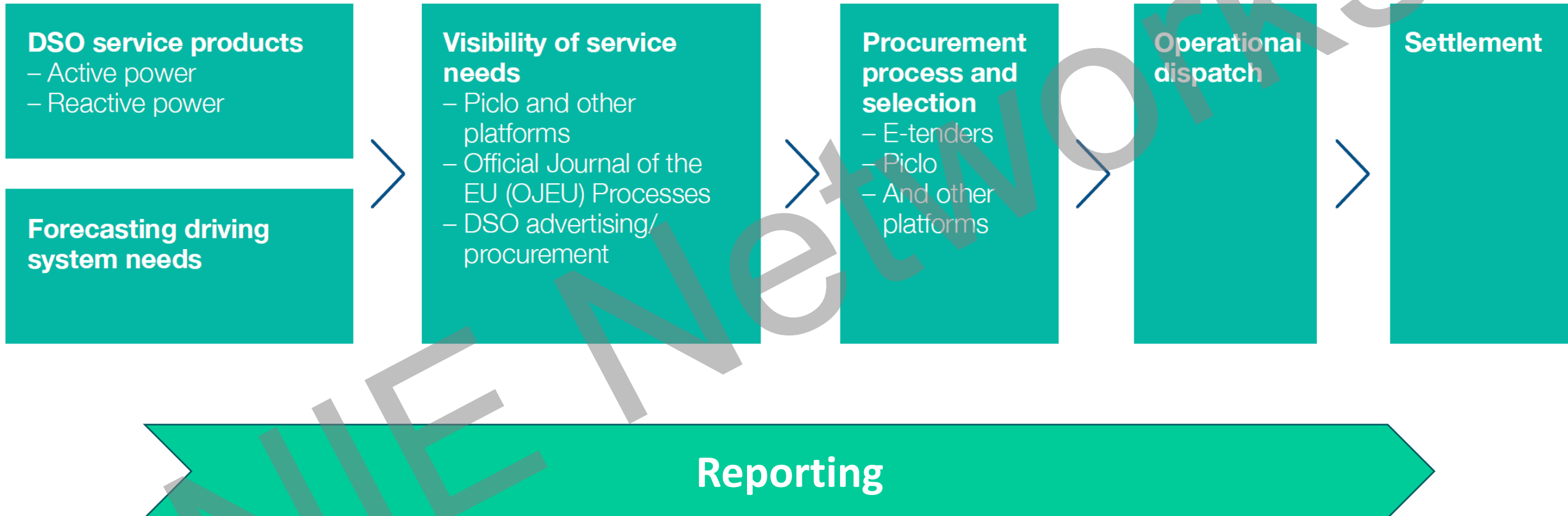
We are taking a stakeholder led, 'learn-by-doing' approach; we trial and test all aspects of the various future electricity system options

Flexibility Commitment

- More DER is becoming flexible, which is critical to achieving net zero
- Being flexible means the ability to control or schedule demand and/or generation, and this can help address local and national needs
- Britain's Networks have made a "Flexibility Commitment"; using cost-efficient flexibility to relieve network congestion



DSO Services – Process & Standardisation



Flexibility in Great Britain

- <https://www.energynetworks.org/creating-tomorrows-networks/open-networks>
- Single entry-point for providing Flexibility Services in GB:
 - Flexibility Commitments
 - **4 Real Power Products:**
 - Sustain: Scheduled Constraint Management
 - Secure: Pre-Fault Constraint Management
 - Dynamic: Post-Fault Constraint Management
 - Restore: Restoration
 - Flexibility Figures
 - 2GW DNO flexibility services tendered in 2020
 - Flexibility Timeline & Links
 - Hope to extend this to NI going forward



Next Steps: Liquidity

- Increasing market size, but DNOs still not procuring all they need
- Constraints are geographical but.....
 - Common products
 - Better visibility and ease of access (open data)
 - Standardised contractual terms
 - Non exclusivity
 - Consistent reporting and monitoring
 - Lower barriers to entry (eg: size)
 - Co-ordination with TSO and wider energy markets
 - Unlocking residential flexibility
 -
 - **More stakeholder engagement & market co-ordination critical!**



Thank you!

For more information about the Open Networks project,
please don't hesitate to get in touch with us at
opennetworks@energynetworks.org



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🐦 @EnergyNetworks
energynetworks.org

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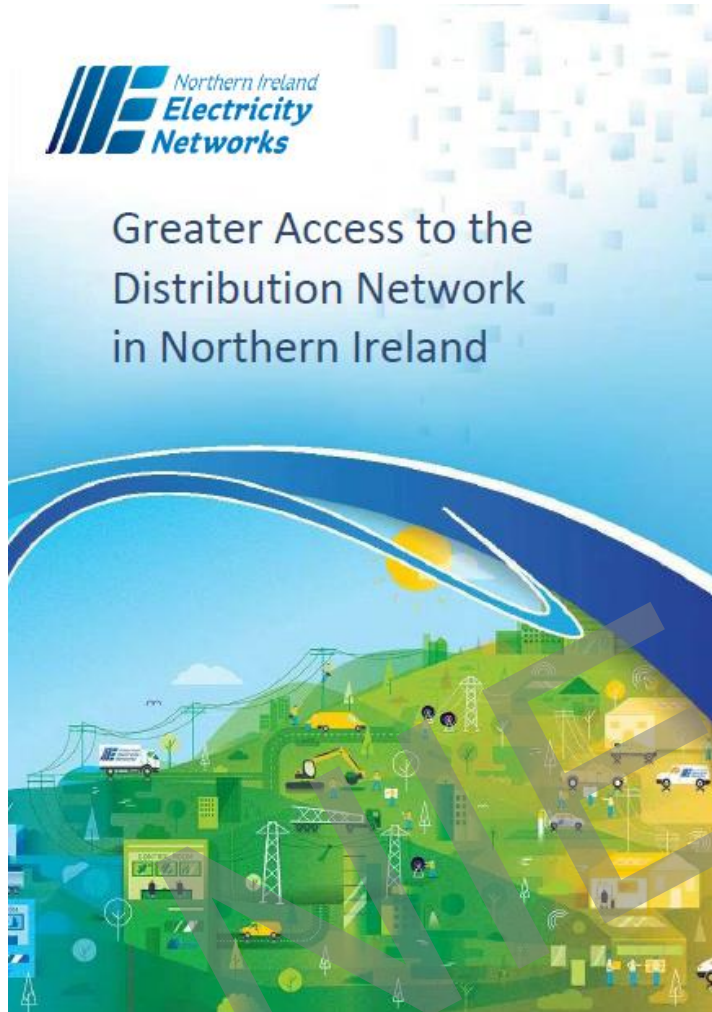


Engage, Enable, Empower Consumers at the centre

Tanya Hedley
Director of Networks

15 February 2021

Innovation Overview



FLEX

Smart Asset
Monitoring

STATCOM

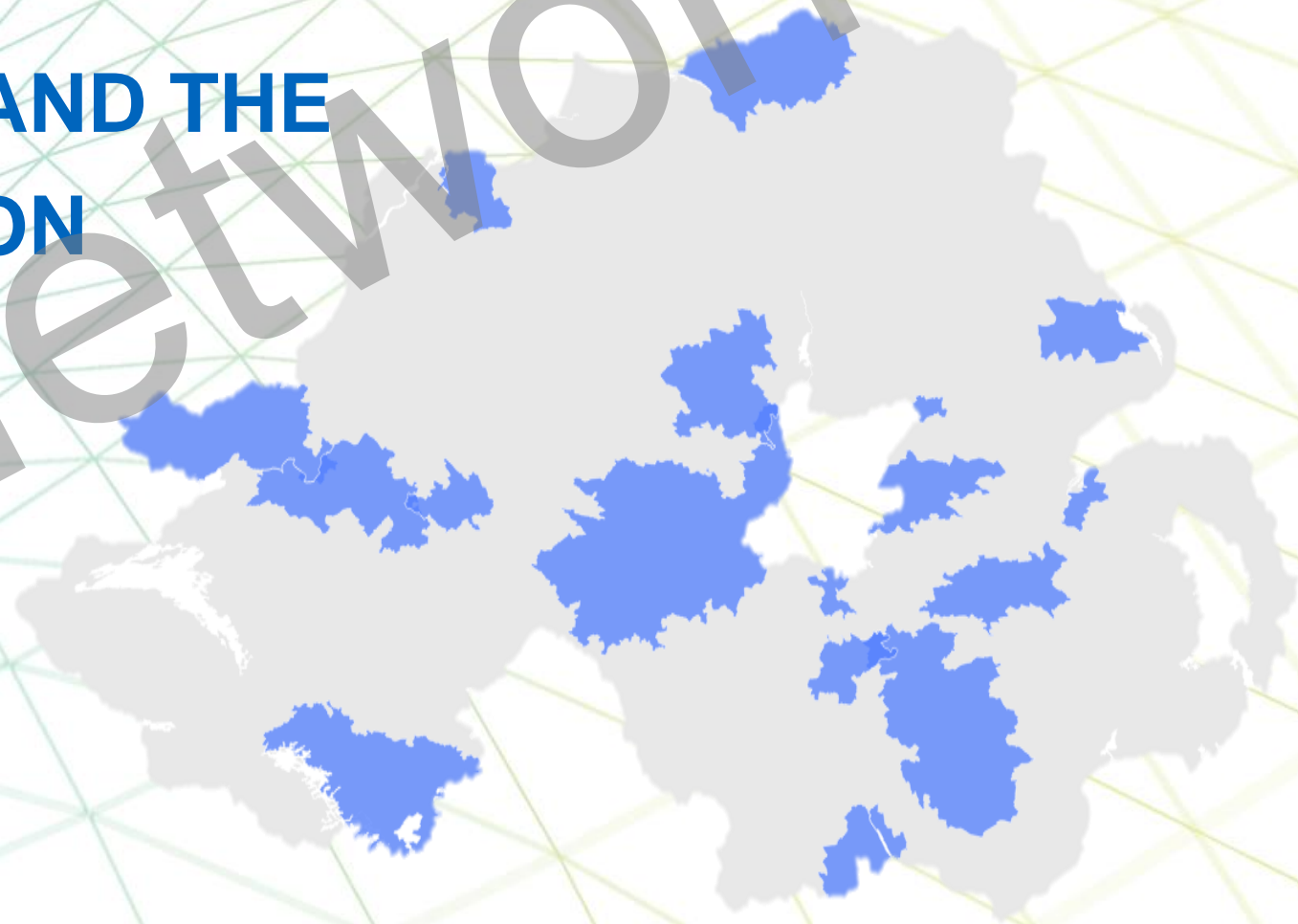
Demand
Reduction
through Voltage
Control

Facilitation of
Energy Storage
Services

LV Active Network
Management

FLEXIBILITY SERVICES AND THE ROUTE TO PARTICIPATION

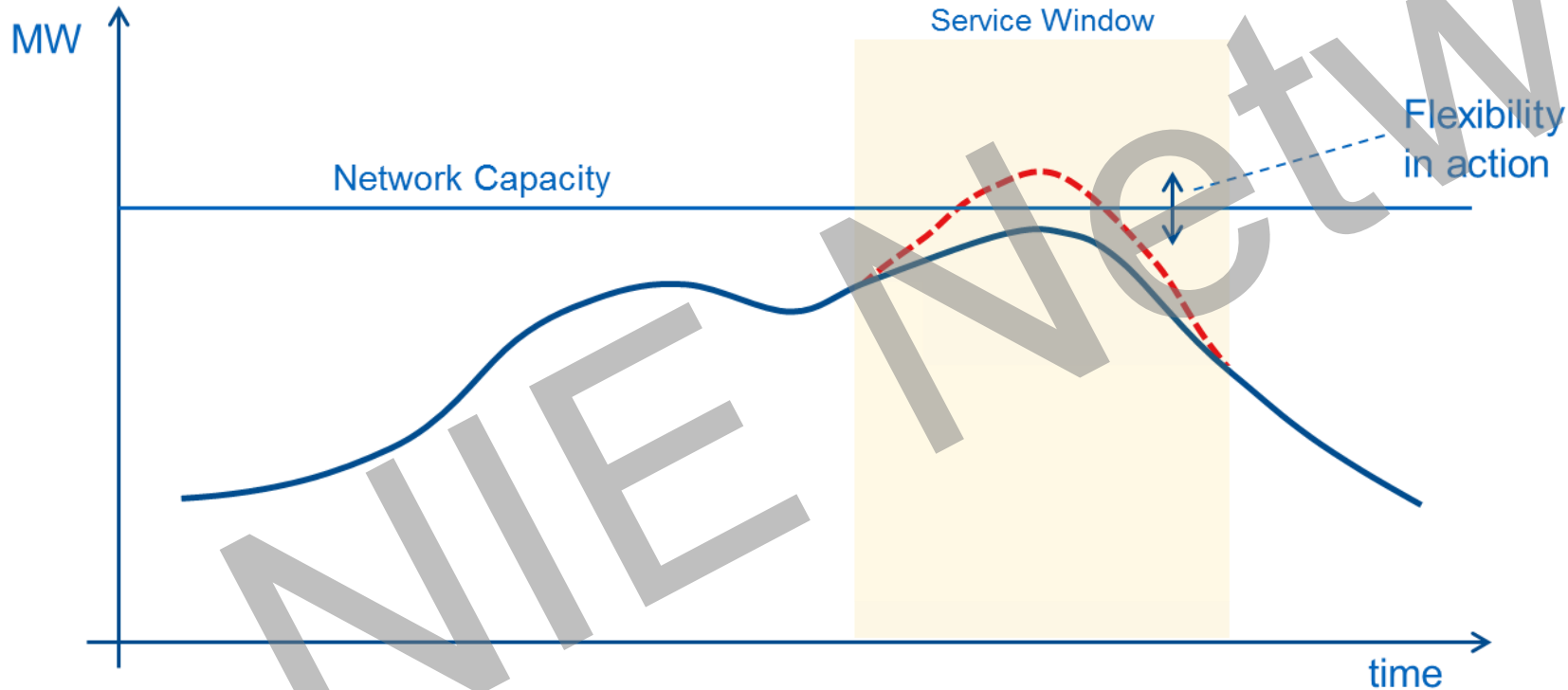
NIENetworks



A map of Northern Ireland is shown in the background, with several regions highlighted in blue. The map is overlaid on a network grid pattern that transitions from light blue on the left to light green on the right.

What is Flexibility?

A customers' ability to modify their generation or consumption in reaction to an external signal such as one from NIE Networks, thereby providing a service to the electricity network



Place downward pressure on ALL customers' bills

- Deferring network investment

Put revenues back into local communities and businesses

- Direct payments to participants

Minimises disruption and outages

Support investment in flexible, low carbon technologies

Faster delivery of network solutions

Optionality

Is Flexibility available, and can it be utilised effectively?

Availability

Technical & commercial viability

NIE Networks' internal processes – future use of Flexibility services

Principles

Visible & accessible

Simple & streamlined

Fair & neutral

Open & transparent

Flexibility Services Overview

17

Flexibility Trial Zones

15%

Total NI coverage

40 MW

35 GWh requirement (A&U)

3

Flexibility products

£500,000

Budget available

Opening local Flexibility markets

What we're procuring



Sustain

Scheduled reduction in peak loading

Scheduled service delivery

Utilisation payments only

Secure

Pre-fault reduction in peak loading, based on forecasts

≥ 24 hours activation notice

Availability & utilisation payments

Dynamic

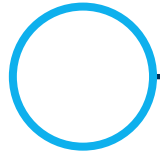
Post-fault reduction in peak loading

3 minutes activation notice

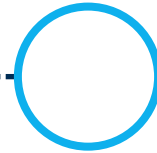
Availability & utilisation payments

Flexibility Product Specification at www.nienetworks.co.uk/flexibility

What we're procuring



Sustain



Secure



Dynamic

50 kW minimum aggregate Flexibility & No individual asset minimum

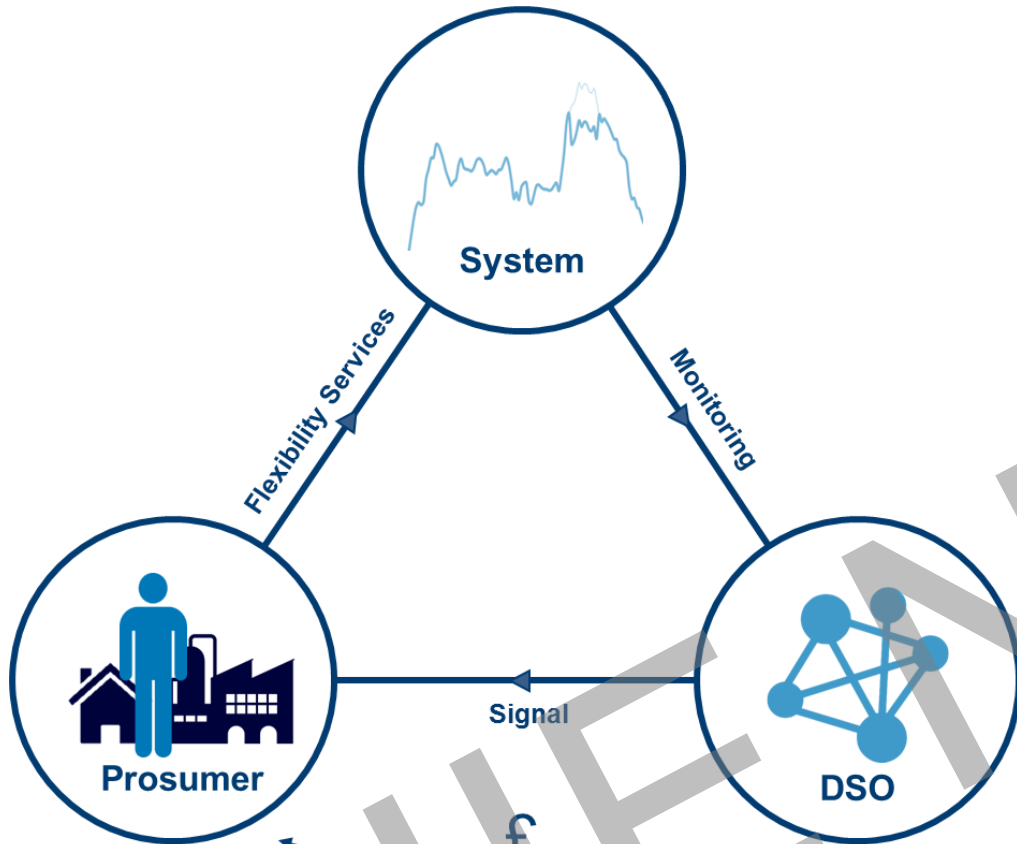
30 minute minimum service delivery (minimum run time)*

30 minute minimum meter data resolution

Streamlined testing arrangements & communications options

Removing barriers to entry - making Flexibility services more accessible for all customers

Parameters



16 zones demand turn down/generation turn up
1 zone demand turn up/generation turn down

Initial contract 1 year (6 month Service Windows)

Expected commencement: October 2021

Contracts modelled on the ENA's Common Flexibility Services Agreement

Service Windows identify periods during which Flexibility services are required

No obligation or payments outside of Service Windows

Flexible Capacity fixed for contract duration

Valuing Flexibility



Flexibility has an intrinsic price ceiling above which it is more economic to deliver conventional solution

Not Flexibility at all costs → Flexibility where efficient

Tender Pathway

Published locations and requirements

Organisation specific -
commercial & technical pre-qualification

Zone specific - technical and commercial
bid submission

Confirm Flexibility capability

All dates are indicative

Asset upload - Piclo

Until 5 March via Piclo

Pre-qualification

March - April

Tender

April - June

Award

August

Testing

c. 30 days prior to commencement

**Expected contract
commencement**

October 2021

Flexibility services are open to ALL

Not just market participants or balance responsible parties

No exclusivity clauses in Flexibility Service Agreements

Participants are responsible for managing all their commercial obligations

Close stakeholder engagement has identified potential pathways to realising stacked benefits and minimising conflicts

Product design offers time to adjust any position(s)



Objective: ensure you are on at the correct time

Performance and settlement

Availability payments for making Flexible Capacity available (£/MW/h)

Utilisation payments for Flexibility (or energy) delivered (£/MWh)

Pay as Bid Competitions

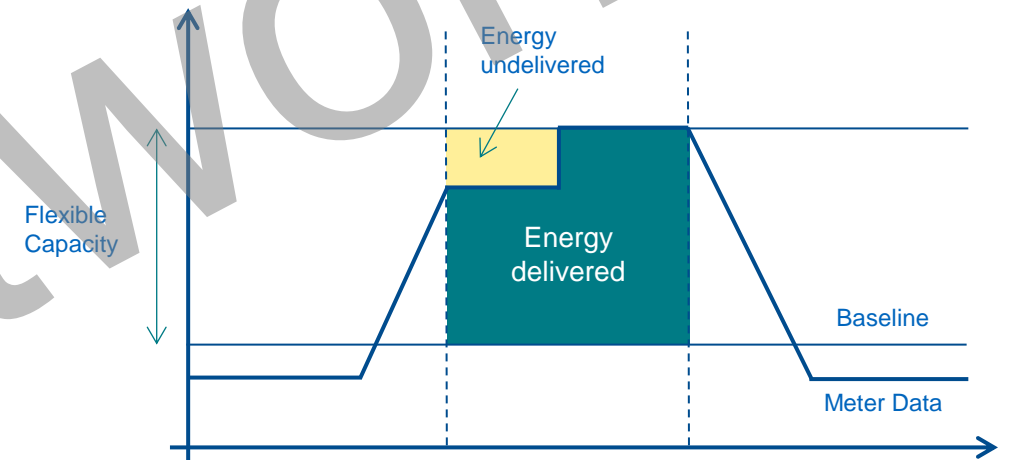
Performance measured against a historical baseline

$$\text{Payment} = \text{Utilisation Fee} + \text{Availability Fee}^*$$

$$\text{Utilisation Fee} = \text{Energy Delivered (MWh)} \times \text{Utilisation Rate (£/MWh)}$$

$$\text{Availability Fee} = \text{Flexible Capacity (MW)} \times \text{Service Window Duration (h)} \times \text{Availability Fee (£/MW/h)} \times \text{Performance Factor}$$

Performance Factor – value between 0 and 1, used to scale Availability payments based on performance



This is the beginning

FLEX project is a first step into Flexibility services

Learning and stakeholder feedback will inform future direction of Flexibility services:

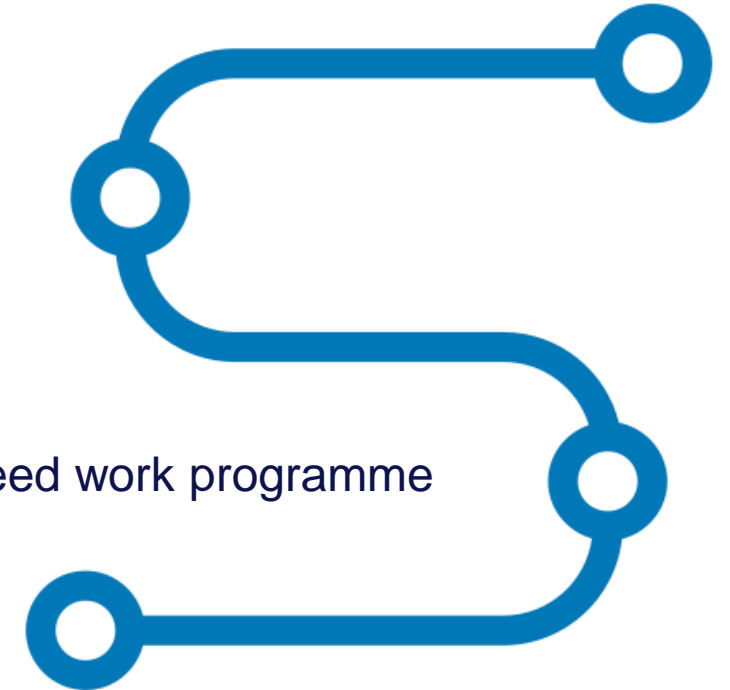
volume of
opportunities

product design

contractual terms

available
information

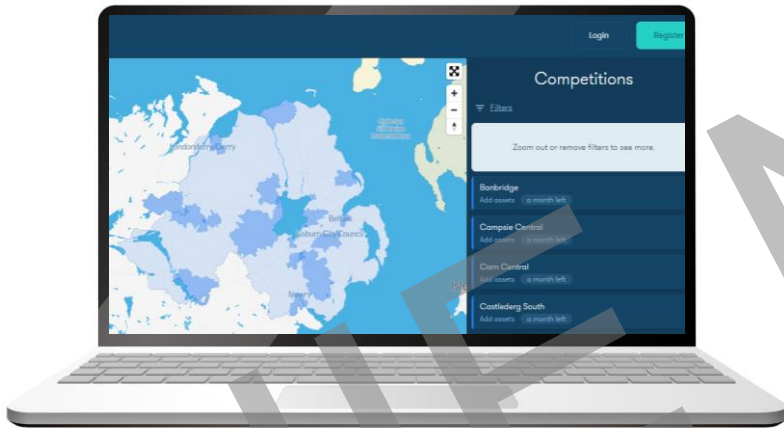
- Continue to reduce barriers to participation
- Increase awareness of opportunities and availability of Flexibility
- Continued and closer engagement and co-operation with TSO through agreed work programme



Q&A

Flexibility Trial Zones now live on **Piclo**

Upload Flexible Assets **Now**



www.nienetworks.co.uk/flexibility

flexibility@nienetworks.co.uk



THANK YOU

NIE Networks