

Welcome to

‘Growing DSO flexibility markets to reach net zero’



electricity
north west



SP ENERGY
NETWORKS



UK
Power
Networks



pico®



Aims of the day

To understand
the role of DSO
flexibility for
Net-Zero

To grow
participation in
DSO flexibility
markets

To hear
from you to shape
the future of DSO
flexibility markets

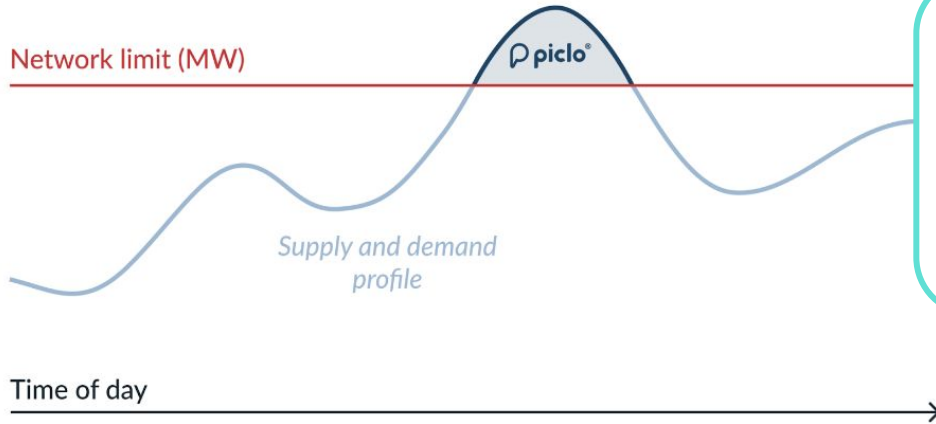
To have
a good time and
socialise with energy
peers!

Today's agenda

Growing DSO flexibility markets to reach net zero

- 11:15 Welcome & Introductions
- 11:30 Panel discussion: The importance of DSO flexibility markets
- 12:15 Data and digitalisation in DSO flex
- 12:30 Lunch break
- 13:30 RIIO ED2 flex market priorities
- 14:10 Collaboration session 1: RIIO ED2 flex market priorities
- 14:55 Break
- 15:15 Barriers to DSO flexibility: market investigation findings
- 15:30 Collaboration session 2: Overcoming market barriers to DSO flexibility
- 16:30 The future of flexibility markets on Piclo Flex
- 16:50 Wrap up

What is flexibility?



National Grid ESO: Energy systems need to continuously match supply to demand, we call this energy balancing. Energy system flexibility is the ability to adjust supply and demand to achieve that energy balance. It also allows us to keep the flows of energy through the networks within safe limits

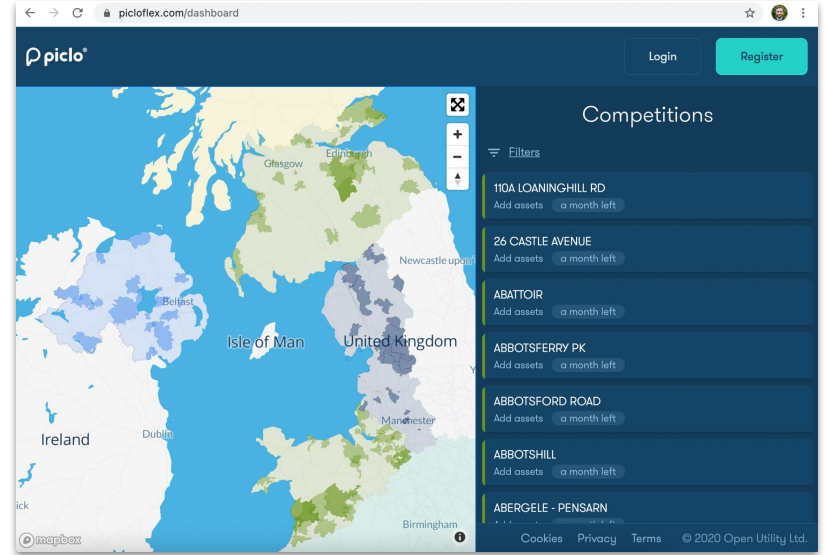
ENA: By releasing power back to the grid at times of high demand, and storing it during times of lower demand, local 'flexibility services' unlock additional capacity and support the connection of more low-carbon technology like wind power.

Ofgem: modifying generation and/or consumption patterns in reaction to an external signal such as a change in price, to provide a service within the energy system

Introducing Piclo Flex

The leading independent flexibility marketplace with over 711 MW of contracted capacity

- ✓ 3 DNO clients covering over 50% of UK
- ✓ 3,525 local competitions held
- ✓ £56 million of contracts awarded



“Before Piclo, there was no standard way a DNO could offer flexible services to asset owners. Now that the Piclo Flex platform is in place, we can see multiple DNOs and the products they are offering at a glance. The platform offers greater transparency as to what services are on offer at any given time.”

Alex Wilson
Conrad Energy



Panel Discussion

The importance of DSO flexibility markets

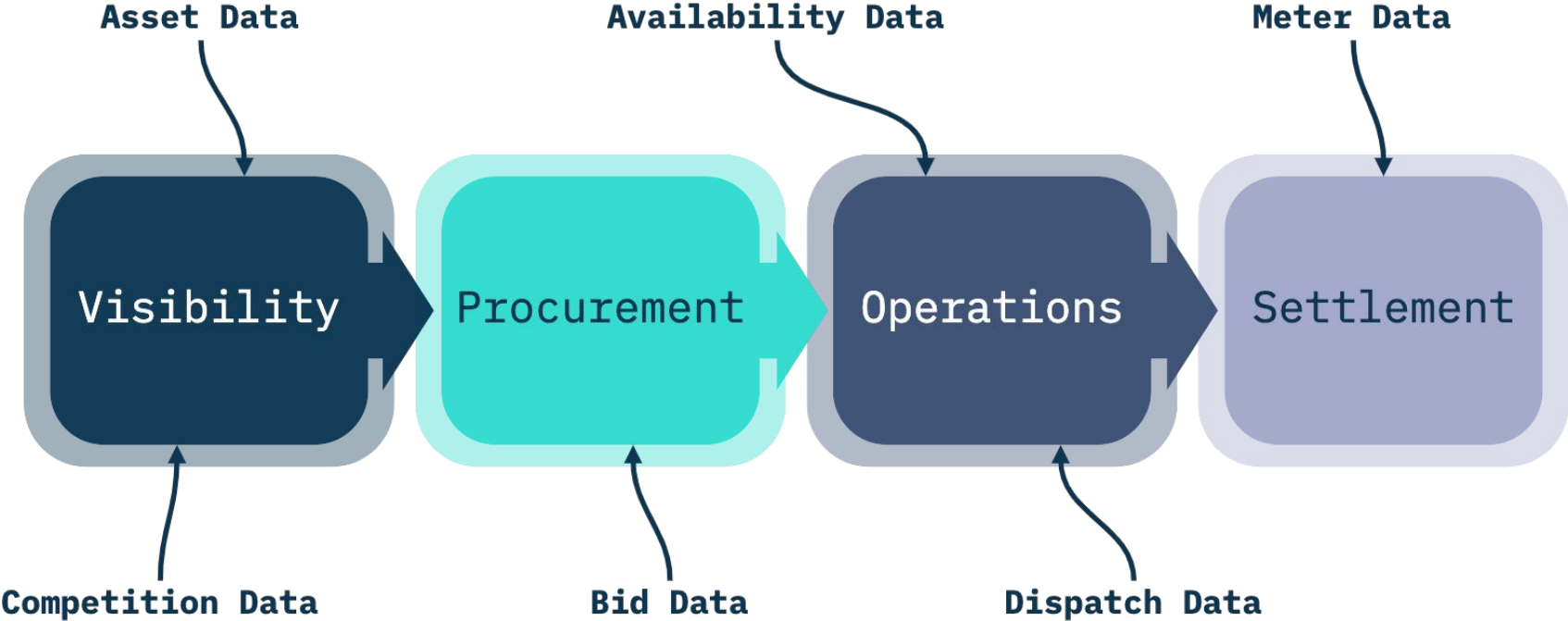
- **Chair:** Stefanos Anagnostopoulos, Commercial Manager Piclo
- Wendy Mantle, Flexibility Procurement Lead SP Energy Networks
- Lois Clarke, Commercial Manager Electricity North West
- Sam Do, Smart Grids Engineer UK Power Networks



Data and Digitalisation in DSO Flex

Adrian Shelley

Data is the heart of DSO Flexibility



Our data is your data

66,000

Flex assets uploaded to
Piclo

4,000

Total MW of bids
submitted

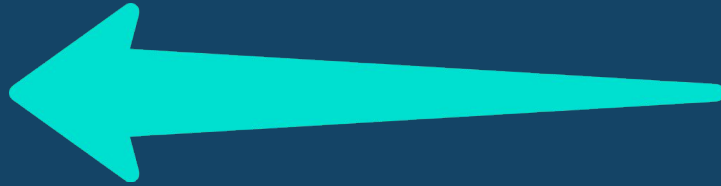
1,326

Excel files uploaded by
Flex Providers

Improving Data Interfaces

Low complexity ...

High effort



Web Forms

Excel Files

High complexity ...

Low effort



API Integrations

Automation

Data APIs

Visit <https://docs.picoflex.com>

piclo

Create a new Flex Asset

AUTHORIZATIONS: Bearer

REQUEST BODY SCHEMA: application/json

Flex Asset to be added to Piclo Flex.

Any of UK Postcode

Any of LatLong Postcode

- provider** (required): string (7 characters) `^[a-zA-Z0-9]{7}$`
Your Flex Provider ID as provided by Piclo Flex.
- ref** (required): string (text) `[1..36] characters ^[a-zA-Z0-9]{36}$`
The reference you provide to uniquely identify the asset in the system.
- name** (required): string (text) `[1..80] characters`
A human readable name used to identify the asset in the system.
- status** (required): string
Enum: "in_development", "operational", "mothballed", "archived"
Describes the status of the asset to let you promote future assets as well as assets available now.
- asset_category** (required): string
Enum: "storage", "energy_efficiency", "demand_side_response", "interconnectors", "low_carbon", "renewable", "thermal"
The general categorisation of the flex asset.
- asset_type** (required): string
Enum: "battery", "fuel_cells", "liquid_air", "compressed_air", "pumped_hydro", "vehicle_to_grid", "energy_efficiency", "vehicle_charging", "residential", "commercial", "industrial", "interconnector", "nuclear", "gas_carbon_capture_and_storage_ccs"

POST /assets/v1

Request examples

Payload

Content type: application/json

```
{
  "provider": "abc123",
  "ref": "VC0001",
  "name": "Vehicle Charger 1",
  "status": "operational",
  "asset_category": "demand_side_response",
  "asset_type": "vehicle_charging",
  "voltage_level": "22.00",
  "country_code": "GB",
  "connection_status": "accepted",
  "operational_date": "2020-01-01",
  "connection_type": "flexible",
  "connection_current": "16.0a",
  "erec_compliance": "",
  "active_export_capacity": "1",
  "active_import_capacity": "1",
  "reactive_export_capacity": "1",
  "reactive_import_capacity": "1",
  "max_import_capacity": "1",
  "max_export_capacity": "1",
  "response_time": "01:00:00",
  "max_runtime": "08:00:00",
  "min_runtime": "01:00:00"
}
```

APIs for Flexibility Service Providers

Add, update and maintain Asset data

- *available now*

Submit bids

- *coming next quarter*

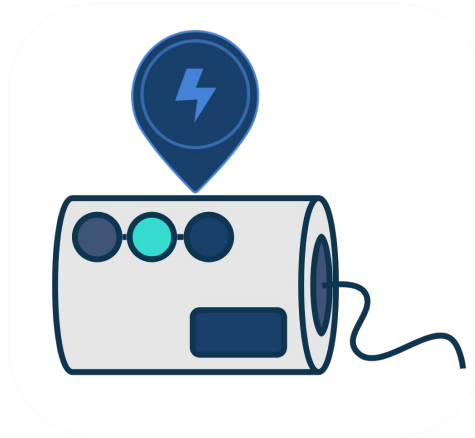
Retrieve and respond to dispatch instructions

- *coming early 2023*

Richer Data, Richer Opportunities

Automatic Qualification is based on:

- DPS Approval
- Asset Capacity
- Asset Voltage
- Asset Location



Final Qualification could be based on:

- Response Time
- Maximum Runtime
- MPAN
- Aggregate Capacity
- Asset type/category

Ongoing projects - New approaches to Qualification

The platform will provide more insightful prompts about what extra data about your assets are required to participate in competitions.

File interfaces will be improved to focus workflows on providing the required data.

This will reduce the back-and-forth with DSOs in the pre-competition stage.

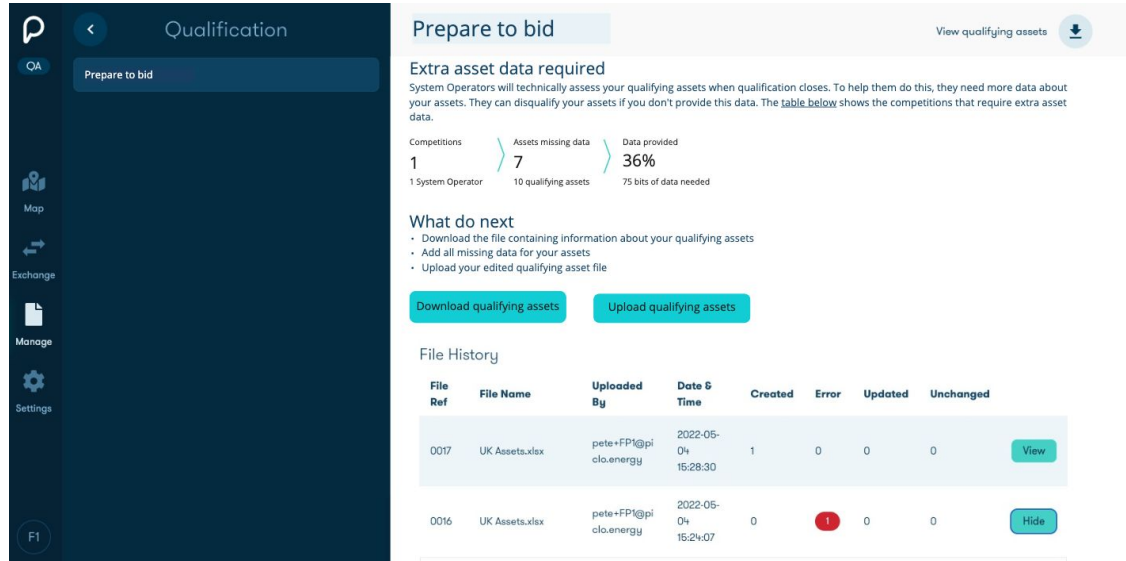


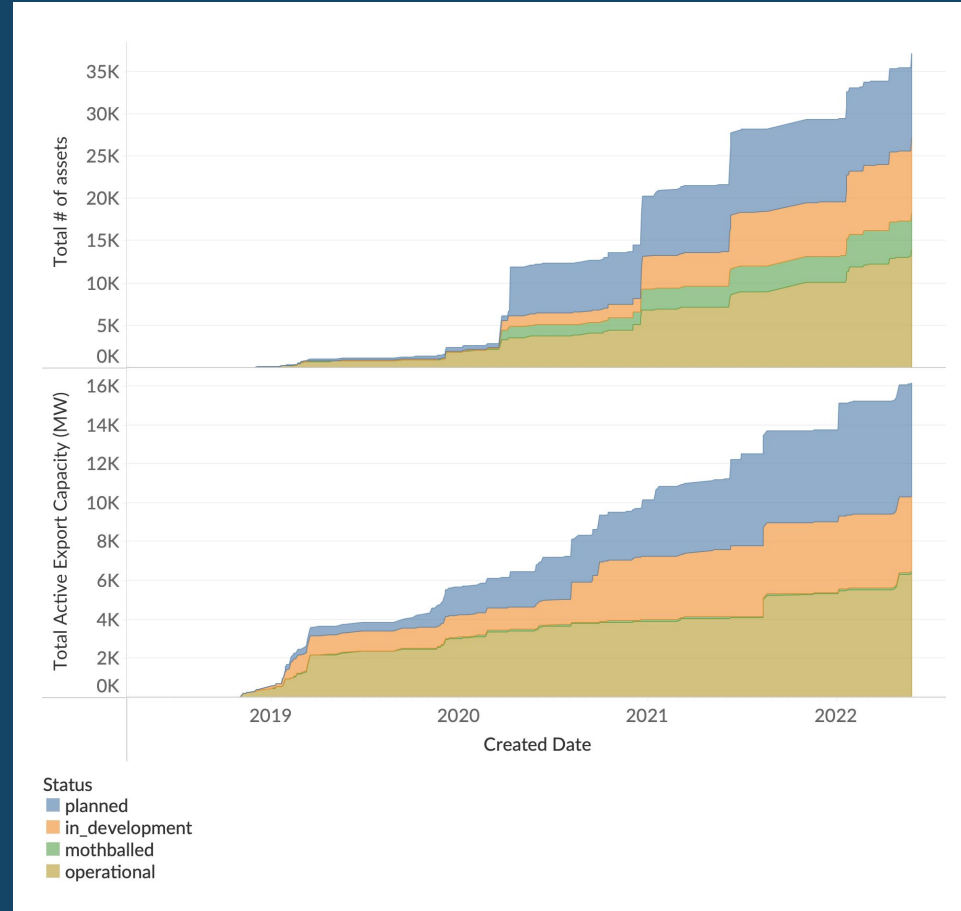
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Ongoing projects - Planned Assets

Expanding support for Planned Assets

Bidding assets come in two flavours-

- Assets that either exist, or have a *specific development plan*.
- Assets that exist only theoretically or are speculative based on commercial development.

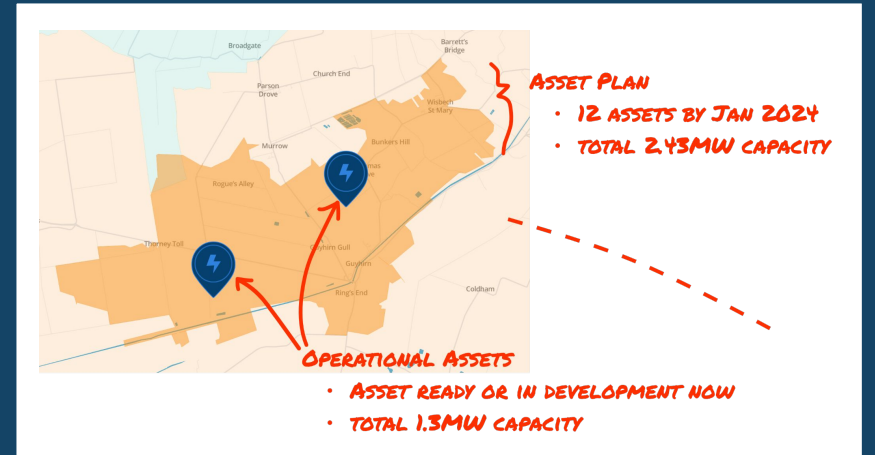


Ongoing projects - Planned Assets

Section	1. Target competition		2. Basic Details					
Section number	1.1	1.2	2.1	2.2	2.3	2.4	2.5	2.6
Field Name	Target Competition	System Operator Name	Asset Ref	Asset Name	Estimated Asset		Asset Category	Asset Type
Description	Please enter the competition ref for which you'd like to qualify for. Competition ref is available in the competition file, available to download from Required	Required	Please provide a unique Reference for this asset, which will be used by the system.	What would you like to call this asset so that you can identify it in the system?	How many assets does this plan represent?	Promote future Assets 'Planned' or remove them from the map.	What technology does this asset use to provide flexibility? Please select the main category	What technology does this asset use? Please select the sub category
Required / Optional	Required	Required	Required	Required	Required	Required	Required	Required
Type	Text	Text	Alphanumeric String	Text	Numeric	Text	Text	Text
Restrictions	Please only use one of the options provided.		Max 36 characters	Max 80 characters		Please enter a whole number, e.g. 1, 5, 10.	Please only use one of the options provided.	Please only use the options provided.

What makes a planned asset different?

- They represent a plan that is specific to a competition or zone.
- They can represent the intention to develop one or several assets.
- Their existence may be dependent on the results of procurement.



Ongoing projects - Piclo Open Data Portal

We aim to improve servicing the Flexibility market by making data openly available.

We've heard your requests for information about Flexibility markets and we want to improve accessibility to data in various formats and market reports.

Keep your requests for information coming in to support@piclo.energy!

Coming early 2023.

Data and Digitalisation in DSO Flex

image not representative of final product design

Welcome to the Piclo Flex Open Data Portal

Browse our collection of open data sources.

427	3648	667 MW
Flex Service Providers signed up	competitions run	Capacity procured
16400+ MW	58585	£47m
Of flexibility capacity registered	assets uploaded to Piclo	Of flexibility contracts awarded

Search Datasets

SP Energy Networks 2022 Q1 Competition Boundaries
February 1, 2022
KML file with all SPEN boundaries from Q1 2022

SP Energy Networks 2022 Q1 Round Overview
February 1, 2022
SPEN Q1 Round overview information.

Competition Dataset (July 2021)
July 22, 2021
Competition and Service Window level data for all flexibility products procured on Piclo Flex by UK System Operators.

Bidding Dataset (July 2021)

Made in Webflow

Piclo's Data Ambitions

- **Support increasing complexity of the Flexibility Marketplace whilst keeping participation as simple as possible.**
- **Allow for a more dynamic marketplace.**
- **Make it easier for Flexibility Providers to manage their portfolios.**
- **Provide more useful market information.**

Adrian Shelley
Data Engineer

Thank you



Panel Discussion

RIIO ED2 flex market priorities

- **Chair:** Gemma Stanley, Policy and Comms Manager Pico
- Guy Shapland, Flexibility Operations Lead SP Energy Networks
- Simon Brooke, DSO Compliance and Reporting Manager, Electricity North West
- Alex Howard, Product Manager - DSO market platform, UK Power Networks

Flex will play a key role in ED2 and our Net Zero transition



Defer **>£400m** of load-related reinforcement through use of flex



Connect 1.2GW of DG with flexible connections and market-based curtailment, saving **£185m**



Release benefits to ESO of **£170m**

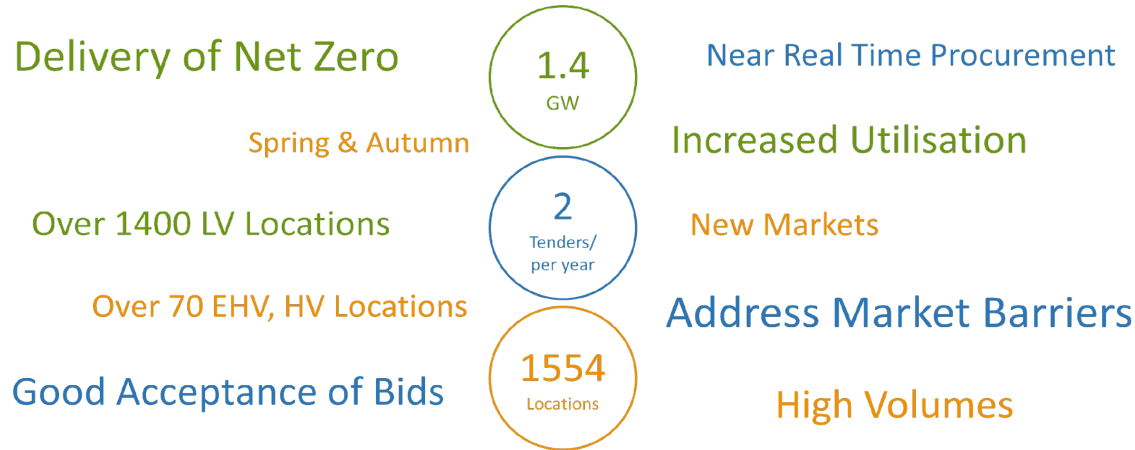


ED2 Priorities

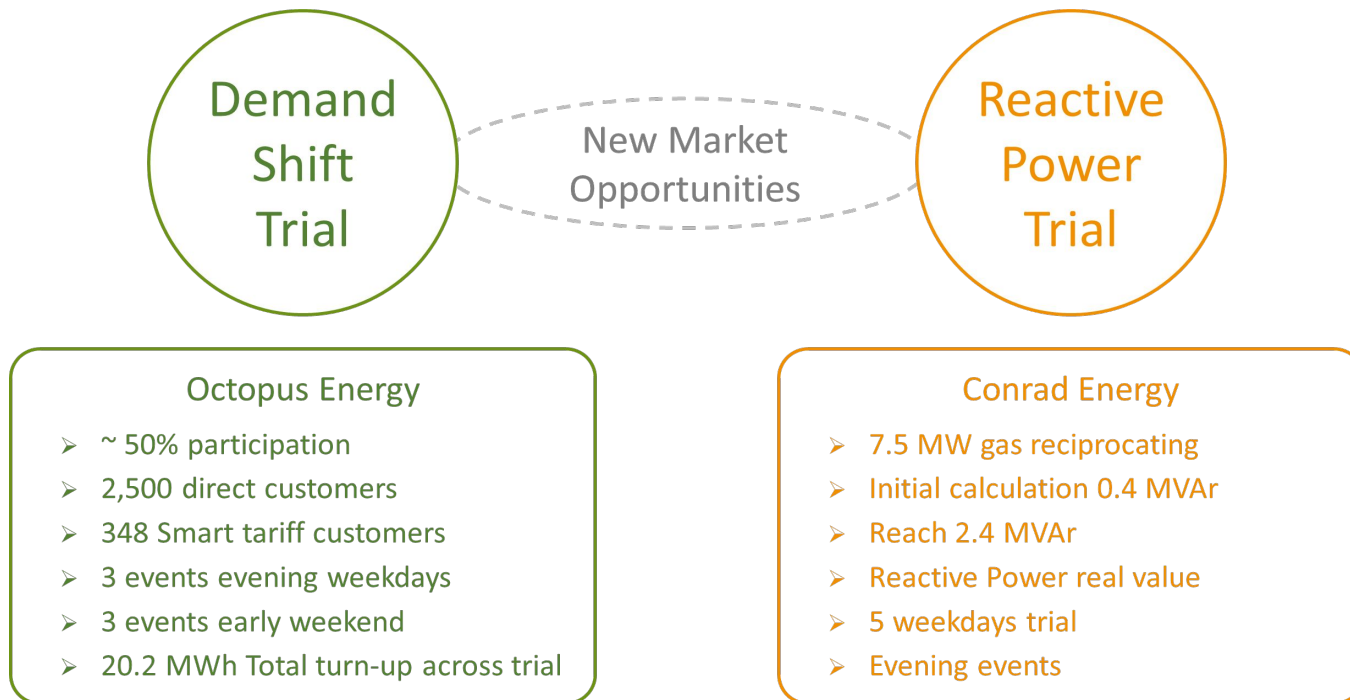
Guy Shapland

Commercial & Policy Lead DSO

Grow flexibility services markets by developing robust processes and systems



Through ED2 SP Energy Networks will instil confidence in the market by increasing utilisation to encourage participation





Growing flexibility markets to meet net zero: RIIO-ED2 flex market priorities

Simon Brooke

15 June 2022

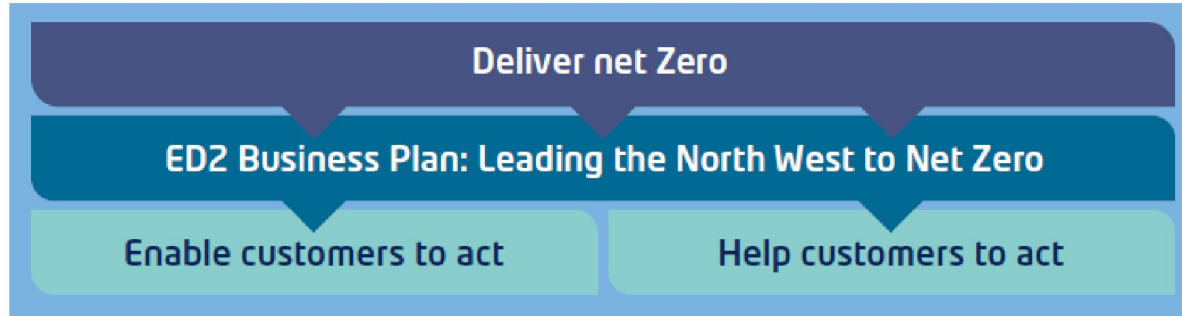
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RIIO-ED2 Business Plan: Our plan to lead the North West to Net Zero 2023-2028



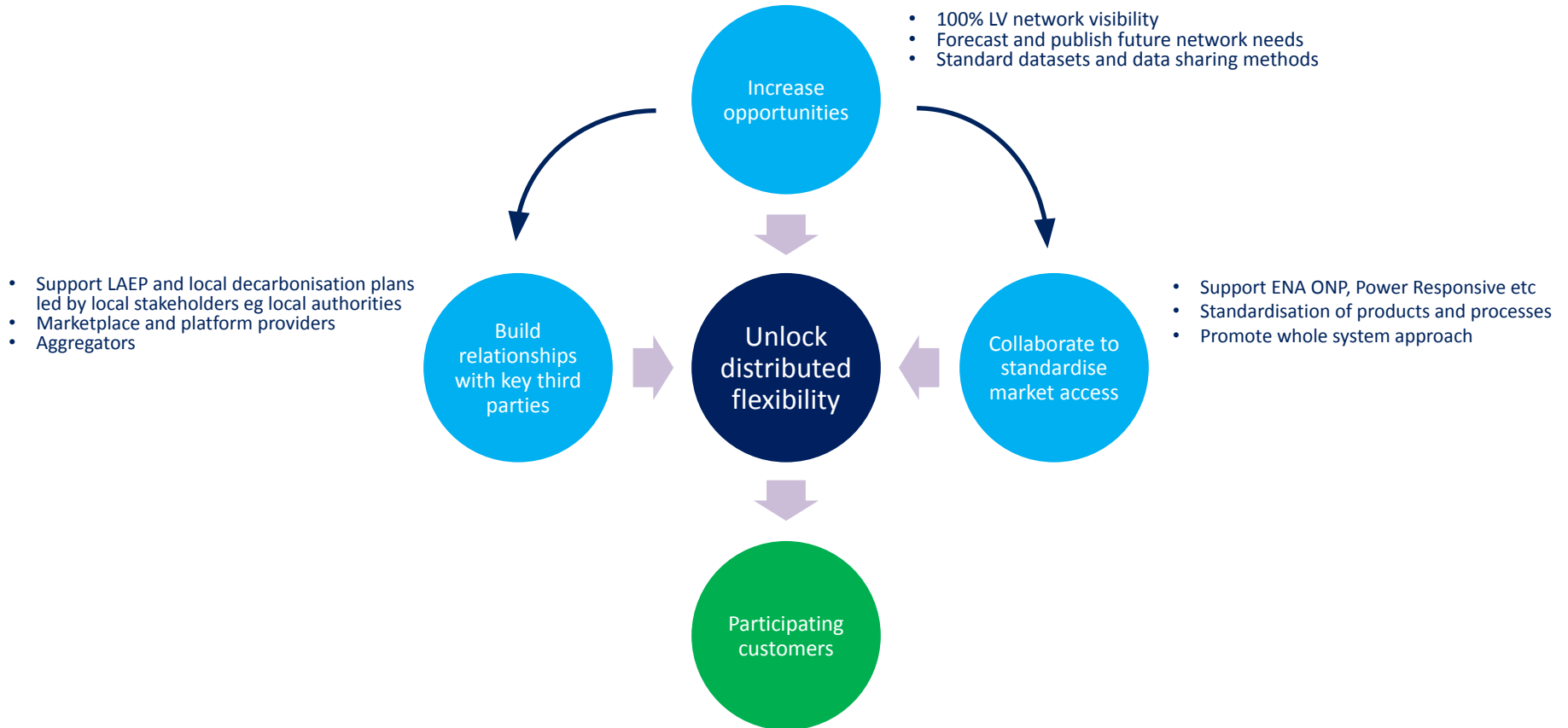
In our plan we make several Net Zero commitments:

- Not be a barrier to connecting LCTs
- Enable climate change targets through flexible distribution system operation and innovation
- Deliver a fair and inclusive energy transition
- Through partnerships enable joined up whole system benefits.

Our DSO Transition Plan outlines how we will:

- Stimulate LCT adoption,
- Facilitate LCT adoption, and
- Do efficiently and timely.

ED2 DSO priorities: Collaboration and coordination



Collaboration 1

RIIO ED2 flex market priorities
(45mins)

Collaboration session - RIIO ED2 flex market priorities

Goal

- Understand market perspectives on two stages of the flexibility market process that will be developed and need to change during RIIO ED2 to reach the DNO goals and targets.
- The two stages of flexibility markets are: 1) flexibility procurement 2) Post-procurement.

Group 1: Flexibility Procurement

- Relates to everything that happens in the process of a DNO procuring flexibility up to the point that a contract is signed.
- This includes: MWs and type of flexibility advertised, pricing, contracts, processes involving qualification, asset data and bidding.

Group 2: Post Procurement

- Relates to everything that happens with the service once a contract has been signed
- This includes: operations, asset availability, dispatch, payment and settlement

Next up

Barriers to DSO flexibility:
market investigation findings

Background to the investigation

Why?

There was a drop in Flexibility Service Provider participation in DNO flexibility markets

- 62.5% decline in comparison 2021

Aim: To understand the driving factors behind the low levels of engagement amongst FSPs participating in DSO flexibility competitions.

2021
16 FSPs
bided

2022
6 FSPs
bided

Summary Highlights

Revenue biggest driving factor

Revenue is considered as the biggest driving factor for participating into DSO flexibility competitions.

DSO flexibility secondary source of revenue

DSO flexibility is perceived as a secondary source of revenue and alternative market options are prioritised such as capacity market/day ahead/wholesale market.

Lack of market confidence

A lack of market confidence and uncertainty with DSO flexibility contracts

Uploading assets closer to deadline

Uploading asset data or completing key pieces of information is likely to be done towards the deadline date.

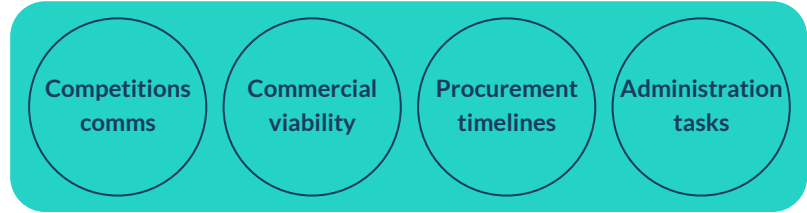
Methodology

Who we spoke with:

We interviewed seven FSPs across the following **four key groups**:

1. FSPs who **bid** into a competition in 2021 but not a competition in 2022
2. FSPs who **did not bid** into any of the 2021 and 2022 competitions
3. FSPs who **bid into at least one** of the last two competitions run by the DSOs
4. Large FSPs who have **not participated** in recent competitions

What we focused on



The hour long interview covered four topic areas:

- **Communication** about competitions
 - Assumption: **FSPs are overloaded with various communication across both Pico and the DSO**
- **Commercial viability** of the flexibility market
 - Assumption: **Market is not signaling FSPs about the full revenue potential** available through participating into DSO flexibility
- **Procurement timelines** and DSO contracts
 - Assumption: **DSO flexibility contract delivery dates are too far in to the future**
- **Administration tasks** associated with market participation
 - Assumption: **FSPs update Pico Flex at the last minute** due to other priorities

Findings: Competition comms

“There was an email today saying that new competitions were available and that we had some assets in some of these - this was useful in keeping track of procurement timelines”

It would be interesting to receive additional information from the DSO such as quarterly market insight reviews/ achievements as well as any challenges currently being faced in the market”

“Providing thorough and regular updates increases confidence in the DSO flexibility market and our confidence in investing in it”

- **Piclo Comms:** FSPs felt happy with the volume of communications being sent by Piclo
- **DSO Future Plans:** FSPs highlighted that they would like to see more information centred around DSO future plans, market insights and updates, as well as past competition data.
- **Terminology:** A standardisation of terminology across the DSOs would be helpful to avoid confusion from the FSP when seeking information about DSO flexibility competitions.

Findings: Commercial Viability

"The revenue available via DSO flexibility is not transparent enough and the total budget is sometimes not high enough"

"If a DSO flexibility contract is too far into the future, we don't know what will be happening in the industry and with the asset sites"

"The costs to run our sites has increased by over 6 fold, just through the cost of gas. This has meant we have some sites that are no longer profitable to run. We don't think that this increase has been reflected with the prices offered by DSO flex"

- **Contract start date:** The date when a contract would commence is key, as a contract delivery start date too far in the future is seen as a risk.
- **Revenue and prices:** Revenue was considered as a major factor for participating taking into account prices, duration of contract, expected number and length of utilisation periods.
- **Shorter term contracts:** Introduction of DSO flexibility short term competitions enables FSPs to submit bids with a higher degree of certainty that they will meet their near term commercial requirements.

Findings: DNO contracts

"A DSO contract is similar to any other tenders and have no concern with the length of time it has taken to formalise the contract with the DSO."

"DSO flex is the cherry on top; it's a way to get additional revenue."

"Seems like we're getting to a point now that the DSOs are signing contracts, but not following through."

- **Payment:** In some cases, the payment process can feel long and manual, which could be helped by the use of APIs.
- **Utilisation of contract:** FSPs felt that the contract was not always a true reflection of the actual asset utilisation that what was expected.
- **Market confidence:** There is a lack of confidence and uncertainty with the DSO being able to commit to the delivery of the contract.

Findings: Piclo Flex Administration

- **Asset upload:** FSPs tend to upload their asset information towards the qualification deadline
- **Qualification period:** A proportion of FSPs prefer to have at least one month's notice, prior to the qualification close date

"People just work to deadlines and the energy industry is very deadline focussed. DSO flexibility isn't a top priority for us so we do it when it needs to be done."

"It's human nature to leave things to a deadline."

Carolina Francese

Commercial Manager, Italy

Stefanos Anagnostopoulos

Commercial Manager, UK

Customer Success Team

Design team

Thank you



flex@piclo.energy

Collaboration 2

Overcoming market barriers
to DSO flexibility
(45 min)

Collaboration session - Overcoming market barriers to DSO flexibility

Goal: The goal of the collaborative session is to get consensus from the industry on what market barriers are the priority for DSO flexibility markets to focus on, and discuss possible ways to overcome the top 3. As such the session is split into two:

- **Part 1:** Identification and prioritisation of barriers
 - 15:45- 16:00 table discussions
 - 16:00-16:10 Room discussion
- **Part 2:** Overcoming the top 3 barriers of the room
 - 16:10-16:20 table discussion
 - 16:20-16:30 Room discussion

Next up

The future of flexibility
markets on Piclo Flex



We've made great progress on evolving Piclo Flex

Key achievements in 2022

1

Shorter-term markets

Day-ahead / intraday

Bid assessment procedure

2

Integration & automation

Standard APIs

Automated processes

3

End-to-end process

Operations

Settlement

Going forward, we're focusing on further improving the product

Priorities for Piclo Flex development



Improve market
liquidity

Enhance customer
experience

Reduce cost to operate

Key investments in the next 12 months

1

ESO / DSO Co-ordination

Greater visibility

Qualification coordination

Market synthesis

2

Insights & analytics

Data platform

Standard reports

Bespoke data services

3

Regional expansion

Product localisation

Customer success

Partnership opportunities

Your feedback is important- how to get involved

1

Group Events

Collaborative industry events

Forums / Roundtables

Webinars

2

Private sessions

Weekly sessions

Dedicated AM

Customer Success team

User research

3

Tracked feedback

Tracked requests

Annual reviews (ISO 9001)*

Roadmap documentation

*coming soon

Alice Tyler

Chief Product Officer

John Bayard

Chief Commercial Officer

Thank you



Thank you

support@picloflex.com



electricity
north west



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