

# ELECTRON

## The role of flexibility markets in an expanding grid:

Building volume and value



PRESENTED BY CHRIS BROADHURST

# Meet the presenter

**Chris Broadhurst**

Chief Commercial Officer, **Electron**



- > **About me:** Over 10 years of experience in commercial roles across supply, consultancy, and software in energy
- > **About Electron:** we're building a flexibility marketplace for zero carbon energy grids
- > **3 of the 6 DSO's in the UK** now using our platform, **ElectronConnect**, to unlock **flexibility at scale**.

**Flexibility** is for life, not just for Christmas.®



# Flexibility isn't a new concept...

...it's a new opportunity

## Traditional flexibility

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Gas-fired peakers balancing supply and demand

## Next-generation of flexibility

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A shift to using distributed energy resources to balance the grid – and hit renewable targets

**160%**

The expected increase in EU flex requirements between 2021-2030

**150%**

The increase in GW from wind and solar power generation needed to hit Net Zero targets by 2030

# Flexibility is more than an alternative to network expansion

**3-5x**

more grid needed in the next 10 years than the last 30 in western economies

**The speed and prioritisation of grid expansion will be set by flexibility markets**

**Flexibility doesn't just buy you time  
for expansion by creating additional  
short-term network capacity...**

# ...it offers whole system value in multiple different ways

## Improved network visibility

### *Where the value comes from*



Preventing asset damage, reducing risk of faults and power cuts, and aiding in network planning .



## Deferred grid build out

### *Where the value comes from*



Reducing load-related expenditure and saving costs for consumers.



## Granting flexible connections and deploying smart solutions

### *Where the value comes from*



Accelerating the rate at which low-carbon assets are connected to the grid.



## The estimated value of flexibility for each system operator varies

DSO	Improved network visibility	DSO flexibility	Flexible connections/smart solutions	TOTAL
NGED	£141 million	£94 million	£270 million	<i>£505 million</i>
UKPN	£6 million	£410 million	£185 million	<i>£601 million</i>
SSEN	N/A	£36 million	£418 million	<i>£454 million</i>
SPEN	N/A	£36 million	£334 million	<i>£370 million</i>
ENWL	£50 million	£17 million	N/A	<i>£67 million</i>
NPG	£113 million	£14 million	£74 million	<i>£201 million</i>
<b>TOTAL</b>	<i>£310 million</i>	<i>£607 million</i>	<i>£1,281 million</i>	<b>£2,198 million</b>

- The table below summarises the value each UK DSO has ascribed to the three pools of flexibility.
- The figures represent the estimated savings in expenditure over the RIIO-ED2 Period.
- These figures have been mentioned in each DSOs Business Plan or 2023 Performance Report.

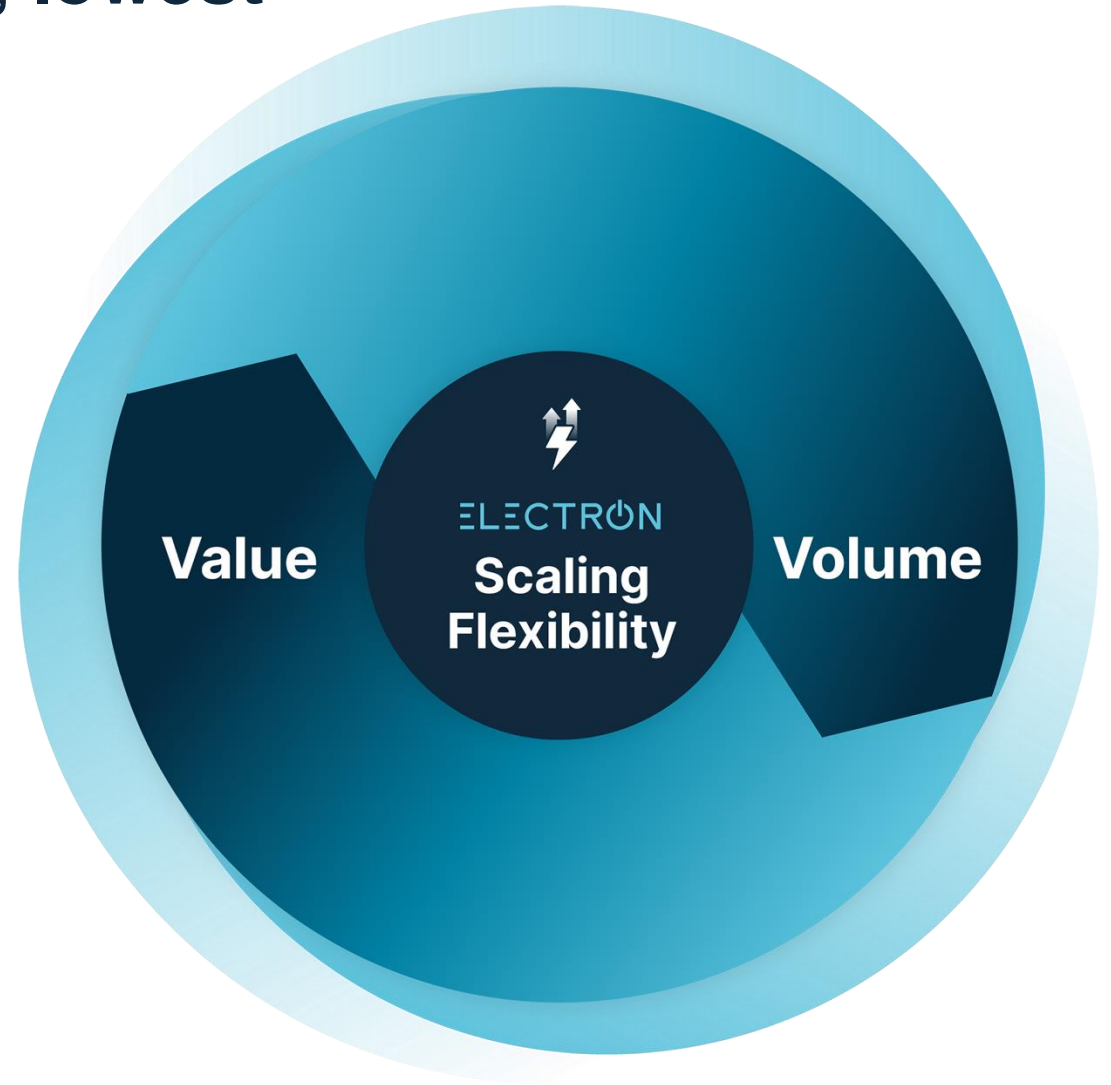


# Flexibility is therefore the fastest, lowest cost enabler of Net Zero energy...

...and system operators need to attribute more of its value to their flexibility providers.

✓ Energy assets need to see value in flexibility markets before they participate to introduce volume.

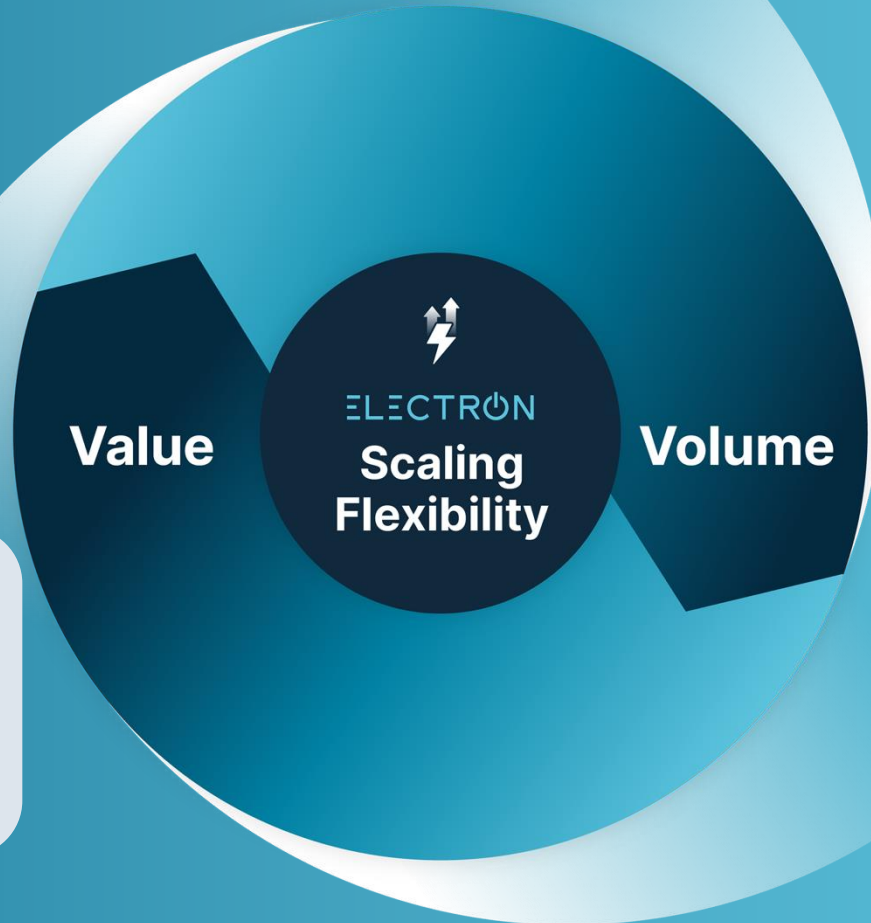
✓ System operators need to see volume before they inject value into markets.



# Flexibility needs more value and volume

## More often

Facilitating day-ahead and integrated near real-time trading, to offer FSPs more options when they participate.



## More markets

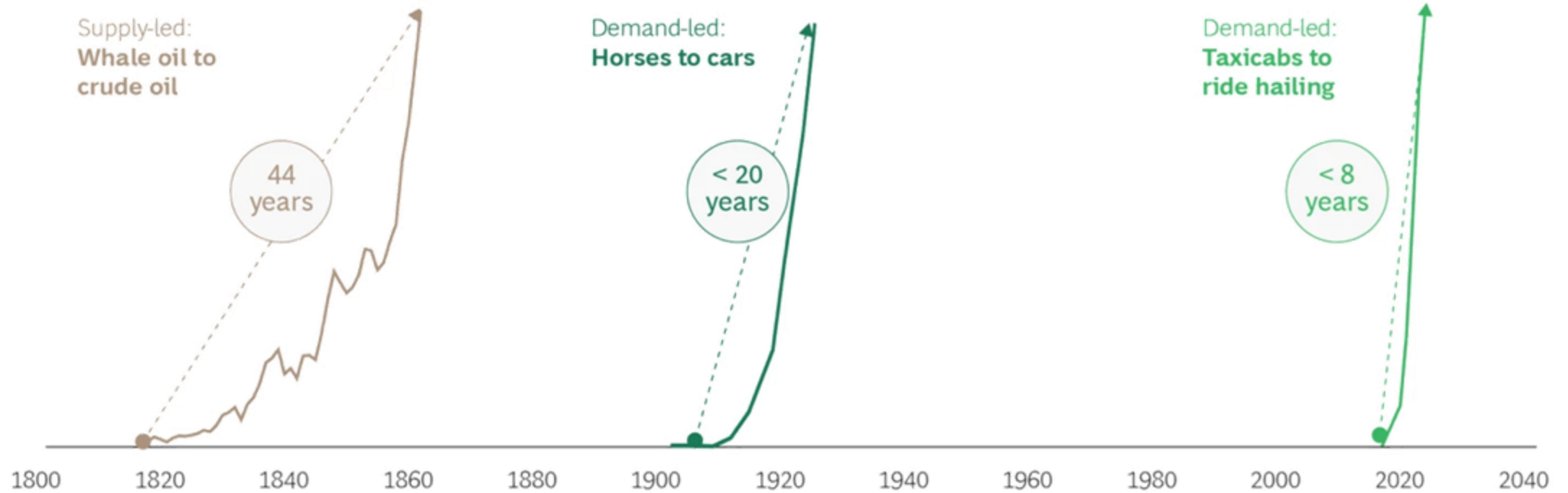
Meeting the differing needs of system operators and FSPs with multiple products and services - so FSPs can stack and earn more.

## More connected

Integrating with multiple asset datasets and market sign-up portals to expedite market entries.

# Demand-Led Transitions Are Faster Than Supply-Led Ones

Years until new technology reached peak penetration of previous technology



Sources: The Guardian, GPM, TLC analytics, BCG Center for Energy Impact analysis.

Note: Data on trips for cabs and ride hailing are for New York City only.

# Interested in learning more about our market platform, ElectronConnect, and our learnings from the UK?

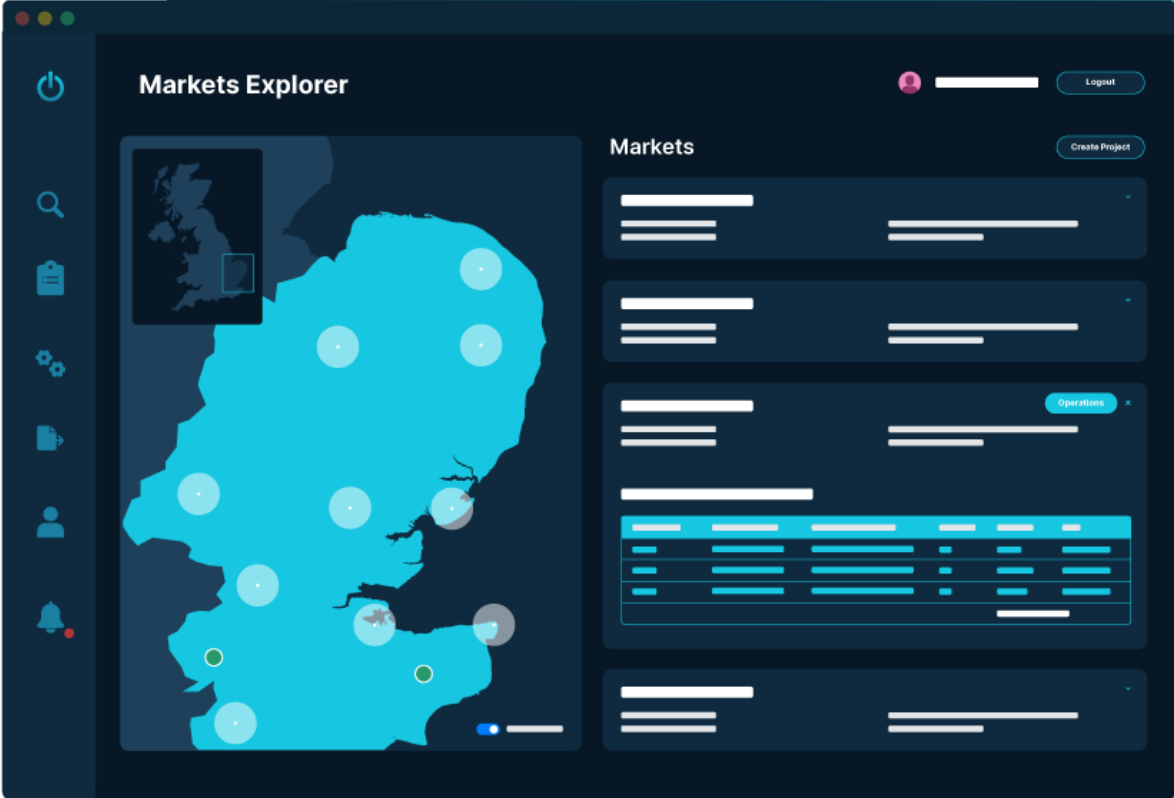
Hear from Nick Huntbatch, Head of Product at Electron for his talk:



**How UK DSOs are taking flexibility market platforms to the next level**

**When:** Friday 27 September, 11:05am

**Where:** IJ Zaal



# Thank you

Come and talk to the team to learn more



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