

## Case Study:

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July 2020 (London)

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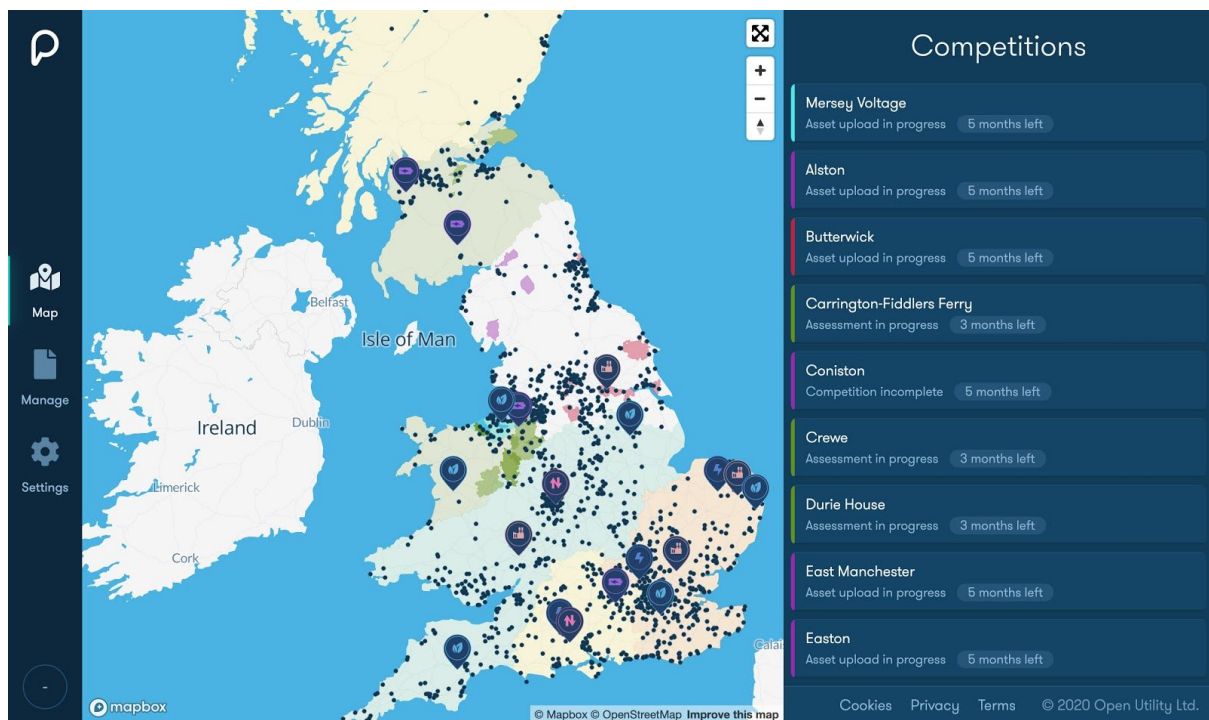
July 2020 (London) - UK Power Networks awarded flexibility contracts worth £14million making their most recent auction the largest run to date. Flexibility providers awarded contracts through the Piclo Flex marketplace include demand-side response (DSR), electric vehicles (EVs), storage facilities and generators.

Piclo Flex is an independent marketplace for trading flexibility online. Flex providers can register their assets onto the platform to automatically qualify for and bid into flexibility auctions. UK Power Networks has rapidly grown its flexibility market awarding contracts from 0.3MW in 2017 to 123MW in 2020, with the support of Piclo in streamlining procurement and improving market visibility and transparency.

The transition to a smart, distributed energy system means flexibility is critical to delivering a net-zero economy cost-effectively. The scale of UK Power Networks competition highlights the core role flexibility plays in the transition to a Distribution System Operator business model and the swift success achievable with high ambition and marketplace coordination.

## New streamlined procurement

The competitions run using the Piclo Flex platform were linked with a Dynamic Purchasing System (DPS) to enhance the procurement process further. DPS enables System Operators to move to a more dynamic procurement process, one that is completely electronic and automatic, saving both SOs and Flex Providers administration and transaction costs.



## Winning technologies

In addition to the “Secure” [1] and “Dynamic” [2] services offered at High Voltage, UK Power Networks made a world first by awarding low voltage “Sustain” [3] and “Dynamic” [2] flexibility services, opening up new opportunities to low-carbon technologies. Storage, including EVs, dominated this auction, being awarded

£11.4million worth of contracts compared to £2.1million to generators and £0.5million to DSR.

## Planned assets play a big role

Contracts collectively worth £11.8million were awarded to “Planned” assets, which suggests developers are incorporating the value of flexibility services into their business models at an early stage. UK Power Networks responded to market feedback and is now offering longer contract lengths reaching 7 years in this competition, compared to 5 years in previous rounds, which is likely to be contributing to this trend.

## Competition results breakdown

| Asset Technology        | Secure - awarded capacity (MW) | Sustain - awarded capacity (MW) | Dynamic - awarded capacity (MW) | Total awarded capacity (MW) | Number of unique awarded assets | Total value accepted (£m) |
|-------------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------|---------------------------------|---------------------------|
| Generator               | 9.9                            | 0                               | 30.6                            | 40.5                        | 11                              | £2.1m                     |
| Storage (including EVs) | 38.4                           | 1.7                             | 40.0                            | 80.1                        | 670                             | £11.4m                    |
| DSR                     | 1.0                            | 0                               | 1.4                             | 2.4                         | 8                               | £0.5m                     |
| <b>Total</b>            | <b>49.3</b>                    | <b>1.7</b>                      | <b>72</b>                       | <b>123</b>                  | <b>689</b>                      | <b>£14.0m</b>             |

Table 1: Awarded capacity and contract value split by Asset Technology

| Asset status       | Secure - awarded capacity (MW) | Sustain - awarded capacity (MW) | Dynamic - awarded capacity (MW) | Total awarded capacity (MW) | Number of awarded assets | Total value accepted (£) |
|--------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------|--------------------------|--------------------------|
| Operational [4]    | 1.6                            | 0                               | 6.1                             | 7.7                         | 11                       | £0.3m                    |
| In Development [5] | 2.4                            | 0                               | 2.4                             | 4.8                         | 4                        | £1.9m                    |
| Planned [6]        | 45.3                           | 1.7                             | 63.5                            | 110.5                       | 674                      | £11.8m                   |
| Mothballed [7]     | 0                              | 0                               | 0.0                             | 0.0                         | 0                        | £0.0m                    |
| <b>Total</b>       | <b>49.3</b>                    | <b>1.7</b>                      | <b>72</b>                       | <b>123</b>                  | <b>689</b>               | <b>£14.0m</b>            |

Table 2: Awarded capacity and contract value split by Asset States

| Asset voltage Level | Secure - awarded capacity (MW) | Sustain - awarded capacity (MW) | Dynamic - awarded capacity (MW) | Total awarded capacity (MW) | Number of awarded assets | Total value accepted (£) |
|---------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------|--------------------------|--------------------------|
| LV                  | 29.1                           | 1.7                             | 31.4                            | 62.2                        | 669                      | £9.6m                    |
| HV                  | 16.3                           | 0                               | 36.7                            | 53.0                        | 19                       | £4.1m                    |
| EHV                 | 3.9                            | 0                               | 3.9                             | 7.8                         | 1                        | £0.3m                    |
| <b>Total</b>        | <b>49.3</b>                    | <b>1.7</b>                      | <b>72</b>                       | <b>123</b>                  | <b>689</b>               | <b>£14.0m</b>            |

Table 3: Awarded capacity and contract value split by Asset Voltage Level

### James Johnston, CEO and Cofounder of Piclo:

*“It is exciting to see the growing role low-carbon technologies such as EVs have in flexibility markets. These results are an important milestone for DSO flexibility services with an increased scale, value and low-voltage opportunities marking the next step towards flexibility becoming “business as usual” in the UK.*

*Piclo’s industry-defining platform will continue to facilitate these expanding markets, driving decarbonisation both in the UK and internationally. We look forward to continuing our relationship with UK Power Networks.”*

[Learn more about Piclo Flex](#)

### Sotiris Georgiopoulos, Head of Smart Grid Development at UK Power Networks:

*“Three years ago we set out our Flexibility Roadmap and hitting more than 100MW is an important milestone that shows the market is really gathering pace. We could not have reached this without working really closely with the industry to co-design the products we’re offering and make the market open, transparent and accessible.*

*Flexibility is the future because it is arguably the single most important element of a decarbonised smart electricity network. It gives us the flexibility we need to enable more renewable energy and forms a crucial element of the journey towards Net Zero.”*

[Learn more about UK Power Networks flexibility services](#)

### **Simon Turner, Director of EV Chargers (EVC):**

*“EVC is delighted to have secured a large number of both HV and LV contracts in this tender using the Picloflex interface. EVC believes that network flexibility is a key enabler for our EV infrastructure rollout. Our mission is to spearhead the response to electric vehicle growth in the UK, enabling strategic EV charging access to all sectors for free whilst offering compatibility with all major electric vehicle brands”*

[Learn more about EVC](#)

### **Mark Davis, Managing Director of UK & Ireland at GridBeyond:**

*“We are proud to work together with UK Power Networks and Piclo Flex to provide additional flexibility and advance the development of a resilient and cost-effective distribution network.*

*The transition of the energy system towards a digitalised and decarbonised model, with increasing volumes of distributed and renewable generation, requires sophisticated technological solutions and collaborative approach.*

*Having worked in partnership with multiple utilities, energy end users, generators, storage providers, distribution network operators (DNO) and transmission network operators, GridBeyond’s ambition is to create a shared energy economy that delivers sustainability, resilience and affordability through collaboration and innovation.”*

[Learn more about GridBeyond](#)

## About the flex products

[1] **Secure:** increase generation or decrease demand to reduce peak loads on High Voltage (HV) substations. Flex providers are paid for their availability (£/MW/h) and for utilisation (£/MWh). The minimum (aggregated) threshold for participation in Secure is 50kW and flex providers commit to deliver flexibility over 6 months ahead (at contract). Secure uses real-time dispatch.

[2] **Dynamic:** increase generation or decrease demand to meet a variety of network needs, such as supplementing Secure or managing outages. Flex providers are paid for utilisation (£/MWh) at a price set by the flex provider. There are no Service Windows and it is optional for flex providers to accept dispatch instructions. Dynamic uses real-time dispatch.

[3] **Sustain:** increase generation or decrease demand to reduce peak loads on Low Voltage (LV) substations. Sustain is the primary Flexibility Service being procured for the Low Voltage zones. Flex providers are paid a fixed £/MW service fee. The minimum (aggregated) threshold for participation is 10kW and flex providers commit to deliver flexibility 1 month ahead (with an option for 1 week ahead). Sustain uses scheduled dispatch.

## Definitions of asset status

[4] **Planned:** a planned asset is one that has potential for flexibility but is not a formal project yet. Planned assets can be Archived if they cease to be planned (i.e. if no contract is won for their development)

[5] **In Development:** an asset that's in the process of being contracted, built or installed (i.e. is going to be Operational at some point in the future)

[6] **Operational:** an asset that is ready to provide flexibility today

[7] **Mothballed:** an asset that no longer provides flexibility, but that could be brought back into operational status

## About Piclo

Piclo develops software to make electricity grids smart, flexible and sustainable. The London based company has been building software for the energy industry since 2013. It has secured £4 million of funding, including grants from DECC and BEIS and private investment from Green Angels Syndicate. Piclo, chaired by Volker Beckers, has been named by Bloomberg as one of the UK's top 50 Business Innovators and won Startup of the Year at European Utility Week.

Piclo Flex is an independent marketplace for trading flexibility online. The platform leverages the latest digital technology to provide market visibility, asset qualification services and online auctions. Piclo Flex supports the business-as-usual flexibility procurement in partnership with 4 Distribution Network Operators, Scottish and Southern Electricity Networks, UK Power Networks, Western Power Distribution and SP Energy Networks. Over 300 flex providers have registered 6.5GW of assets on the platform.

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