Power 2.0: the next stage of the energy transition will trigger £6 billion investment in flexible power generation assets to 2030

- The GB power market is rapidly evolving as we move to a decarbonised, decentralised and digitalised future, with changes to the market design enabling this transition
- This will create a £6 billion investment opportunity in the GB power market between now and 2030, for around 13GW of new flexible and distributed generation assets such as gas reciprocating engines and batteries
- Innovative business models are emerging for flexible and distributed assets, including co-location with renewables and new trading strategies
- Portfolio diversification provides a boost to flexible asset investment cases – gas engines, batteries and renewables provide a natural hedge, protecting investor returns against market uncertainties

New analysis revealed today suggests an investment opportunity in the region of £6 billion between now and 2030 for the development of around 13GW of distributed and flexible power generation and storage assets in the GB power market. This is one of the key findings presented by Aurora Energy Research, a leading European energy market intelligence firm, at the firm's major Battery Storage and Flexibility conference today (11 October 2018).

The event has become a highlight in the energy calendar, with over 500 people attending the event to hear from speakers including: Sir Edward Davey MP (former Secretary of State for Energy and Climate Change), Frances Warburton (Director, Ofgem) and leading energy companies.

At the conference, Aurora’s CEO John Feddersen will highlight how flexible and distributed assets are quickly becoming a mainstream part of the GB power system. 2018 has seen a series of high-profile transactions in this space – for example the sale of UK Power Reserve to SEMCORP for £216 million, and Green Frog successfully raising £100 million of debt to fund the development of new projects. Flexible energy projects are also beginning to dominate ancillary services markets, for
example with gas engines and batteries providing 40% of frequency response contracted by National Grid.

At the same time, the last 12 months have seen some major changes to policy, regulation and markets which have impacted the business cases for gas engines and batteries, in particular: the reduction in de-ratings for duration-limited storage, the low clearing prices in the Capacity Mechanism auction, the drop in prices in the Frequency Response market, and significant reduction in Triad payments to embedded generators.

Against this backdrop, Aurora has invited participation from leading companies such as Anesco, Osborne Clarke, Fluence, Flexitricity and Clarke Energy, to discuss the range of innovative business models emerging for battery storage. Key opportunities emerging in this space are for batteries to be deployed behind-the-meter, alongside renewables or EV charging, or for developers to trade directly in the balancing and wholesale markets. The panel will address key questions surrounding the viability and finance-ability of these options.

Commenting on how the market is changing, Steve Shine OBE, executive chairman of Anesco, said:

“There has been a visible shift in the way such technologies are being regarded and what may once have been seen as a high-risk investment, is now considered a strategic long-term investment, that has benefits across many levels. A key differentiator for us has always been our knowledge of all renewables technologies – both established and emerging – and our ability to combine them for the greatest potential benefit, while accurately being able to model the long-term financial rewards they present. These are the figures that investors and businesses really want to know and need to be able to build a business case.”

A second theme discussed at Aurora’s event is how investors and energy companies can optimise their portfolios to minimise risk and protect their returns. Profit margins from gas engines and battery storage vary considerably from year to year, depending on factors such renewables output, plant outages and commodity prices. Flexible assets were highly profitable in winter 2016/17 as a result of scarcity and high market prices, whilst returns have since returned to 'normal' levels. Analysis by Aurora shows that it is possible to quantify the risks to profits and investor returns – both for individual assets and portfolios.
Felix Chow-Kambitsch, Aurora’s head of flexibility and battery storage, and a keynote speaker at this year’s conference comments:

“Aurora's analysis shows that investors can protect their returns by adopting a mixed portfolio of renewables and flexible generation assets such as gas engines and battery storage. Gas engines and renewables provide a natural hedge to one-another – lowering the volatility of investor returns on a year to year basis.”

Lastly, the conference will consider how changes to market design are enabling the energy transition towards a decarbonised, decentralised and digitalised future. Ongoing reforms will soon allow the participation of small-scale distributed generation in the GB-wide Balancing Mechanism – opening up this market to a number of new participants. Innovative companies such as Anesco, Eelpower and LimeJump are already exploring this opportunity – becoming the first parties to trade smaller-scale distributed assets including batteries in the Balancing Market (under a derogation from Ofgem). Similarly, ongoing reforms led by National Grid will open up access to ancillary service markets – enabling stacking of revenues across multiple markets.

Beyond this, Aurora’s invited panel of guests from Ofgem, LimeJump, Centrica and UK Power Networks will discuss how market design needs to further evolve in the future. In particular, this will consider the transition taking place within power networks, with Distribution Network Operators transitioning to become Distribution System Operators and procuring a range of flexibility services at a local level. Aurora analysis suggests that Balancing and Ancillary power markets are set to double in size between now and 2030, to around £2 billion per year - in large part due to the buildout of renewables. This creates a growing opportunity for flexible assets such as gas engines and battery storage to access a series of new revenue streams.

Richard Howard, research director at Aurora comments:

“The power system is rapidly evolving towards a decarbonised, decentralised and digitalised future. Reforms to policy and market design need to reflect this – not only to keep up with this energy transition, but rather to enable it. Over the period to 2030 we expect balancing and ancillary power markets to double in size to around £2 billion per year – opening up opportunities for flexible generators and storage to access new revenue streams.”

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About Aurora
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