



12th January 2017

It is clear that the UK electricity system has a pronounced and immediate need for clean, fast, flexible power. This flexibility is essential to security of supply; providing the first line of defence in the frequent event of successive power plant and interconnector failures- a far more pertinent threat to Great Britain's energy security than a perceived shortage of capacity. With the National Infrastructure Commission suggesting consumer savings equivalent to a reduction in the average household energy bill of £30-90 p.a, expediting smart power is also essential to delivering energy at a lower cost.

The good news is that Great Britain has a thriving energy technology sector with a vast portfolio of innovations that can step up to this immediate challenge of providing system flexibility. Open Energi, a dynamic UK tech firm, is one such innovator- a 'scale up' rather than a 'start-up'- testament to UK strength in encouraging digital innovation and investment. Open Energi has been providing frequency response through the Firm Frequency Response (FFR) market from demand side loads since 2010 with the technology trialled in domestic refrigerators before that. Our growing portfolio of customers and processes has given us deep experience of connecting to a wide range of assets, including batteries. Open Energi is an aggregator of choice; we have a culture of openness, integrity and honesty which is reflected in the agreements we have with our customers and the methodologies we use to deploy our technology. Our aim is to help National Grid maintain a safe supply of power to the nation and help the UK achieve its sustainability goals whilst simultaneously creating a new revenue stream for our customers. We are working with over 40 organisations, many in the FTSE 250, whose power loads we aggregate and provision, including Sainsbury's, United Utilities, Aggregate Industries, Severn Trent, Welsh Water, Hanson, University of East Anglia and Tarmac. Open Energi is also partnered with Younicos, Camborne Energy Storage, Arenko, Powerstar and ITM Power.

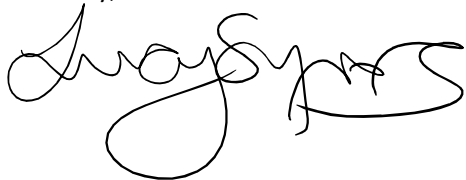
But, demand-side energy tech faces major barriers in UK energy markets:

- **There are different technologies that can provide flexibility and it is clear that these technologies are not treated equally within the current regulatory, policy and fiscal regime ([Policy Exchange, 2016](#))**
 - Demand flexibility can be provided by *both* demand side response and battery storage technologies- markets must not discriminate between energy stored in a fridge or a heated liquid vs. energy stored in lithium ion cells. Regulations must also be careful to capture behind the meter storage where electricity is not re-exported to the Grid but is consumed on site. If both technologies produce the same effect at the transmission level then they should be rewarded the same by these markets.
 - UK energy markets continue to favour existing power generators to a disproportionate extent. To fully realise the potential of demand-side flexibility to help balance the grid, save energy and offer lower costs for consumers, we need a level playing field. Without it, there is a very real risk that we will lead ourselves into multi-decade contracts for power plants, paying for a system which is already over capacity and which has no incentive to get any smarter. Ensuring access to the Balancing Mechanism for novel technologies is the most crucial task for regulators to ensure the development of a low cost, efficient future power system; and hence should be prioritised over other policy and regulatory goals.
- **Industrial and Commercial (I&C) demand flexibility has the most immediate potential for scale as compared to domestic and residential markets which do not currently have the market incentives. Industrial and Commercial demand flexibility must be a priority for government action in line with the ambition of the planned Industrial Strategy.**

- Open Energi has been a pioneer in demand side innovation to achieve a portfolio of 20MW of fast, reliable and clean demand side availability. However, in partnership with our existing I&C customers we could be unlocking an immediate pipeline of 300MW and a full market of 750MW for FFR across the UK grid
- **Companies like Open Energi cannot prequalify for the government Capacity Market and cannot compete directly against gas plants in the balancing mechanism. The fast, flexible power they provide is instead only accessible via tenders and procurements.**
 - Unlike other energy projects, demand flexibility requires no state subsidy at all.
 - All that we ask at Open Energi is that the regulations are updated to ensure 'demand side' (when we turn demand up and down) is given the same treatment as 'supply side' (when new power is generated) in the existing energy markets.
 - Flexibility is being unlocked today, but needs to scale to deliver transformational impacts. Our modelling shows there is a massive 6GW of untapped flexibility already available in our energy system, which can be unlocked by smart demand side technology to rapidly provide flexibility to the grid.
 - Open Energi believes that securing independent access for demand-side aggregators to the Balancing Mechanism should be a priority for government; this is the primary market for UK flexibility with over £800mn in transactions p.a., is ostensibly technology agnostic and is suffering from pronounced volatility that is set to increase with the growth of renewables.
 - Open Energi's ambition to open the markets to unlock flexibility aligns with our belief that it is the role of aggregators is to drive innovation through technology development; not simply to act as a market access intermediary. We see this role- as UK innovators- as defining and valuable, no matter how much competition is fostered in the retail supply industry.

Faced with the urgent need for flexibility in our rapidly evolving power system and with the tech needed to solve it bound only by markets that aren't fit for purpose, there is an immediate opportunity to unleash competition. Applying market mechanisms in the UK could dramatically change the game for energy security on the GB grid as early as next winter. With over 1GW of energy storage prequalified for National Grid's recent Enhanced Frequency Response tender, of which only 200MW was purchased, it's clear we have the appetite from investors to bring innovation to market. The challenge now rests with government to make regulation fit for purpose in a modern age of energy technology innovation.

Sincerely,



Lucy Symons
Director of Public Policy
Open Energi