

Power Responsive

Business customer & provider snapshot on participating in demand side flexibility

This document gives a high-level update of how business customers and providers view demand side flexibility opportunities and challenges in GB electricity markets today. It reflects a wide-ranging discussion at the Power Responsive steering group meeting on 26 April 2017, held under the Chatham House rule.

A year on from the first customer snapshot – which considered potential for demand side flexibility in different sectors (water, public, industry, retail and transport), this snapshot focuses on three key themes impacting participation in flexibility:

- **Awareness** – how do business customers & providers view the opportunities available today?
- **Confidence** – have their views on available opportunities changed over the past year?
- **Simplicity** – to what extent have product and market complexities been addressed?

Neil Durno (Younicos / REA Storage Group) and Eddie Proffitt (MEUC) kindly offered opening remarks.

Awareness

Communications are clearer. People are engaged and interested in demand side flexibility. There is a wider understanding of the potential opportunity. The direction of travel is in line with what customers need. Power Responsive has contributed to improved awareness, including through the joint detailed training sessions on demand side response with the Major Energy User's Council (MEUC) in 2016 (attracting 120 professionals) and general awareness through roadshows and events.

Confidence

Confidence has been impacted by uncertainty. There are so many changes taking place at the moment. A lot of issues remain to be addressed. The question is how to tackle these holistically, making incremental steps – without adding complications and unintended consequences.

Uncertainty is holding some potential providers back from investing. Some business customers who invested early, are now feeling more nervous, and have put parts of their DSR programmes on hold. Storage providers are beginning to play a more active role. There are some business customers viewing this as a potential threat to their ability to participate in schemes – questioning the competitiveness of DSR against other forms of flexibility, such as storage.

It is not yet clear if the commercial case is there for some in DSR. Potential providers need to see a clear revenue stream, versus the cost of participating, and this has become harder without being able to rely on financial savings from Triad (transmission) and DUOS (distribution) network charge avoidance.

Simplicity

The landscape is becoming more complex. There are more balancing schemes than last year. There are also new local network schemes emerging. This means more potential revenue streams for providers, which is positive, but it becomes more challenging to decide which markets to participate in and how their assets can be commercialised.

National Grid is taking steps to simplify Balancing Services, based on feedback from providers, so this should help. Storage providers raised the risk that rationalisation could potentially lead to the removal of precision solutions (e.g. Enhanced Frequency Response), which might disadvantage smaller players with smaller assets, unable to compete with providers with a wider range of capable assets.

Complexity makes it harder for business customers to participate in schemes on their own. They will often work with aggregators, who have the expertise to understand the different schemes, rules and requirements and stack value across markets.

Network charging arrangements

There is recognition of the rationale for reviewing transmission and distribution network charging arrangements to address distortions in the markets. But these reviews have impacted the investment case for demand side flexibility. Some companies have made long-term investments based on DUOS red band avoidance and this source of revenue is now uncertain.

Triads were designed in a way that not only raised money for the Transmission system, but also promoted power avoidance at peak times of day. Triads have offered an effective signal for demand side response – leading to a maximum of 2 GW of avoidance on the highest peak demand day of the 2015/16 winter period – with customers responding 22 - 40 times over the winter period. This has wider benefits for the system operator, distribution network operators (DNOs) and suppliers.

Business customers respond to the Triad signal because it is simple, requiring no prior commitment, they can make their minds up on the day. What is the alternative to this as a procurement of winter demand reduction? Whatever alternative arrangements are put in place, they need to be simple, with a clear signal for demand side flexibility.

Demand side flexibility delivery

The figures for demand side flexibility procurement give a positive story. Statistics show that the numbers are going up for demand side response and storage participation in markets. In particular the Capacity Mechanism was referenced as an area where successful participation in auctions has increased since they began (ref table below). It is still not clear how these figures break down by asset type, for example the extent to which DSR is provided by onsite generation. It was noted that the most successful bids are from suppliers or aggregators.

For example, figures from the recent capacity market auctions:

| Year | Auction | Delivery Year | DSR Procured | Storage (Battery) procured |
|------|---------|---------------|--------------|----------------------------|
| 2014 | T-4 | 2018/19 | 174MW | |
| 2015 | TA | 2016/17 | 475MW | |
| 2015 | T-4 | 2019/20 | 455MW | |
| 2016 | TA | 2017/18 | 308MW | |
| 2016 | T-4 | 2020/21 | 1,410MW | 500MW |

TA= Transitional Auction, just for DSR

Procurer perspectives

Procurers of services have got an obligation to pick the best solution for their problem, to get the best value for consumers, and they want to have a wide range of options available – including generation, demand side response and electricity storage. Procurers need to think about how to give potential providers the right signals for solutions to their problems, without being overly prescriptive. They also need to consider trade-offs between procuring the best price for consumer today versus for the long term

The **System Operator** is working to simplify Balancing Services. In a recent survey of potential demand side flexibility providers – the overwhelming feedback was to reduce complexity with fewer categories of products. The SO is developing and consulting on proposals to streamline services, and looking at contract terms – incl. exclusivity clauses. Changes are being made but more progress is needed. A key milestone will be the publication of the **System Needs & Product Strategy** in May 2017 – which will give clarity on how system changes translate into SO actions, and expectations for trends over next 5 years. This will be followed by stakeholder consultation.

Distribution Network Operators are in a 'post-trial world' where they are incorporating procurement of demand side flexibility into business-as-usual operations. DNOs are also looking at how they can offer flexibility services to the transmission network and considering agency models – working with aggregators. It was noted that in a lot of cases DSR might be better suited than electricity storage to meet DNO needs – as winter peak requirements are in the range of over 1½ hours (although this could be delivered by multiple storage units). Storage providers expressed concern about the possibility of DNOs owning and operating storage, suggesting that it would be very difficult to compete

with DNOs operating assets in this way. Customers also noted the added complexity of having signals both from local distribution networks and the system operator.

Aggregators and suppliers have an important role offering a route to market for business customers and flexibility providers, handling the complexity for them, but at a cost.

Conclusion & next steps

Business customers and providers want a clear signal for demand side flexibility – to unlock inherent latency in the system, and to make new investments. Ideally customers want to flip the question around, so they say what flexibility they can offer and providers work out how best to use it.

The reviews of network charges have had an impact. When looking at future scheme design, it will be important to learn from the effectiveness of Triads – a simple model with no prior commitment.

Awareness has improved. Confidence and simplicity still remain challenging, and have perhaps reduced from the perspective of business customers and providers, due to regulatory uncertainty and the introduction of new schemes.

Many business customers and providers find it too difficult and confusing to participate in demand side markets alone, so work through aggregators. There are differing views between the DSR and storage communities, and some concern about competition between assets.

The themes of awareness, confidence and simplicity will be explored further through the Power Responsive Annual Conference on 27 June 2017.

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