

# Power Responsive Steering Group

## Snapshot: barriers to flexibility: what's still to do, and what are the priorities to address.

This snapshot reflects a discussion on the **barriers to flexibility: what's still to do, and what are the priorities to address** at the Power Responsive Steering Group, held on 3<sup>rd</sup> October 2018 (under the Chatham House rule).

The question was posed to the Steering Group: 'Have actions taken over the last 2-3 years been appropriate, and have they had a positive, negative or neutral effect on markets and participants – both new and established?'

The discussion was to be split into two parts:

Part A:

### 1. What barriers remain?

A short reflection of steps taken so far to tackle barriers to balancing and a look ahead to what's on the horizon. What barriers remain for demand side flexibility?

Part B:

### 2. What issues to tackle, when, how, and by who?

What are the priority actions to be taken in the short, medium and long-term?

## What Barriers Remain?

Rhiannon Marsh, Power Responsive Manager presented a short reflection of steps taken so far to tackle barriers to balancing and a look ahead to what's on the horizon.

Discussion was then opened to Steering Group members on a sector by sector basis to hear what barriers still existed, a summary of which can be seen below:

### Markets Access

Providing demand side flexibility is a difficult proposition from a customer perspective. Access to markets is still seen to be difficult due to different treatment between Balancing Mechanism (BM) and Non-Balancing Mechanism (NBM) parties. Mandatory Frequency Response markets are not open, and therefore hold volume (MW) that could be tendered for by non-traditional parties, although this is set to change with the reform of Balancing Services

Markets are also deemed to be working against the demand side provider. The lack of volume identified, coupled with high numbers of tenders to Balancing Services markets are driving down prices resulting in decreased provider confidence.

Markets are said to be at different levels of maturity, and providers are therefore advised to stack services. However, demand side providers identified that demand side flexibility is not their core business, and valuable time is already taken in managing and monitoring service delivery without moving flexibility from service to service.

Testing of assets prior to service delivery also remains a barrier and a balance may need to be struck between testing and performance monitoring. It's onerous to test each asset at full delivery, as this can take days, which is challenging in a large production process. Such requirements are likely to be a restriction to EV flexibility for instance.

Electric vehicles and batteries have similar barriers that relate to market access with providers in this space are finding it difficult to make a commercially viable proposition with current revenue streams, and combining services isn't always possible.

It was highlighted that electric vehicles are not available 24/7 and therefore smart charging may require a market to reflect this.

Aggregator systems are newer and more agile and it's important to make sure that ESO systems can interact with these – as we become smarter and more digitalised. In doing so, there are shared benefits across the whole electricity system.

### **Transparency and Data Gathering**

It was also highlighted that the industry should be careful of the messaging it presents and should look to co-ordinate information delivery. Concern was raised that missing certain industry events could lead to missed messaging and updates that impact demand side businesses and their business plans. All opportunities should therefore be put into the public domain.

The demand side proposition isn't always easy to understand, particularly for those where flexibility is not their core business. The distinction between capacity and energy for instance isn't clear and much could be done to simply understanding.

There was expression that National Grid ESO could do more to gather and present the right forms of data in a way that is beneficial to all stakeholders, including policymakers, not just for providers.

### **Uncertainty & Confidence**

Many Steering Group members feel there is uncertainty in each market they could participate in, and whilst change is happening, this challenges confidence amongst potential providers.

Questions remain such as, what new products are there, when will they arrive, how long will they run for, will weekly tenders work, will someone else control my assets, can I believe what an aggregator tells me?

Roadmaps published by the Electricity System Operator (ESO), are helping to address some of these concerns, but changes to timescales and deliverables can impact business plans and investment cases. The Product Roadmaps (for Frequency Response and Reserve, Restoration, and Reactive Power) point to the simplification of services, and whilst this is required, changes still need to go through multiple stages and sign off.

### **Investment Cases**

Financial restrictions also exist as barriers. The cost-benefit of the demand side proposition often doesn't meet the expectations of business owners and Financial Directors. Investment in assets (new or upgrades) may often be required to meet participation requirements, but there may be difficulty in justifying any demand side flexibility investment with no certainty of payback timescales and returns on investment.

There is also a direction of travel towards nearer term markets, making it harder to invest.

Service stacking can help to maximise returns and improve business cases for flexibility, but demand side services have different requirements and there is a need to set-up assets for multiple revenue streams, adding to the cost of investment to upgrade assets.

### **Network Management**

Conflict between transmission and distribution requirements can create a confusing landscape to the demand side provider, and limit a provider's ability to move between markets, particularly if different markets/services don't align. The cost of network connections remain high and sometimes difficult to achieve, even when no export is planned.

Distribution Network Operators (DNOs) require new forms of flexibility, with trials emerging in a number of regions. Provision of locational services may however be limited, particularly as the right asset / technology needs to exist in the right location for active network management, which can lead to smaller and less liquid markets.

It was also highlighted that offering different services across different regions may not be of interest in the case of major national demand side providers.

### **Regulatory Changes & Restrictions**

It is uncertain quite what impact the Medium Combustion Plant Directive (MCPD) will have on balancing services, but Steering Group members were unanimous that it would not be possible to obtain permits in time for January 2019 and the cost of abatement is prohibitive.

Code governance was of particular interest to Steering Group members. It was highlighted that code modifications are regularly conflicted between old versus new parties. Some parties are restricted by codes, whilst others will benefit from modifications, but changes are often effected by the loudest voices.

It therefore becomes a challenge to get the right parties together to influence decisions, especially when codes are often long, complex and difficult to understand.

However, parties are often unfamiliar with the codes and rarely know what's in them. Occasionally parties may not understand the 'rules of the game' until they come up against something can't do. Code modification is often reactive as opposed to proactive as a result.

It's widely agreed that a quicker, simpler, and more collaborative process needs to allow for modification of the codes, but considering this will be difficult to navigate under the current organisational structure of 11 code panels across 6 code bodies.

Disrupters from a technology-driven world are finding new and innovative ways to operate, and could lead to the development of markets outside of the codes.

### **What issues should be tackled, when, how, and by who?**

In the second part of the discussion, barriers discussed previously were consolidated and Steering Group members asked to vote on two short-term priorities and one long term barrier that could most appropriately open-up greater demand side flexibility participation. The three priority areas selected by the steering group were:

1. Short-term - **Cost benefit proposition and service stacking**
2. Short-term - **Data gathering**
3. Long-term – **Code governance**

Steering Group members split into three groups to focus discussions further.

### **Cost benefit proposition and service stacking**

Offering a cost-effective alternative to network reinforcement/renewal over long term timeframes was seen to be a barrier that required further discussion. Steering Group members felt it was necessary in the short term to address concerns surrounding exclusivity clauses prohibiting the stacking of services (a topic which is currently being consulted on) and to create market information that signals the potential value of a service.

Steering Group members suggested that solutions such as including information on longer term requirements and price trends would help demand side providers to understand their cost-benefit proposition and returns on investment. Insight into flexibility requirements and timescales will be valuable information to the demand side provider.

Questions arose regarding whether the Network Options Assessment (NOA) is providing enough information / confidence in this area. Knowledge of network hotspots will be valuable to demand side providers in assessing the value of their flexibility.

Addressing exclusivity clauses in contracts should also be progressed to allow greater flexibility and revenue stacking.

- **Proposed timescale to address barriers:** 2 years
- **Stakeholder Ownership:** DNOs / DSOs (Distribution System Operators) & Electricity System Operator (ESO)

### Data gathering

It's identified that a lack of data in the market can result in 'market myths'. National Grid ESO & DNOs should audit capacity and energy offered by time of day, on a service by service basis. However, exemptions may be necessary for smaller providers.

A flexibility register of distributed energy resources could enable this co-ordination of data with market actors able to access the data applicable to them.

- **Proposed timescale to address barriers:** Now, and annually as part of the Power Responsive Annual Report.
- **Stakeholder Ownership:** Aggregators / suppliers providing data to ESO & DNOs.

### Code governance

There is a need to take a holistic view across the energy spectrum with a clear vision of what code changes are necessary in the short medium and long term, as 'tweaking' currently doesn't address barriers quickly and deeply enough. Identifying the principles for how codes operate in future maybe the first step. A look to other regulatory regimes that work well may also have merit.

Codes effectively form contracts between the industry and its actors and are therefore complex in nature. Unravelling this complexity for the benefit of multiple parties with different requirements is a challenge in itself. Establishing a pathway in order to commence suitable reform will be key.

A question was also posed relating to how 'deep' the codes need to be, and should the number of codes be reduced. For instance, charging currently sits within codes, but is this necessary?

Incumbent players may be resistant to change that opens up markets, and the challenge will exist to bring new parties into the decision-making process. Widespread and equal education and engagement will be key.

- **Proposed timescale to address barriers:** Now.
- **Stakeholder Ownership:** BEIS & Ofgem.

### Next steps

The Power Responsive team will review the feedback received on barriers and potential solutions for increasing participation in demand side flexibility opportunities, alongside feedback from other engagement activities, to inform the necessary next steps within National Grid ESO and the recommendations to wider industry participants.

*This snapshot has been prepared by National Grid ESO on behalf of the Power Responsive Steering Group.*