

Power Responsive

Snapshot: Development of regional markets and greater price transparency & discovery

This snapshot reflects a discussion on the **development of regional markets and greater price transparency and discovery** in relation to demand side flexibility (DSF) held on 11 April 2018 at the Power Responsive Steering Group (under Chatham House rules). The discussion was split into two parts:

- **Development of regional markets for flexibility – DNO and Suppliers’ plans.** How local and regional markets are currently developing; how they may evolve in future; the interfaces between national and regional/local markets for flexibility; and customer perspectives on providing local flexibility services.
- **Price discovery for demand side flexibility.** Customer interpretations of and expectations for price transparency and discovery; how market actors can contribute through information provision, market analysis and platforms.

Opening remarks were made from different perspectives, followed by general discussion.

Development of regional markets for flexibility – DNO and Suppliers’ plans

There was discussion of local/regional projects including:

- **[Cornwall Local Energy Market \(LEM\)](#)** – Working with Western Power Distribution (WPD) and National Grid, Centrica is leading the Cornwall LEM project with funding from the European Regional Development Fund (ERDF). The project aims to manage local constraint issues, avoid/defer network investment and reduce carbon dioxide emissions by increasing flexibility – from businesses and residential customers. It involves the development of a market platform – providing a single point of access for multiple parties to different markets – through a phased approach over 3 years (Phase 1: DNO requirements, Phase 2: System Operator buying, Phase 3: market integration).
- **[Smart Energy Islands](#)** – WPD’s Smart Energy Islands project collaborates with Hitachi and Moixa, testing a further energy market on the Isles of Scilly. This involves building and operating a renewable energy Micro-grid and Virtual Power Plant (VPP).
- **[Open LV](#)** (community energy) – WPD is trialling an open software platform in electricity substations to monitor substation performance and electricity demand. It will help enable increased customer and community group participation on the network, considering the role of smart electric vehicle (EV) charge points, access to the control switch for smart meters, and requirements to ensure networks are not overloaded. It includes a ‘connect and manage’ demand side curtailment system.
- **[Project Entire](#)** – WPD Demand Side Response trial, including a portfolio of Distribution System Operator (DSO) products. Using flexibility, instead of new generation assets to support housing developments, it contracts in 13 ‘constraint managed zones’, with plans for more zones next year. Much of the learning is technical and industry based.

Perspectives provided from:

- **System Operator** – it is important to consider how national and regional/local markets will interface. The [ENA Commercial Principles](#) paper consulted on this in 2017. Currently there are established transmission level markets, and distribution level issues. The SO is making improvements to its suite of services, to ensure they are accessible and transparent. Distribution level markets are at an earlier stage, with services being procured on a project basis. Interactions need to be understood – such as any ‘technical’ hierarchy, access rights and how to manage payments for different activities. Incremental steps are being made to understand how transmission and distribution level markets can interface cost-effectively, efficiently and consistently across GB.

- **Small suppliers** – there are many smaller suppliers extremely interested in local markets for commercial differentiation. They are working collaboratively with Local Authorities and local housing providers to seek to take advantage of local flexibility.
- **Customers** – as new markets emerge and multiple market actors procure flexibility services, it will be necessary to ensure the propositions are clear and simple for end-customers. Industrial and Commercial (I&C) customers are interested in the opportunities these markets may offer, but they have to weigh up the time, expense and effort to participate versus the possible value. It is difficult for customers to know how much value their flexibility might have to those procuring services and therefore how to price tenders. It is also challenging for customers to stay informed and respond to market fluctuations and consultations.
- **Aggregators/Third Party Intermediaries (TPIs)** – there are parallels between the issue of multiple DSF markets, and the early days of flexible supply contracts, where TPIs helped customers to understand the various options. Aggregators can deal with complexity for customers, helping them to navigate and engage in different markets for DSF.

Local and national markets need to work together effectively. Some of the problems currently encountered in understanding the 'value proposition', may in time disappear as regional / local markets develop and there is a clearer understanding of what services are needed, when, and where there is capacity. There was a question as to whether there might be technical primacy of either national or local interests. The Smart Energy Isles project should give some insights into the interactions between local, regional and national markets. National arrangements could be used to better facilitate local arrangements. It will be important to communicate where value lies for flexibility.

Price transparency and discovery for demand side flexibility

With perspectives from:

- **Customers** – The MEUC and National Grid have run training courses on DSF for over 180 individuals from I&C businesses. But it remains challenging to convert interest into participation. Customers struggle to understand the value their flexibility has, and whether it is worthwhile for them to participate in flexibility services. Progress is being made to develop the voluntary ADE Code of Conduct for aggregators. There can be a big difference between prediction / expectations and prices actually achieved at the point of procurement. Some customers find it easier to invest when there is an administered price, for example some DNOs have offered a set price for flexibility. Another comment was that fixed prices may be more suitable for trials, rather than business-as-usual commercial services.
- **Aggregator** – the cost (capital expenditure) to deliver flexible load tends not to be problematic. The related transaction (operating) expenditure is usually the issue e.g. assets bought to provide baseload or back-up may be unsuitable for regular running/delivery of flexibility if there is a significant 'transaction' cost. There is huge variation in 'cost-discovery' and this can have a significant impact on customer participation. Customers want to understand what the opportunity is, how much involvement and effort is required, and the certainty of returns. On price discovery, there are two extremes: long-term contracts which support investment for single-purpose assets, but lock-in costs to consumers; and, rolling auctions which if held regularly, can establish a provider track-record. It is very important that the System Operator, and other market procurers, are transparent in their decision-making, and involve customers in the design and development of markets and services.
- **Market analysis** – There is considerable potential – within the non-domestic electricity bill – for sculpting of peak consumption to manage charges including distribution, Triads and the Capacity Market levy. It was noted that system peak demand used to be the biggest technical and cost factor for managing the system, but there are now different constraints – as a result of increased intermittent renewable energy or network constraints, for example.
- **Peer-to-peer trading** – We are moving from a world of bilateral transaction, with large single buyers and sellers, to multiple smaller buyers and sellers. This may begin to address asymmetries of information. But, it adds complexity as markets are interlinked. Actions taken behind the meter by the demand-side can have significant value that multiple parties benefit from. Or, new externalities may be created, with costs falling elsewhere. Platforms are needed to ensure parties bid suitable prices, and are matched with any excess value returned to them. Blockchain-based platforms may help to support a fair match between supply and demand.

ELEXON recently published a white paper to explore facilitating peer-to-peer trading, entitled: [‘Enabling customers to buy power from multiple providers suppliers’](#).

At the outset of the discussion, Steering Group members were asked whether they had the same understanding of price transparency, discovery and predictability. It was clear that there were a number of different views and interpretations. Key issues raised during the discussion included:

- **Price transparency and discovery** – Price transparency means prices are in the public domain to be observed. National Grid is focusing on improving transparency, publishing information on trades and Balancing Services. Historic information is also available on the results of the Capacity Market. However, it was noted that, whilst transparency of historic data can be helpful, it is important to understand the direction and predictability of price trends and the factors influencing this, to avoid customers misinterpreting historic data and being deterred from participation as a result of unrealistic expectation. Prices have been volatile over the last few years. For example there was considerable variation in prices achieved through the T-4 and T-1 capacity market auctions year on year.
- **Price volatility and/ or low level** – prices may be too low or volatile for some business customers / providers to invest at present, but it is generally agreed that flexibility is needed for the system in the long-term, The question is therefore how to activate the market now and create the right frameworks to enable a better ‘line-of-sight’ on price.
- **Price reporting & analysis** – by independent analysts is standard in other markets and would most likely be beneficial in this context. It is not necessarily for market actors to deliver the whole picture of price information and transparency. New price reporting initiatives may emerge as markets mature.
- **Administered prices** for market actors – it was accepted that administered prices may be appropriate for trials or projects, where it can be complex for market actors to test both the technical and commercial elements of a new approach. It is important to acknowledge that knowing the price to be paid for a service, is not the same as discovery or transparency. An administered price (particularly if fixed) may not represent the true value of flexibility in the market.
- **Regular auctions** – there was a general preference for market-based mechanisms to facilitate competitive prices and in particular, regular procurement exercises to build a track record. The German Frequency Containment Reserve (FCR) is a weekly auction – it attracts foreign investment because it is predictable, albeit the prices are lower than elsewhere.
- **Market confidence** – transition to competitive demand-side markets is desired. In supporting renewable energy, the Government has moved from administered prices to competitive auctions. Consumers tend to get a better deal from market competition through greater efficiency. Longevity is important. Innovation trials have been successful but it is important that any new innovation projects have a clear trajectory – and that DNOs move from trialling to business as usual.
- **Budget certainty** – is more important than absolute price for customers. Customers forecast and budget for their energy consumption a year in advance, so they need to know how much they will spend on energy efficiency projects, and what they might get from DSF. Customers often prefer the certainty of knowing what value they are getting, even if that value is lower. For example, it was suggested with STOR, that providers could base an expected revenue stream on availability payments, then view utilisation payments as an additional ‘bonus’.
- **Price discovery** – is the process of testing the price of DSF in the market based on supply and demand. As we move from bi-lateral contracts to market based arrangements there will be more price discovery – and this is desirable.
- **Stack-ability** – customers want to know which DSF services are stackable in order to access multiple revenue streams. This can be beneficial when prices are less certain or reducing due to increased liquidity or to wider industry changes.
- **Aggregator understanding of different customers** – Trust in aggregators is important. They can help to remove complexity for customers. If they are offering set-priced savings / revenues, customers need to be in a position to make an informed choice. One customer is not always comparable to another – they have different assets, drivers, risk-appetites and barriers to entry.

Next steps

As local and regional energy markets evolve, it will be important to consider potential enablers and blockers. The ENA's Open Networks Project is looking at the detailed issues that enable network operators to facilitate the transition to the energy system of the future. Power Responsive can support through utilising its platform to offer clear information and ensure demand side stakeholders, particularly customers, have a voice in the discussion. An infographic of the remit of different forums would be helpful. Also, to disseminate information about value stacking and the potential implications of the Targeted Charging Review (TCR).

Although price information is increasingly publically available, it may be difficult for customers to find or interpret it. A single access-point for more price information (including Balancing Services, the Capacity Market and DNO projects) may be beneficial. It will then be important to communicate and signpost this information. As markets mature, price analysts and price-reporters will start to give more commentary on markets for DSF. The System Operator has been using webinars to openly explain results, not just about the specifics of the tenders, but also the wider context.

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