Power Responsive

Trade Association Roundtable on Annual Report 2016 & Measuring Demand Side Flexibility

8 March 2017, 14:00-16:00hrs held at National Grid Offices, 1-3 Strand, London WC2N 5EH
The note of this meeting was prepared by Sustainability First.

1. Welcome & Introduction

Judith Ward, Sustainability First, (in the chair) welcomed attendees to the meeting – which focused on; how Power Responsive could link more closely with energy market and business customer trade associations (TAs), the 2016 Annual Report, and how to further develop a set of metrics for demand side flexibility.

Attendees introduced themselves, their membership and their involvement with demand side flexibility. There was a good mix of trade association representation covering energy suppliers, generators, distribution network operators, aggregators, distributed generators, storage providers, manufacturers and technology providers, energy services, and large industrial customers. Ofgem was present, BEIS sent apologies.

2. Overview of Power Responsive

Paul Lowbridge (Power Responsive Manager) gave an overview of the Power Responsive programme – its purpose, focus and priorities – and how TAs could get involved. He noted that there are currently three key drivers of change on the power system: decarbonisation; decentralisation; and digitalisation. Both the physics of the system and types of market players are changing.

2016 was a big year for low carbon electricity – it included; the first period with no coal; lowest transmission demand in summer; and highest wind input. In terms of total generation output over the whole year, wind was higher than coal. 2016 was a turning point – the first year of a future energy system.

This means that having access to flexibility from a range of sources is really important for the system. The value of flexibility is likely to increase. National Grid, as System Operator (SO), sees its role as creating markets in which all providers of flexibility can participate – new/existing, big/small players. The six categories of flexibility include: demand side response (DSR), distributed generation, electricity storage, synchronous generation, asynchronous generation and interconnectors.

The SO has a mandate to procure flexibility on a technology agnostic basis. There was a brief discussion on whether the SO should be technology agnostic or have some form of decarbonisation requirement. Such issues are currently dealt with at a policy level. The Government is tackling impacts of diesel farms through Defra's regulation on local air pollution, for example. Ofgem has a sustainability objective as part of its remit to protect the interests of future consumers, and is looking at these issues in the embedded benefits review.

The initial emphasis of Power Responsive has been on addressing barriers and complexity in current markets for greater I&C customer participation, including simplifying Balancing Services – moving from 20+ products to a much smaller number. But the programme also seeks to enable flexibility in wider markets. On average, 97% of electricity on each half hour period is currently contracted through the wholesale market. The capacity market offers an additional route to market for those who can offer a capacity service as well as provide flexibility.

Distribution Network Operators are developing schemes at a local level. ENA focuses in detail on the development of local markets, through their working parties, Distribution System Operator (DSO) work, and TSO/DNO collaboration e.g. Transmission Distribution Interface (TDI) project.

Trade Associations were asked if they also see a rapidly changing world. Manufacturers of all sizes are trying to understand opportunities in energy and what role flexibility can play in UK

competitiveness, with many already participating. It was highlighted that European statistics show that for I&C customers GB electricity prices can be considerably higher than elsewhere in Europe. The steel sector has also identified further opportunities for DSR that need to be unlocked. Other manufacturers are looking at how to unlock opportunities to offset costs. However some have processes that cannot be interrupted.

The energy services sector is not yet seeing flexibility as a significant opportunity. However, energy performance contractors would be interested in DSR, as they look after multi-site portfolios, managing energy consumption, so within a portfolio there may be sufficient opportunity to incorporate DSR as part of a wider package.

Technology manufacturers want to make products that are right for the market, and they also tend to be high energy users themselves. They will therefore have an interest in the development of flexibility markets. New energy models may help give businesses a competitive advantage.

Power Responsive focuses on industrial & commercial (I&C) demand side flexibility, with workstreams in three priority areas:

1. **Continued customer engagement** – with DSR stakeholders and broadened to include storage providers. Raising customer awareness of the demand side opportunity and routes to market. For example, producing a 'step-by-step' guide to DSR, and running joint MEUC & NG training programme with a training manual.
2. **Increase confidence in flexibility** – providing useable and engaging information to support confidence in demand side flexibility, including working with the ADE on the development of an industry led voluntary code of conduct for demand side providers.
3. **Evolution of flexibility markets** – simplifying the Balancing Services product set to encourage participation. Trialling of shared services with distribution networks. Consideration of the future development of demand side markets.

Through collaborative work, Power Responsive has also sought to inform the BEIS and Ofgem call for evidence on a 'Smart, Flexible Energy System'.

There was discussion on whether the media now better understands demand side flexibility and whether more coverage could help improve confidence. Getting media interest on the topic can be a challenge, but the narrative has helpfully shifted, over the last 18 months, away from 'downing tools', to an understanding that flexibility can be an opportunity for business customers. In part, this has reflected improved collaboration with large industrial customers and their representative bodies. If customers are supportive then this will feed through. But, reality must also match the rhetoric. Power Responsive publishes case studies of businesses successfully participating in demand side flexibility.

NG, BEIS and Ofgem continue to discuss demand side flexibility communications. It would also be helpful for Ofgem's forthcoming 'State of the Market' report to include statistics on how markets, such as flexibility, are being supported. Ultimately, it will be for the energy industry to communicate stories on access to smarter markets, simplifying products and promoting choice, based on positive experience.

Future Role of the SO

Paul Lowbridge briefly outlined NG's work on the Future Role of the SO (FRSO) – its legal separation and new / enhanced roles – which is currently being consulted on by Ofgem. NG has four workstreams for the FRSO project: Flexibility; Whole System; Level Playing Field; and Network Competition. The Flexibility stream focuses on: information provision; optimising use of distributed energy resources (DERs); simpler products; and structural market change. The deliverables progressed in each of these areas support the objectives of Power Responsive. The Steering Group and Working Groups will be used to engage with stakeholders on these topics offering a route to input on decision making.

Power Responsive working groups

There is a Power Responsive steering group with representatives from across the sector, which meets quarterly to consider strategic issues, priorities, and to oversee the work programme. There are also two associated working groups – the DSR Providers Group, and Electricity Storage Working Group. These are quarterly open forums where providers can be informed of the latest developments and provide feedback. It would be helpful for TAs to make their members aware of these two open forums and that all meeting notes and publications are available on the website: www.powerresponsive.com.

Working with Trade Associations
Paul Lowbridge noted that TA members are key stakeholders for Power Responsive – electricity market actors or customers who could provide flexibility. Collaboration with TAs has already proved an effective way of reaching and communicating to a large number of members. For example, speaking at regular TA meetings is particularly good for reaching colleagues not yet aware of the demand side flexibility opportunity. Collaborating on materials means it is possible to translate energy industry jargon into a language that makes sense to businesses. Power Responsive has also organised joint events, including training courses with MEUC, a practical workshop to hospitals with the Crown Commercial Service and an Annual Conference supported by ADE & Energy UK.

It was suggested that Power Responsive should also look to develop links with universities (such as Cambridge and Edinburgh, and the Alan Turing Institute on Big Data) and TAs for key industries, such as the paper or chemical industries, who have generation assets.

TAs gave an overview of their current thinking and activity on demand side flexibility, and how they could engage more with Power Responsive. Some were already working closely with Power Responsive and its working groups. Others were still trying to understand how far this was currently material for their members and / or how to get demand side flexibility on their members' radar in a very basic and practical way.

ADE highlighted their industry led voluntary code of conduct for DSR aggregators – to develop minimum standards for customers on behalf of the aggregator community. A steering group has been established to oversee the work. There will be a public consultation in the coming months.

TAs stressed that their members would want a practical presentation of the steps required to participate in demand side flexibility, rather than a conceptual overview or sales pitch. It was noted that the terms DSR and Distributed Energy Resource seem to be sometimes used interchangeably and inconsistently. The network definition of "demand" (anything on the distribution network) can differ to the understanding of many non-energy participants (notably distributed generation, storage). So clarity on the definitions, and consistent reference to Distributed Energy Resource or a similar concept, would be helpful.

3. Annual Report and metrics for demand side flexibility

The Power Responsive Annual Report was designed to offer an initial evidence based view of activity across different demand side flexibility markets. It is the first report to look across markets in this way and seek to present some baseline metrics. There were two audiences for the report: electricity market actors – the full report; customers and providers – a short snapshot version. The report covers the work of Power Responsive, what has been done to date, and what issues remain to be addressed. It includes the perspectives of different players looking to participate in demand side markets.

Clare Dudeney (Sustainability First) noted that a metrics sub-group was convened, initially discussing a 'wish-list' of possible metrics, then narrowing to baseline metrics that were feasible to include in the first Annual Report. These were:

- **Customer insights** – from recent Ofgem and Energyst customer surveys on demand side response.
- **Demand side flexibility in contracted markets** – including: Balancing Services (Total contribution, breakdown by balancing product and the five demand side flexibility categories[1], and number of active demand side providers); and the Capacity Market (future capability).
- **Self-dispatched demand side flexibility** – including: peak network charge avoidance – Triads (days, volume and customer saving); and wholesale prices.

The process revealed gaps in currently available data and analysis, particularly for self-dispatched activity. These gaps / potential metrics to develop include:

- **Total contracted demand side flexibility**
- **Technical potential for demand side flexibility**
- **Network charges and signals to customers –** more granular data on Triads (e.g. number of sites participating; average response by site; £ saving for participating sites; geographic location of response & break-down by five demand side flexibility categories); and extent to which DUOS red-amber-green signals reach customers, and prompts response.

[1] Load response, generation (onsite / export), energy storage (onsite / export).

- **Participating customers and assets** – number of participating customers, participation by business sector, customer route to market, type of participating assets, visibility of network charges and pass-through costs on end-user bills.
- **Overall benefit to customers & the system** – value to participating customers, benefits to all consumers, benefits to the system overall, carbon abatement implications.

There was some discussion about who currently may hold key data (e.g. Elexon). Also, on whether in the future, National Grid could perhaps seek customer actor / consent to collate anonymised data as a part of the registration process for balancing schemes. It was suggested that this could be done as part of the streamlining of Balancing Services. On DUOS – it was noted that Open Utility & Good Energy are making red-zone data available to customers on a platform. DNOs may need to start considering collecting certain data. A PA consulting paper was published on demand aggregation as a part of the call for evidence on a 'Smart, Flexible Energy System'.

It will be important to establish what the data will be used for, especially if it is gathered from commercially competing players. For example, will the data: inform regulatory incentives; offer insights for market actors; act as a baseline for assessing the effectiveness of flexibility markets. It could provide a useful indicator for the size of the market for potential investors. But it will be important to agree where to prioritise efforts. Data requests can be costly and burdensome. Taking a collaborative approach in enabling the market to be made, may be better than new regulatory requirements for data collection.

The initial metrics pulled together for the 2016 Annual Report will be taken forward in the 2017 report, and if possible expanded upon, with clearer Balancing Services data at a product level, including prices, and an indication of medium term and future volume requirements. Participants felt that a breakdown of demand side flexibility activity by industrial sector would be a particularly helpful metric in the future. It was noted that PJM offers comprehensive data on market activities. A metrics subgroup will be convened in May, with a view to inputs for the Power Responsive 2017 annual report. TAs were asked if they would like to participate. ADE and Energy UK expressed an interest.

For the future, there remains an open question as to who should lead on gathering data on demand side markets. It was suggested that this might fit with Ofgem's upcoming 'state of the market' report. The European Commission had commented that they did not know of an equivalent document to the Power Responsive Annual Report in other member states – so it is a positive first step.

4. Next steps

It was felt that greater involvement of TAs in the work of Power Responsive would be helpful, including

- TAs to help raise awareness of relevant Power Responsive **publications** (eg the simple 'how-to-guide', the flexibility product-map, the annual report) and **events** with their members.
- NG colleagues to speak at TA meetings and working parties.

It was noted that the Power Responsive Annual Conference is likely to take place on 27 June, with further details to follow.

Links to pre-meeting materials:

- How to guide
- Product Map
- Snapshot on judging success for demand side flexibility in GB electricity markets;
- Power Responsive Annual Report;
- Annual Report customer factsheet; and
- Note on Demand Side Flexibility Metrics and gaps.

Attendees

Name	Company
Judith Ward (chair)	Sustainability First
Anthony Bivons	BEAMA
Will Cardwell	Association of Decentralised Energy
Clare Dudeney	Sustainability First
Shai Hassid	Ofgem
Paul Lowbridge	National Grid
Rosie McGlynn	Energy UK
Lee Priestley	National Grid
Dipali Raniga	EEF – the manufacturers' organisation and UK Steel
Sam Rossi Ashton	Energy Networks Association (ENA)
Adrian Sellar	National Grid
Tony Taylor	Energy Services and Technology Association (ESTA)
Zoltan Zavody	Electricity Storage Network (ESN)

Apologies:

- Department of Business Energy and Industrial Strategy (BEIS)
- Renewable UK
- Major Energy Users Council (MEUC)
- Confederation of British Industry (CBI)
- Energy Managers Association (EMA)
- Tech UK
- Solar Trade Association
- Energy Intensive Users Group (EIUG)