

# Power Responsive Steering Group

## Note of Eleventh Meeting

11 April 2018, 13:00-17:00hrs, held at Elexon's offices, 350 Euston Rd, London NW1 3AW. This note of meeting is prepared by Sustainability First on behalf of the Steering Group.

### 1. Welcome and introductions

Cathy McClay (chair) welcomed attendees to the meeting and summarised progress and activities since the previous Steering Group meeting on 31 January 2018. Including publication of the [Electricity System Operator \(ESO\) Forward Plan](#); meeting of the [Charging Futures Forum](#) (CCF); continued work to widen access to the Balancing Mechanism (BM) via Project TERRE (Trans European Replacement Reserve Exchange); the first [System Operator \(SO\) Open Innovation day](#) and [Innovation Strategy](#); Capacity Market T1 results, with prices lower than expected and increased demand side participation<sup>1</sup>; and publication of the [Power Responsive Annual Report 2017](#).

The main discussion at the last meeting was on: [Sources of demand side flexibility \(DSF\) from plural assets and providers](#), as well as the Power Responsive Forward Strategy. This meeting focused on: *Regional markets and price discovery* – covering Distribution Network Operator (DNO) and Supplier local/regional plans; approaches to price transparency and discovery. There was also a Demand Side Flexibility (DSF) horizon scan and Power Responsive update.

### 2. Demand side flexibility horizon-scan

#### BEIS

David Capper provided an activity update in relation to BEIS and Ofgem's [Smart Systems and Flexibility Plan](#), which focused on:

- Removal of barriers to smart technologies – incl. storage
- Enabling of smart homes and businesses
- Markets that work for flexibility – incl. value stacking

Nine of the 29 plan actions have been completed, including:

- Providing clarity on the treatment of storage as intermittent or non-intermittent in the distribution charging methodologies
- Issued guidance on storage colocation with renewables under the Renewables Obligation, Contracts for Difference and FiTs schemes
- Cost reductions for storage innovation competition launched and feasibility studies for a potential first-of-a-kind, large-scale future storage demonstrator completed
- Crown Commercial Services (CCS) launch of a new public sector DSR Framework
- Vehicle to grid innovation competition launched
- Domestic and non-domestic DSR innovation competition launched
- Publication of ENA Open Networks project report
- Feasibility study for local flexibility trading innovation competition launched
- Stakeholder engagement maximised through the establishment of the Smart Systems Forum

Innovation cuts across these areas – with six competitions in the last year, £246 million for electric vehicles through [The Faraday Challenge](#) as part of the Industrial Strategy challenge fund. Further initiatives such as *Prospering From The Energy Revolution* are likely to be announced after the local election purdah period.

The [Smart Systems Forum](#) is helping on implementation of the plan, considering future challenges and emerging policy. It was agreed that some of the actions, are initial stepping-stones, with further steps needed. Government's commitment to DSF remains strong, as evidenced in the [Clean Growth](#)

<sup>1</sup> Capacity Market T-1 Results: ~5.8 GW awarded at £6.00 per kW per year. 443 MW of DSR accepted (7.5%). 840 MW of DSR exited auction (17%).

[Strategy](#), with a distinct shift away from a generation led view to greater focus on a smart system. The importance of overcoming silos was noted – in particular ensuring the [‘Supplier Hub’](#) model work takes account of externalities and wider customer impacts, including for overall system balancing.

## Ofgem

Louise van Rensburg gave an overview of Ofgem’s relevant workstreams. The Charging Futures Forum (CFF) – considers forward-looking network charges, including the [Targeted Charging Review \(TCR\)](#) on residual transmission charging. There are two TCR workshops in late April.

Task forces will deliver reports in mid-May. The next meeting will be late May / early June. Steering Group members noted that guidance – such as on the co-location of storage – has had very positive feedback.

Concern was expressed by customer advocates that the TCR impact assessment is unlikely to consider the impact of changes to transmission charges on winter-long Triad response by Industrial and Commercial (I&C) customers (a system peak reduction of 1.5-2 GW on ~ 35 winter week-day evenings). From a customer perspective, the Triad signal is relatively easy to respond to – without contract or penalties. From the System Operator perspective, the Triad response cannot be ‘called’ to support management of system peak (e.g. in winter 2017-18, system peak occurred on 1 March - outside the Triad ‘season’). The challenge for balancing is increasingly about intermittent renewable generation on the system and volatile price characteristics, rather than traditional peak periods of high demand.

The [RIIO 2 framework consultation](#) was launched in early March, due to close on 2 May, with some regional workshops. A decision is expected in the summer, with targeted, sector specific RIIO methodologies developed toward the end of the year.

## National Grid

The **Electricity System Operator (ESO) forward plan** was published in late March. It sets out a longer-term ambition, and a full range of activities that the ESO will be incentivised for, with a focus on delivering value for consumers – now and in the future. The ESO will focus on four roles, over the next three years:

- Managing system balancing and operability.
- Facilitating competitive markets.
- Facilitating whole system outcomes.
- Supporting competition in networks.

It includes hard KPIs (Key Performance Indicators), which will be accompanied by evidence and narrative. Ofgem will publish a final opinion on this towards the end April.

## Product Roadmaps

Product Roadmaps for Reactive Power, Thermal Constraint Management, and Black-start will be published shortly and will set out the challenges faced in each of these service areas, to deliver solutions that are accessible for a range of providers.

## Procurement Update:

- **Firm Frequency Response (FFR)** – From April 2018 the FFR feedback webinars will be open to all, no longer restricted to those who have an FFR agreement, with the Q&A to be published online. Further details of procurement activity can be found in the Steering Group slides.
- **Short Term Operating Reserve (STOR)** – in the January tender, requirement for summer season (12.1-12.4) has been procured. There was an increase in the MW offered in Year 13 in comparison to previous years, particularly from committed Non-BM. Potential implications of the Medium Combustion Plant Directive (MCPD) and Project TERRE are under review.
- **Fast Reserve (FR)** – National Grid has procured sufficient volume against its hedging strategy. Interactive guidance on FR will be published in April 2018. Moving to a new platform for ancillary services (PAS). There will also be monthly assessment WebEx calls to provide detailed feedback to the market following each tender round. National Grid is looking to reduce the MW entry threshold for FR in future.
- **Demand Turn Up (DTU)** – This year, National Grid is running a Fixed and Optional DTU Service, which both start on 1 May 2018. The Fixed DTU tenders are currently being assessed, and

results of all successful and unsuccessful bids will be available in coming weeks. The Fixed and Optional DTU Framework Agreements are available online. There is also an interactive guidance on DTU.

There are currently different assets providing services to different parts of markets. National Grid has made updates to the collection of data at the point of tender including requesting that providers identify as Transmission connected vs. Distribution Connected, and the five technology categories<sup>2</sup>.

It was noted that this would improve asset-related data for Balancing Services but not other parts of the market. There was discussion about the benefits of aggregators providing asset level information. It was noted that sometimes assets might be difficult to categorise – when multiple assets contribute to delivery of a service.

### Open Networks Project

Roger Hey gave an update on the Open Networks project on behalf of the Energy Networks Association (ENA). This is a key industry initiative focusing on Transmission and Distribution processes. There are four main workstreams:

1. **Transmission-Distribution process.** How the whole electricity system can be managed on a most efficient and economic basis. Including consideration of regional services.
2. **Customer experience.** Closing the gap between what companies currently do and what customers would like them to do. Including offering information on flexibility services.
3. **Distribution System Operator (DSO) transition.** Passive to active network with flexibility. Structural and market based issues. Smart grid architecture model. Moving from trials to implementation.
4. **Charging.** Mostly supporting Ofgem's CFF.

The focus in Year 1 was on what needs to be done in each area, in Year 2 it is on how. An [Open Networks Project Report](#) was published in December on achievements and future direction.. The Open Networks project looks long-term but interim issues are also considered, such as active network management and a DSF option for new customers connections.

At a previous Power Responsive Steering Group meeting, the issue of customer representation in the Open Networks Project groups was raised. Subsequently MEUC was asked to join the steering group. It was noted that there are currently no customers on *WS2: Customer Experience*, however an invitation recently went out for representatives.

Discussions were held regarding how Power Responsive and the Open Networks project could work together – in particular, through the Power Responsive network, and events. There is already sharing of information between the groups, but care should be taken to ensure the remits of each work programme is clear to stakeholders

## 3. Development of regional markets and price discovery

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.

### a. Development of regional markets for flexibility – DNO and Suppliers' plans

With opening remarks from:

- **Fiona Navesey (Centrica)** – Cornwall Local Energy Market (LEM) project.

<sup>2</sup> Five DSF categories: 1. Demand side response (DSR) by flexible load shifting (e.g. heating/cooling systems, business operations and appliances). 2. DSR by onsite generation. 3. DSR by onsite energy storage. 4. Distributed generation – for export. 5. Distributed energy storage – for export.

- **Roger Hey (WPD)** – Smart Energy Isles (Isles of Scilly Microgrid and Virtual Power Plant), Open LV (Community Energy) and Flexible Power product.
- **Ian Pashley (National Grid, SO)** – insight from DNO regional development programmes.

Key discussion points included:

- **Transmission/Distribution interface** – National markets, in which DSF can participate, are more mature. Regional/local level opportunities are beginning to emerge through DNO projects. It is important to understand potential interactions between these markets, and develop appropriate commercial arrangements.
- **Engagement in local/regional markets** – small and large suppliers are interested in local markets. Customers see an opportunity, but the challenge remains how to make the proposition simple and accessible enough for customers to engage with these new markets – and to understand their ‘point of market entry’.
- **Aggregators can help manage the complexity** of the different markets for customers.

#### b. Price transparency and discovery for demand side flexibility

With opening remarks from:

- **Eddie Proffitt (MEUC)** – I&C customer view
- **Alastair Martin (Flexitricity)** – Aggregator view
- **Robert Buckley (Cornwall Insights)** – Role for a market / pricing analysis.
- **Jon Ferris (Electron)** – Potential for platforms and peer-to-peer trading.

Key discussion points included:

- **Price discovery** – the process of testing the price of DSF in the market based on supply and demand. As we move from bi-lateral contracting arrangements to more market based approaches there will be greater opportunities for price discovery. More price transparency - through making more price information available at different points in the market - is an important enabler to greater price discovery.
- **Value of flexibility** – customers often struggle to understand the potential value of flexibility from their assets to set against the costs and hassle of participating in schemes.
- **Long-term contracts versus regular auctions** – views are split. With some customers preferring the certainty of administered prices and/or fixed term contracts. Whilst others prefer regular, rolling auctions – where a track record can be established. It was suggested that in the long-run, competitive markets will better serve both end-users and end-consumers.
- **Peak avoidance** – there is considerable potential in the non-domestic sector to reduce demand at peak to avoid charges (such as distribution, Triads and the Capacity Market levy). It was noted that system peak demand has historically been the biggest technical and cost challenge facing system operation, but there are now different balancing constraints – for example, volatility as a result of intermittent renewable energy. The Targeted Charging Review (TCR) may also impact peak avoidance activity.
- **Peer-to-peer trading** – we are moving from a world of bilateral contracting among large single buyers and sellers; to multiple small buyers and sellers. This may begin to address asymmetries of information, but it adds complexity. Price platforms could ensure parties bid suitable values and are matched, with any excess value returned to them. Blockchain-based platforms, could potentially help ensure a fair match.
- **Price transparency and predictability** – price transparency refers to the accessibility of price information in the market. National Grid is focusing on improving transparency, publishing information on trades and prices. Transparency of historic data can be helpful, however 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 expectations.
- **Budget certainty** – budget certainty on energy expenditure is a key business consideration for I&C customers. Demonstrating a business case for energy efficiency projects can be relatively straightforward (expenditure, pay-backs etc). By contrast, the variable benefit of DSF participation can be harder to factor into business budgeting. This is why some I&C customers prefer the certainty of a firm price for their DSF, even if that means a lower value.

A detailed snapshot of this discussion is available at [www.powerresponsive.com](http://www.powerresponsive.com).

## 4. Power Responsive work update

### a. Asset level data mapping

National Grid is working to improve the reporting of services at the point of tender and included 'type of network connection' and 'type of technology' into tenders for Reserve and Frequency Response services.

### b. System Operator Open Innovation Day

The SO innovation strategy was launched in February 2018. In order to help achieve the priorities outlined in this strategy, potential partners for shortlisted innovation projects took part in an Open Innovation Day in March, scoping out projects and pitching them for Network Innovation Allowance funding. Eight projects were scoped; five were successful, three of which came under the Power Responsive remit:

- Collaborative project on new approaches to testing, performance monitoring and baselining for smaller DSR assets.
- Unlocking DSR through 'whole water system' approach rather than a single asset.
- Decentralised Asset Register to improve data quality and access of information on connected assets.

The next step will be to undertake cost-benefit analysis of the projects. Privacy and security issues were raised in relation to the proposed Decentralised Asset Register. It was noted that Sustainability First is running a project on access to smart meter data from public interest perspective.

### c. Power Responsive Flexibility Forum and Summer Reception – 26 June 2018

The Flexibility Forums are well-attended quarterly events. On 26 June 2018, a Flexibility Forum will be held followed by an evening reception. There will be panel discussions and audience interaction to celebrate achievements in DSF, with speeches from industry leaders, networking and industry stands. An invite will be circulated shortly.

### d. Steering Group meeting

The proposed discussion topic for the next meeting is: *Potential role of electric vehicles in demand side flexibility.*

There have been recent reports on electric vehicles (EVs) by Energy UK – [The Electric Vehicle Revolution](#), DNOs, and the Committee on Climate Change – [Plugging the gap: An assessment of future demand for Britain's electric vehicle public charging network](#). ETI & TRL ran a major project 'Consumers, Vehicles and Energy Integration'. BEIS will also release its report – Road to Zero – on EVs shortly.

Given the ubiquitous nature of this subject, it would be valuable to look at this from different perspectives from across the energy industry. For example, DNOs and aggregators suggested involving their EV project partners in the discussion, large retailers and others felt it would be helpful to think about how best to use their car park spaces and fleets, and an active local council may also provide an interesting perspective.

e. Forward activity timeline - noted.

## 5. Any other business

There was no other business.

## Attendees

Name	Company	Sector representation
Cathy McClay	National Grid	Chair
David Capper	BEIS	Policy & Regulation
Louise van Rensburg	Ofgem	Policy & Regulation
Colm Murphy	National Grid	System Operator
Ian Pashley	National Grid	System Operator
Roger Hey	Western Power Distribution	Distribution Network Operator
Fiona Navesey	Centrica	Large Supplier
Jo Butlin	EnergyBridge	Market Commentator
Robert Buckley	Cornwall Insight	Small suppliers
Peter Frampton	Elaxon	Electricity Market
Eddie Proffitt	MEUC	I&C (industry)
Maria Spyrou	Marks and Spencer's	I&C (retail)
Andy Pennick	United Utilities	I&C (utility)
Joe Ernst-Herman	Crown Commercial Service	I&C (public)
Alastair Martin	Flexitricity	Aggregator
Jonathan Ainley	KiWi Power	Aggregator
Matthew Rowe	DNV GL	Electricity Storage
Jon Ferris	Electron	Technology
Judith Ward	Sustainability First	Secretariat
Clare Dudeney	Sustainability First	Secretariat
Rhiannon Marsh	National Grid	Secretariat
Adrian Sellar	National Grid	Secretariat

### Apologies:

Sara Vaughan (E.ON UK)  
 Jim Cardwell (Northern Powergrid)  
 Matthew Webb (TFL)  
 Marek Kubik (AES)  
 Dale Geach (Siemens)  
 Jeff Whittingham (Orsted)