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Update from WS6 of Smart Grid Forum

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Background

Smart Grid Forum

- Established by DECC & Ofgem in May 2011
- Brings together DNOs, NG, suppliers, technology providers, consumer groups, academics, Government and Regulator
- 1st year work programme consisted of 5 work streams;

Work stream	Details
WS1	Developed DECC low carbon scenarios
WS2	Produced high level evaluation framework
WS3	DNOs building on evaluation framework
WS4	Identifying closing doors
WS5	Ways of working – learning dissemination

All work streams bar WS2 continued in some form for 2nd year. A sixth work stream formed to look at regulatory & commercial issues

Work Stream 6

Initial focus on regulatory and commercial barriers to DNOs utilising smart grid solutions in RIIO ED1

3 key tasks for the work stream

1. Identify the smart grid solutions DNOs will need to consider in RIIO ED1
2. Identify any potential regulatory or commercial barriers to their use
3. Propose options for removing them including:
   - regulatory options
   - options for commercial arrangements
   - options for customer engagement

Ofgem led with a number of other parties involved (all DNOs, DECC, NGET, Centrica, Elexon, EDF, eMeter, Consumer focus, Good Energy, E.On, Renewable UK, Logica, PB Power and Sustainability First).

Views expressed in this presentation taken from work stream's report

Potential to expand terms of reference at a later date beyond an ED1 and DNO focus

Key topics for WS6

1) Commercial arrangements for demand side response (DSR);

2) Charging issues associated with smart grid solutions;

3) Commercial arrangements for the development of storage;

4) Arrangements for undertaking electricity demand reduction measures;

5) Potential role of a Distribution System Operator (DSO); and

6) Arrangements relevant to integrated energy systems.

Report produced and sent to SGF in late August

DSR working assumptions

Working Assumptions made by WS6 of SGF
1. A sophisticated/centralised DSR market model will not be established during RIIO ED1
2. Reinforcement costs for shared assets triggered by existing domestic customers increasing load or generation will need to be socialised
3. DNOs will benefit from receiving notification where LCTs connect
4. That DNOs should be free to approach all customer types to offer DSR
5. Methods for DSR are likely to differ between different types of customer
6. There will need to be some measures in place to preserve value of DSR across the supply chain i.e. time limited contracts
7. There must be no compromising current reliability standards of the network

Developed by work stream 6 to outline environment for DSR

Commercial arrangements for DSR

Distinction made between DSR with commercial customers and DSR with domestics

Commercial customers

Bilateral arrangements for DSR i.e. DNO approaches customer directly and agrees restricted hours profile or interruptible contract with new or existing customer

Potential barriers	Next steps required
Engineering recommendation P2/6	Timeline for revising P2/6
Trade off between customer's right to withdraw and certainty for DNO	Develop general principles which fit both parties needs
Presence of competition (IDNOs & ICPs) may complicate arrangements	Test DSR arrangements against existing competitive markets
Lack of clarity on charging for DSR	Review of charging arrangements to include commercial costs of connection

Charging arrangements

One of our working assumptions is that reinforcement charges for existing domestic customers may have to be socialised

Rationale:

- No predefined capacity limit which is well communicated to domestic customers
- Currently no way to identify where a domestic or small commercial customer uses appliances to exceed notional capacity limit
- Take up of heat pumps, EV and micro-gen could make this real issue
- Networks may need reinforcing to accommodate them

How do you target the costs of this reinforcement without knowing who triggered to them?

Unfair to target some new low carbon appliances but not others like hot tubs, power showers etc.

This drives a number of our issues and next steps for DSR with domestics

Commercial arrangements for DSR (domestics)

Another working assumption is that DNOs should be free to approach domestics for DSR if they wish

Potential barriers	Next steps
Lack of notification of new appliances with high contribution to peak load	Introduce robust notification process
Visibility of domestic contribution to peak demand	Explore whether smart metering data will provide this capability
Lack of direct relationship with domestic customers	Set out principles for engagement incl. via third party
Dis-incentive for customers to engage in bilateral DSR arrangements	Explore how signal could be sent via UoS charges

Once smart metering data is available, can revisit charging arrangements and see how to send signals to existing domestic customers who trigger reinforcement

Other initial conclusions of WS6

Storage

- A need to develop commercial arrangements with third parties for use of storage assets
- Helpful if current contracts allow storage providers flexibility to compete in separate markets
- Understand the extent to which DNO owned storage should sell ancillary services

Distribution System Operator

- Need to identify trigger points and lead times to a move to a DSO

Energy Efficiency

- Appears to be a useful a tool for DNOs as DSR and should be something they explore

Future of WS6

- Final meeting 9 Oct
- Make recommendation to SGF on 23 Oct over expanded ToR
- Group keen to look at market models and value of smart grids across value chain

Thinking feeding into RIIO ED1 price control


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