

## **Discussion paper on conclusions from stage one of the electricity settlement project**

**Author:** Ofgem

**Audience:** Electricity settlement expert group and other interested stakeholders

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### **1. Purpose of the paper**

- 1.01 This paper presents Ofgem's initial conclusions for the first stage of the settlement project. These conclusions are primarily based on the discussions during expert group meetings, held between June and November 2014, and our initial analysis. It does not represent our definitive view: as noted in the text, further work is required in some areas. Where it is the view of the expert group or its members that is being referenced, this is made explicit.
- 1.02 These conclusions will form part of an open letter addressed to all stakeholders to be published at the end of the year, which will also include information on Ofgem's next steps. This paper is intended to stimulate discussion at the expert group meeting on 12 November 2014. In particular we are interested in gathering the group's views on the questions set out below.

### **2. Questions for the group**

- Do you have any comments on our conclusions, set out in section three?
- Where relevant, have we accurately presented the expert group's views?

### **3. Key conclusions**

#### **3.1 Ambition: using half-hourly data for settlement**

- 3.01 Our premise for launching stage one of the project was the view that it is in consumers' interests for them to be settled on their actual half-hourly (HH) data. The expert group has been enthusiastic about Ofgem's focus on electricity settlement and agreed that using HH data for settlement was an appropriate goal.

#### **3.2 Optimising the settlement process for using HH data**

- 3.02 There is already a process for settling consumers using HH data. Currently over 120,500 sites are settled through this process. Drawing on the existing arrangements as a starting point, the focus of stage one has been to look at how to optimise those arrangements to accommodate the millions of domestic and smaller non-domestic sites currently settled using estimates through the non-half-hourly (NHH) arrangements. We have explored them with a view to shortlisting options for more detailed assessment at stage two where possible. The key conclusions for each of these areas are set out below.

##### ***Data Processing and Data Aggregation functions***

- 3.03 We focussed on where the responsibility for these functions should lie. A number of high-level options were discussed. The indication from the expert group was that the most viable high-level options are:

- The current competitive Supplier Agent model. Potential benefits of this option stem from maintaining the dynamics of competition. These could include: innovation, greater choice and competition on price and quality.
  - A new Data Processing and Data Aggregation (DPDA) model with a central agent. Potential benefits stem from enhanced simplicity, consistent standards of data quality and economies of scale.
- 3.04 An option for a hybrid between the central and competitive agent models was also discussed: it was deemed by the expert group to have practical difficulties and on balance likely to be inferior to the other two options. It may distort competition by creating a dominant player and create uncertainty for the provider of the central agent since the size of the market would not be clear.
- 3.05 A number of sub-options were discussed – these primarily relate to option design and function responsibility, particularly for our central agent option:
- There are sub-options relating to the functions that a central agent would undertake. This is because it may not be appropriate for a central agent to carry out all of the functions of Supplier Agents at present, either because they may not all be relevant in the future or because some functions could be better left open to market competition. There were mixed views from the expert group on the feasibility of the latter.
  - There are sub-options relating to the responsibility for the central agent functions. DCC and ELEXON were discussed in this context. Additionally, sub-options exist around splitting the responsibility for the central functions across different bodies.
- 3.06 Further work on the detail of future DPDA functions will be required to prepare for a quantitative assessment. This will inform our view of what both a Supplier Agent model and a central agent model would look like in more detail. Quantitative assessment of the costs and benefits will then be required in order to come to a view on which high-level option is in the best interests of consumers.

### ***Data estimation***

- 3.07 A solution would need to be found for estimating missing HH consumption data, both for sites with smart meters and for remaining sites with traditional meters (during and after the transition).
- 3.08 For smart sites, the current HH estimation routine (BSCP502) is inappropriate in its current form. It is designed for a different type of meter and a small number of larger sites. However, its principle of generating site-specific estimates based on historical data can be applied to smart sites. Work will be required to develop the detail of how to optimise the process for smart sites.
- 3.09 For traditional sites, a form of profiling will continue to be required. We have identified several possible options for this, all of which are likely to be less costly than the current process.
- A new method of creating profiles, using smart meter data for the sample. This could enhance accuracy compared with the current process, on the condition that appropriate proxies for traditional meters can be identified in the smart population.
  - Existing profiles could be ‘frozen’ (no longer updated) in one of two ways. The regression equations could be frozen but the daily profile coefficients continue to be calculated based on the actual outturn temperatures. Or both the regression equations and the profile coefficients could be frozen. The latter would be calculated in advance based on 10 year average temperatures. These options are may be less costly than smart profiling, but are also likely to be less accurate.

### ***Settlement timetable***

- 3.10 The remote capability of smart meters creates an opportunity to shorten the existing settlement timetable. This could bring significant benefits. There are potential benefits to all suppliers from reducing the collateral they put up with ELEXON. There are also potential dynamic benefits that would accrue from

reducing the financial uncertainty of settlement: this would be particularly relevant to new market entrants.

3.11 Based on extended discussions with the expert group we are of the view that:

- The information run could be carried out at three working days.
- The first settlement run could be carried out at 10 working days.
- We discussed options for the final settlement run at one, three and six months. One month appears to be a challenging but feasible ambition. This may need to be attained incrementally, however, dependent on observed settlement performance once new settlement arrangements go live. One way of making the transition as smooth as possible would be to have initially an interim run at one month, which becomes the final run in due course.

3.12 This work complements work currently being undertaken by the Profiling and Settlement Review Group,<sup>1</sup> which is looking at changes to improve settlement in the short to medium term, including opportunities for bringing forward the settlement timetable. Such changes could help to address the point referenced above relating to incremental implementation.

### ***DCC data retrieval***

3.13 The smart meter specification has not been designed to allow meters to push HH data to suppliers at scheduled times (which would be one-way communication). Changing the specification would be costly and time-consuming.

3.14 Our working assumption is that suppliers would send a service request to the Data Service Provider (DSP)<sup>2</sup> in advance of requiring the data. The DSP would then schedule the request in such a way as to not overload the network. This would entail two-way communication (supplier/DSP requests data, meter returns data).

3.15 There are a range of options for how this may work in practice in relation to the frequency with which each meter is read. There may be advantages to suppliers of receiving profile data on a more timely basis, eg daily.

## **3.3 The transition to using HH data**

### ***Timing***

3.16 Settlement reform would affect several types of organisation, including suppliers, distribution network operators and central bodies. It would in particular require changes to a number of suppliers' activities (such as forecasting, billing, customer service, etc) and as a result is likely to interact with other regulatory changes.

3.17 There are a number of other reforms – in progress or scheduled – for the energy market in the coming years. Projects identified as most likely to overlap with settlement reform (in the implementation phase) are the smart meter roll-out, Electricity Market Reform, switching reforms and centralised registration. The timing of transition will need to be sensitive to possible added costs and practical difficulties that such overlaps may entail. Equally, there may be synergies to be gained from aligning with certain reforms.

3.18 The duration of the migration of customers from the old to the new settlement arrangements could vary. A faster migration period could bring potential cost savings sooner as it would reduce the time during which the industry is required to run legacy non half-hourly (NHH) processes alongside any new HH arrangements.

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<sup>1</sup> This group reports to the Balancing and Settlement Code Panel and is tasked with maintaining the integrity of the settlement arrangements in the short to medium term as smart meters are rolled out.

<sup>2</sup> The DSPs are procured by the DCC and will develop and operate the system controlling the movement of messages to and from smart meters.

### ***Process***

- 3.19 The need for rules to manage the transition was discussed. The expert group was of the view that interim targets could be useful to incentivise and monitor the migration of customers onto the new arrangements.
- 3.20 During the transition, the costs incurred per NHH customer may increase as a function of their declining number. This would be a result of both the costs of administering the remaining NHH process and the current error allocation mechanism, which allocates NHH sites all of the error.
- 3.21 The settlement process costs may need to be at least partially socialised across all customers during the transition. The error allocation rules may need to be adjusted in advance of the transition in order that the remaining NHH customers are not allocated a disproportionate amount of error.
- 3.22 The transition may also have distributional effects on consumers owing to energy costs becoming more cost-reflective for suppliers. The expert group was of the view that consumer messaging and possible targeted interventions with vulnerable consumers could be a way of mitigating the risks.
- 3.23 The above points regarding allocation of costs to consumers would also depend on the pricing decisions taken by suppliers. As a commercial decision, suppliers may choose to spread costs over their portfolio of customers regardless of any changes to rules.

### ***Dependencies***

- 3.24 Several dependencies for transitioning to using HH data were identified in the course of the expert group meetings. The expert group's view was that solutions to each issue would need to be developed.
- 3.25 The expert group identified the current Change of Measurement Class process as inappropriate for the transition of millions of sites. It was designed for much smaller numbers and as a result is manually intensive. This would make the transition unnecessarily costly. A new process, optimised for mass migration is required for the settlement reform in scope here.
- 3.26 An issue was raised by an expert group member around the accuracy of SMETS 2 smart meters. SMETS does not specify a level of accuracy of smart meters: as such there is no guarantee that SMETS 2 meters will meet the accuracy requirements of current HH settlement. Since the project is dependent on the use of HH data from smart meters, work is required to develop a solution that is both cost-effective and does not have an unacceptable impact of the accuracy of settlement.
- 3.27 The current data privacy and access rules affect the use of HH data for settlement. Under the current rules, suppliers must receive explicit consent in order to obtain customers' HH data. We explored the possible workaround of a central agent anonymising customers' data before passing it to the supplier. This solution was not deemed by the expert group to be adequate to enable suppliers to perform exceptions management. A related question is which parts of the supplier's business would require access to the HH data (not necessarily at a site-specific level of detail). The expert group indicated that this data would be needed for a range of functions, such as demand forecasting and pricing. In summary, the group's view was that further work is required to explore the interactions between settlement reform and data privacy and access rules.

## **3.4 Approach to detailed assessment**

- 3.28 Also in line with our initial thinking, we consider that the qualitative analysis in stage one should be supported where appropriate by a quantitative assessment of the costs and benefits. There is also the need for analysis of the distributional effects of using HH data in settlement, given that not all consumers may be willing or able to shift load.
- 3.29 We have begun some early thinking on the approach we could take to assessing the costs of using HH data. The expert group agreed with our proposal to develop reform packages (coherent sets of options) at the next stage in the project, once we have developed a greater understanding of the costs and benefits of the

different options. To do so may entail requesting cost estimates that disaggregate costs for each option. Additionally, no combinations of options were identified as unworkable in practice.

- 3.30 The expert group agreed with our proposal to categorise costs according to business activities (such as forecasting, billing, customer service, etc). The group indicated that it would be necessary to be clear on the assumptions underpinning the cost assessment in order to receive consistent responses from the industry. They also were of the view that the industry should provide rationale behind cost estimates.
- 3.31 Our initial understanding is that the key driver of the costs of reform is the use of HH data (which is common across all options). Among the option areas we have explored, the responsibility for DPDA functions (3.2, above) and the timing and process of the transition (3.3, above) are likely to have the greatest bearing on costs.

## 3.5 Other areas

### *Correcting volumes after the final reconciliation run*

- 3.32 As part of the discussion on the timetable, we discussed a range of options for correcting errors that come to light after the final reconciliation run. The options identified are:
- No mechanism for correcting errors.
  - A backstop (eg 14 months) on the use of further runs or extra settlement determinations (ESD).
  - The status quo (no backstop for ESD, 28 month backstop for extra runs).
  - A new mutual insurance scheme whereby suppliers pay premiums and the scheme pays for corrections that occur after the final settlement run.
- 3.33 We do not consider that this area is likely to be critical to the business case for the settlement project. However, future work on the options could help make settlement as efficient as possible in a smart future. As for the benefits of reducing the settlement timetable, a less open-ended process could give suppliers greater financial certainty, in particular bringing benefits to smaller suppliers and new entrants.

### *Export*

- 3.34 The meetings have been focussed on settling import consumption with HH data. However the project's scope also includes export settlement. We will discuss issues relating to export at the final expert group meeting on 12 November 2014.