

National Audit Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP
United Kingdom

15 July 2018

NAO Study on Smart Meters – ELEXON Evidence

We welcome the opportunity to provide evidence to the NAO Study on Smart Meters.

ELEXON (as 'BSCCo') is the Code Administrator for the electricity industry's Balancing and Settlement Code (BSC). We are responsible for managing and delivering the end-to-end services set out in the BSC, for which we provide Code Manager, Delivery Body and Policy Delivery support. In addition, through our subsidiary, EMR Settlements Ltd, we are the Electricity Market Reform (EMR) Settlement Services Provider, acting as Settlement Agent for the Contract for Difference and Capacity Market.

Our 2016 and 2017 independent customer surveys achieved our highest ever scores in customer satisfaction and customer advocacy. We were the leading Code Manager across Ofgem's cross-Code survey in 2017. We continue to direct our efforts into customer engagement with all customers. Within the Code Manager role, we provide an efficient and effective end-to-end service (concept, design, implementation and operation).

ELEXON is currently leading the development of electricity Target Operating Models for Market Wide Half Hourly Settlement (MHHS) on behalf of Ofgem. We believe that smart meters are crucial to the development of innovation and MHHS in the electricity market. The timeframes for implementation of MHSS have significant dependency and interaction with the smart meter roll-out. Smart meters are the enabler of a Smart Grid. We believe that the benefits of a Smart Grid should be included in the NAO's assessment of the current economic case for the rollout of smart meters

ELEXON strongly believes that MHHS will be the gateway to making smart meters facilitate innovation of all kinds, making better sense of the smart meter investment.

We note the significant volume of concerns about the performance of the Data Communications Company expressed by the industry in recent months, and believe that a Study on Smart Meters should address the performance of the DCC, and its impact on the timeliness and cost of Smart Meter rollout.

The views expressed in this response are those of ELEXON Ltd alone, and do not seek to represent those of the BSC Panel or Parties to the BSC.

If you would like to discuss any aspects of our response, please don't hesitate to contact me at Jeremy.Caplin@elexon.co.uk.

Yours sincerely,



Jeremy Caplin
Design Authority

NAO STUDY ON SMART METERS – ELEXON EVIDENCE

The key question we would ask is whether the costs and benefits of the Smart Meter rollout should, or indeed can, be considered separately to the costs and benefits of Market wide Half Hourly Settlement?

Smart Meters enable Market Wide Half Hourly Settlement

In GB, a smart grid requires half hourly settlement, and half hourly settlement requires smart meters.

We believe that smart meters are crucial to the development of innovation and MHHS in the electricity market. The timeframes for implementation of MHSS have significant dependency and interaction with the smart meter roll-out. The success and scale of which will be a key consideration in this work.

We would also observe that the transition to smart meters is a critical step and decisions will be required on how long parallel systems and legacy services (like profiling) should be maintained which will have an impact on the overall cost of Smart Meter rollout and MHSS implementation. It may be appropriate to consider how costs are allocated for using legacy systems and processes for a reducing meter population to create appropriate incentives to transition to the new arrangements

We agree with BEIS' assessment in their [smart Meter Rollout Cost-Benefit Analysis Part I](#) that the *"presence of smart meters is an important enabler in dynamic Time Of Use tariffs and other more sophisticated demand side response measures"*, and further in [Part 2](#) Technical annex that *"Smart meters are a key enabler of a smart grid, providing information to help improve network management (subject to data, privacy and access controls), facilitating demand shifting and supporting distributed and renewable energy generation"*. Smart meters also make the market more accurate and simpler (settling on actual meter data and not profiled estimates) and enable other forms of innovations, such as Electric Vehicle charging, local community energy schemes and peer to peer trading.

Include Smart Grid benefits in cost benefit analysis

Smart meters are the enabler of a Smart Grid. We believe that the benefits of a Smart Grid should be included in the NAO's assessment of the current economic case for the rollout of smart meters, and note that BEIS did not include Smart Grid benefits in their 2016 analysis of smart meters. Other analysis provides some estimates of the value of a smart grid as follows.

BEIS analysis states that external estimates suggest that overall system costs could be reduced in the order of tens of billions (£) in the period to 2050.

These external sources include the National Infrastructure Commission report ["Smart Power"](#) which found that Smart Power – principally built around three innovations, Interconnection, Storage, and Demand Flexibility – could save consumers up to £8 billion a year by 2030, help the UK meet its 2050 carbon targets, and secure the UK's energy supply for generations.

Ernst & Young ["Smart Grid: a race worth winning?"](#) suggests that an average of around 8,000 jobs will be sustained during the 2020s rising to 9,000 during the 2030s. Exports arising from smart grid could be worth £5bn between now and 2050 to Britain, whilst the benefits arising from intellectual property and foreign direct investment may also result. The report's analysis demonstrates that smart grid will play an important role in facilitating the growth of a variety of 'secondary' industries including electric vehicles, heat, renewables and distributed generation. This will not only help Britain meet its carbon targets but could also lead to strong economic growth in these industries. Using the EV sector as an example, E&Y's analysis of the potential impacts on the British economy suggests that the total GVA for the EV sector in Great Britain could be £17bn in 2030 and £52bn in 2050.

ELEXON is helping ensure that smart meters deliver their long-term benefits

ELEXON is currently working to help maximise the chances that smart meters will achieve their intended long-term benefits. As part of Ofgem's Significant Code Review, ELEXON is, through an expert group, leading on the development of the Target Operating Model (TOM) for market wide HHS. The Design Working Group has proposed five possible TOMs to Ofgem, which they have accepted. ELEXON is now leading four further industry work groups to develop further detail on the services identified in the TOMs. We believe HHS to be a fundamental enabler for development of innovation, and therefore key to unlocking the benefits of innovative concepts. One crucial design principle is to ensure the TOM is flexible (not a barrier) for new parties who wish to offer services to the consumer, e.g. multiple suppliers, aggregators, EV charger providers, etc.

Smart Meters help Innovation

ELEXON strongly believes that MHHS will be the gateway to making smart meters facilitate innovation of all kinds, making better sense of the smart meter investment

We believe that the innovation in both market structures and new technology will drive significant changes across the electricity supply industry in the coming years. We want the BSC to be an enabler to the benefits of innovation, and are working with Ofgem and industry to improve the BSC and facilitate innovative business models and technologies. For example, we have provided expert advice to Ofgem in their Innovation Link and Sandbox programmes to help understand where barriers exist today to innovation. In addition ELEXON recently successfully sought the BSC Panel's approval to raise BSC Modification P362 'Introducing BSC arrangements to facilitate an electricity market sandbox'. This initiative will allow the BSC Panel to give Parties temporary derogations from BSC requirements, which will enable pre-competitive or proof of concept testing for innovative products/business models in the live BSC Settlement environment. We note that we are the only code administrator so far to follow Ofgem's lead in the development of a sandbox.

We note the CMA report: [Energy market investigation](#) (June 16) also recognises the importance of smart meter roll out, stating that "*we would expect some degree of innovation, around tariff design, convenience and value-added services such as advice on improving energy efficiency. We consider that the scope for such innovation could expand significantly with the full roll-out of smart meters and greater potential for demand response*"

The benefits of smart meter enabled innovation in the electricity markets should be included in the analysis of the smart meters. We note that it will be difficult to quantify the benefits of future innovation. However, we do believe that the potential scale of the benefits are sufficient, that an estimate of their impact should be included in the analysis.

Code Administrators should help the industry maximise the benefits of smart meters

ELEXON believes that it is the responsibility of Code Administrators, there are several in the energy industry including ELEXON, to facilitate market change and innovation so as to maximise the benefits of smart meters. We note the concern expressed in the CMA [Energy market investigation](#) that some Code Administrators are not discharging this responsibility: *18.206 We are concerned that, in the context of some codes, code administrators do not play a sufficient role in supporting the code governance arrangements. Currently, the core role that code administrators perform is secretarial in nature. Some code administrators seem to have limited resources and expertise to assist the industry and Ofgem beyond a secretarial role. This is particularly problematic given the need of smaller code parties for support to engage with codes, due to their complexity, in particular in the contexts of submitting and progressing modification proposals. Therefore, we consider that there is scope to expand the role of code administrators to take on project management responsibilities that do not sit naturally with Ofgem, given its role of economic regulator.*

ELEXON believes that, for its part, it is meeting this responsibility, and would point to our role in leading on the development of the TOMs for MHHS as an example of exactly the type of project management responsibilities recommended by the CMA. We would however suggest that the risk of the full potential of smart meters not being achieved due to other Code Administrators failing to fully embrace this view should be included in the analysis of Smart Meters.

To quote from our Chief Executive Officer, Mark Bygraves, in his introduction to our [2018/19 Business Plan](#):

"Over the last year, we led on cross-code coordination initiatives and created a Forward Work Plan of modifications to all codes and shared this with the industry, but we were disappointed with the lack of support and contribution from other code administrators. We also proposed to Ofgem improvements to code governance, which do not require legislation.

We believe greater cooperation and a closer alignment between all code administrators is required if we are to deliver government strategic priorities for the energy industry as detailed in BEIS and Ofgem's joint Smart Systems and Flexibility Plan, published in 2017.

Therefore our vision for the future of central services is not for periodic competition between code administrators where we cut back on valuable expertise, refuse to share best practice or impose additional charges for new out of scope activities. Instead we propose more extensive collaboration and ultimately consolidation of code bodies as this would simplify and streamline processes and the user experience.

For a number of years we have been advocating the case for change in central market governance arrangements. We strongly believe now is the right time for the industry and us to take the cross-code working initiatives to the next level focusing on closer working between code administrators and even consolidation rather than competition and further fragmentation; to that end we wish to share our revised vision for ELEXON. The introduction by Ofgem of a new Retail Energy Code (REC) with its own code administrator provides the opportunity for industry to start that consolidation. We question the benefit of adding another code administrator to the already complex and confusing landscape. A much better option in our view is to appoint a trusted and respected organisation, such as ELEXON, with the interests of supporting industry, government and the regulator ingrained in its DNA, and on a not-for-profit basis just like the BSC. The appointment of the administrator is we understand to be by suppliers and I therefore encourage suppliers to consider the attributes they desire and appoint the code administrator that best exhibits these."

Level of access to half hourly data impacts the value of smart meters

We note that under Ofgem's Significant Code Review for MHHS, Ofgem is considering access to HH data for settlement purposes. Again, dependent on level of access will affect the benefits MHHS will enable.

Smart Meters could also provide meter data to Distribution Network Operators (DNOs), which may give insight into consumer behaviour on their networks. This would aid their transition to Distribution System Operators. However, there is a need to reconcile individual data privacy issues with the benefits to society of sharing more granular data.

We note that Ofgem recently approved Western Power Distribution's (WPD's) data privacy plan for accessing household electricity smart metering data. The approval was based on Ofgem's assessment that WPD's data privacy plan meets the requirements of WPD's Licence Condition 10.A.4. The plan approval will allow WPD to collect and process domestic smart meter consumption data which relates to a period of less than one month in the format and under the conditions set out in WPD's data privacy plan.

The outcome of Ofgem's decisions on other DNO's data privacy plans, as well as their decisions on other requests to access the data, will impact on value of benefits delivered by smart meters. In assessing the value of such data it may be appropriate to seek Ofgem's views on the level of data access they are minded to grant in different situations.

Performance of Data Communications Company

ELEXON believes that the role of the Data Communications Company (DCC) is crucial in delivering a reliable and cost effective implementation of Smart Meters and hence enable wider benefits to the GB economy. As such we believe that a Study on Smart Meters should address the performance of the DCC, and its impact on the timeliness and cost of Smart Meter rollout.

ELEXON is a Not for Profit company. Our costs, and the contracted costs of Balancing and Settlements Code (BSC) Agents are issued to industry for comment (we are highly transparent) and are paid for by BSC Parties. The amount each BSC Party pays depends on their market role and the volume of energy they generate, supply or trade. By contrast the DCC (as Smart DCC Ltd) is a wholly owned subsidiary of Capita plc. We believe that it is inappropriate for a company crucial to the reliable and cost effective operation of the electricity market to operate as a commercial entity beholden to delivering a profit to shareholders.

Ofgem has acknowledged poor performance by DCC

We note that in February 2018 Ofgem confirmed in their [Price Control Decision for DCC](#) for 2016/17 that they had reduced DCC's Allowed Revenues by £4.702m because '*respondents agreed with our proposal that DCC largely failed to achieve the final implementation milestones related to the multi-stage live release in line with the specified deadline in RY16/17 (IM9 and 10).*'

We also note Ofgem's comments that '*it is apparent from the consultation responses that many of DCC's customers are unhappy with the level of transparency and influence they have over DCC's costs and performance. We fully support DCC customers' request for further engagement from DCC ahead of any changes to scope or DCC activity, and increased transparency on costs and resourcing structures.*'

Customers have expressed their dissatisfaction with DCC

We have noted the volume of adverse customer feedback about DCC, as illustrated by the responses to Ofgem's consultation on [DCC Price Control Consultation: Regulatory Year 2016/17](#), which were uniformly critical.

Right Time to Review role of the DCC

We believe that now is the right time for the CMA to be reviewing the role of the DCC. Under paragraph 6, 15 and 16 of Section 1 of the [Smart Meter Communication Licence](#) the Authority may only modify any condition of the licence up to 31 October 2018, while the Secretary of State may extend the Licence for up to six more years at any time after 31 March 2018. As we are in the overlap of these two windows, it would seem apt to address the performance of the DCC, and what changes to the Smart Meter Communication Licence might be appropriate in the light of this performance.

6. The Authority may at any time after 31 March 2018, following consultation with the Licensee and subject to paragraphs 7 to 10 of these Terms, determine that this Licence is to continue: (a) on the basis of the Conditions set out in the Licence at that time; or (b) on the basis of such other Conditions as the Authority may impose pursuant to paragraph 16 of these Terms, for a maximum further period of six years ("the Additional Licence Term") beginning with the expiry of the Licence Term.

15. The Secretary of State may at any time up to and including 31 October 2018, but not after that date, modify any condition of this Licence:
(a) for any of the purposes set out in section 88 of the Energy Act 2008; and
(b) in accordance with the procedures prescribed by section 89 of that Act.

In the light of the issues with DCC expressed above, we would reiterate our suggestion that a Study on Smart Meters should address the performance of the DCC, and its impact on the timeliness and cost of Smart Meter rollout.