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Dear Anna and team,

Response to consultation on Market-wide Half Hourly Settlement

Sustainability First is an independent think tank and charity focused on promoting economic, social and environmental wellbeing in public utilities. We draw on 20 years of deep expertise in consumer issues (engagement, vulnerability, data, behaviour change etc), policy and regulation (innovation, price controls, incentive frameworks etc), environmental issues and business leadership and practice. We have a longstanding and active interest in development of the GB electricity demand-side, including for households.

We welcome the opportunity to comment on Ofgem's Draft Impact Assessment for Market Wide Half-Hourly Settlement.

Over the past two years Sustainability First and CSE have been leading work on the use of smart meter data for public interest purposes through facilitation of the multi-partner Public Interest Advisory Group (PIAG)[1]. We are grateful to Ofgem for its sponsorship of the first phase of the project and for its continuing involvement. That work and the PIAG workshops underpin our response to this consultation although the views expressed here are those of Sustainability First only. One of our associates is also a member of the Ofgem Design Advisory Board for MHHS.

We are very pleased to see that (at 3.19) Ofgem is clearly acknowledging the in-principle value that granular smart meter data, collected for settlement, could bring in delivering public interest benefits more broadly. We have consistently argued as a 'least-regrets' step that Ofgem should keep the door open to such wider potential uses of the data and are pleased to see the merit of this approach being acknowledged. We hope that the PIAG work has helped Ofgem recognise these wider benefits.

As we have argued previously, we consider that the current proposal to require consent from individual customers for their data to be collected for settlement is too restrictive. In our view the use of data for settlement delivers significant consumers benefits and should be seen as a "regulatory purpose", analogous to use of the data by DNOs to deliver wider system benefits. We are therefore strongly in support of the Ofgem proposal for mandated collection of at least daily data.

At the same time, as Ofgem is all too aware, these are questions of balance. Privacy considerations have been at the centre of the PIAG thinking. We would therefore have a concern should personal data (ie not aggregated or anonymised) become available to other parties such as innovators or aggregators without an individual consent. Our discussions with Ofgem have offered assurance on this point, who made clear that decisions on wider access to the data will sit with Ofgem not with Elexon. Going forward, and beyond the scope of the settlement reform programme, Ofgem and

[1] https://www.smartenergydatapiag.org.uk/

Elexon must address governance frameworks and best practice questions likely to arise from the changed data landscape of MHHS.

Last, settlement reform is a basic and welcome step in opening up the potential for customer flexibility at scale and new market services. New customer risks will arise as well as opportunities[2]. Both BEIS and Ofgem will therefore wish to reassure themselves that a principles-based approach to retail market regulation can continue to ensure appropriate safeguards as smart markets evolve for small customers. This is both for the able-to-pay (eg against mis-selling or other exploitation) but, most important, for the many customers in vulnerable circumstances and / or those at greatest risk of being 'left behind'. As our PIAG work has highlighted it is vital that Ofgem has access to suitably aggregated or anonymised smart meter data to be able to monitor market developments and identify potential issues.

We have attached responses to those questions where we have a particular contribution to make and would be happy to discuss further if that would be helpful.

Yours sincerely

Maxine Frerk

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www.sustainabilityfirst.org.uk

https://www.smartenergydatapiag.org.uk/

cc Sharon Darcy, Judith Ward

[2] Energy for All. Innovate for All. Project Inspire. Sustainability First. 2018 https://www.sustainabilityfirst.org.uk/images/publications/inspire/Energy%20for%20All-%20Innovate%20for%20All%20(summary).pdf

Annex: Answers to consultation questions

Q1: We propose to introduce MHHS on the basis of the TOM recommended by the DWG last year. Do you agree?

Yes

Q2: Ofgem's preferred position is that HH electricity consumption data should be sent to central settlement services in non-aggregated form. Do you agree?

Yes – and in particular support the use of non-aggregated data in settlement as providing more flexibility going forward, reflecting the PIAG recommendation to avoid closing doors on potential wider use of this data for public policy purposes in the long-run.

Q6: We propose to introduce MHHS for both import and export-related MPANs. Do you agree?

Yes – export will become increasingly important and needs to be settled half-hourly for the appropriate cost signals to be sent. It is welcome that unmetered spill in the system (currently ~ 1TWh p.a) will be better accounted for and so, potentially, open to better management.

Q11: We propose that there should be a legal obligation on the party responsible for settlement to collect data at daily granularity from domestic customers who have opted out of HH data collection for settlement and forecasting purposes. Do you agree that this is a proportionate approach?

Yes. We have previously argued that customers should not be able to opt out of providing data to settlement given the wider system benefits and the risks of gaming. We certainly support the mandated use of daily data. Our review of consumer research for PIAG shows that daily data is considered less sensitive than half-hourly data. We are also hopeful that daily data might, in due course, allow both more accurate profiles to be developed for opted out customers and also to test the extent to which these customers' usage patterns are typical (to inform the proposed review of the opt-out arrangements in due course).

While we understand the case for suppliers wanting access to more granular data at GSP-group level for forecasting (to understand their liabilities in relation to settlement) we have concerns about the suggestion that the data might be made more widely available to others such as aggregators wishing to develop forecasting services. Making aggregated or anonymised datasets available for this purpose would seem to be proportionate and could have wider benefits.

If the range of parties and purposes able to access settlement data becomes too broad this will put customers off from agreeing to provide their data into settlement. It needs to be clear that data is being provided to deliver wider system benefits to justify the mandatory collection of data.

Going forward, and beyond the scope of the settlement reform programme, Ofgem and Elexon must address governance frameworks and best practice questions likely to arise from the changed data landscape of MHHS.

Q12: Existing customers currently have the right to opt-out to monthly granularity of data collection. We are seeking evidence about whether it is proportionate to require data to be collected at daily granularity for settlement and forecasting purposes for some or all of these consumers. We welcome your views.

We believe such an approach would be proportionate for the reasons set out above and given the very high proportion of customers who will by the time the regulations take effect already have a smart meter (and which would lead to a significant depletion in the benefits of the change).

We are disappointed that Ofgem has not provided any data on the numbers of suppliers' customers who have opted-out of data being collected on a daily basis at present (or who have opted-in to provision of half-hourly data). This data at an aggregated level would have enabled stakeholders to provide a more informed view on some of these questions.

Q13: Should there be a central element to the communication of settlement / forecasting and associated data sharing choices to consumers? For example, this may be a central body hosting a dedicated website or webpage to which suppliers may refer their customers if they want more information. If yes, what should that role be and who should fulfil it?

Explaining the wider benefits of half hourly settlement to customers is extremely difficult. To make customer communications manageable suppliers will need to provide only a very short explanation (such as "to help ensure there is enough power generated at all times") with more information available if the customer wants it. The question of where that information is physically hosted is less important than who is responsible for developing call-centre scripts, disseminating this information and responding responsively to customer queries in a way that is both accurate and understandable by customers. This may need to be developed and tested jointly by Citizens Advice, and Ofgem with inputs from Elexon and Energy-UK.

Q15 Do you have any views on the issues regarding the consumer impacts following implementation of MHHS? Please refer to the standalone paper we have published for more detailed information.

Winners and Losers

We are strongly supportive of the move to market-wide half-hourly settlement. Nonetheless we believe it is important to acknowledge that this will create winners and losers. We would therefore query Ofgem's position that "Irrespective of whether individual consumers load shift to benefit directly, we expect all consumers to achieve significant benefit from the system-wide changes enabled by MHHS".

As set out in our previous response and our paper "What is Fair?"[3], the underlying cost-to-serve for customers with peaky demand will be higher under MHHS and even if these customers choose to stay on a flat rate tariff that tariff will ultimately increase as other customers with flatter demand move onto TOU tariffs (as happened, for example, with water metering). While the consumer impacts paper focuses on the prospects for customers engaging and shifting their load and how that

[3] https://www.sustainabilityfirst.org.uk/images/publications/other/Sustainability_First_Future_Energy_Market_Discussion_Paper_September_2019.pdf

can be encouraged, there will be a significant reallocation of cost-to-serve between customers on a "static" basis.

We are concerned that the scale of this impact is significantly understated by Ofgem's distributional impacts which looks at the average consumption for different demographic groups while ignoring the very large variations that exist within groups, as highlighted in the Grid Edge Policy paper[4].

We recognise the challenge presented by the lack of smart meter data (linked to demographic data) to support such analysis as highlighted in our most recent PIAG paper on regulatory uses of smart meter data[5]. However our concern is that Ofgem are taking undue comfort from the analysis that has been done focussed on *average* consumption.

Moreover, absent such data – which suppliers themselves will have access to – Ofgem will be unable to effectively monitor the impacts of these changes and to pick up on any exploitative behaviour by suppliers.

It is essential that Ofgem has clear plans for how it will get access to more granular half-hourly data to enable it to build its understanding of usage patterns and effectively monitor the impact of the changes. UCL's SERL database presents a potentially valuable resource but that has its limitations as the PIAG work has shown and Ofgem should be talking to BEIS about other options to obtain access to aggregated / anonymised data to enable Ofgem to carry out its role.

A further point linked to effective market oversight, which goes beyond the near-term scope of MHHS reform, is that both BEIS and Ofgem must satisfy themselves that a principles-based approach to retail market regulation can continue to ensure appropriate safeguards and protections for small customers as smart markets rapidly evolve. This is both for the able-to-pay (mis-selling, other exploitation) but, most important, for the many customers in vulnerable circumstances and / or those at greatest risk of being 'left behind'.

Electric Heating

In reflecting on the potential opportunities for load shifting in the consumer impacts report Ofgem talks at some length about heat as a service. However no mention is made of electric storage heating which already provides an example of load shifting in practice. The recent paper[6] by Grid Edge Policy, to which Sustainability First contributed, provides much valuable learning from the various trials and pilots of smart electric storage heating.

Currently around 2.2 million homes across GB are electrically heated, of which around 1.4 million have storage heaters. While these are technically less efficient forms of electric heating than heat pumps (which use the electricity to draw heat from surrounding ground or air) there are very significant numbers of homes for which heat pumps are not a practical solution. This can be either because of a lack of space or because in homes with a low energy demand the upfront costs of a heat pump may not be justified, despite having lower running costs.

Today's homes with storage heaters risk being put to the back of the queue as hard to upgrade and therefore "hard to de-carbonise". However, these properties are overwhelmingly lived in by more vulnerable households on lower incomes who can be pushed into fuel poverty by the higher running

[4] Distributional Impacts of a Move to Half-Hourly Settlement - here
[5] Regulatory Assessments and System Efficiency: potential benefits of smart meter energy consumption data - here
[6] An Electric Heat Pathway: Looking Beyond Heat Pumps - link

costs of existing legacy electric heating systems. Developing a clear vision for this segment of households and the housing stock should be a priority given the often-voiced commitment to "no-one left behind" in the move to net zero.

The other strong reason why storage heating ought to be given more serious consideration is that discussion around the energy transition places a strong emphasis on the growing value of flexibility as far more intermittent generation comes onto the system. Smart storage heating and hot water could potentially provide this flexibility more readily than a heat-pump. Historically storage heating was "leaky" and had only crude controls, delivering a poor customer experience. However, the next generation of smart storage heaters are less leaky and provide far more sophisticated controls. Evidence from a range of trials show that these can save customers money (compared to traditional storage heating) and deliver much improved comfort. Even fitting smart controls to existing storage heating has been shown to improve comfort.

A major challenge with existing storage heating is that going forward it will require both special smart metering arrangements and appropriate tariffs to enable customers to benefit from the use of electricity at off peak rates (typically overnight). In some cases these meter and tariff legacy arrangements are quite complex and customers struggle to understand them. They can also make it hard to switch supplier.

One of the report's recommendations is that Ofgem should monitor supplier communications around legacy time-of-use tariffs (eg Economy 7) to build learning and best practice for a move to more widespread use of TOU. As well as providing valuable learning ahead of MHHS such an exercise would deliver real short-term benefits to this group of more vulnerable consumers.

We would be happy to present to Ofgem on the conclusions of the report which has wide implications for a number of areas of Ofgem's work.

Impact Assessment

IA Load Shift Assumptions (Appendix 2)

The load-shift assumptions in Appendix 2 (pp 103-107) are rightly cautious given the dearth of commercial / non-trial evidence on ToU tariff outcomes to inform likely customer load-shifting estimates for 2025 & 2045 (upper & lower bounds) for smart tariff uptake and percent of peak demand shift (per customer, of system peak overall).

We also note that the Load Shift estimates in the IA exclude heat-pump demand on options 2 & 3. This seems sensible as is the assumption that 90% of heat-pump load is shiftable by 'just one hour'. To better understand the flexibility capability that heat-pumps may offer in practice, both more research and evidence is needed[7] :[8] (on cost, logistics etc) - and in particular on the likely form of dynamic or ToU tariff suited to their operation while at the same time maintaining comfort levels.

We also believe thought is needed on assumptions about the 'Factual' (MHHS) and Counterfactual (elective settlement) cases. In the future, it is possible that much household load-shifting may be

[7] This includes research on : (1) heat-pump uptake (cost, logistics); (2) heat pump flexibility capability & potential (operational design for 24-hour low-grade heat, thermal insulation levels, battery support, extra water storage – including the realism of FES 2020 estimates - for up to 40% of non-hybrid heat-pumps (~ 8 m) to have extra water–storage to permit flexibility.

activated via a third-party over the internet – and perhaps not switched or recorded via the smart-meter. The impact of widespread uptake of load-shifting via third-party business models needs to be understood for the IA benefit case for MHHS.

IA Non-Monetised Benefits

It would also be helpful to understand how Ofgem has weighed non-monetised costs and benefits in the Business Case : for example the potential benefits of mandated daily data or keeping the door ajar for a central system data repository including for a public interest purpose – against privacy considerations.