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Market-wide Settlement Reform: Outline Business Case

Dear James,

We provide comment on the Ofgem Outline Business Case and respond to the stakeholder questions below. We continue to be supportive of the strategic case for wider Half-Hourly (HH) settlements and the principle that costs should be allocated as accurately as possible, however the move to market wide HH settlements must be backed by a convincing business case.

The Outline Business Case provided by Ofgem is over a 20 year period and whilst we broadly agree that over the period specified, benefits are probably going to outweigh the costs of implementation, these costs will be seen by suppliers and the bill paying customer over a much shorter period, possibly only a couple of years. The large numbers within the benefits case should not detract from the need to keep implementation costs to a minimum.

Further, we believe that some of the costs have been missed and the benefit calculations are not fully clear, for example how the policy decision relating to supplier access to HH data will impact the overall benefits case. It is also not clear what system wide and direct savings could potentially be seen by a supplier and therefore passed to a customer as a result of customer action. It is these cost savings that will incentivise customers to change the times they use electricity. We expand on these points within appendix 2.

We are supportive that Ofgem review the potential costs and benefits case for HH settlement of export supplies, however we believe this should be separate and not merged with the case for import HH settlements as current arrangements and corresponding cost / benefits are very different, not least because the majority of relevant FiT sites do not have MPANs or export metering at this time. We do believe wider HH settlements is the direction of travel but it should be at the right time, probably after import HH settlements has been implemented. We expand upon these export specific considerations within appendix 1.

This response is not confidential.

Yours sincerely,

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Appendix 1: Views on the potential costs and benefits of half-hourly settlement of export (Question 1)

We are supportive that Ofgem review the potential costs and benefits case for HH settlement of export supplies, however we believe this should be separate and not merged with the case for import HH settlements as current arrangements and corresponding cost / benefits are very different, not least because the majority of relevant FiT sites do not have MPANs or export metering at this time. We do believe wider HH settlements is the direction of travel but it should be at the right time, probably after import HH settlements has been implemented. We expand upon these export specific considerations below.

Question 1.1

Do you agree with the scope of the costs and benefits of half-hourly export settlement that we have outlined? Are there any costs or benefits that we might have overlooked?

Cost / Benefit Case Ofgem should separate the cost and benefit's case of export settlement from that of import settlement and an independent decision made on whether to implement (or not). This should take into account estimates of smart rollout coverage and likely customer acceptance of installation of smart metering. Broadly we believe supplier system costs to implement HHS for export settlements will be approximately 50% more than the cost to implement import HH settlements alone. Further analysis would be required to refine this estimate.

Equally, Ofgem must be conscious of loading development costs of multiple programmes onto suppliers and therefore customers at the same time, particularly before the short and longer term business cases are better understood. Linked to this is understanding where export implementation and development costs will be allocated, should costs be allocated to export customers only or the wider import customer base? If the latter, perhaps implementation should wait until import HHS has been fully implemented. The future price cap will also need to be taken into account.

The assumption relating to metering costs should be further tested, we agree that the majority of export customers will be able to settle HH with a smart meter, however not all sites will be capable of installing a polyphase SMETS meter and an additional meter may need to be installed for export purposes. There may be some increased agent costs, particularly if the export and import supplier are not the same or AMR metering is already installed at site.

Settlement Benefits We broadly agree with the potential benefits stated by Ofgem with regards to mandatory HH settlement for Export. The current export process allows for lots of inaccuracies, as with the FIT scheme there is a % assumption as to what has been exported, based on generation, and GCF is impacted by this. HH settlement would reflect the true volume that has been exported onto the grid and therefore suppliers and therefore customers will be billed more accurately. More work is needed to refine the actual scale and value of these benefits.

Feed in Tariff / Storage The FiT scheme overlaps with wider HHS must be better understood and incorporated within the cost and benefit analysis, notably the decision (or not) to move to levelling export payments using metered data, where generators have an export meter and an export MPAN. Under the existing levelisation process, metered export generation payments are not shared across the industry and therefore where the benefit of the volume on the market is less than the value of the FiT payment, the cost impact to suppliers is unfairly distributed. Levelling export payments would resolve this concern.

Ofgem make a case for customers to 'export energy at times that are more beneficial for the system', however most relevant export customers will be part of the FiT scheme and have solar generation therefore requiring a battery to adapt when they export energy. It is unclear what installation of a battery will mean for an existing FiT site. One very possible option is that export payments can't be accurately calculated and the customer will be eligible for deemed export payments only. Regardless of what data is entered into settlements, a customer receiving deemed

export payments will have no incentive to change when they export. Decreasing battery costs are likely to increase take up of this new technology.

Question 1.2

What are the impacts for your organisation of implementing market-wide half-hourly export settlement?

Supplier Interactions Import and export supplies can have different suppliers but a single meter. As is stands the export supplier is not aware if and when a smart meter is installed at the premises and there is no industry process to obtain this view. This problem, along with several other fundamental issues, must be resolved before any change to how these sites are metered and then settled.

Under the SEC, an import supplier would have responsibility for maintenance and emergency work, it is not clear how this could work alongside a separate export supplier, therefore industry processes must be developed further. Security certificates, direction of alerts and alarms will all need to be reviewed.

Impacts to other industry processes such as registration (inc. quicker switching), forecasting and potentially theft will need to be fully understood and mapped out in advance of metering and moving to HH settlements. Due to the small amount of export expected from such generators we need to ensure that the design of the Smart Meter industry processes for export are developed to facilitate this without undue cost on suppliers/customers.

Suppliers will also need to consider whether the existing Power Purchase Agreements (PPAs) products of monthly settlement and invoicing etc are applicable to micro generators where the cost would become a significant proportion of their income and instead design new products. This will be driven by the ultimate technical solution for export smart meters.

Raising the required number of MPANs to register these export sites is a significant undertaking for both suppliers and network operators (in the role of MPAS). The capacity of existing MRA MAP processes to do this is insufficient and will need further review.

Access to data Ofgem have recently consulted on arrangements for access to HH data for settlement purposes. We responded that that further regulatory clarity is required to determine the legal basis for processing HH export data from smart and advanced meters for settlement purposes. The basis for processing must be clear and the term ‘for settlement purposes’ would need to be more tightly defined.

Question 1.3

What are the impacts for consumers of implementing market-wide half-hourly export settlement?

Customers We must ensure that customers have a clear understanding of what wider HH settlements means for them in terms of direct benefits (opposed to industry wide benefits) and any impacts to privacy (perceived or otherwise) are addressed to avoid customer anxiety. Customers must not feel as though HH settlements is being done to them so perhaps wider introduction of import HH ToU tariffs could pave the way for mandated export HH settlements.

Data Communications Company It is unclear whether adopted & enrolled SMETS1 will be able to act and behave in exactly the same way as SMETS2 and whether the solutions will have supported export services. As it is not clear yet how it will work for import functionality. It would be helpful to better understand DCC views and constrains on this point as this could have customer impacts.

Question 1.4

What are the impacts for small scale generators of implementing market-wide half-hourly export settlement?

The requirement for all FiT and micro generators to have an MPAN raised and allocated will impact the FiT contracts/processes of existing FiT registered generators. We agree that HH settlement provides the opportunity for more sophisticated PPAs including time of use. However our experience is that even larger generators, currently HH settled, often opt for simple structures.

Appendix 2: Views on Ofgem Outline Business Case (Question 2)

Have we identified the right commercial drivers? Are there others that we have not identified and should consider? How can we look to either capitalise on the positive impacts of these drivers or mitigate any negative impacts?

The Outline Business Case provided by Ofgem is over a 20 year period and whilst we broadly agree that over the period specified, benefits are probably going to outweigh the costs of implementation, these costs will be seen by suppliers and the bill paying customer over a much shorter period, possibly only a couple of years. The large numbers within the benefits case should not detract from the need to keep implementation costs to a minimum.

Further, we believe that some of the costs have been missed and the benefit calculations are not fully clear, for example how the policy decision relating to supplier access to HH data will impact the overall benefits case. It is also not clear what system wide and direct savings could potentially be seen by a supplier and therefore passed to a customer as a result of customer action. It is these cost savings that will incentivise customers to change the times they use electricity.

Below we provide comment on the cost and benefits of the draft Economic Case and the push and pull factors of the draft Commercial Case.

1 - Costs

We agree with Ofgem that at this time it is not possible to robustly estimate the costs of moving to a HH market and that policy decisions are required on supplier access to data, centralisation of supplier agents, market design and implementation approach before robust estimates can be made. There are a number of factors that we believe need to be taken into account by Ofgem.

Responses to the 2017 Business Case Information Request Ofgem have rightly used information from the 2017 information required to calculate supplier costs. The HHS benefits case is largely based on the uptake of ToU products by customers, however costs associated with deployment and billing of these products was not part of the 2017 information request. It is reasonable that suppliers will need to incur development costs for the stated benefits to be realised. We have estimated that supplier system costs are likely to be 25-50% higher to develop ToU products and billing functionality than just developing HHS functionality alone. Supplier agent costs are unlikely to be affected by ToU development.

Access to HH Data The Ofgem decision on access to HH data is key to fully understanding the cost benefit case for increased HH settlements. The future HH settlement systems needs to be as simple and cost effective as possible, which will be much more difficult should Ofgem decide to implement opt out access to customer data. The Ofgem business case must take into account the impact of the final decision for supplier access to HH data and this is not clear within the outline business case.

We anticipate that it will be challenging to predict both customer opt-out levels and how quickly ToU tariffs, driven by development of new services, will prompt customer behavioural change. Mandating access to data for settlement purposes will decrease industry, and therefore end customer costs. We have expanded upon this within our response to your September data access consultation.

In addition to this it is not clear how estimates of smart rollout coverage and likely customer acceptance of installation of smart metering could impact the overall business case for market wide HH settlements, this must be part of the final assessment.

Data Communications Company Costs DCC costs do not appear to have been robustly calculated. Changes to the DCC that include how data HH is sent between suppliers and supplier agents and the associated additional security could have significant costs. We would ask that

Ofgem work with the DCC to calculate these costs and potential implementation timeframes once the market design becomes clear and taking into account any capacity constraints.

2 – Benefits

It would be helpful if Ofgem could provide more detail on how the wider settlement system benefits have been calculated and further refine these when policy decisions and settlement design options are confirmed. This could include potential incentives to customers and any estimations made regarding the take up of new technology that enables load shifting and should be presented at a more granular level than just 2030 and 2045.

Wholesale Benefits The wider system benefits rely on domestic customers and small businesses individually changing consumption patterns by shifting load over an 8 hour period. We can't comment on the wider system benefit unless more detailed modelling information is provided by Ofgem, however we can assess the individual that could be passed to a customer to incentivise this change. Our own calculations indicate that customers could reduce their own wholesale costs by low £10's per year, which alone is unlikely to incentivise the required behaviour or investment in technology to shift load. We would be interested Ofgem views.

Network Benefits Broadly we believe that both suppliers and network operators are in favour of retaining aggregated network billing rather than a site specific solution. Providing that HH costs can be calculated accurately on a supplier basis and the network tariff is clear, the supplier can pass the benefit of any customer load reduction back to the customers who should benefit. The exact benefit to networks from individual customer actions in reducing (or perhaps increasing) load in certain periods is unclear and is very likely to be locational so customers will have more or less opportunity to gain network based benefits based on their individual geographical location. Again it would be helpful to understand if Ofgem have undertaken any analysis related to this point.

Battery storage and distributed generation Moving to market wide HH settlements could increase the take up of battery storage, however the points covered in section 1.1 regarding FiT interaction with battery storage must be addressed first. It would also be helpful if Ofgem could make clear how much additional benefit customers are likely to see and whether this will be sufficient to convincingly incentivise the initial investment. Presumably there will be the possibility of both wholesale and network savings (our views on this are above), but we would be interested to understand whether Ofgem foresee domestic and MB customer participating (in aggregation?) in balancing services and what levels of benefit they will see from this.

P272 Benefits We note that Ofgem have use the P272 benefits case to understand direct benefits and costs of moving to market wide HH settlements. We don't believe any industry level work has been carried out to test the assumptions made for the P272 business case and in our experience these customers have not noticeably shifted load, supplier agent costs have actually increased and reductions in the cost of data quality teams has not been seen. We would welcome further detail explaining how P272 has been used within the Ofgem business case for increased HH settlements.

P272 Demand Forecasting Regarding the benefits of P272 to forecast accuracy, we agree that in principle it should allow for improved forecasting in the future (note well that P272 customers are being treated as full HH-metered customers and we receive MPAN-level information for them; this may not necessarily be the case for HH-settled domestic and microbusiness customers).

However we have as yet no evidence to support the claim that the benefits of P272 have been realised. Indeed, the moving of customers from one forecast pot (NHH) to another (HH) has likely degraded forecast performance in both pots in the short to medium term.

3 - Push Factors - *Factors that may push market participants towards implementing robust, enduring reformed settlement arrangements where they may not have otherwise wished to do so.*

Placing an obligation on market participants We are generally supportive of an obligation to require market participates to cooperate in delivery of market wide HH settlements providing it is applicable and equal for all licensees. Any implementation dates must be well considered and have clear, realistic deliverables.

The impact of other ongoing market changes Ofgem state that 'effective coordination across the various change programmes can, and will, deliver real customer benefits and should not be a cause for delay.', however we believe that multiple change programmes can increase costs, particularly where the various changes overlap within a supplier or agents system. To reduce implementation costs there are some steps that Ofgem could take:

- Detailed upfront specifications, avoiding uncertainly in design.
- Allow dependency management between the change programmes to reduce development rework.
- Change programmes run on an analyse, design, build and test cycle, it would avoid parallel running if the build and test elements of the various change programs did not run in parallel unless very detailed impact assessments are undertaken.

Impact of ongoing technological change We fully agree with the Ofgem view that incremental change is inefficient and fundamental changes to the settlement process through a structured change programme with clear end deliverables. We look forward to providing our views on the next stage of the Elexon led Target Operating Model (TOM) design work.

4 - Pull factors - *The counterpoint to the 'push' factors above is that these same factors also 'pull' market participants towards realising the benefits of market-wide HHS as early as potential opportunities open up to them*.

Opportunities to innovate based on technological change We do not disagree that technological advances such as electric vehicles are likely to enable new routes to market for industry participants, however there must be a clear cost savings for most customers to be a viable proposition.

Future Demand Forecasting We would agree that market-wide HH settlement has the potential to improve accuracy of load forecasts, by allowing suppliers access to more accurate settled volume data sooner after delivery than at present. In particular past demand is a good predictor of future demand (and is an input to many of our models), and recent past demand is a better predictor than distant past demand.

However, as described in our response to the data access consultation, the implementation of market-wide HH settlements will affect our forecasting ability, in that knowledge about the past and present shape of our portfolio is important in applying past demand in forecast models.

Increasingly accurate and faster processing of settlement using half-hourly data There are benefits in reducing the settlement timescales and we are generally supportive, these benefits include, easier access to market for new entrants, reduced credit cover costs, reduced finance volatility and reduced industry invoice processing.

However, we would also need a clear understand of how the dispute process would work, and how the settlement performance targets would change alongside the reduced timescales. Our main area of concern is that whilst there are many high level benefits, when the industry moves to reduced timescales must be carefully considered and independent of the migration to wider HH settlements. Industry performance, status of the smart meter rollout and a review of general data quality should all be considered deciding when to reduce settlement timescales.

Lessons From Other Large Scale Projects There have been a number of recent large scale industry changes that we can learn from when implementing market wide HH settlements that will enable a lower cost transition for the bill paying customer.

Governance Programme governance and planning is critical, for example parties should be given adequate time to review the likely complex specification documentation that will be required to support implementation. Scope should be clear and not deviate to deliver additional perceived gains. Independent project management should be considered.

Timing Implementation dates should take into consideration and not underestimate technical development, adequate testing time for centre systems / party systems and identify critical areas where collaboration essential. Final implementation dates should be flexible enough to take into account unforeseen circumstances.

Approach Open and timely communication for both consumers and industry parties is important, for example making in transparent for consumers the benefits and costs associated to this change. Equally ongoing industry communications, perhaps through webinars, will support engagement and consistency of implementation.