

## Profiling and Settlement Review Consultation Responses

**Consultation issued on 30 April 2010 (responses due 28 May 2010)**

We received responses from the following Parties

No.	Company	Confidential	Role of Parties/non-Parties represented
1.	Smartest Energy	-	Supplier/Consolidator
2.	OPUS Energy	-	Supplier
3.	TMA	-	NHH & HH: DC, DA Agents
4.	GazProm	Y	Supplier
5.	E.ON UK	-	Supplier/Consolidator
6.	James Evans, Utilisoft	-	SVG member, Software provider
7.	Haven Power	-	Supplier
8.	Ecotricity	Y	Supplier
9.	Scottish & Southern Electricity	Part	Supplier
10.	G4S Utility Services	-	HH Agents: MO, DC, DA
11.	Scottish Power	Y	Supplier
12.	Electricity Network Company	-	Independent distributor
13.	EdF Energy	-	Supplier
14.	IPM Energy Retail	Y	Supplier
15.	Western Power Distribution	-	Distributor
16.	Richard Harrison	-	SVG member
17.	RWE Npower	-	Supplier
18.	CE Electric UK	-	Distributor
19.	UPL	-	NHH Agents: MO,DC,DA
20.	ERA	-	Organisation
21.	Invensys IMServ	-	NHH & HH Agents: MO, DC, DA
22.	EA Technology	-	Organisation
23.	MRA Executive Committee (MEC)	-	Supplier Registration Organisation
24.	Siemens Metering Services	-	CVA MOA NHH & HH Agents: MO, DC, DA
25.	Logica	-	Organisation
26.	ESTA & Pilot Systems	-	Metering Organisation
27.	Centrica	-	Supplier
28.	EdF Energy Networks	-	Distributor
29.	Power Data Associates	-	Unmetered Supplies Meter Administrator

Question 1: If you have non-100kW customers with HH-capable metering, what do you take into account when deciding how to settle those customers (i.e. NHH, HH registered to Measurement Class E, or HH registered to Measurement Class C)?

## Responses

Respondent	Response/Rationale
Centrica	<p>Currently driven by customer preference.</p> <p>We currently use AMR to help improve our NHH settlement performance if these sites where settled HH this would result in a drop in NHH performance.</p> <p>We may need to review the 97% performance target as sites are migrated to HH.</p>
EdF Energy	We take into account all the examples given when deciding how to settle customers. We would not change anything unless it was specifically requested.
E.ON UK	To date we have been driven by the contractual arrangements that have been agreed with customer.
Haven Power	<p>This is not just a supplier decision. Customer views are important as it will affect their costs going forward. In particular explicit capacity charges levied by DNOs.</p> <p>I am not aware of any supplier who will take a positive decision to do this as a consequence.</p>
OPUS Energy	<p>a) Cost – metering, DC/DA, DUoS, TNUoS and Commodity</p> <p>b) tariff line risk – day/night vs red/amber/green</p> <p>c) new charges for customer not listed in original contract – capacity charges and reactive power charges</p> <p>d) requirement to contact customer to alter prices and terms mid-contract and provide explanation as to changes</p> <p>e) shape risk</p>
RWE npower	A change to the Measurement Class from NHH to Elective HH (EHH) of a site requires changes to their Supply Contract terms. As such, customers would be required to agree and sign a new contract. To do this, the supply terms the new contract represents would have to be competitive and attractive to the customer. As a Supplier, we would need to assess all cost elements to be able to offer this.
SSE	This is predominantly customer driven. Due to settlement cost, we would not settle HH unless HH customer specifically asks to be settled on HH basis.
Smartest Energy	We have none as we are currently an HH supplier only.
Logica	<p>Whilst Logica is not a Supplier, we believe that the SVA Specified Charges associated to HH settlement, whilst appropriate for a small number of larger energy users, create a financial barrier to transferring greater numbers lower volume consumers that are not currently mandatory to settle in the HH market into elective HH settlement.</p> <p>The process for changing measurement class between Measurement Class A and</p>

Respondent	Response/Rationale
	Measurement Class E for <100kW premises with HH capable smart meters and the associated charging mechanisms needs to be considered in the context of the value of more half hourly data in settlements, and risks to existing NHH settlements arrangements.

Question 2: If you were to have non-100kW customers with HH-capable metering, what factors do you take into account when deciding how to settle those customers?

### Responses

Respondent	Response/Rationale
Centrica	See answers to question 1
EdF Energy	As above
E.ON UK	We would consider the commercial arrangements that we have with the customer and the costs/risks that this exposed us to as a supplier. If it were advantageous for either ourselves as a supplier or for the consumer then we would look to settle HH rather than NHH.
Haven power	This is not just a supplier decision. Customer views are important as it will affect their costs going forward. In particular explicit capacity charges levied by DNOs. I am not aware of any supplier who will take a positive decision to do this as a consequence
OPUS Energy	See above
RWE npower	As npower is already participating fully in the roll-out of Advanced meters under the Government mandate, our response to this is identical to question 1.
SSE	As above, in question (1)
Smartest Energy	<ul style="list-style-type: none"> <li>a) Customers' wishes</li> <li>b) Contractual arrangements with agents</li> <li>c) Basis risk introduced by different shape i.e. don't want to bill customers on HH actuals but be exposed to NHH profiles in settlement or vice versa.</li> <li>d) Different DUoS/TNUoS costs</li> </ul>
Logica	See answer to question 1

Question 3: Which of the following costs to service a customer as HH, do you believe are barriers to settling HH?

HH meter;

Supplier agent service; Meter Operation, Data Collection, Data Aggregation;

BSC settlement including recovery of central costs;

Duos, TNUoS;

internal process/systems; and

other non-cost barriers, e.g. misalignment of administration codes, agreements and statutes.

## Responses

Respondent	Response/Rationale
Centrica	<p>For HH capable meter to be used in HH settlement meter must comply with COP 5 or 10. This may initially be a barrier to domestic smart metering. We may need a new COP for profile class 1 and 2 smart metering to be able to trade HH.</p> <p>The additional metering and data collection costs for a HH customer are around £110 pa</p> <p>The existing commercial arrangements in place with HH agents are not appropriate for mass deployment of Smart and AMR meters. These would need to be reviewed and new arrangements put in place before considering settling large volumes of customers on a HH basis.</p> <p>We may need to revise our internal billing systems if we migrate NHH customers to HH. Moving to HH will have implications for data manipulation and storage.</p> <p>Under the current Elexon cost recovery mechanism it costs approx £8.40 per HH site compared to 6p for a NHH site. These charges should be reviewed and made more equitable. Elexon should identify the true cost drivers for each market and apply these costs appropriately.</p> <p>Duos charges should be reviewed to reflect that actual costs incurred at the point of connection to the network not on how the energy is traded within settlement. Current charging arrangements would not incentivise a supplier to migrate a NHH site to HH.</p>
EdF Energy	<p>HH meter – not a direct barrier because the cost is borne by the asset provider.</p> <p>Supplier agent service – possible barrier because HH costs are greater.</p> <p>BSC – unable to comment.</p> <p>DUoS – possible barrier because DUoS costs are perceived to be higher.</p> <p>Internal process/systems – significant barrier as there will be an impact for Settlement and billing.</p> <p>Other – misalignment could be a potential problem.</p>
E.ON UK	<p><b>Metering Costs:</b></p> <p>The obligation for suppliers to install AMR capable equipment on all profile class 5-8 customers by 2014 and the establishment of CoP10 metering has acted to remove the barrier of HH metering costs.</p>

Respondent	Response/Rationale
	<p><b>DUoS and TNUoS Costs:</b></p> <p>The existing DUoS arrangements are a major barrier. We do not see how it is justifiable for customers using the same amounts of electricity to be charged significantly more by their local DNO simply as a result of the type of metering they have installed. We would urge a review of the applicable charging methodologies to be carried out by Ofgem and DCUSA as an outcome of this exercise. We do not see TNUoS as a barrier with there currently being a slight advantage to settling a customer HH compared to NHH. We do believe however that the figures quoted may have been distorted by the current TNUoS charges and it would perhaps be better to compare a number of years to gain a true picture. Notwithstanding this point we do not envisage TNUoS costs to be a barrier for deciding whether it would be advantageous to settle a customer via HH or NHH processes.</p> <p><b>Supplier Agent Costs:</b></p> <p>Data Collection and Data Aggregation costs may potentially present a barrier to selecting HH settlement for customers and is something that we are currently investigating.</p> <p><b>Internal Systems/Process implications:</b></p> <p>We currently act as a HH metering agent (MOP, DC, DA) and therefore would not have to incur initial system development costs. However these systems were only developed for a limited number of customers. Extending the number of customers that we settle in a HH manner may therefore require us to incur system development costs and this is something we are currently assessing.</p> <p>HH settled customers in general incur us less costs in managing from a customer service perspective as data quality issues tend to be less. This allows issues with customer billing to be spotted more quickly and therefore resolved sooner.</p> <p>HH customers do require more activity with regard to our DUoS, TNUoS and settlement validation teams. We would therefore expect to see and increase in internal costs for this activity.</p> <p>If this customer group falls into the same DNO charging methodology as currently employed for HH customers we will see a significant growth in validation activity and, by association, a need to enhance our systems and processes.</p> <p>In general we believe that the customer service cost of managing HH compared to NHH customers are lower and therefore it is not seen as a barrier to changing customer settlement periods.</p> <p>This was recognised in the recent DECC consultation regarding smart metering where in their Impact Assessment they attributed a £1 billion saving to the industry via improvements in customer service costs.</p> <p><b>Other non-cost barriers:</b></p> <p>Site Safety visits for HH metering (BSC requirement) and testing are more onerous and may act as a barrier. Meters are more intelligent and the requirements for sites visits should be reduced due to the amount of information that will be communicated from the meter to the supplier.</p> <p>Current safety visit costs for HH Meters are around £55 (average), compared to £10 for a NHH meter, this may appear to be a barrier and we would advocate the removal of this requirement from the BSC.</p>

Respondent	Response/Rationale
Haven Power	<p>Those highlighted with an * all contribute to a markedly higher standing charge. DUoS availability charges can be a major barrier to a customer adopting HH.</p> <p><i>The following were *:</i></p> <p>HH meter *;</p> <p>Data Collection, Data Aggregation *;</p> <p>DUoS*, TNUoS *;</p> <p>internal process/systems*;</p>
OPUS Energy	<p>DC/DA – about £200 relative to £60 for NHH</p> <p>Non-alignment of distribution charge lines</p> <p>Difference in max demand capacity charge vs a charge spread out through the year which can be estimated more accurately in advance</p> <p>Bespoke pricing required as there is more shape risk – sales teams cannot price HH sites from standard matrices</p> <p>Greater billing detail - requiring more customer service representatives being trained on HH</p>
RWE npower	<p><u>HH meter</u></p> <p>We believe that unit costs for HH capable metering will come down with advances in technology and economies of scale. However, there are technical differences between a CoP10 and CoP5 meter, such as CT metering, that means that there will still be cost differences between the mandatory and non-mandatory HH markets for certain meters.</p> <p><u>Supplier agent service</u></p> <p>We do not believe CoP10 alone reduced costs for agent services as Agent service costs relate directly to the Standards of Service defined. There are inherent differences between the mandatory and non-mandatory HH markets, due to technical considerations. However, Standards of Service are not as closely defined nor as stringent for CoP10 metering as CoP5 and therefore, we believe that costs can be reduced through market competition as services are negotiated between a Supplier and its Agent. As such, we do not see this as a significant barrier.</p> <p><u>BSC Settlement and recovery of central costs</u></p> <p>If a Supplier accesses usage information quickly, its ability to react to changes in usage behaviour increases. If used effectively, this can reduce exposure to market imbalance and balancing costs, and ergo a positive benefit. Therefore, we do not see this cost element as a barrier to settling HH.</p> <p><u>DUoS, TNUoS</u></p> <p>As the charging rules currently stand, we believe that for both TNUoS and DUoS, there are significant cost barriers. For TNUoS, sites moving to HH would be exposed to higher tariffs and a site's peak usage may not match that of charge peak periods. While TNUoS would be charged on actual usage levels rather than profiled consumption, we believe a review of the classification of site types and how they are charged must take place before moving to an entirely HH world to ensure that residential or small business sites are charged fairly compared with the largest consumers.</p> <p>DUoS for some represents a significant barrier while not for others, depending on the charges of any DNO. Npower has experience of some customers settled as elective HH who have requested to be settled NHH as a direct consequence of incurring high DUoS tariffs associated with HH metered sites. As elective HH Settlement is a customer choice,</p>

Respondent	Response/Rationale
	<p>changing network tariffs can create perverse incentives to move to NHH if a Supplier manages customer charges in a cost-reflective manner.</p> <p><u>Internal process / systems</u></p> <p>We believe that industry systems and process capability is more of a barrier to mass HH Settlement. As customers settled HH (elective or mandatory) are required to be serviced by half hourly accredited and field-capable agents, there is potential for mass Change of Agent activity in addition to mass Change of Measurement Class activity. We question whether current systems in the industry could handle and update the flow of information on this scale to process this volume of information.</p> <p><u>Other non-cost barriers</u></p> <p>As stated in question 1, Settlement requirements affect a customer's contract terms and conditions. To move a customer into the elective HH market, agreement between the Supplier and the customer must be reached for a new contract and new terms and conditions. In the sub-100kWh market, a customer must give consent before a Supplier can switch the site to HH Settlement.</p>
SSE	<p><u>BSC Settlement Costs:</u></p> <p>BSC settlement cost is a major barrier as HH currently is charged on MPAN basis and NHH is unit base. BSC Settlement Charges for HH could increase ten folds if no action is taken and PC5-8 move to HH. Elexon would be overcompensated under current HH tariff arrangements. Elexon ought to review the charging arrangements so that it would not discriminate against existing large demand sites.</p> <p><u>HH Meter:</u></p> <p>AMR meters are not a barrier as use of COP10 meters have now been approved but a more sophisticated HH meter like COP5 would attract MOP charges.</p> <p><u>Supplier Agent Service:</u> <b>CONFIDENTIAL (These Cost have been removed)</b></p> <p><u>DUoS</u></p> <p>Current Duos charges is a major barrier to settling HH as there are no settlement categories for profiles 5 to 8. In addition, there are no DUoS tariffs available for profile 1 and 2.</p> <p><u>TNUoS:</u></p> <p>In case of TNUoS, there are consequences to settling HH, there would be more customer choice as suppliers may be able to better control usage, using demand side controls, but it would be less predictable (having to forecast 3 HH in the year) which lead to more uncertainty and hence cost.</p> <p><u>Internal Systems/Processes:</u></p> <p>There would be no or little cost saving as there would be no significant drop in NHH volume settled HH. There would be a need for a settlement system, including, HH billing system. Hence, there are significant cost barriers to system and processes. Current System Constraints and Manual Intensive Processes are likely to be the biggest barrier to expanding HH market at the moment.</p> <p>Settling individual profile 5 to 8 customer does not pose an issue. PC5-8 could be aligned into HH Market without major changes, however resourcing levels would need to be</p>

Respondent	Response/Rationale
	<p>increased given many manual processes surrounding HH Market. However, there would be a <b>significant issue</b> in settling mass market on HH basis to the point where the current system could not cope with current arrangements.</p> <p><u>Mis-alignment of Codes/Licenses:</u></p> <p>Industry has yet to consider all aspects of HH Settlement, and many documents/license conditions may be mis-aligned. For instance how does a supplier meet Prepayment License Obligations in the existing HH Market set-up?</p>
Smartest Energy	Mainly supplier agent service.
James Evans, Utilisoft & SVG Member	<p>The purpose of COP10 was to permit the use of HH capable metering with less onerous requirements for sub 100kW installations; thereby hoping to reduce costs. However, the central issue here is that Meter Asset Provision costs seek to recover the costs over the lifetime of the asset, typically 15-20years. Supply contracts are typically much shorter than this, resulting in the possibility that a subsequent Supplier will require the use of an alternative asset before the natural end of life of the original meter ie resulting in a stranded asset. It can therefore be expected that Meter Asset Providers will factor in a risk premium to compensate for such an event.</p> <p>HH Data collectors are required to demonstrate that they are able to operate with installed assets. The same is not necessarily true for all Meter Operators. One potential solution to this issue would be for all HH Meter Operators to enter into “umbrella” agreements with all Suppliers, however since these are commercial arrangements it is difficult to see how the BSC could directly influence such undertakings. An alternative would be to more formally recognise the role of Meter Asset Provider in the BSC and then require Meter Operators to demonstrate the same interoperability capability as is currently required for HHDCs. This could potentially provide for Change of Meter Operator services without necessitating the replacement of assets. However, formalising the role of Meter Asset Provider is beyond the scope of this submission and would require Regulatory oversight.</p> <p>Currently HH Meter Operators secure direct agreements with end customers for the asset provision and services, in part to address the issues noted above. It is considered unlikely that this arrangement would support the service provision for the majority of the current NHH metered sites (particularly SME and Domestic).</p> <p>It would seem that the current formula for allocating central costs may not be equitable.</p> <p>At present GSPGCF is applied to NHH sites only, whilst this hold with the theoretical premise of the factor such that it is designed to compensate for actual time of use (HH) errors caused by profiling, in reality GSPGCF also acts as a “catch all” for all other errors in the market, eg Distribution Line Losses, inaccurate volume allocation, both HH and NHH and illegal abstraction. As such it would not appear to be equitable for it only to apply to the NHH market.</p> <p>The provided data demonstrates a non-uniformity in the allocation of DUoS between HH and NHH sites. Intuitively it would be expected that NHH DUoS costs should be higher than HH costs to recognise the current degree of estimation in actual time of use. This estimation may result in over or under reinforcement of the Distribution Network and it would be expected that this risk be reflected in the prevailing charge.</p> <p>No specific comment, although the principles of process are comparable between the HH and NHH market and would therefore not normally be expected to increase costs.</p>



Respondent	Response/Rationale
Richard Harrison, SVG Member	<p>Which of the following costs to service a customer as HH, do you believe are barriers to settling HH?</p> <ul style="list-style-type: none"> <li>- HH meter;</li> <li>- Supplier agent service; Meter Operation, Data Collection, Data Aggregation; Yes</li> <li>- BSC settlement including recovery of central costs;</li> <li>- DUoS, TNUoS; Yes</li> <li>- internal process/systems; and Yes (can be)</li> <li>- other non-cost barriers, e.g. misalignment of administration codes, agreements and statutes.</li> </ul>
MRA Response for Questions 1 to 3	<p>Whilst the means by which a Supplier determines the Measurement Class for a Metering Point lies out with the MRA, the MPAN Data associated with the category of Measurement Class does vary according to the rules set out under the MRA, for example the MPAS Validation Rules and BSC Validation Requirements. Consequently, where a NHH registered MPAN was to be changed to HH, this will require robust administration of the change of Measurement Class (CoMC) process, whether coincident with Change of Supplier or handled as an update to Registration details. Any breakdown in the process chain could lead to prolonged exception processes or mismatches across market and agent systems with a consequent impact on reconciliation activity. We consider the CoMC process further in our response to Qs 4-6.</p> <p>Notwithstanding the Supplier cost factors that may influence the merits of reassigning domestic and sub-100kW customers into the HH market sector, the following matters may also be considerations:</p> <ul style="list-style-type: none"> <li>• Under the current arrangements, where a Supplier has qualified to operate in the NHH sector only, qualification for the HH sector should be obtained in order to operate in that Market Sector. This would be the case even where the underlying customer base for that Supplier has not changed.</li> <li>• Additional administration of managing a CoMC, and the complexities if this is to occur at the same time as a Change of Supplier (CoS).</li> <li>• The potential for additional [CTP] Triangulation, eg a Supplier whose preference is to settle NHH, may find the Old Supplier's MPAN registration details are HH, or vice versa. A review of the D0311 Notification of Old Supplier Information and D0312 Notification of Meter Information to ECOES may also be useful.</li> <li>• The increased availability of actual readings will improve data quality, however, there may be merit in considering the relationship between the level of data available from Smart or Advanced Meters and that required in Settlements/SVA. In effect, this could recognise capability whilst prescribing only core data for Settlements, which may in turn lead to new types of Measurement Class and/or Profiles, and potentially a new metering BSC CoP, to meet the expanded customer/settlement combinations. This may also mitigate issues related to a need for expanded market qualification.</li> <li>• MEC would be particularly interested in any responses regarding the misalignment of administration codes and agreements, since this could be addressed through</li> </ul>

Respondent	Response/Rationale
	the joint change processes already in place between the BSC Agent and MRASCo.
Logica	<p>Mandatory HH metering is designed for use in the &gt;100kW market, and therefore typically designed with higher currents and 3-phase supplies. Such meters will inherently cost more than single phase meters designed to handle lower current for domestic premises.</p> <p>It is likely that the British domestic smart meter specification will be capable of reading half hourly.</p> <p>The challenge is to ensure that the requirement of CoP5 and CoP10 compliance do not conflict or create an undue cost burden on the cost of the metering systems.</p> <p>Supplier agent service; Meter Operation, Data Collection, Data Aggregation;</p> <p>No analysis</p> <p>BSC settlement including recovery of central costs;</p> <p>See answer to Question 1</p> <p>DUoS, TNUoS; No analysis</p> <p>internal process/systems; and Analysis undertaken by Logica indicates that many market participant systems would require investment to cope with the increased data volumes associated with a move from quarterly to monthly reading.</p> <p>A move to HH settlement would accentuate this issue and create an investment issue for market participants.</p> <p>other non-cost barriers, e.g. misalignment of administration codes, agreements and statutes.</p> <p>Reference previous comments on the change of measurement class process between A and E for HH capable smart meters.</p> <p>Addressing any conflicts between the metering codes of practice CoP5 and CoP10.</p>
ERA	<p>As noted in the question, there are a number of factors that could influence the decision to settle a customer with HH-capable metering in the HH market electively.</p> <p>An advanced or smart meter capable of HH metering would be a pre-requisite for settling Half Hourly, so the current cost of HH metering itself is less relevant.</p> <p>Agent and other commercial costs will vary by ERA member, but the wider deployment of advanced metering for business customers will move this market and its' costs forward from their traditional 'fixed PSTN line' basis to levels closer to NHH agency costs.</p> <p>Fixed national costs, such as BSC/TNUoS costs are discussed in more detail below.</p> <p>A number of customers operate groups of sites in a range of geographies, and due to the variances in HH costs across different distribution networks, it is difficult to provide a 'standard' tariff for a single customer to have all of their sites settling on a HH basis.</p> <p>Internal administrative costs and issues are best addressed by individual Supplier responses.</p> <p>Compounding the variety of commercial and cost issues is the potential complexity of moving large numbers of sites from the NHH to HH settlement systems. Despite changes to facilitate simpler switching, this remains a significant operational process to undertake for aspects other than Settlement – metering, agents, billing, customer service etc.</p>
Invensys,	IMServ has witnessed in the marketplace that the cost of DUoS charges poses a barrier to

Respondent	Response/Rationale
IMServ	<p>settling half-hourly. As noted in the consultation document, DUoS charges are significantly higher for half hourly sites than NHH sites even where electricity usage is identical. There does not appear to be a real reason for this difference as the same wires are being used to transfer the electricity and the same demand ratings apply. We have observed at least one major energy user switching sites from HH into NHH settlements to avoid the higher DUoS charges and understand that a number of others may do the same. Meter costs in the half-hourly market segment are up to 5 times those in the NHH market, so may also be a barrier to HH settlement.</p>
EdF Energy Networks	<p>As a DNO we believe that DUoS tariffs should not be a barrier to using HH instead of NHH. However, if that was felt to be the case, then clearly under CDCM arrangements, any party (DNO, IDNO, Supplier or end Customer) can propose changes to the CDCM Methodology to improve the modelling and/or create enhanced tariff structures that would ensure that any perceived barrier is removed.</p>

#### Question 4: What factors would enable or encourage you to settle a customer with an Advanced meter in Profile Classes 5-8 as half hourly?

##### Responses

Respondent	Response/Rationale
Centrica	<p>Installation of AMR is currently used as a technique to improve NHH settlement performance. Moving these customers into HH elective may be counterproductive.</p> <p>Cost/benefit related to energy forecasting/energy purchasing/agent costs/Duos/Tnuos costs/BSC central costs/internal billing and customer service costs.</p> <p>Would need appropriate LLFC.</p>
EdF Energy	<p>The main determinants on whether settlement should be moved to half-hourly for a smart/AMR site would be i) cost and ii) timing given the tight timescales already associated with the Smart metering rollout. We would expect it to be possible to redesign industry processes and systems in such a way that half-hourly settlement for smart/AMR meters is not more expensive than current non-half hourly settlement processes. It should also be possible to move to a situation where all smart/AMR meters are settled using half-hourly reads as a matter of course. The use of directly metered consumption would give rise to a situation of greater certainty. Firstly, directly metered amounts should give rise to greater certainty of Suppliers' consumption and eventually, (when the population of half-hourly metered sites via AMR and smart reaches a critical mass) we could see a dramatic shortening of settlement timetables and reduction in the number of runs since metered data would be available almost immediately and only rarely need to be altered.</p>
E.ON UK	<p>The removal of the barriers mentioned in response to the above question, particularly the penal DUoS costs, would be helpful.</p> <p>If sufficient customer numbers currently on NHH contracts were to request HH contracts then this would act as a major factor.</p> <p>If a significant number of MPAN within specific profile classes per GSP were switched to HH settlement then the accuracy of the profiling and the exposure to GSP Group</p>

Respondent	Response/Rationale
	<p>Correction risk for the remaining customers may act as a factor that would encourage us to consider how we settled our customers.</p> <p>The point regarding HHDC development has been made; in terms of cashflow, the more MPANs within the HH portfolio the better; contractually, our HHDCs provide data in advance of settlement timescales to secure customer billing and income.</p>
Haven Power	See above this simply isn't just a settlement decision.
OPUS Energy	DUoS charges matching in structure for NHH and HH
RWE npower	As stated in question 1, any elective HH proposition would need to be attractive to a customer to reach a new supply agreement. As customer tariffs are cost reflective, direct Settlement and network charges would need to form this basis.
SSE	As above. There would have to be charges to customer to facilitate some of this. DUoS tariffs are not available and systems are required to deal with large volumes of customers.
Smartest Energy	An industry mandate which forces all suppliers to change.
Richard Harrison, SVG Member	An actual consumption profile shape which was advantageous compared with the Profile, lower DUOS charges for HH (than at present), customer perceived value in HH data, e.g. use of (self) demand management
MRA	<p>Question 4, 5 and 6 lead to effecting a change of Measurement Class (CoMC) and the MRA Product Set includes a substantial portfolio of end to end processes, working practices and data management guidance relating to events and activities concerning this process.</p> <p>It is strongly recommended that these are reviewed in light of the potential for a migration of any substantial number of MPANs. In this regard, MEC notes that it may be appropriate to carry out a re-evaluation of some Working Practices in light of, amongst other things:</p> <ul style="list-style-type: none"> <li>• market experience;</li> <li>• revisions in the assumptions made at the time;</li> <li>• the potential issues noted within the present Working Practices related to CoMC (e.g. WPPS66, 116, 131 and the proposed introduction of a new Working Practice to provide guidance on HH-NHH CoMC);</li> <li>• at the time of writing the Working Practices (WPs), the focus would have been administering individual existing sites newly qualified for the HH sector. The suitability of the relevant Working Practices needs to be considered for circumstances such as higher volumes of incidences (eg domestic premises being incorporated into the HH sector) or any bulk NHH to HH migrations. Robust and practical processes will underpin the successful administration of changes of Measurement Class;</li> <li>• the robustness of the working practices as currently written in managing the COMC event coincident with Change of Supplier.</li> </ul> <p>MEC is aware of the Smart Metering Operational Framework issued by the ERA, and recommends that the progression of development of the use cases, interoperability and</p>

Respondent	Response/Rationale
	integration with industry processes is conducted in close association with the MRA and BSC.
EdF Energy Networks (Qu 4 to 6)	As above. As a DNO we would be interested to understand if additional HH DUoS tariffs would be a useful incentive in CDCM? And if so of what form?

**Question 5: What factors would enable or encourage you to settle a non-domestic customer with a Smart meter in Profile Classes 3-4 as half hourly?**

### Responses

Respondent	Response/Rationale
Centrica	<p>Installation of AMR is currently used as a technique to improve NHH settlement performance. Moving these customers into HH elective may be counter productive</p> <p>Cost/benefit related to energy forecasting/energy purchasing/agent costs/Duos/Tnuos costs/BSC central costs/internal billing and customer service costs</p> <p>Would need appropriate LLFC</p> <p>Less onerous COP requirement</p>
EdF Energy	As per response to Q4
E.ON UK	The factors would be similar to those for profile classes 5-8; reduced exposure to the risks from GSP Group Correction, a reduction in customer service costs, reduced metering costs etc.
Haven Power	See above this simply isn't just a settlement decision.
OPUS Energy	The issues are identical for profiles 3 to 4 as for profiles 5-8 moving to HH (and indeed profiles 1 and 2).
RWE npower	The current market codes and agreements assume that any HH settled sites (elective or mandatory) must be large consumers of electricity. We do not believe it is economically viable to settle all PC3 or 4 customers as HH under the current market conditions and structure. If the industry moves towards settling all customers HH, the definition of the market will have to change so that charges and market processes are equitable and appropriate.
SSE	As above. There are a lot of logistical issues and industry changes to deal with here. In particular, we feel the lack of a suitable DUoS charging structure is a serious omission in the current arrangements. We believe a system of charges based on half hourly matrix should be the basis for the future developments. Another issue is aggregation arrangements rather than shoehorn AMR/Smart into either current HH or current NHH processes, it may be better to create a new set of processes for HH Aggregate Settlement – which can then join SVA processes to form existing D0296 – may need additional Consumption Component Classes.

Respondent	Response/Rationale
Smartest Energy	An industry mandate which forces all suppliers to change.
Richard Harrison, SVG Member	An actual consumption profile shape which was advantageous compared with the Profile, lower DUOS charges for HH (than at present), customer perceived value in HH data, e.g. use of (self) demand management

## Question 6: What factors would enable or encourage you to settle a domestic customer with a Smart meter in Profile Classes 1-2 as half hourly?

### Responses

Respondent	Response/ Rationale
Centrica	Less onerous COP requirement More equitable BSC settlement costs Cost/benefit related to energy forecasting/energy purchasing/agent costs/Duos/Tnuos costs/BSC central costs/internal billing and customer service costs
EdF Energy	As per response to Q4.
E.ON UK	The same factors would apply as for non-domestic customers; suppliers would assess the costs and benefits and make a judgement. It is our view that once all customers have smart meters capable of providing HH information that we will settle via this basis only and remove any exposure that we have to the risks associated with profiling.
Haven Power	See above this simply isn't just a settlement decision.
OPUS Energy	See Above.
RWE npower	As per question 5, we do not believe it is economically viable to settle all PC1 or 2 customers as HH under the current market conditions and structure.
SSE	As in (4) and (5) above. It should also be noted that the roll out of smart meters and introducing a system of settlement charges involves risks that should be carefully managed.
Smartest Energy	An industry mandate which forces all suppliers to change....and a domestic licence.
Richard Harrison, SVG Member	An actual consumption profile shape which was advantageous compared with the Profile, lower DUOS charges for HH (than at present), customer perceived value in HH data, e.g. use of (self) demand management
ERA	Individual Suppliers may have their own views on questions 4-6. We have identified some potential general issues: <ul style="list-style-type: none"> <li>A key issue could be the qualification requirements for HH settlement – i.e. compliance with CoP 10. Not all current Advanced (or smart) meters will have been designed with the specific requirements of CoP 10 in mind, and therefore they would not be eligible for HH settlement.</li> <li>We would support either a significant revision of CoP 10 to take account of</li> </ul>

Respondent	Response/ Rationale
	<p>domestic smart metering, or a specific new CoP to reflect the particular functions of smart metering.</p> <ul style="list-style-type: none"> <li>• Presently, a number of the commercial models for advanced and smart metering include a 'per kilobyte' charging mechanism for data communicated to and from the meters. Half hourly interval data for any site, whilst not constituting an enormous amount of traffic would be the equivalent of exponential increases in traffic, kilobytes and costs over and above any NHH tariff.</li> <li>• For a number of today's metering technologies, capturing, storing and transmitting HH interval data is a step beyond what they were designed to do, be that a monthly AMR service using SMS messaging, or even daily readings using GPRS. After decades of relative stasis in metering, we are seeing and anticipating significant developments that would remove hardware and communication challenges from collecting and transmitting more data.</li> <li>• The increased order of magnitude in data volumes is likely to require a new approach to data management at industry participants.</li> </ul>

## Question 7: Should the BSC arrangements incentivise Suppliers to settle half hourly? If so how?

### Responses

Respondent	Response/ Rationale
Centrica	<p>The BSC arrangements should not incentivise suppliers to settle HH but any perverse incentives such as SVA charges should be removed.</p> <p>The BSC charging arrangements should be truly cost reflective. Current HH charging arrangements appear to be arbitrary and should be reviewed.</p>
EdF Energy	<p>The BSC arrangements should facilitate the most cost effective approach to settlement.</p>
E.ON UK	<p>The arrangements within the BSC Shouldn't disincentive HH settlement in any way.</p> <p>Continuing the existing practice of exposing only NHH customers to the risks of GSP Group Correction will act as an incentive for suppliers to consider moving to HH settlement.</p> <p>Existing profiling and GSP Group Correction has the potential for suppliers to 'game' the market and how they choose to settle their customers on a regional basis. Based upon a view as to the potential commercial outcome for them. This may have a detrimental impact upon the costs incurred by other suppliers and their customers and therefore we believe that it is probably worth determining set periods in the future when all customers within a specific profile class must be transferred from the NHH to the HH market.</p> <p>This should ensure that suppliers are given sufficient warning to develop systems and processes and reduce the long term risk that some suppliers may evolve settlement strategies that are not conducive with a successfully operating retail market.</p> <p>Improved granularity of data should improve the understanding of theft and losses and</p>



Respondent	Response/ Rationale
	therefore be advantageous to network operators. In turn this should lead to lower DUoS charges.
Haven Power	No, BSC arrangements should simply present proper cost reflectivity so that the overall market can move the right way economically.
OPUS Energy	Remove the HH MPAN charge.
RWE npower	The BSC arrangements should not dis-incentivise the use of elective HH. The consultation document suggested shortening of Settlement close-out timescales. We would suggest that this is reviewed following completion of the roll-out of smart metering, to allow any issues arising from the installation process that affect Settlements to be resolved prior to crystallisation. As stated in question 5, we would also like to see better alignment of the current market definitions and conditions to remain appropriate to site types while Settling HH. This would apply to all codes and arrangements, not just the BSC and central settlements.
SSE	Yes, where it can be justified on the basis of cost/benefits. If there were process changes to allow HH settlement. The reward should be that first movers to HH settlement are not subject to the GSP correction.
Smartest Energy	Yes. Mandated in line with AMR roll-out timetables.  There is no push from customers or brokers to move to HH and there is no financial incentive; it's break-even at best.
James Evans, Utilisoft & SVG Member	It would seem to be counter-intuitive to use actual HH data from the current suite of profile class sites to construct/refine profiles to result in "better estimates" which would be used in preference to actual HH data. It would be hoped that the benefit for all parties of electing to Settle HH would be apparent, if not then arguably the BSC should require all sites with HH capable metering to be settled HH.
Richard Harrison, SVG Member	Any incentive should reflect real value (to Settlement) and not be artificial. It first needs to be determined whether 100% HH Settlement is feasible, taking account of data volumes, required validation processes etc.
Western Power Distribution	Yes. It is of benefit to all BSC Parties for settlement data to be allocated as accurately as possible. Half Hourly settlement, being based on regular meter readings rather than profiles & estimates, is the more accurate method and it should be encouraged by removing disincentives to half hourly settlements.  Initially, the BSC arrangements should be equalised, where appropriate, to remove any difference in treatment for a site that is based purely on the measurement class. Obligations and requirements should be based on the anticipated import/export volumes of a site instead of being based on the measurement class that the site is settled in.  At some point, possibly when over 50% of NHH settled sites actually have HH capable meters, the BSC arrangements should be changed to mandate HH settlement for sites where the meter is capable of it.
TMA	The BSC arrangements should incentivise Suppliers to settle Half-Hourly to get the full benefit from the installation of Advanced and Smart metering. It would increase Settlement accuracy, shorten the overall settlement process and reduce the SVA costs (once all meters are settled HH)
Siemens	We agree that the BSC arrangements should incentivise Suppliers to settle mpans half hourly where HH data is available from the meter, and where there would be a clear



Respondent	Response/ Rationale
	<p>benefit to the accuracy of the settlement process. It is not clear to what extent there would be a benefit to the accuracy of settlement from trading domestic MPANs as Half hourly, given the relatively low energy volume of individual MPANs compared to customers in Profile Classes 3-8, at least while the overall number of domestic meters capable of recording HH data remains small.</p>
Logica	<p>There are broader implications to incentivising elective HH settlement. The capabilities of participant systems to handle the increased volumes of data are likely to require significant investment.</p> <p>This broader cost benefit needs to be considered, rather than simply relying on incentives within the BSC to drive elective transfer of sites into HH settlement.</p>
ERA	<p>Individual Suppliers will have their own commercial positions relating to the proportions of their meters they wish to see settled on a half hourly basis. As an 'ultimate' goal for all meters, this is not an unreasonable approach, but the completion of the roll out of smart metering will not take place until 2020 under current plans, and it is anticipated that communications technologies and bandwidth will have developed to a point where second generation smart metering technology will facilitate the economic collection, storage and transmission of HH interval (and other) data.</p> <p>At present, we are concerned that collecting HH data for all customers would result in increased memory hardware costs for meters, or increased communications charges to transmit the volumes of data required.</p> <p>The investment required to deploy smart and advanced metering to all electricity points in the country is enormous, adding in extra cost now (to collect and use HH readings) could affect the cost benefit assessment that underwrites a national roll out.</p> <p>BSC incentives may be a long term strategic goal if large volumes of HH meters mean that low volumes of NHH meters become uneconomic to support. However, increasing costs of decreasing volumes of NHH meters may provide the necessary natural incentive. Further, rather than specific incentives to settle Half Hourly, the successful removal of the existing disincentives could facilitate more customers being settled Half Hourly.</p>
Invensys, IMServ	<p>From a settlements point of view it is IMServ's opinion that there is great benefit from incentivising suppliers to settle sites half-hourly. The data available is more accurate than NHH settlements and is industry as a whole should make full use of the increased availability of data that advanced metering services brings. If faster and more accurate meter data is available then the settlements process should be changed to reflect this. It was for this reason that there was a difference in settlements between half-hourly and NHH under the 1998 trading arrangements, with the half-hourly market having a more accurate settlements process based on the availability of data at that time. As NHH meter technologies are now capable of recording half hourly interval data it makes sense to use this data to increase the accuracy and speed of settlements to reflect the technology change. A shift to half-hourly settlements would also enable profiling across the industry to be more accurate by utilising more actual data and making the profiles more reflective of actual customer usage. Higher quality and accuracy of data benefits the industry as a whole so this should be encouraged wherever possible.</p>

Respondent	Response/ Rationale
	ELEXON have previously recognised the limitations of settlement arrangements for dynamic tariffs for smart metering and demand side management. It is clear that moving to half-hourly settlements will be a key enabler in capturing the benefits of flexible demand profile from dynamic demand management, micro-generation and electric vehicles.
EdF Energy Networks	We believe that they should encourage HH settlement, as we consider it to be a fairer way to operate in the market. The removal of a number of controls such as the Profile Administrator and the process(s) around EAC/AA's is likely to be a significant incentive to elect to go HH.

## Question 8: How should the monthly settlement charge for HH meters (SVA Specified Charge) be calculated? Should it be on an energy volume instead of per meter basis?

### Responses

Respondent	Response/ Rationale
Centrica	Any charging regime should be cost reflective. If internal settlement costs are not impacted by energy volume or number of sites then should the charges have an element of fixed and variable costs.  Elxon should carry out analysis of what drives SVA costs and costs should be allocated appropriately.
E.ON UK	Smearing costs by volume is a more equitable solution, the current mechanism is inequitable as the individual costs per customer are more expensive and maybe a barrier to moving settlement regime.
Haven Power	We believe that this is irrelevant and the PSRG should not waste time reviewing it.
OPUS Energy	Volume basis. MPAN basis seems fairest as it costs SVA the same amount to process each MPAN but for our smaller profile 1 to 4 sites, the charge would make HH metering uncompetitive – as does the higher DC/DA cost. We also use electralink for electronic duos invoicing at a charge of £4 per MPAN per year – this is fine for larger sites but is a higher % cost increase for smaller ones, duos companies do not differentiate between the sites on their files so we could not split them out from this service and would incur the cost.
RWE npower	We would welcome a review of the allocation of funding shares if all sites were to be settled HH as any transitional period would place an ever-increasing burden of fixed costs on the remaining NHH market. At the moment, the existing method of calculating funding shares is appropriate; any revision would need to take into account how a transition to all HH Settlement would impact charges to parties.
SSE	There could be different cost for under and over 100KW customers. For >100KW on customer basis and for <100Kw on volume basis.
Smartest Energy	It makes sense that both HH and NHH should be on a volume basis.

Respondent	Response/ Rationale
James Evans, Utilisoft & SVG Member	As noted above the current allocation would seem not to be equitable.
Richard Harrison, SVG Member	Since data is submitted to and handled in Settlement in aggregated form, neither basis is really 'rational'. Energy volume basis gives lower relative costs for small users, but is that really what you want? If it is about Settlement accuracy and management of larger demands, surely it is the larger users you should be concerned with? There is also a need to decide how this should apply to exports.
Western Power Distribution	It should be based on metered volume for both HH and NHH with NHH meters picking up that part of the costs that only relate to NHH settlements.
TMA	<p>The movement of PC5 to 8 from NHH to HH would increase the current HH settled energy volume by 11% and the current HH settled number of MPAN by over 140%</p> <p>If the monthly settlement charges for HH meters remained on a per meter basis without reviewing the charges applied very regularly, it would increase the revenue from these charges without a matching increase in cost. Moving to energy based monthly settlement charges would be more appropriate. The impact on small HH suppliers would have to be assessed in more details in order to avoid reducing market competition.</p>
Logica	<p>The Example calculation for 2010/11 in section 4.6 makes the NHH charge c6p per annum across all NHH settled meters. Based on ELEXON data from 2008, a volume based charge per premise (based on average consumption for a premise in each group) would be:</p> <p>PC01-02: 4p pa</p> <p>PC03-04: 15p pa</p> <p>PC05-08: £1.07 pa</p> <p>For NHH settled sites.</p> <p>Therefore the annual Specified charge of £7.68 pa (BSC Year 2010/11) for HH settled sites creates a barrier to elective HH settlement.</p> <p>An alternate volume based approach for HH settled Measurement Class E sites would be beneficial address this potential barrier.</p> <p>It should be noted that by moving these meters into elective HH settlement, the fixed cost elements of the NHH Direct Costs will be spread across a smaller meter population, serving to increase the Specified Charge for the NHH settled meters.</p>
ERA	<p>To be answered by individual Suppliers.</p> <p>The Suppliers have discussed, within the SRSM project, the opportunities smart metering presents to consolidate some NHH agency activities (EAC/AA, NHHDA) into a centralised industry function. These considerations have formed part of our submissions to Ofgem. We have not discussed in any detail what the implications of universal HH metering would be from an industry design perspective, although the potential removal of NHH activities, such as profiling, would be considered as part of any detailed design work or strategic roadmap.</p>

Respondent	Response/ Rationale
EdF Energy networks	As long as the costs of calculating these charges do not exceed any benefit of making a change, then we believe that using “energy volume” instead of “per meter” would be a fairer way of calculating the charges.

## Question 9: Do the current charging arrangements for Duos and TNUoS incentivise Suppliers to settle HH capable meters as HH or NHH?

### Responses

Respondent	Response/ Rationale
Centrica	The current Duos charging arrangements in most DNO areas do not incentivise suppliers to switch to HH. The Duos charges should not be dependent on whether the site is traded HH or NHH but be based on point of connection and load factor.
E.ON UK	<p>The existing DUoS arrangements are a major barrier. We do not see how it is justifiable for customers using the same amounts of electricity to be charged significantly more by their local DNO simply as a result of the type of metering they have installed.</p> <p>We would urge a review of the applicable charging methodologies to be carried out by Ofgem and DCUSA as an outcome of this exercise.</p> <p>We do not see TNUoS as a barrier with there currently being a slight advantage to settling a customer in HH compared to NHH.</p> <p>We do believe however that the figures quoted may have been distorted by the current TNUoS charges and it would perhaps be better to compare a number of years to gain a true picture.</p> <p>Notwithstanding this point we do not envisage TNUoS costs to be a barrier for deciding whether it would be advantageous to settle a customer via HH or NHH processes.</p> <p>I'm assuming the AAHEDC is classified as TNUoS for the purposes of this consultation.</p> <p>There is a minor cashflow benefit to settling TNUoS based on HH customer data; our liabilities are calculated on latest available data and as such the HH data is at any time 99% correct whereas NHH is still undergoing reconciliation.</p>
Haven Power	<p>Suppliers are driven by customer requirements. Customers dislike explicit capacity charging and generally higher DUoS fixed charges.</p> <p>The NHH arrangements have not been stable until recently and only time will tell whether the new DUoS regime will be stable.</p>
OPUS Energy	<p>No they do not incentivise – the charging structures are different which creates risk. There may be some argument for profile 8 MPANs but the cost benefit on T&amp;D is outweighed by the factors listed in Q1</p>
RWE npower	<p>We believe this can differ between charging regions, but on the whole, we believe these charges currently dis-incentivise the use of HH with capable meters.</p> <p>For TNUoS, sites moving to HH would be exposed to higher tariffs and a site's peak usage may not match that of charge peak periods. While TNUoS would be charged on actual usage levels rather than profiled consumption, we would want to see a review of the</p>

Respondent	Response/ Rationale
	<p>classification of site types and how they are charged before moving to an entirely HH world to ensure that residential or small business sites are charged appropriately compared to the largest consumers.</p> <p>DUoS for some customers represents a significant barrier while not for others, depending on the charges of a given DNO. Npower has experience of some customers settled as elective HH who have requested to be settled NHH as a direct consequence of changing DUoS tariffs. As elective HH Settlement is a customer choice, changing network tariffs can create perverse incentives to move to NHH if a Supplier manages customer charges in a cost-reflective manner.</p> <p>The current market arrangements use rigid definitions of half hourly and non-half hourly. DNO charges treat elective HH in the same manner as mandatory HH sites; requiring capacity agreements, reactive power measurement, and monthly charges on a site-by-site basis. In many cases, these charges are prohibitive for the smaller consumers, as market definitions and attitudes around half hourly de-couple Settlement arrangements and site type.</p>
SSE	There are no significant incentives to settle HH as explained in (3) above.
Smartest Energy	I don't believe suppliers have analysed this before, as I suspect a lack of contractual arrangements with agents would be the first stumbling block.
James Evans, Utilisoft & SVG Member	The evidence presented suggests that TNUoS charge should encourage HH settlement, however this may be offset by the non-uniformity of DUoS arrangements as noted above.
Richard Harrison, SVG Member	There are cases where HH DUoS charges seem to be significantly higher for reasons that are unclear (possibly because of volume assumptions, although I am speculating here). There are also credit risks for Suppliers associated with HH TNUoS particularly in CoS situations.
TMA	<p>Looking at the figures provided in 6.1 1 of the Profiling and Settlement Review Supplier Consultation, DuoS charging arrangements incentivise Suppliers to Settle HH capable meters as NHH.</p> <p>From the figures provided in 6.2.1 TNUoS charging arrangements incentivise Suppliers to settle HH capable meters as NHH.</p>
Logica	<p>On the basis of the analysis provided in 6.1.1 and 6.2.1 there appears to be an unclear incentive based on a regional bias.</p> <p>There is a clear TNUoS benefit in all areas.</p> <p>However, this incentive appears to be reduced or to become a barrier in all GSP groups with the exception of Eastern and Northern.</p> <p>What is unclear from the analysis is the consequential impact of the approach on PC00 DUoS and TNUoS charges and the impact on profile classes 01 to 04 that continued to be settled NHH.</p>
ERA	<p>To be answered by individual Suppliers.</p> <p>As noted above, the lack of transparency and geographical variation has made it challenging to determine cost to serve and hence construct equitable tariffs for HH customer, particularly for customers with sites in a number of geographic locations. Recent moves by the Distributors to standardise charging could reduce or remove this</p>

Respondent	Response/ Rationale
	issue, but more focus on developing DUoS charging methodologies to facilitate increased usage of Half Hourly Settlement in the domestic and small business markets may be necessary.
Invensys, IMServ	Please refer to response to question 3 above.
EdF Energy Networks	DUoS should be based on cost rather than to incentivise Suppliers and all parties should be aware that through the CDCM arrangements any party can raise a change to the methodology behind the published tariffs, from which DUoS charges are published.

## Question 10: How do you believe GSP Group Correction should be applied to:

HH and NHH metered energy for the rollout of:

Advanced meters over the next 4 years;

SMART meters over the next 10 years;

HH metered energy, if and when all meters are settled as HH?

### Responses

Respondent	Response/ Rationale
Centrica	GSP Group Correction should be applied to both HH and NHH meters today. We see no justification for not applying Group Correction to the HH market. If we assume technical losses are correctly reflected in Line Loss Adjustment Factors then all customers should bear the costs of non-technical losses which include theft and unregistered sites.
EdF Energy	There is currently no GSP Group Correction in the half hourly market so a complete industry change would be required. Again, further information would be required to decide if this was viable.
E.ON UK	<p>For the next 4 years we suggest keeping GSP Group Correction as it is. This should encourage migration to HH settlements for the majority of customers in profile class 5-8.</p> <p>Over the next 10 years the implications would need further analysis based upon on the roll out of smart metering, the market, and competition and consumer impacts.</p> <p>It is clear that there will be a need for GSP Group Correction to be applied to all customers at some point in the future and we believe that an independent assessment of how this would operate is needed.</p> <p>We believe that the establishment of plan of action to resolve this issue should be an output from this exercise.</p>
Haven Power	<p>We do not believe that the current rationale should be changed until there has been a significant (25%+) shift in volume settled from NHH to HH.</p> <p>It is difficult or impossible to see how GSPGCF issues arising in the HH market can be</p>

Respondent	Response/ Rationale
	sensible estimated – if they could be then loss factors could simply be changed.
OPUS Energy.	If all meters are HH then GSPGCF should be allocated by volume as currently in NHH. The simplest method would be to allocate GCF volume by overall absolute party volume (both demand and generation). A more equitable method would be to spread part of the volume among meters not settling correctly but there would always be some inherent differences due to line loss inaccuracies, theft etc. Higher charge for incorrect meters would incentivise suppliers (through pass-through agreements with DC/Das) to improve metering errors. Difficulty will be in deciding the % for incorrect meters relative to overall volume – also as time progresses, a higher percentage of volume error will be down to losses/theft rather as metering becomes more accurate and individual MPAN errors are resolved. We would guess at 80% spread by volume with 20% onto incorrectly settling (comms down, meter broken etc) meters but this would require much more analysis.
RWE npower	We would expect a rise in Settlement-affecting errors during mass roll-out of new metering systems. As this could affect Group Correction Factor, we would not support any review of the arrangements before roll-out is completed, issues have been resolved and any Settlement run-off arrangements completed.
SSE	We believe that an agreed gradual change to sharing GSP correction should start after >50% of customers have advance or SMART meters that are being settled half hourly.
Smartest Energy	GSP Group correction should be left as it is and then applied to all meters at some point in time between 2014 and the planned full AMR roll-out, assuming this is accompanied with HH settlement.
James Evans, Utilisoft & SVG Member	Consideration should be given as to whether the real components of GSPGCF can be identified as noted above. It is reasonable for the purely NHH element to be applied solely to NHH sites (i.e. the compensatory element for profiling errors). Other components (i.e. sources of error as noted above) should be allocated proportionately to both HH and NHH currently. If all HH capable sites were to be settled HH then the premise for GSPGCF would become redundant once the roll-out has been completed. This will not eliminate the need for an error factor due to the other potential sources of error, however the definition and allocation of such will need to be revised.
Richard Harrison, SVG Member	There are a number of factors contributing to GSP GCF to different extents for both HH and NHH, including variations in line losses, estimated consumption and errors generally as well as customer driven variations in consumption (or exports) from 'normal' behaviour (Profile errors). I believe a detailed analysis (and ongoing monitoring is required) to determine an appropriate and 'fair' application of GSP GCF to different classes of metering systems and customers before deciding.
Western Power Distribution	<p>GSP Group Correction Factors are quite volatile already and, if they are to be applied to a diminishing level of NHH energy being settled then this volatility may increase.</p> <p>However, if GSP Group Correction continues to be applied solely to NHH metered energy this may encourage Suppliers to switch to HH settlement which is more accurate and, presumably, more predictable.</p> <p>Therefore no change to how Group Correction is applied should take place until such time as this approach leads to excessively high correction factors, (perhaps a percentage value could be set by SVG after consultation), being applied to the</p>



Respondent	Response/ Rationale
	<p>remaining NHH stock.</p> <p>If and when the correction factor reaches too high a level, any excess should be spread over HH consumption.</p>
TMA	<p>The management of the GSP Group Correction should be linked to the actual movement in the market rather than the government led dates. As noted in the consultation paper, Suppliers are ahead of the target for 2014. Taking today's current position of all the GSP Group Correction being applied to the NHH volumes, a yearly/six monthly or monthly review could assess the movement between the NHH and HH volumes and apportion some of the GSP group correction factor to the HH volumes based on the proportion of movement from NHH to HH. I.e. if 10% of the NHH volume moved from NHH to HH, 10% of the GSOP group correction factor would be applied to the HH volumes.</p> <p>Once all sites are settled as HH, the GSP group correction factor should be spread amongst the Suppliers based on the volume of energy allocated to them.</p>
Logica	<p>HH and NHH metered energy for the rollout of:</p> <p>Advanced meters over the next 4 years; - Insufficient data available to comment</p> <p>SMART meters over the next 10 years; - Insufficient data available to comment</p> <p>HH metered energy, if and when all meters are settled as HH?</p> <p>A volume based allocation would appear to be the most equitable.</p>
ERA	<p>We would consider this to be an area for further detailed analysis and discussion of potential approaches and scenarios and their impacts.</p>
Invensys, IMServ	<p>GSPG Correction is applied solely to the NHH section of the market on the basis of its inherent inaccuracies due to the profiling techniques used. The profiling techniques used are there because there was no half-hourly data available for this sector of the market at the point at which it was first operated. The introduction of a) advanced metering for maximum demand business customers in the next 4 years; and b) smart metering to residential and smaller business customers over the next 10 years; enables either i) wider half-hourly settlement or ii) refinement of the profiling process. The profiling process could be redeveloped to take advantage of the increased availability of half hourly data to generate increasingly accurate average profiles for initially profiles classes 5-8 and then subsequently profiles classes 1-4. This would increase the accuracy of profiling allowing the GSPG correction factors to be changed to redistribute the new errors in an accurate way. Half-hourly settled data will always be the most accurate and should attract the lowest correction factor (but it need not be 0), but there is certainly a case for profiling PC5-8 over the next 4 years in much more detail and adjusting the GSPG correction factors for these profiles downwards.</p>
EdF Energy Networks	<p>As currently GSP Group Correction is only applied to NHH sites, as soon as a significant number of these meters have been removed, then the volume being corrected and applied across the remaining NHH customers increases. As soon as the number of NHH meters replaced with SMART Meters is approx 25% of the total portfolio nationally, we believe that GSP group Correction should be applied to all types of Customers.</p>
PDA	<p>GSP Group correction should continue to be levied on NHH settled energy. This is where the inaccuracies are, these suppliers should bear the cost/risk. HH energy accounts for over 50% of all settled energy and BSC statistics continue to demonstrate over 99% is settled on actual. The decline in actual data by the final settlement run is believed to be an increase in the quality of data as erroneous 'actual' data is replaced with meaningful estimates. Whilst there are minor errors identified on HH metering</p>



Respondent	Response/ Rationale
	installations these will be insignificant in the scale of settlement, as the BSC audit demonstrates.

## Question 11: At what point (in terms of time and take-up) do you think the level of micro-generation, resulting from the feed-in tariffs, will have a material effect on the accuracy of profiling and hence settlement?

### Responses

Respondent	Response/ Rationale
Centrica	<p>Suppliers are required to provide deemed and metered export information to Ofgem. This data should be reviewed regularly to ascertain the volume of export energy attributable to feed-in-tariff customers.</p> <p>The point at which feed-in tariffs will have a material effect on the accuracy of settlement could then be assessed using the agreed performance assurance risk materiality criteria.</p>
E.ON UK	<p>The take up of microgeneration from the introduction of the FIT is unclear at this stage. As part of the FIT consultation process by DECC there were assessments made of the potential levels of microgeneration penetration that may be expected to happen.</p> <p>We would suggest that these assessments are as accurate as any that we have seen and that Elexon use these for any analysis purposes.</p> <p>One major issue is the current lack of evidence as to how microgeneration affects consumers consumption (and export) profiles. Until this is understood with greater clarity it is difficult to understand the implications on the accuracy of settlement.</p> <p>Considering the timescale for the implementation of smart metering may be accelerated by the new Government the issue may not actually materialise with HH capable smart metering being installed before microgeneration makes a material effect on the accuracy of settlement.</p>
Haven Power	This problem is capable of being modelled. We should be guided the outcome of modelling rather than subjective views.
OPUS Energy	<p>The NHH generation profiles seem much less accurate than NHH demand profiles – but due to the volume this is fine for now. They will have an increasing impact and it is not currently viable to adjust GSPGCFs to account for GSP wind or solar data to make corrections. If microgen is eventually on 25% of domestic properties then there may be some call for varying GSPGCFs by demand vs generation technology type.</p> <p>Seeing as the capital costs of any projects are at least £3,000, a requirement to initially install a HH meter seems sensible – the installation is half the cost of the new meter.</p>
RWE npower	While we expect the take-up of microgeneration to increase over time, we do not believe it will affect profiling or Settlement until it has reached a volume by which it significantly alters the overall traded position. The Group should monitor the numbers

Respondent	Response/ Rationale
	of microgeneration to track its progression.
SSE	We believe that there would be a material effect on profile accuracy when more than 2% of customers have microgeneration.
James Evans, Utilisoft & SVG Member	There would appear to be a growing body of evidence that the take-up of microgeneration will be more rapid than possibly expected. In particular it should be noted the recent new Government announcement in the Queen's Speech, for the creation of a Green Investment Bank which would fund long term loans to homeowners for microgeneration asset installation among other function. It would seem prudent to form a central view as to what volume of microgeneration would impact the import profiles and also the effect of any resultant export "spill" on GSPGCF. Additionally any distribution impacts, particularly on line losses, should be identified.
Richard Harrison, SVG Member	It is clearly desirable that exports should be properly metered when there is a significant amount of these, otherwise they will increasingly be making Group Correction more negative and potentially passing benefits to those responsible for less accurate settlement. As regards timescales, DECC are probably in the best position to provide volume projections, since the policy seems to be 'target driven' to a large extent.
Western Power Distribution	<p>This depends on whether the export from increased micro-generation is HH settled, NHH settled or spilled.</p> <p>To ensure settlements is as accurate as possible the BSC should mandate that export at sites with HH capable metering, AMR or SMART, must be settled. The additional costs of this to Parties and Customers should be marginal given that additional metering is not required.</p> <p>If HH capable metering is not mandated then, should NHH settlement metering be installed in significant numbers, data from sites where HH smart metering is present should provide opportunities to improve the quality of profiled data. Therefore the risk of a serious deterioration in the accuracy of settlements could be reduced to an acceptable level.</p> <p>Where sites do not have any export metering at all and where the volume of export is at a level where the Supplier regards the cost of installing and managing metering and settling the energy as not cost effective then export will continue to spill. Increased take up due to FITS will mean spill is likely to increase.</p> <p>We do not believe that sufficient research has been carried out by the industry to properly assess the level of spill from existing micro-generation sites. It is therefore difficult to provide reliable estimates of the impact on settlements if the number of such sites increases. We have therefore used a simple estimate as follows:</p> <p>Based on a DECC estimate of 750,000 micro-generation installations by 2020, and assuming each of these sites were to spill 400KW per year (the level at which P218 modification group assessed NHH metering was not cost effective) then 300 million units (300,000MWH) would be spilled on to the networks. Although this is a significant value in cash terms it is less than 20% of the current BSC audit materiality threshold of 1,650,000 MWH.</p> <p>Therefore, on the basis that at some point within the next 10 years most, if not all, sites will be capable of accurate HH settlement through Smart/AMR metering there is</p>

Respondent	Response/ Rationale
	no reason why the impact on settlements of micro-generation should raise too much of a concern.
TMA	It depends on the take up rate. But the plans we see, the details of which are confidential, suggest a potentially dramatic take up rate; and some significant local physical concentration. Ideally these would be import export metered and settled HH, then there would be no problem. we are probably some way off from that solution this needs to be monitored meantime.
MRA	MEC is unable to provide a view on this aspect at this time. However, having in mind the existing arrangements for small scale generation, and the treatment of such metering points under the MRA and BSC, and the introduction of the MCS and FITS databases and the Renewable Heat incentives, MEC would be pleased to facilitate co-ordination between Ofgem, MCS and Elexon to better inform this aspect.
Logica	<p>This presumes that premises with Microgeneration installed continue to be classified as Measurement Class A, and not transferred to Measurement Class E, for net energy import.</p> <p>Clearly moving premises with Microgeneration installed into elective HH settlement will, to some degree, mitigate the sampling inaccuracies associated to leaving these sites in NHH settlements.</p> <p>Clearly the impact of both micro generation and increased deployment of distributed heat technologies and electric vehicles have the potential to begin to affect the error in Volume Allocation and the statistical validity of the profiles.</p> <p>Whilst it is not directly related to profiling, Logica's experience in other territories has indicated that the intermittency associated to renewable generation begins to have a significant impact on system balancing when deployment exceeds 20% of capacity.</p>
ERA	<p>This is difficult to answer, and is not specifically tied to settling all sites as HH.</p> <p>In an ideal world, microgeneration would only be installed for customers with smart meters capable of recording exported energy to support Settlement accuracy and of communicating with the generation meters to understand the gross generation for FITs. However, microgeneration is being incentivised through FIT ahead of the roll out of smart metering and will be installed for customers who do not have smart metering. At the moment, we understand the installed (and registered) capacity for microgeneration to be extremely low. There are no clear forecasts for the level of uptake for microgeneration or FITs. This capacity should be monitored on an ongoing basis to support the industry in determining when/what is the most appropriate action for Settlement accuracy.</p>
Invensys, IMServ	<p>Defining the point of 'material effect' requires complex analysis (whilst within the capability of Invensys IMServ) beyond the scope of this response. The statistical variation in demand profiles associated with micro-generation will be based on complex interrelationships between:</p> <ul style="list-style-type: none"> <li>• generation profile determined by micro-generation type, environmental conditions, geographic location, asset condition/maintenance</li> <li>• demand profile determined by base load demand, local generation behaviour change, and broader societal behaviour changes.</li> </ul>

Respondent	Response/ Rationale
	Invensys IMServ believe that the risk of increasing settlement inaccuracies due to the complexity of achieving accurate demand profiling for micro-generation sites will best be resolved by the transition to half-hourly metering of generation, import and export.
EdF Energy Networks	This is impossible to accurately predict as there are a significant number of factors that will impact upon this area. However it would appear likely based upon negative CDCM generation DUoS tariffs and increased promotion in these tariffs from Suppliers that within five years the volumes would have increased to significantly impact upon settlements.

## Question12: Any other comments you wish to make?

### Responses

Respondent	Response/ Rationale
Centrica	<p>Thank you for the opportunity to respond to this consultation.</p> <p>With the implementation of AMR and Smart metering programmes by suppliers we are keen to ensure that the settlement arrangements are able to take advantage of the technical capabilities that these meters provide should a supplier wish to do so.</p> <p>Whilst we have provided responses to your individual questions below we have highlighted in this section the key points we believe need to be considered by Elexon when reviewing the settlement arrangements.</p> <ol style="list-style-type: none"> <li><b>Suppliers should not be mandated to use HH elective.</b> There are currently many reasons why a supplier may not wish to use the HH elective process including perverse incentives to remain NHH. Until these issues are addressed the current threshold for trading HH should remain with the option to trade non qualifying sites as HH left with the supplier.</li> <li><b>COP 10 is not appropriate for mass deployment of domestic and small business customers.</b> To be able to settle HH the installed meter needs to comply with COP 5 or COP 10. We do not believe these COPs are appropriate for domestic customers and Elexon should either introduce a new COP for domestic customers or review the existing COP 5 and COP 10 in the light of domestic requirements.</li> <li><b>The Duos charging arrangements are not appropriate for HH traded sites in the domestic and small business market.</b> The current Duos charging arrangements do not meet the requirements of small business and domestic customers should a Supplier choose to settle these HH. The Duos charging regime should be based on customer's use of the network not how it is traded within settlement.</li> <li><b>The performance assurance framework should not penalise suppliers for moving NHH customers into the HH elective regime.</b> Suppliers should not be penalised for migrating customers from NHH to HH settlement. Currently we install AMR metering in difficult to read sites therefore any</li> </ol>

Respondent	Response/ Rationale
	<p>migration of these sites to HH may cause a drop in overall NHH performance.</p> <ol style="list-style-type: none"> <li>5. <b>HH agency arrangements require review.</b> The market for HH agency services will need to develop such that arrangements are in place with HH agents that are appropriate for mass deployment of Smart and AMR meters. These would need to be reviewed and new arrangements put in place before considering settling large volumes of customers on a HH basis. This review will include system impacts as a result of handling much larger volumes of data as a result of wide scale deployment of Smart and AMR.</li> <li>6. <b>SVA charges require review.</b> The SVA charges for settling customers HH should be cost reflective. Currently this does not appear to be the case. Elexon should carry out a review of SVA charging with a view to ensuring that the true cost drivers are reflected in the charging mechanism.</li> <li>7. <b>HH reconciliation run timescales require review.</b> Elexon should review the existing HH reconciliation run timescales with a view to recommending a reduction from the current 14 months final reconciliation run.</li> <li>8. <b>GSP Group Correction should be applied to both the HH and NHH market.</b> We see no justification for not applying Group Correction to the HH market. If we assume technical losses are correctly reflected in Line Loss Adjustment Factors then all customers should bear the costs of non-technical losses which include theft and unregistered sites.</li> <li>9. <b>Profiling data needs to be reviewed as Smart metering and AMR is deployed.</b> The introduction of Smart meters in the NHH market may cause contamination of the current profiles and may contribute to misallocation of energy to Suppliers. Elexon should review future Smart metering deployment plans and ensure profile samples adequately reflect changes in the main meter population.</li> </ol>
E.ON UK	<p>It would be useful for an output of this work to be a description of how a move to a world of total HH settlement would look. The potential timescales for this, the risks that would be introduced (e.g. at what level of MPAN per GSP and per profile class does the accuracy of the process deteriorate to the point where it can be said to be a material problem) and likely system implications for existing DC/DA processes.</p> <p>As proposed by a member of the PSRG group we also believe that there is an opportunity to reduce settlement timescales. This would ultimately benefit suppliers by providing financial certainty sooner.</p> <p>It should also benefit forecasting particularly, as we would be able to correct short term "model drift" much sooner which should in turn reduce the "imbalance" volumes (In the short term this improvement would not necessarily be dependent on shorter settlement timescales. Theoretically we could make similar improvements if we knew the volumes that were to be submitted to the settlement process ahead of time and we were settling HH and hence avoiding GSP Group correction).</p>
Haven Power	<p>NHH demand is much more deterministic than HH demand. This means that suppliers (and especially small suppliers) can offer simple price structures at low risk (because</p>

Respondent	Response/ Rationale
	<p>the risks are spread over the whole market and marginalised as a result). Moving the HH totally ignores the likely impact on competition and the need for those (smaller) suppliers with non representative portfolios to recover revenue to cover the extra risk of HH.</p> <p>SME business and domestic customers are not in the main interested in having their energy settled on a HH basis and will manage their data in that way. Our SME business customers are very unlikely to respond to complicated time of use tariffs as the current options of Day; Day/Night; and Evening/Weekend tariffs are more than sufficient, with a few specific exceptions, as these tariffs match their business type. A change to HH settlement would most likely require a major rethink of the DUoS and TNUoS regimes.</p> <p>The issues associated with the retrieval of HH data from current HH meters exist but as the customers are large and material to suppliers the issues tend to get resolved. With an increased number of smaller HH meters these issues would last much longer plus there would be new issues. At this time the thought that R1 might become RF is not backed up by any real evidence.</p> <p>It should not be suppliers alone that decide on the feasibility of HH settlement when it is customers that will pay higher energy costs as a result.</p> <p>What about wider ownership of meters?</p> <p>If this approach were to be adopted as the number of meters settled NHH fell it would not be reasonable to allocate all of GSPGCF to them. Equally as some NHH become HH some of the issues that are intangible in GSPGCF will start to apply (theft etc).</p>
OPUS Energy	<p>Advantages of HH billing not mentioned above are:</p> <ul style="list-style-type: none"> <li>a) bespoke DUOS billing from distributors to ensure correct amounts are being passed through.</li> <li>b) the ability to move HH mpans into different MPIDs</li> <li>c) reduction of GSPGCF load on the portfolio</li> <li>d) timely data for invoicing</li> <li>e) earlier discovery of change of tenancy</li> <li>f) reduction of debt build up</li> <li>g) reduction in D0095s due to less profile, SSC and energisation status errors</li> <li>h) tailoring of products to customers</li> <li>i) greater accuracy in cashflow forecasting as there is less movement between subsequent settlement runs</li> </ul>
SSE	<p>We would like to see an industry agreed, cost effective system that could settle HH. We would be happy to play a full part in developing such proposals.</p>
Richard Harrison, SVG Member	<p>It is clear that both HH and NHH and HH are going to have to continue to operate in parallel for a significant time, so any 'interim' solution needs to be equitable to both classes of customers. It does not seem reasonable (or politically acceptable) that elderly pensioners etc should have to cross-subsidise 'early movers' to a significant extent.</p>
Western Power	<p>Although we favour HH settlement due to improved data quality and accuracy, any</p>

Respondent	Response/ Rationale
Distribution	<p>increase in HH settled sites will have a direct impact on DUoS.</p> <p>We currently issue over 8,000 individual HH DUoS bills. If profiles 5-8 AMR customers were to move to HH settlement and billing then this would stretch our systems and processes to, and possibly beyond, their limit. If profiles 1-4 were moved to HH then a new billing solution would be required. This would also impact Supplier systems as they would receive, and need to validate, a vastly increased number of invoices.</p> <p>A new approach to DUoS billing for elective HH MPANS would be needed, perhaps some form of "HH Supercustomer" billing whereby separate bills were not produced.</p> <p>It is also likely there would also need to be additional tariffs for elective HH sites and additional LLFCs.</p>
TMA	<p>Moving to a fully HH settled Electricity market is the only way forward to evolve with the technological advances brought by Advanced and Smart metering. It would allow innovations in billing tariffs for domestic and small commercial and industrial customers as period data becomes available. The perceived issue of Agency Services higher cost for HH settled MPANS would need to be tempered with the economy of scale and competition that the increase in MSID numbers would bring; also since the 2008 review, the continuous improvement and widespread use of mobile communications have allowed communication costs to reduce and in turn reduce the HH Agency Services costs. Competition in HH has seen innovation, cost reduction and improved Settlement performance, all driven by competition just being allowed</p>
G4S Utility Services	<p>In addition to the area already identified we believe some considerations should be given to impacts on Supplier and Agent systems of a large scale change from NHH to HH. Will current system be able to support changes in volumes of HH sites of the magnitude suggested? What are the (initial) risk/impacts to settlement of using systems designed for much smaller volumes or widespread changes to/replacement of these systems.</p>
Siemens	<p>We support measures to encourage Suppliers to trade non-100 kW mpans as elective Half hourly. This should lead to fewer cases of imbalance between billing and settlement amounts, and improve the accuracy of the settlement process as a whole, because more of the energy volumes submitted to settlement will be based on real half hourly rather than pseudo-half hourly data.</p> <p>For the same reason we also support the long-term aim of trading the whole market as Half hourly. This will also reduce costs both centrally by removing the need for the current NHH only processes: Profile Administrator, Teleswitch Agent, EAC/AA and NHHDA software support and SVAA, and across Supplier companies and their agents in terms of reducing the amount of exception handling currently required, for example in the NHH COS process, and to achieve settlement performance measures and correct imbalances. However, we anticipate that it will be many years before this aim can finally be achieved, especially given that the details of the Smart Meter rollout and the role of the Data Communications Company have yet to be finalised. One of the key issues is how the considerable increase in the volume of HH energy data values will be managed. Any significant changes to the current Profiling and Settlement arrangements are surely to some extent dependent on what the long-term replacement for NHH Settlement will be.</p> <p>Finally, we have some general concerns that changes to industry processes (BSC and MRA) could be introduced with the intention of facilitating the Smart meter rollout, but which may then place unnecessary additional burdens on Suppliers and their Agents in</p>



Respondent	Response/ Rationale
	their handling of the remaining non-SMART metered sites.
MRA	Previous market and trading arrangement changes have been well served through the constitution of pan-governance focus/work groups, and the matters under consideration in this consultation, and the merits and obstacles identified in the responses, could well be considered under the scope of a wider industry group, the recommendations of which could then be progressed as aligned changes as necessary.
Logica	<p>The issue raised in question 11 only looks at the impact of micro-generation. The deployment of other low carbon technologies such as distributed heat technologies (solar thermal schemes, ground source heat pumps, etc) and electric vehicles have a significant potential to change demand profiles at an aggregate level.</p> <p>It is likely that take up of these technologies will not be uniform nationally (based on geographic socio-economic factors), and therefore greater disruption to the validity of profiles is likely to happen at a GSP group level.</p> <p>It is likely that there will be a push to have more specific settlement configurations to deal with the homes and businesses that are deploying distributed energy resources and better reflect the benefits and risks.</p> <p>This will reduce the population of within the existing profile classes and settlement configurations, exposing inaccuracy.</p>
ERA	Discussions with ERA members have considered the ultimate potential of a fully deployed population of half hourly capable smart metering, complete with economic and suitably scalable communications and IT infrastructures. In such circumstances, it may be preferable to switch from an elective HH regime to a mandated one. This would enable the industry and participants to remove the cost and complexity involved with supporting NHH Settlement.
Invensys, IMServ	<p>As the largest HHDC/DA, Invensys IMServ willingly offers future assistance to ELEXON in understanding the impact of a wider half hourly settlement process. There are potential economies of scale which would drive the half-hourly service pricing down and IMServ would be willing to work with ELEXON in understanding and modelling these.</p> <p>It is clear that the current profiling and settlement arrangement will be presented with a number of threats and opportunities as a result of increasing penetration of micro-generation and the increasing access to half hourly data from advanced meters (Profile Classes 5-8) and smart meters (Profile Classes 1-4). Invensys IMServ looks forward to a continued involvement in any further consultation and engagement during the review of the current arrangements and the development of future arrangements.</p>
EdF Energy Networks	<p>We believe that there are two further areas should also be considered.</p> <ol style="list-style-type: none"> <li>1. The timescales and feasibility of increasing the capacity of existing HH industry systems (or even replacing them) to cope with the significant increase of data, as well as the significant increase in the volume of data being sent over the DTN would need considering when costs are being investigated.</li> <li>2. There is also a potential issue regarding the use of EDI billing files from the DNO to the Supplier (D2021) and with the remittance coming back from the Supplier to the DNO (D2026). The question is whether Suppliers who currently make use of</li> </ol>



Respondent	Response/ Rationale
	<p>this facility can handle an increase in the volume of sites being sent via EDI, and whether those Suppliers who do not currently use EDI could manage an increase in the volume of paper invoices and remittances being sent or whether they might benefit from a move to using EDI.</p>
The Electricity Network Company Limited	<p>We believe the information on the costs of HH/NHH metering can only be provided by suppliers. However, we have additional commentary which we feel should be considered.</p> <p>Having all sites billed on a HH basis, and making the relevant consumption data available to distributors for each site, would provide us as, a distributor, with much greater visibility of consumer information and would facilitate the operation and management of our distribution networks and the IDNO-DNO charging/billing processes. This would be of significant benefit to us.</p> <p>However, currently distribution billing of suppliers is based on an aggregated Supercustomer) approach for NHH MPANs, whereas HH supplies are billed on a site specific basis. If there is a move that all MPANs are HH and billed on a site specific basis, as under current HH arrangements, there would be a dramatic increase in data traffic. This would potentially impact on our system and data costs.</p> <p>Taking this step would require additional work at the supplier-distributor interface to facilitate this new arrangement. Whilst we would welcome the receipt of actual data, we would expect an alternative solution that provided HH bills in a summarised/ aggregated form to be developed as part of this work.</p>
UPL	<p><b>Profiling and Settlement Review Consultation</b></p> <p>In response to your consultation UPL would offer the following views and observations.</p> <p>We are broadly supportive of a change toward the use of HH data for settlement across the current NHH market.</p> <p><b>HH data – download via WAN</b></p> <p>Although the current smart meter specifications issued by parties such as the ERA and ENA call for the ability to transmit HH data via their WAN communications, there has as of yet been no confirmation that such data will actually be downloaded from the meter and stored. Moving to HH data settlement will crystallize this issue and guarantee that HH data is not only available for settlement but also available (via Central Comms 'data warehouse' or other arrangements) for future use by the customer or their authorised data analyser. Although initial take-up of such services may be slow, the existence of high-profile names such as Google in the market will create customer pull.</p> <p>The driver here will be to avoid the experience of some European countries where smart metering has already been rolled out and our customers have been forced to install smart sub-meters due to the inaccessibility of HH profile data from the main billing meter.</p> <p><b>Smart grid support</b></p> <p>Having HH profile data available will also support the LDSO's efforts to improve</p>

Respondent	Response/ Rationale
	<p>network planning and the identification of problem areas. If a mechanism is established to download HH demand/consumption data, it will be a much smaller step to add (where required) HH voltage profile data to also support LDSO's.</p> <p><b>HH data quality</b>  A requirement for settlements will also bring a need for data quality standards thus ensuring HH data does not become an unreliable data source.  Meter Operator/DCDA costs  We agree that the current differences in costs between the NHH and HH market for the above services are largely driven by the low (relative) number of metering points and the lack of registrations as 'elective' in the HH market. With significant volume, this differential will be largely eroded.</p> <p><b>Unwinding of estimated accounts</b>  In the roll-out of smart meters there will inevitably be a number of instances where accounts have been the subject of long-term estimation. Having HH data available will provide earlier consumption/trend information upon which to base any unwinding or re-billing.</p> <p><b>Transition</b>  Any transition to HH settlement should allow the following:  The development of standard BSCCo software for areas such as the generation of estimated reads and aspects of data aggregation recognising that the much greater volume of data processing will require the imposition of a standard in these areas. Existing NHH support agents to become automatically re-accredited for HH equivalent (may depend upon scope of Central Comms Provision).  Customers with AMR and existing data provision arrangements not to be disadvantaged.  Although there are a significant number of other issues to consider, we have limited our comments based on our perspective as a meter operator agent and data collector/data aggregator agent.</p>
CE Electric	<p>Profiling and Settlement Review – Supplier Consultation</p> <p>CE Electric UK Funding Company (CE) is the UK parent company of Northern Electric Distribution Limited (NEDL) and Yorkshire Electricity Distribution plc (YEDL). Whilst the documentation issued as part of this consultation indicated that it was targeted towards suppliers we understand that Elexon are also seeking the views of distributors. Although our views will not necessarily correlate directly with the questions posed in the consultation we welcome the opportunity to respond to it.</p> <p>Consumption profile. We, along with other distribution businesses, use settlements data to calculate our losses performance as part of the common reporting method introduced from April 2010. We also use settlements data in the calculation of our loss adjustment factors as part of our compliance with BSCP128.</p> <p>In both of those applications there are inaccuracies caused by the profiling of the non-half hourly settlements data and the delay in obtaining the actual readings. Therefore, in principle we would like to see all data settled on the basis of up-to-date actual readings as recorded by the meter on a half-hour by half-hour basis and not profiled according to profile class. However, this should not prevent the aggregation of data within the profile classes in order to ensure that the volume of data passing to and from SVAA remains manageable.</p> <p>Reconciliation process</p> <p>The consultation document states that "In particular the Group felt that the reconciliation timetable could be shortened for HH settlement e.g. R1 becoming the</p>

Respondent	Response/ Rationale
	<p>final reconciliation run for HH Meters.". We would have questions over what happens if data comes through after the R1 settlement run, for example in situations where comms faults occur even with existing half-hourly customers the fault fix can take several months to correct. As mentioned previously any consumption which does not come via settlements processes cannot be used in our losses performance calculations and making the R1 reconciliation run the final run would result in consumption being excluded from those calculations.</p> <p>Use of system charges</p> <p>The overall distribution use of system (DUoS) charges are determined in relation to the allowed income derived from the price control formula within our distribution licence, so any change to the settlements markets will not change the overall charge to the suppliers. Our charging methodology determines the cost-reflection income to be recovered from each customer group, and therefore to a certain extent individual suppliers, as some may only operate in one of the markets.</p> <p>Under the common distribution charging methodology (CDCM) the fixed charge is differentiated by the voltage of connection rather than trading market, whereby low-voltage (LV) customers in general pick up more cost than the high-voltage (HV) customer due there being more assets needed at LV. In addition the unit rates also differ between the non-half hourly and half-hourly markets as there are more units generally in the half-hourly market but fewer customers, whereas the non-half hourly customers are deemed to be more co-incident with system peak demand.</p> <p>Were we to receive data which is taken directly from the meters rather than being profiled according to settlement class we may find that a customer groups' alignment with the system peak changes and hence has the potential to change the level of the tariffs for customer groups.</p> <p>In summary we would expect the introduction of smart meters to be an ideal opportunity to introduce a greater level of accuracy within the data which would bring benefits to suppliers in the form of more accurate loss adjustment factors and consumption would be more accurately allocated to the time band in which it was actually used.</p>
ESTA and Pilot Systems	<p>In addition I include our own response from Pilot Systems, which follows the position from ESTA.</p> <p>ESTA welcome the opportunity to respond to this consultation, but were only aware of it a day ago, so summarise our response below. The customers of ESTA's member are end energy users, energy suppliers, accredited agents (MOP DC) and providers of independent fiscal reading systems.</p> <p>ESTA believe half-hourly settlement in principle should cover the whole meter population. Because electricity is traded half-hourly the incentives and drivers should flow right back to the consumer, through innovative tariffs based on HH settled data. Neither end-users nor retailers are incentivised to shed load based on the current macro profiling system.</p> <p>That being said, the question is at what cost. When HH started it was driven by the need for settlements, and customer data was an "optional extra". There is a nominal (quite high) fixed annual cost to cover comms, accredited systems, etc. The costs and benefits will reduce down the triangle, but there will be different cost/benefit cut-off points depending on the individual consumption pattern. A total HH roll-out is likely to distort this picture.</p> <p>HH in NHH market is the other way round. Customer data comes first. Customers buy the HH data service for energy management purposes from only NHH accredited agents (lower accreditation costs).</p>





UNRESTRICTED REPORT



## Profiling and Settlement Review

EA Technology's submission to Elexon's Consultation

May 2010



# Profiling and Settlement Review

## EA Technology's submission to Elexon's Consultation

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## **EA Technology Ltd's submission to Elexon's Profiling and Settlement Review Consultation**

EA Technology was established in the mid 1960's as the UK Electricity Industry's Research Centre, specialising in the Distribution and Use of Electricity. Despite a number of evolutions since to our present status as an independent limited company, we have never lost this focus and continue to supply innovative solutions to the Distribution and Supply sectors of the energy supply chain, within the UK and Internationally.

We have particular and respected expertise in relation to micro-CHP systems, community renewable schemes, energy storage, heat pumps and demand side management. This is complimented by extensive knowledge of power distribution network integration aspects. On behalf of the Carbon Trust, the Energy Saving Trust and private parties, we have conducted a number of trials of new and evolving technologies. We have also had the privilege of serving as Operating Agent and National Representative for a number of the Tasks conducted as part of the International Energy Agency Implementing Agreement on Demand Side Management. As a result of these projects, we have looked at the current settlement system and their impacts on the adoption of new technologies and commercial arrangements.

We welcome Elexon's timely review of the Profiling and Settlement Arrangements, in light of the recent and proposed developments to introduce Advanced and Smart Metering solutions to smaller customers, traditionally referred to as Non Half Hourly customers. We anticipate these changes to metering will preceed a significant transition in how Energy Suppliers are able to relate to their smaller customers, and particularly those in the profile classes 1 to 4 (domestic and smaller non-domestic customers).

We support the adoption of settlement arrangements that allow all small consumers to be settled on a Half Hourly basis, once the relevant Advanced or Smart Metering technologies are installed and effective. The profile arrangements have served the industry well. However, we believe that as customers become less homogenous in their energy consumption (and production) there will be a requirement to evolve the Settlement System to reflect these changes.

In summary, we believe that the move to Half Hourly settlement for all consumers will allow for a simpler, fairer system that encourages and incentivises both Suppliers and Consumers to adopt innovative technologies and products that will contribute to GB achieving its energy and climate change ambitions. Such changes may evolve, perhaps with arrangements for customers in profile classes 5 to 8 developing initially, but we believe a clear process that is effectively

communicated to the industry as a whole will result in an effective and timely solution being adopted.

### **A Simpler System**

In light of actual consumption data becoming available, we believe it becomes more appropriate and straightforward to aggregate this data for settlement purposes rather than continuing to use deemed profiles to estimate the pattern of consumption. We recognise that the current profiling arrangements have the ability to cope with many of the complexities observed in our current market but we struggle to justify the use of deemed figures when actual data can be used.

Standard Settlement Configurations have successfully been developed to facilitate the introduction of microgeneration (and many other programmes) that impact on a consumer's consumption pattern. However, the arrangements to introduce and use Standard Settlement Configurations are complex and likely to become even more so to accommodate changes in consumption and generation patterns arising from:

- The introduction of new loads (heat pumps, electric vehicles)
- An increase in the uptake of small and micro generation technologies
- An increased awareness and use of Demand Side Management techniques

Some of the activity we have undertaken in carrying out trials of microCHP technologies, for example, has indicated that the production output can differ significantly for different types of microCHP (e.g. fuel cells compared to engine-driven systems), as well as different models of the same type (e.g. Stirling Cycle units from different manufacturers). To accommodate these differences in the current arrangements, multiple Standard Settlement Configurations for microCHP export will be required.

This difficulty is likely to further compounded for properties where more than one technology is adopted. A combination of microCHP, solar PV and participation in a dynamic demand response programme would either require multiple Standard Settlement Configurations to be overlaid on each other, which may create some interesting results, or the introduction of many more Standard Settlement Configurations to accommodate each possible combination of technologies. Either way, this is unlikely to make the system easier to understand.

Whilst the current arrangements do work, our experience suggests that there are relatively few people within the industry that fully understand how Standard Settlement Configurations can be



used to modify the Profiles. We believe that the complexity of the arrangements and the lack of understanding of the options available within the system do create barriers to the adoption of more innovative technologies and commercial arrangements. Whilst these barriers may be perceived, as a result of limited understanding of the Settlement system, rather than real, they do have an impact. We believe the use of Half Hourly data will result in a simpler system that is more readily understood by the industry, policy makers and consumers.

### **A Fairer System**

As we move to a low carbon economy, we believe it is important that Consumers are able to understand the consequences of their energy choices. If, as a society, we want Energy Suppliers to promote technologies, and changes in consumer behaviour, that help individual households and businesses to reduce their carbon footprint or save money by shifting loads to less expensive times of the day, then we believe both Suppliers and Consumers need to be able to reap the benefit of this activity.

We are concerned that the current arrangements may limit this, especially if Suppliers choose to not apply the relevant Standard Settlement Configuration (i.e. as a result of a lack of understanding of their application). If Supplier A promotes microCHP within a Grid Supply Point area, it is likely to reduce the import of its consumers across the peak of the day. The differences observed in the output of different microCHP units suggests that, even if the relevant Standard Settlement Configuration for microCHP output is used, the impact of Supplier A's activity will not be fully captured by the current arrangements and the impact (positive or negative) will be shared through the GSP Correction Factor with the other Suppliers that are active in this region.

We believe that a move to Half Hourly settlement will result in a fairer system with the consequences of Suppliers' and Consumers' decisions only impacting on those involved.

### **Supporting Innovation**

The nature of the competitive market within GB means that Suppliers are increasingly looking for opportunities to differentiate their activity to attract and retain customers. We are therefore aware of Suppliers developing and promoting new technologies that will result in new loads being adopted (such as Heat Pumps and Electric Vehicles); increase the amount of small and micro scale generation; and encourage customers to reduce and/or shift their consumption.

In the absence of widespread agreement within the Industry to promote a move towards Half Hourly Settlement for all customers, we believe it is important that 'early movers' are not penalised in trying to settle the customers on a Half Hourly basis as this runs the risk of stifling innovation. We therefore think it is important that the determination of settlement costs does not represent a barrier to the move from Non Half Hourly settlement to Half Hourly settlement for smaller customers. As such, we suggest that consideration be given to incentivising Suppliers to move to HH settlement for its customers.

We believe that settlement arrangements that are perceived by all as simpler and fairer will support the adoption of more innovative products and programmes that can facilitate a transition to a lower carbon electricity system.

### **Interaction with Distribution activities**

The introduction of metering technologies for smaller customers with half hourly capabilities offers an opportunity for Distribution Use of System (DUoS) charging to provide clear signals to both Suppliers and Customers on how effectively the respective area of network is being utilised on a time and locational basis.

We are aware of a limited number of circuits within the distribution networks that are already close to exceeding their limits. The introduction of new loads like Heat Pumps and Electric Vehicles, especially if adoption is clustered in 'hotspots', are likely to take these, and potentially other, circuits over their safe operational limits. Such overloading may only occur for a small number of settlement periods within any given year, with the network underutilised at other times of the day. However, the Distribution Network Operator (DNO) is likely to need to reinforce the circuit in question to ensure security of supply to those fed by the circuit.

Subject to the regulatory framework, settlement of all consumers on a half hourly basis will allow DNOs to offer time-of-use DUoS charges for the areas of network that are particularly affected. The response of Suppliers and Customers to such charges will provide clear investment signals to DNOs, highlighting the areas of network to be reinforced where price signals are not sufficient to incentivise other parties to change their behaviour

**Timing**

The roll out of Advanced and Smart metering to smaller customers creates a unique opportunity to review our current settlement arrangements. For many years, the cost of introducing metering with the capability to record data on a Half Hourly basis to these customers has been a barrier to settling them Half Hourly. In a world where these customers are required to have meters with this capability, then that obstacle, at least, is minimised.

We believe that a move to settlement for all on a Half Hourly basis is appropriate. However, we also believe that such a move needs to be well thought through and the right systems put in place to facilitate it. Half Hourly settlement arrangements for smaller customers do not need to become the norm on the day that the meter is installed. However, we believe the industry needs a clear process that sets out how and when these arrangements can be introduced, that has buy-in from all of the relevant stakeholders within the industry, and results in a smooth, effective and timely evolution of the settlement system.

**Further Comments**

We have endeavoured to ensure that our response to this consultation is a useful contribution to the process. We would welcome a discussion on any of the issues raised in further detail, if required. In the first instance, please contact Jen Carter (email: [jen.carter@eatechnology.com](mailto:jen.carter@eatechnology.com) or phone number: 0151 347 2309).