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KPMG responses to Ofgem's Smart Metering Implementation Programme Prospectus

28 October 2010



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28 October 2010

Dear Ms Coaster,

KPMG responses to Smart Metering Implementation Programme Prospectus

We are pleased to submit our responses to the consultation questions that have been raised in the smart metering Prospectus, following its issue in July 2010.

This document contains both our early responses for the 28th September 2010, which remain unchanged, as well responses for those questions with a deadline of the 28th October 2010. We have also included our previous smart metering point of view, which we feel adds further context to our overall set of responses.

Again, we hope that all our responses provide suitable insight into KPMG's views on the smart metering implementation programme and we are, of course, happy to discuss further any particular points that you feel would provide additional benefit.

Please do not hesitate to contact either of us if you have any questions.

Yours sincerely,

[Redacted signature]

[Redacted name]

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[Redacted name]

Contents

KPMG Point of View	4
The Consumer Experience	7
Question 1	7
Question 2	8
Question 3	9
Question 4	12
Question 5	12
Industry Roles and Responsibilities	13
Question 6	13
Question 7	17
Question 8	18
Question 9	19
Question 10	20
Question 11	20
Question 12	21
Question 13	21
Question 14	22
Question 15	23
Question 16	24
Implementation and Next steps	25
Question 17	25
Question 18	26
Question 19	26
Question 20	27
About KPMG	28

KPMG Point of View

The main themes for recent energy reforms have revolved around the need to tackle climate change, ensure security of supply and improve energy usage efficiencies. These are embodied in the UK's commitment to the 2020 and 2050 carbon emissions and renewable generation targets. The vision of a "smart world" is an enabler of these goals and of which smart metering is just a part. However, this vision is not universally defined or documented, and is likely to evolve depending on consumer engagement, overall affordability and direct government interventions to influence behavioural changes.

In order to best respond to the Prospectus questions on the smart metering implementation programme, we have considered our responses against the KPMG vision of what a smart world could look like, as well as reviewing the programme against the current business case benefits.

Smart World Vision

There are a number of potential aspects of a smart world vision, some of which we would expect to be progressed during the next 10-years, as the smart metering implementation is underway, whereas others will need major technology advances to be part of the end result.

The main outcome of a smart world is that the energy usage and the carbon themes of current policy are no longer the central concerns. Energy security, affordability and impact on the climate and wider environment have all been addressed. Therefore, our vision of this potential smart world includes the following aspects:

- Fully deployed smart meters to all premises, which when combined with consumer life-style choices enables the smart home to automatically control smart appliances and utilise numerous time-of-use tariff options to minimise energy costs for the required demand
- Mass adoption of micro-generation, with both individual and community schemes providing local power generation
- Central low carbon generation, such as nuclear, CCS and wind power, with an established smart grid to undertake regional demand response and management to balance local and central generation requirements
- New power storage technologies to address current wind and solar intermittency
- Electric vehicles as standard with all supporting charging infrastructure deployed and new billing tariff structures available (e.g. at home, at work, elsewhere, etc)
- Many more multi-product utility suppliers, with a focus on in-home and related services, such as combined telephone, TV, energy, water, energy services related bundles

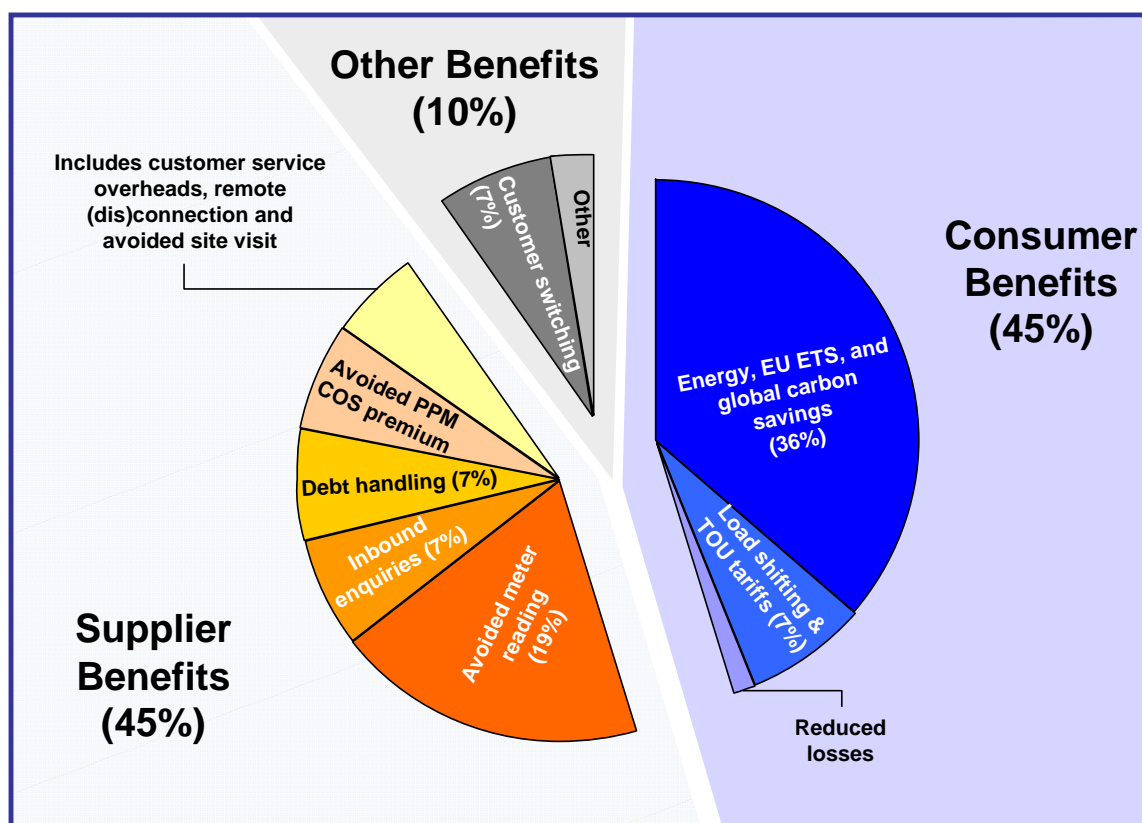
Most aspects of the smart world vision will require new technology rollout, of which smart metering in GB is the chosen first step. However, to deliver the full benefits a total transformation of the utility industry will be required, in terms of new processes, new services, new business models and new entrants.

The key reason we have defined and provided our vision of a smart world is to consider how effective the currently planned smart metering implementation programme will be in delivering the end smart world goals. The Prospectus lays out a consultation on how the smart metering rollout should be progressed but is limited to a technical viewpoint only. It is not put into the context of the much larger transformation roadmap that is truly required to deliver the carbon & emission targets – and therefore increases the risk of not being aligned to deliver them effectively.

Business Case Benefits

The second area we have considered when forming our responses is around the expected benefits of the business case and in particular who will own the benefits and how this could influence the implementation plan. We have taken the costs and benefits from the recent DECC impact assessment for the GB-wide smart meter rollout for the domestic sector (IA No: DECC0009, dated 27 July 2010).

The forecasted GB benefits in the domestic market (for the selected staged implementation) are represented in the figure below.



It is worth noting that this business case is for GB as a whole and it is unlikely that any one stakeholder involved in the supply chain (e.g. generation, suppliers, transmission and distribution operators, etc - and even consumers) would have a business case that directly matches and covers all the GB-wide aspects. Indeed, it is highly expected that across the full supply chain there is a potential for misalignment, both in scale and in

timing, of the costs and associated benefits and therefore the potential or willingness to engage with the overall transformation programme.

Furthermore, it can be seen that around 45% of GB-wide business case benefits are with the consumer and around 45% are with the suppliers. In considering our responses, we have been mindful that the implementation programme is expected to be supplier led, and therefore (justifiably from a supplier's point of view) may be focussed on delivering the supplier benefits. There is a considerable inherent programme risk that consumers, even beyond engaging with the actual rollout programme, also still need to be influenced to deliver what is clearly the biggest single benefit – the GB-wide behaviour changes to make energy and carbon savings. The business case depends on this change, and both existing suppliers and potential new entrants need to provide products and services that positively encourage consumer energy use changes.

However, as mentioned in the previous section, the Prospectus lays out a consultation on how the smart metering rollout should be progressed and does not directly link specific actions back to benefits – which again runs the risk of these not being aligned or fully understood by all the various stakeholders involved in the programme.

The Consumer Experience

Question 1

Do you have any comments on the proposed minimum functional requirements and arrangements for provision of the in-home display device?

KPMG Response:

We agree that any real-time usage information presented to the customer will be better understood and acted upon if it is provided in pounds and pence rather (or as well as) kilowatts and kilowatt hours. This monetary information will immediately allow consumers to engage with smart metering and understand how they can change behaviours to drive the required energy saving benefits. However, it is unlikely that a smart meter alone will define the behaviour changes, as this will need more innovative energy services, time-of-use tariffs, etc – and this needs to consider that the potential drivers for these new service offerings could come from new entrants. Therefore, the definition of the IHD specification should be flexible enough to allow both existing suppliers and potential new entrants to offer new services, which may make use of the IHD or may provide the information by other channels (e.g. smartphones, internet, set-top boxes, etc).

The suggestion of further information to the consumer (such as the visual non-numerical and/or carbon emissions) could also add value, as long as the consumer is aware of the display meaning, which may require further related education (e.g. what does a tonne of carbon mean from a consumer's points of view?).

Overall, we consider that the implementation of providing other non-kWh information needs to be linked back to the actual tariff that the supplier is using to bill the customer – rather than an indication of cost based on standard tariff rates (or other pre-defined rates in the IHD). These rates should also be updated (by the supplier) when a customer changes to a new tariff or if there is a price-change, so that the pounds and pence figures are correct. Further consideration needs to be given to consumers' understanding of usage displayed figures and actual bill amounts, as bills could be different due to other supplier discounts such as direct debit, dual fuel etc.

On the provisioning of the IHD, we would also refer to our response for question 3 (which we provided for the 28th September deadline) and the rollout and implementations section, especially the considerations for consumers that have two suppliers. If the IHD is to cover both gas and electricity then further commercial issues need to be addressed, such as which supplier initially provides the IHD?; which supplier is responsible for providing a IHD to a consumer if initially not installed but requested within one year?; which supplier is responsible if the device develops a fault?; etc.

We also agree that consumers should be able to access the consumption data stored on their meter. However, we would expect that this would be better provided by using other communication channels rather than the IHD, such as the internet, email, etc, due to the amount of consumption data that the meter is expected to collect. These requests could potentially be managed either by the suppliers (if they hold all the consumption data) or from the DCC (potentially via the supplier) by the consumer.

Question 2

Do you have any comments on our overall approach to data privacy?

KPMG Response:

We support the principle that consumers should be a key focal point in determining who can access consumption data. However, a robust framework should be established to determine how consent is given, the type of information that can be used and for what purposes.

We support the development of privacy policy based on the Data Protection Act. However, this needs to be supported by a robust security management framework, with specifics to each of the eight Data Protection security principles. Smart Meter security standards should be defined in a manner that parties can demonstrate compliance. All such parties should also be subject to third party independent reviews to identify the level of compliance. These additional reviews would help promote consumer confidence that consumption and consumer master data is being collected, processed and stored in a secure manner.

In addition, security requirements need to be embedded as early as possible in the system development life cycle. There should be checkpoints throughout the lifecycle, which can help determine and react to any changes in security requirements, e.g. security vulnerabilities that may have materialised during the implementation lifecycle.

Question 3

Do you have any comments on the proposed approach to ensuring customers have a positive experience of the smart meter rollout (including the required code of practice on installation and preventing unwelcome sales activity and upfront charging)?

KPMG Response:

The Prospectus states that energy suppliers will be responsible for the deployment of the smart meters and to use their existing customer relationships to achieve the intended benefits – in terms of reductions in energy consumption and carbon emissions. It is also expected, by Ofgem, that the suppliers will investigate the potential to use local authorities and other trusted third parties to promote consumer awareness.

We believe that the consumer experience can be split into three broad and distinct areas: 1 – targeting of consumers; 2 – rollout and implementation; and 3 – billing after smart meter installation. It is our considered view that the current approach will place a lot of reliance on the suppliers for all three areas of the consumer experience.

Targeting of Consumers

In the currently defined scenario each supplier may be expected to form awareness and marketing campaigns with many local authorities and other third parties, as every supplier has the potential to have customers located anywhere in the GB market. Apart from raising the question over the feasibility of all suppliers or local authorities being realistically able to manage this process, there is also the risk that this could result in different offers, advice and confusing information for consumers – especially as the energy consumption benefits are not necessarily ones that sit readily with the suppliers.

An alternative approach could be to set-up a central (or regional but centrally coordinated) marketing type function that works with all the local authorities and other trusted third parties to give consistent messages on the implementation programme and the benefits for consumers – this is more similar to the Digital TV Switchover in the UK.

Another related and potential risk in the rollout is the suppliers' initial ability to prioritise consumer groups. It would be justifiably expected (subject to this not being consumer driven) that suppliers would choose the easier customer groups for the benefits (e.g. dual fuel, credit meters etc). This could have the potential to mask implementation and technical problems until much later in the rollout timescales, with an increase in overall programme costs to fix, which would ultimately affect the business case and consumers. It may also prove difficult for consumers that have two suppliers to become fully smart if their suppliers do not have the same priorities for implementation – the Prospectus indicates that consumers 'may be able to switch' in this situation. In addition, the indication that Ofgem will have the ability to set priorities later in the rollout may not be sufficient, if the overall consumer engagement has already been negatively impacted. It could be beneficial for the overall implementation programme if consumer groups are centrally structured and prioritised – either by consumer characteristics or regional locations (the latter providing additional early benefits of a potential smart grid rollout by, for example, targeting cities during initial rollout phases; whereas the former could give

early benefits by targeting consumers most likely to modify behaviours and reduce energy consumption).

Further consideration is also required to the prioritisation of other potential business case benefits, which may conflict with each other. For example, a focus on potential fuel poverty benefits through smart metering may give further insight into the structure and priority of the implementation, which may go against the potential reduction in consumption and carbon emissions benefits.

Rollout and Implementation

We also consider that there are significant outstanding questions in the physical rollout of the smart meters, especially for consumers with different gas and electricity suppliers. The supplier ownership of metering is a significant difference to other global smart rollouts we have seen (such as in the US), where metering forms the end part of the distribution business. The GB rollout will need guidance on how the meters and other devices will be financed and installed when a customer has two suppliers – is it the gas or electricity supplier that has the responsibility to also install the required communication (WAN, HAN, IHD, etc) for the consumer? An alternative approach could be to move the metering business away from the supplier role and therefore open up the possibility to install both meters and configure all the related communications in a single visit – as well as change the meter ownership model. With the current approach there is a significant risk of impacting the positive consumer engagement that is required, especially if multiple home visits are required (e.g. two meter changes, comms configuration visit, etc).

There are also likely to be further impacts beyond the actual installation when meters, WAN, IHD (and potentially smart appliances) etc develop faults – will it be clear to consumers, and indeed the suppliers, which supplier to contact to fix smart related problems?

On the Code of Practice, we agree in principle that it is a requirement to protect consumers during the installation from any unwanted sales activity. However, there could be legitimate sales type activity during the installation especially if the consumer has two suppliers and actively wants to move to a single smart enabled supplier. Further consideration needs to be given to this scenario, as consumer choice still needs to be maintained. This also has the potential to link back to a central marketing type function that could make the consumer aware in a consistent manner of the new Code of Practice.

Furthermore, we are also unsure if, given the expected targets for smart metering installations, the suppliers will actively use the meter installers as sales agents. We would expect that on a plan that has 27m homes to visit (now with accelerated timescales) that the focus of the visit will be solely to change the meter and install the associated devices (WAN, IHD, etc) in order to meet the targets. We would expect that the market will require very clear guidance on this subject (and on related licence conditions), especially given the recent Ofgem Investigation announcement.

We also suggest that the Code of Practice is expanded beyond the sales aspects to include defined levels of service that a consumer can expect during the installation – for example, appointment schedule windows, standards of work quality, etc.

Billing after Smart Meter Installation

The first bill following a smart meter installation will be a key test point of managing the consumer expectations and experiences. Moving consumers out of estimated reading periods to accurate readings could give rise to increases in bill amounts. Obviously, this will be influenced by weather seasonality, but if a key message is that smart metering can reduce bills and then a large winter bill is received the overall and continued consumer experience may be impacted.

Another consideration following the rollout will be the proactive collection of consumer feedback, both positive and negative. This will need to be analysed and acted on quickly so as to update any operational processes across the suppliers. Suitable sized teams (e.g. Consumer Focus, etc) will need to be in place following the rollout targets that are expected to be set for the implementation. We would expect this to require an increase in staff numbers.

Overall, we feel the implementation programme needs to be linked back to the defined and prioritised benefits and to review how these can be best delivered in relation to an overall smart transformation roadmap. Recent presentations indicate that the largest part (around 36%) of the smart metering business case is from carbon savings, which needs to be delivered by changing consumer behaviours. Other recent reports indicate that smart metering with IHD will not necessarily deliver the behaviour changes and therefore benefits realisation is going to be far more complex. A change to the programme that allows the suppliers to focus on changing consumer behaviours (e.g. energy service products, Green Deal, etc) to deliver the overall benefits, with another part of the market focussing on the technical rollout, may be more efficient. It is also unclear if the current supplier led approach is able to encourage, or indeed may hinder, potential new entrants into the supplier market and therefore the introduction of further new innovative offerings to encourage energy savings by consumers.

Question 4

Have we identified the full range of consumer protection issues related to remote disconnection and switching to prepayment?

KPMG Response:

It is our view that the existing license conditions and processes to protect consumers for disconnections should be reviewed in order to assess the impacts of removing the actual site visits (and associated applications for warrants, etc) for a disconnection and switch to prepayment. The process should still provide the rigour to protect vulnerable consumers but at the same time give suppliers a valid route for revenue protection, which drives into the cost-to-serve benefits.

We note that Ofgem are expected to publish a package of measures in this area in Spring 2011, with interim guidance beforehand. We would expect Ofgem to consider fully its consumer protection role throughout the smart metering implementation programme and to consult with the appropriate consumer bodies as needed.

Question 5

Do you have any comments on the proposed approach to smaller non-domestic consumers (in particular on exceptions and access to data)?

KPMG Response:

It is our view that the proposed approach to the smaller non-domestic market will allow greater flexibility to small businesses on how they will engage with the carbon agenda. We would expect to see more niche energy-service products and providers coming into the market as more usage data is available, which will be aimed at driving the businesses overall bottom-line via energy savings.

We agree that there are potentially limited overall benefits in mandating IHD for non-domestic customers, as access to ongoing consumption data over a monthly or yearly period will be able to drive better behaviours and benefits in this sector, rather than the real-time usage that the IHD is expected to provide.

Industry Roles and Responsibilities

Question 6

Do you have any comments on the functional requirements for the smart metering system we have set out in the Functional Requirements Catalogue?

KPMG Response:

We have consolidated, in table form, our specific comments on the Functional Requirements Catalogue at the end of this response. They are generally themed on providing further clarification of terminology, as well as highlighting the need to identify 'who' has ownership or security access. We expect that other technical groups and forums will be better placed to comment on the Functional Requirements Catalogue in greater technical detail.

However, at a high level the key question that needs to be considered is whether one functional meter solution that fits all the country is the best approach in terms of costs and realisable benefits. The functional requirements need to be thought through in terms of future needs and in particular the role of a smart grid. Smart grid benefits are typically expected to be maximised in areas of dense energy usage (e.g. cities and large towns), and less so in rural areas. The real-time ability for demand response management is only likely to be utilised in large towns and cities, with minimal benefits (and therefore less consumer cost incentives from the suppliers) in lower energy usage areas. Conversely, there could be potential for rural areas to have the need for more functionality to manage micro-generation aspects, which may not be relevant to built-up areas.

Therefore, we would suggest that some of the requirements (as defined in the Prospectus in Figure 1, pg 22) could benefit from a further split beyond just Electricity and Gas. This has the potential to provide cheaper meters to areas (which would need to be defined) where there are unlikely to be associated future benefits, whereas more advanced meters can be used in areas where more benefits are to be obtained. However, it also acknowledged that if the functionality requirements are purely expected to be achieved by firmware rather than hardware the cost savings may be insignificant compared to the increases in logistical management.

In the area of pre-payment and top-up, more functional requirements may need to be considered given the potential move for consumers to use different payment methods in the future – e.g. cashless payment systems using mobile telephone devices (similar to the London Oyster card), which are on-device functionality rather than over the internet communications. These technologies may not be fully ready now, but with meter life spans expected to be 20-years there needs to be ways to add-on future functionality.

There are also obvious concerns regarding the safeguards needed for remote disconnections, especially for vulnerable customers. Unknown consumer vulnerabilities (i.e. those not noted on suppliers' CRM systems) are typically self-evident when a physical meter disconnection is undertaken in person – this removal of the final on-site check needs to be carefully considered in the process for disconnections.

As stated in the Prospectus, the rollout will involve the introduction of a range of new equipment to the consumers' premises. Whilst it is clear that the meters will need to be exchanged and a new WAN communication module installed, it may not be overly clear how the HAN will be set up and configured, and if there is any potential to use existing networks (e.g. wi-fi) that consumers may have already. Furthermore, consideration needs to be given to how user requirements need to be defined so that future smart appliances can be efficiently and correctly set-up across the HAN, without needing further supplier visits to re-configure the HAN.

One final remark is to comment on the extension of the HAN and IHD to accommodate water. This is mentioned in several places but needs to be considered in more detail if this is realistically going to be an option in the future. A seemingly insignificant functional decision now could have costly implications when the water industry players (and consumers) are ready to move to smart metering in water. We would suggest that this is fully defined with the same level of involvement and rigour as for the gas and electricity meters (including water companies, meter manufacturer, etc.).

Section 1.32: Installation and Maintenance Requirements	
Req id	Comment
IM.2	Suggest that this should include 'authorised and secure firmware upgrade', and also define who will be able to undertake this upgrade.
IM.3	Clearer justification that the 'WAN communication device' may have a life span less than 15-years (not WAN itself).
IM.4	Could change to 'without physical technician intervention' in both places.
IM.7	May be worth giving guidance as to how this protection will be undertaken, and also how any alerts are raised if unauthorised attempts are made. Also, is there a low battery power alert?
IM.8	Suggest that the authorised personnel need to be defined in more detail.
IM.11	Potentially need further clarity over what this means. Does this relate to both initial installation and emergency re-boot?
IM.12	Unclear if this is a specific physical requirement rather than functional requirement.

Section 1.33: Operational Requirements	
Req id	Comment
OP.3	Who will the 'last gasp' alert be provided to, in order for action to be taken?
OP.7	Same comment as for IM.2: should this include 'authorised and secure firmware upgrade' and also define who will be able to undertake?
OP.8	Does this suggest that the user can be anyone? Or does it mean meter engineer, consumer, etc.?

Section 1.34: Display and Storage Requirements	
Req id	Comment
DS.1	Does the requirement also mean that the IHD can display both £ and Euro at the same time (e.g. during transition)?
DS.2	Is this a rolling 12 months storage or an 'at least 12 month' requirement? This also relates to DS.6 and PC.7 requirements.

Section 1.35: Interoperability Requirements	
Req id	Comment
IN.1	Should be clearer that they are 'concurrent' suppliers.
IN.3	Does this imply downloading of such data formats from the web?

Section 1.36: Prepayment and Credit Requirements

Req id	Comment
PC.1	Suggest there is more information on the timing requirement, e.g. real-time, near real-time, overnight – as well as defining who can make/authorise this change.
PC.9	Need to add 'per day' following the 48 time of use periods (if this is the meaning of the requirement).

Section 1.37: Electricity Specific Requirements

Req id	Comment
ES.1	Need to consider who can do this remote re/disconnection.

Section 1.38: Gas Specific Requirements

Req id	Comment
GS.6	May require more clarification of 'normal operations' on supply failure.
GS.7	Need to define who can operate the valve open or closure during a battery failure.

Section 1.39: Diagnostics Requirements

Req id	Comment
DI.1	Further consideration on how long the logs should be kept, as well as how to secure and/or aggregate the information? Also see DI.4 and SP.14.
DI.2	Need to clarify who is allowed to remotely configure logs, alarms etc.

Section 1.40: Security and Privacy Requirements

Req id	Comment
SP.3	Suggest that minimum standards are further defined. See also SP.4.
SP.5	Who is responsible for securely storing all the keys and certificates? See also SP.6.
SP.12	Who will ensure that only authorised devices can be connected – and who is to define what make a device authorised?
SP.13	Suggest further definition of the limits, and does this include 'mesh networks'?

Section 1.41 HAN Requirements

Req id	Comment
HA.12	Need to be clear that these are 'authorised and secure' upgrades, as well as defining who is responsible for this.
HA.18	What is the definition of 'authorised personnel'?
HA.20	Will this not lead to future HANs being susceptible to security issues identified in previous HANs?

Question 7

Do you see any issues with the proposed approach to developing technical specifications for the smart metering system?

KPMG Response:

The development and timing of the technical specification will be heavily dependent on the overall motivations to have a common specification, as different industry roles (e.g. suppliers, transmission operators, distribution operators, manufacturers, etc.) will have different drivers, access needs and uses for the data.

We would suggest that the business case benefits are reviewed against the specifications and that the expert groups identify and prioritise the key areas to develop the specification with the right industry groups. For example, if future benefits rely on the smart grid rollout, then the electricity DNOs need to be a key voice in defining how they will technically operate.

It would also be expected that this specification is started from an existing and known specification and that the expert group is looking to make suitable amendments as needed – rather than starting from scratch. Examples exist in other global smart metering rollouts, which have been driven from similar business cases based on carbon emission and energy policy. Consideration also needs to be given to the timing and any specification that may be defined by the European Directive, if this is to be adopted in the GB rollout.

Question 8

Do you have any comments on the proposals that energy suppliers should be responsible for purchasing, installing and, where appropriate, maintaining all customer premises equipment?

KPMG Response:

We refer to our response in question 3 (section headed Rollout and Implementation), which provides our views on the proposal for the suppliers to purchase, install and maintain the equipment required in the customer's premises, as part of the consumer engagement in the smart implementation programme.

In summary, we consider that there are significant outstanding questions in the rollout of smart meters, especially for consumers with different gas and electricity suppliers. The GB rollout will need guidance on how the meters and other devices will be financed and installed when a customer has two suppliers – is it the gas or electricity supplier that has the responsibility to also install the required communication (WAN, HAN, IHD, etc) for the consumer?

We also consider that there could be other alternative approaches that exist, which can move the metering business away from the supplier role and therefore open up the possibility to install both meters and configure all the related communications in a single visit. With the current approach there is a significant risk of impacting the positive consumer engagement that is required, especially if multiple home visits are required (e.g. two meter changes, comms configuration visit, etc). It is essential to consider further the move of metering away from existing suppliers to encourage competition, without which there is doubt as to the ability of smart to drive changes in consumer behaviour.

Furthermore, there are also likely to be impacts beyond the actual installation when meters, WAN, IHD (and potentially smart appliances) etc develop faults – will it be clear to consumers, and indeed the suppliers, which supplier to contact to fix smart related problems?

In addition to our response in question 3, we also suggest that further work is undertaken to assess the merits of an asset-leasing model, whereby there is a smaller number of meter providers from whom suppliers lease assets, such that the lease is simply transferred to a new supplier if a consumer changes supplier. This has the potential to provide further benefits through:

1. economies of scale if there is a small number of meter providers each providing large volumes of assets
2. elimination of the need for payments between suppliers in relation to recouping the original supplier's cost of providing the smart meter when consumers switch supplier

It is also not clear how (of if) the Prospectus expects the suppliers to value a smart meter return on investment. Are the business opportunities through bundled services etc

sufficiently clear and will suppliers in all cases recoup cost of meters via tariffs levied on consumers? If so, is there a risk that suppliers implement smart meters simply because they are required to do so and then take limited further interest in seeking to drive benefits in consumer behaviours to reduce energy consumption or exploit bundles services.

Question 9

Do you have any comments on the proposal that the scope of activities of the central data and communications function should be limited initially to those functions that are essential for the effective transfer of smart metering data, such as data access and scheduled data retrieval?

KPMG Response:

We consider that the introduction of the DCC poses a significant risk to the overall success of the implementation programme, and concerted efforts to understand practical challenges and mitigate the risks are needed at the outset. Should any DCC (or DCC service contract) activity underperform or fail to deliver for the consumer, there may be material negative impacts upon suppliers and the wider market, and the programme may fail to deliver its potential benefits.

It is not clear how the commercial risks introduced when the DCC is established will be managed or owned. The DCC could become a single point of failure in the process for all suppliers and therefore we agree that a limited set of core functions (as defined in the Prospectus) is a first step in reducing the risk and amount of exposure to suppliers and customers. Furthermore, it would be expected that adding extra data management functions early into the DCC would increase costs in this area at a time when there is also uncertainty of the future data requirement across such areas as smart grids, smart homes etc and that this extra funding could be more effectively used at a later date.

We also expect that there are further deployment aspects that need to be address to see if the DCC implementation can this be structured so as to maximise efficiency and also achieve greatest scale at fastest rate. We have provided more details of this coordination between the DCC implementation and the smart meter rollout in our response to question 17.

Question 10

Do you have any comments on the proposal to establish DCC as a procurement and contract management entity that will procure communications and data services competitively?

KPMG Response:

The plan to establish the DCC as a procurement and contract management entity has many merits, but significant practical issues need to be resolved to ensure that it is efficient and effective. For example, the provision of finance in proportion to suppliers' market shares needs to consider: not only the up-front investment, but also ongoing investment; the impact of changing market share and changes in ownership over time; and what positive or negative impact the arrangements could have upon potential new entrants to the supplier market. The Prospectus implicitly seems to assume the notion that no new entrants are expected – this could be proactively reinforced as a way to provide an advantage and encourage new entrants (if they did not have to contribute to the DCC).

Further consideration should also be given to understanding any scope for conflicts of interest if suppliers are co-financing the DCC. This strategy and timing may not align with overall market share and spread, meaning that some suppliers might finance the rollout of communications for meters which are provided by other suppliers.

Question 11

Do you have any comments on the proposed approach for establishing DCC (through a licence awarded through a competitive licence application process with DCC then subject also to the new Smart Energy Code)?

KPMG Response:

We have no detailed comments on this approach. If a single entity is to be established to provide the required DCC data functions, then direct regulatory control and pricing mechanisms will be required – as are currently operated by Ofgem in other areas of the energy supply chain. As there is no easily identifiable incumbent providing a similar role across all the industry then an open competitive application process would appear to be suitable.

Question 12

Does the proposal that suppliers of smaller non-domestic customers should not be obliged to use DCC services but may elect to use them cause any substantive problems?

KPMG Response:

Our response is similar to that provided in question 5, in that we consider the proposed approach to the smaller non-domestic market will allow greater flexibility to small businesses on how they will engage with the carbon agenda. We would expect to see more niche energy-service products and providers coming into the market as more usage data is available, which will be aimed at driving the businesses overall bottom-line via energy savings.

If other DCC type services are available (e.g. mobile networks, etc) then these could be used by smaller businesses to provide the energy services needed. We also agree with the future interoperability requirements around smart grid and suggest that there is early agreement of this to minimise future risks.

Question 13

Do you agree with the proposal for a Smart Energy Code to govern the operation of smart metering?

KPMG Response:

We agree in principle that a code of practice is required to provide further clarity to all stakeholders involved in the smart metering operations, especially before and during the actual implementation. We would expect that as the DCC will be a new market participant there will be several iterations of this as further knowledge, experiences and understanding of the market and consumer behaviours drive out the benefits, which can then be assessed and used to decide if any further changes are required.

Question 14

Have we identified all the wider impacts of smart metering on the energy sector?

KPMG Response:

It would be helpful to strengthen linkage of the benefits of the smart metering implementation programme to the business benefits and how these will actually be delivered across both suppliers and consumers. By focusing on the implementation and rollout of smart meters, which will be supplier led, there is a risk that the behavioural changes required to deliver the consumer benefits will be given lower priority. There needs to be further guidance on how suppliers are to interact with their consumers in order to encourage reduced consumption, which may require other smart technologies for the home beyond just the smart meter.

A supplier led rollout and the establishment of a new DCC are the central focus of the Prospectus. It would be helpful to see greater exploration of the potential impacts upon other market participants in the supply chain that are going to have their businesses impacted by smart metering, such as meter operators, data collectors, data aggregators, etc. Each of these areas would benefit by early discussion and understanding of the roles to be played in the smart metering implementation. Another specific area for defining the wider requirements would be the expected settlement processes follow (or during) the rollout – is there an intention to move from profiles to actual consumption settlement processes?

Question 15

Is there anything further we need to be doing in terms of our ensuring the security of the smart metering system?

KPMG Response:

Various industry security standards already exist, such as PCI DSS and NERC, which mandate the implementation of security standards. We believe that any privacy and security policies should also be mandated to help ensure (especially in an infrastructure that has many parties involved) that a minimum level of security is embedded across the industry.

It would be beneficial to identify what constitutes a smart meter system and where logical boundaries may exist. These definitions and boundaries would help establish what security requirements are needed to help protect the smart meter system. These definitions could be based on formal risk assessments and mandating the use of logical controls such as perimeter routers, firewalls, identity and access management solutions and security event monitoring systems.

The smart meter programme will span a number of years and over such a period further security vulnerabilities may well be identified – e.g. in wireless network protocols, wide area network transmission protocol, meter or in-home display devices, underlying servers at data centres – and it will be necessary to implement security patches. The change control programme needs to ensure end-to-end risk assessments are undertaken, robust test procedures are in place, and restricted and controlled privileges over who can push patches across the infrastructure. It would also be beneficial to ensure that in the event of adverse impact on the smart meter solution a rollback can be achieved quickly and efficiently.

One of the key security risks associated with smart meters is the possibility of remote disconnections, either in error or otherwise, at individual consumer homes or multiple homes that may lead to regional or national blackouts. It is critical that ongoing risk assessments, control reviews and security vulnerability tests are undertaken on a regular basis. This should identify the control points – procedural, logical access and authorisation checks, and security event monitoring – that can help reduce this impact.

Question 16

Do you have any comments on the proposals for requiring suppliers to deliver the rollout of smart meters (including the use of targets and potential future obligations on local coordination)?

KPMG Response:

A number of key points for this question have already been included in our response to question 3, as part of the Consumer Experience and the role the supplier has in that aspect. In addition to the points in question 3, we also have the following comments.

The setting of target rates needs to be very clearly defined in terms of what they are going to measure and trying to achieve. Consideration needs to be given to the fact that the main elements are going to typically include two meters, a WAN/HAN communication module and IHD, and that these may not all be owned and installed by the same supplier (based on the currently defined implementation plan).

A situation could occur where one supplier is undertaking more complex installations (e.g. those that include WAN/HAN and IHD) which take more time with the consumer, compared to a supplier that then only needs to install a meter following the WAN/HAN and IHD installation. Relying on general market share spreads may not drive the expected behaviours when the targets are set, as it may not be possible to measure installation as complete on the first visit for consumers with two suppliers.

The Prospectus is also unclear on the steps following any targets that are not met. It is the intention that the planning is led by the suppliers and that Ofgem may become involved if things need to be modified. However, this has the risk that consumer engagement and confidence has already been damaged by the time Ofgem become actively involved in the planning, which (taking the Netherlands rollout as an example) could result in bad press for the entire industry from a single aspect that was poorly planned or delivered.

A key operational concern with the rollout includes the accuracy of the existing metering information, such as consistent addresses, correct meter numbers, meter locations etc. Although a great deal of work has taken place in the industry to reconcile and cleanse data previously, there is no doubt still going to remain metering data issues. It is suggested that the existing processes to manage and correct this data are reviewed and improved, so that meter installations can still take place in a cost effective manner. Multiple site-visits due to incorrect metering data need to be eliminated as much as possible – the installation process needs to be able to be completed regardless of existing metering data problems.

A final point is that setting targets only appears to work for current suppliers and becomes an unknown for new entrants. Further consideration is needed to address how continued (or more) market competitiveness is enabled during the smart metering implementation.

Implementation and Next steps

Question 17

Do you have any comments on our implementation strategy? In particular, do you have any comments on the staged approach, with rollout starting before DCC services are available?

KPMG Response:

We consider that the staged approach (where the meters will start to be installed before DCC services are available) still has a number of risks and unknowns.

Firstly, it is not clear from the current information in the Prospectus how the DCC services will be rolled out across GB. It may be more efficient, in both economic and logistical terms, to undertake DCC rollout on a regional basis rather than total national coverage on day-1. It would therefore be prudent to understand which regions are to be targeted during the initial smart metering rollout, and furthermore potentially influence both of these rollout plans so that early benefits of smart meters combined with the DCC can be realised.

The next consideration is around the timing of the appointment of the DCC and the installation of the WAN unit. It would be expected that different potential DCC vendors will be interested in developing the WAN communication technical specification and unless they all agree, the selected DCC may not then be guaranteed to have the specification that works best for them. If another visit is required to existing smart enabled consumers there could be negative impacts on both the business case and the consumer experience.

Although it is expected (and already occurring) that some suppliers will begin the rollout of smart meters before the DCC setup, using specific communication contracts and technology solutions, it is not clear how the hand-over to the DCC will actually be undertaken. The commercial aspects of contract notations will be clearly defined, but would it be expected that consumers will re-engage with an implementation process when they have smart meters and the smart service they want from the supplier. Would a change to the DCC be better linked to a specific event in these cases, such as a change of tenancy, to improve the transition process?

A number of the implementation and commercial issues could be removed or the impact reduced by accelerating the appointment and rollout of the DCC services. The plan for the autumn 2013 date should be reviewed, as several existing suppliers have already developed and implemented smart metering communications both here and in other global rollouts. The early realisation of initial benefits and the continued development of the smart grid potential will require an aligned rollout of smart meters and data communications.

Question 18

Do you have any other suggestions on how the rollout could be brought forward? If so, do you have any evidence on how such measures would impact on the time, cost and risk associated with the programme?

KPMG Response:

Suggestions here are a review of the points made in questions 3, 7, 16 and 17. The business case needs to be reviewed against the aspects that should be delivered together in order to realise the benefits. Rolling out smart meters and DCC services together with the right consumer engagements is needed to both change the behaviours and reduce energy/carbon consumption.

Therefore, specific ways to accelerate the rollout and also the benefits realisation would need to include regional alignments of meters, comms and marketing functions to allow focused consumer engagement and accelerate the development of a smart grid. An approach of this type should not adversely impact the cost of the programme but should provide early realisation of benefits. However, further consideration would need to be given to additional risks that any change to accelerate the programme is inevitably going to introduce.

In addition, continued monitoring of the programme and the business case should also be undertaken to understand how early lessons learnt can be used to improve later phases – as well as reviewing the decision as to the continued full GB-wide rollout (if the cost/benefits no longer provide a solid business case).

Question 19

The proposed timelines set out for agreement of the technical specifications is very dependent on industry expertise. Do you think that the technical specifications can be agreed more quickly than the plan currently assumes and, if so, how?

KPMG Response:

This question and response links to question 7 and should be read together.

On the specific timeline and ability to deliver more quickly, we would be able to provide a more detailed response when a full plan and all the planning assumptions are published. We would expect that typical project planning techniques (e.g. crashing with more resources, or fast tracking by parallel running of activities) may be possible, as well as reviewing any contingency in the plans. It may also be possible to identify 'shortcuts' by leveraging global knowledge systems and resources to review the technical specifications.

Question 20

Do you have any comments on our proposed governance and management principles or on how they can best be delivered in the context of this programme?

KPMG Response:

As per paragraph 4.37 in the Prospectus, the governance and management principles for the subsequent phases will be decided upon later in the year, so direct comments cannot be provided – however, we do have some key comments on how to potentially evolve the development of this area.

As noted in the Prospectus, the programme is far reaching with many interested stakeholders. The grouping and representation of each group needs to be defined so that the governance is manageable. In particular, stakeholder mappings should be undertaken and published so that each potential stakeholder understands how to engage and communicate with the Strategic Programme Board.

It could also be productive to include stakeholders from the Treasury/NAO as many of the business case benefits are of a countrywide nature and potentially need to be measured and tracked outside of the implementation programme. Carbon reduction and the benefits this delivers is an obvious example in this area.

Furthermore, it would be worth considering how the governance model needs to take account of the number of other major energy programmes (e.g. Green Deal, Electricity Market Reform, on-shore and off-shore renewable energy and changes to local authority powers) that could distract or confuse the industry and consumers during the smart metering implementation programme.

The final comment is to consider how the principles map to the work streams within the programme (DCC; Consumer; Design & Data Privacy; Rollout & Benefits) and how these are prioritised. It is likely that on a programme of this scale there are going to be conflicting aspects, which then need to be assessed against the prioritised principles. There is also a need to have robust assurance and independent verification of the programme governance and management, in order to give more confidence about the programme to all of the stakeholders involved.

About KPMG

KPMG's Global Energy and Utilities practice is dedicated to helping our clients tackle the issues affecting them in today's operating environment. From global super majors to next-generation leaders, KPMG member firms strive to tailor our service offerings to specific client needs and deliver the highest standards.

Our global Energy and Utilities practice is organised through a global leadership team aligned with member firm's Energy and Utilities practices.

With centres of excellence around the globe, we are committed to providing innovation, thought leadership and leveraging our global capability to support the emerging challenges in the sector.



Many utilities are facing similar problems right now, with conflicting internal priorities of reducing operating costs and efficiently managing their asset base, whilst also improving customer satisfaction. There is further pressure from external regulatory bodies, new legislation relating to climate change and a dynamic competitive landscape.

KPMG's commitment to the sector can be demonstrated in the UK where we have recently established our latest Energy and Utilities centre of excellence. A team has been specifically recruited to develop thought leadership and focused propositions addressing the industry needs. We have secured lead sponsorship of the annual 'Future of Utilities' conference and regularly host sector events on topical industry issues.

Understanding the context and environment within which our clients are working is vital to the approach KPMG adopts. With a detailed regulatory understanding and people who have 'been there and done it', KPMG offer more than an off the shelf service. We work closely with our clients, developing deep and trusted relationships at all levels in their organisations. Combined with our commitment to innovation, thought leadership and a strong sector focus, we believe KPMG is an ideal strategic partner within the Energy and Utilities sector.

For further information please refer to: KPMG.co.uk/PowerandUtilities

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