

Title: **Response to Ofgem's Smart Meter Implementation Programme – Prospectus (Sept Questions)**

Synopsis: To document the AMO members response to the Ofgem's Smart Meter Implementation Programme - Prospectus.

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1. Introduction

1.1. Purpose

This document is the response to the information request from Ofgem dated 27th July 2010, seeking views on the “Smart Meter Implementation Programme - Prospectus”¹.

This response is not confidential.

1.2. Background

The Association of Meter Operators (AMO) is a trade association representing the interests of its members. There are twenty-one members on the AMO who include all of the active electricity Meter Operators and the largest gas Meter Asset Managers. Many of these companies also own significant quantities of metering assets, either directly or through associated companies.

1.3. Member Involvement

Many of the AMO members are undoubtedly providing their own response directly to Ofgem. This AMO response does not necessarily represent the agreed views of every member on each issue. This response has been prepared by the AMO Consultant on behalf of the AMO members based on views expressed through individual discussion, meetings and written comments provided by members. A draft response has been circulated to members and their comments incorporated into the final submission.

For the avoidance of any doubt the AMO view is that the proposed competitive roll-out of smart meters is the appropriate model and nothing in this document is seeking to alter the proposals reinforced in the recently issued Prospectus.

The AMO is grateful for being invited to participate in the DCG & SMDG and many of their sub-groups. Further detail on the points raised in this response will be provided in these meetings. The AMO has also submitted a response to the Ofgem Open letter with respect to the roll-out, which has further detail on these issues.

The AMO membership is grateful for the ongoing dialog with Ofgem (and DECC), including attendance at our meetings to discuss the smart meter programme. The AMO membership would welcome the opportunity to provide any further clarification or discussion of any of the issues raised by this response.

1.4. Key Issues

1.4.1. Transition

An accelerated roll-out will require a greater increase in resources throughout the supply chain. Simple comparison with historic rates predicts a three to four-fold increase in meter exchanges. A significant concern for members is that current uncertainty regarding the technical specification and concerns about value stranding are suppressing the rate of meter exchange work. The effect is that meter operators are currently having to scale down their activities. This exacerbates the problem because operations will have even further to scale up when the smart meter deployment begins. This increases the project risk and potentially the cost of deployment if meter operators are unable to successfully (re)recruit sufficient workers and similar risks appear elsewhere in the supply chain.

This issue might be resolved in several ways;

Early certainty of the initial meter specification (“version 1”) and certainty that early deployments will have an appropriate service life would assist investors in committing to early roll-out. This allows workload to be smoothed leading to reduced risk and costs.

¹ www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=40&refer=e-serve/sm/Documentation

1.4.2. Clarity of roles and training

The 'consumer experience' of smart metering, critical to the success of the programme, will be significantly shaped by the interaction they have with meter operatives. We note that Ofgem's work streams will develop clarity on the roles and responsibilities for operations within consumers' homes, Codes of Practice for smart meter installation, etc. In addition, issues relating to faults, safety or non-compliant installations discovered during the course of the smart meter installation are being discussed in technical forums, such as MOCOPA[®] & MAMCoP. We are helping drive effective solutions by seeking clarity and recognition of the operational issues.

In addition to the generic requirements we anticipate that individual energy suppliers may have their own preferred protocol to be adopted by the Meter Operator. The challenge of recruiting and appropriately training sufficient meter operatives should not be underestimated. It will require not just a trebling (or quadrupling) of the workforce but also delivery and accreditation of entirely new operator training. Industry will require support from training and accreditation bodies to ensure that high standards of technical competence are maintained during the rapid expansion in the size of the workforce. This is further discussed in the Ofgem open letter Roll Out response.

2. Chapter 2

2.1. Q3* 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)?

We continue to support the supplier roll out strategy. Fully support the ability of customers to request smart meter installations and have no doubt that suppliers and their agents will endeavour to meet the requests.

The meter operative must be able to explain the operation of the In Home Display (IHD) to the customer. Where there are language or disability issues then alternative methods of explanation should be available as appropriate.

It would be a lost opportunity if a meter operative, when installing a meter, is not to be allowed to answer the question “how can I save energy?” or “do you know anything about your tariffs?” if they have been given that knowledge. A balance must be determined between the time the meter operative must spend at each premises to change the meter and explain its operation to the customer and their ability to move on to the next customer if the roll out programme is going to be delivered in the timescale proposed in the Prospectus.

However, the correct balance needs to be established and the ‘minimum requirement’ set through Ofgem/DECC. Whilst the meter operative will undoubtedly need to be able to answer basic questions on energy efficiency, they are not the right skill set (even with further training) to be spending *extended* time with the customer explaining energy efficiency. Separate energy efficiency advisors should fulfil this role either through suppliers or through independent companies/organisations.

Competitive pressure will help to ensure that the service of various providers provides enhanced customer service. The proposed code should set a minimum, although we would expect all service providers to exceed this minimum, although they may exceed it in different aspects of the activity.

In a competitive market place unnecessarily restrictive legislation could reduce the benefit from innovation associated with the smart meter programme. Establishing an Installation Code of Practice is an important safeguard for customers – but this should set the minimum, allowing each supplier and their agent(s) to differentiate themselves by offering an enhanced service.

3. Chapter 3

3.1. Q6* Do you have any comments on the functional requirements for the smart metering system we have set out in the Functional Requirements Catalogue?

There must be a means of regulating what devices have legitimate access to other devices in the home via the HAN. One customer must not be able to switch on the neighbour's dishwasher. Equally, these devices should be able to interact with other legitimate "add-ons", such as a stand-alone energy monitor or microgeneration. In the future an intelligent storage heater could be controlled via the HAN from the meter, or from a weather-compensating controller, which in turn may determine the cheap rate periods from the meter via the HAN.

The diagram in figure 2 is fundamentally different from that in The Statement of Design Requirements Figure 1. The later clearly shows the electricity meter talking to the WAN via the HAN – i.e. the meter will have a HAN interface - but in the former it is shown solidly connected to the WAN, and with no HAN interface. Diagrams are important to the understanding.

The WAN is currently specified as either a module for the electricity meter, or as a separate device. An early decision needs to be made on which, or both dependent on which fuel is deployed first. If included as a module in the meter, it can always be disabled if a communal WAN is provided. Alternatively the WAN may be a replaceable module within the smart meter casing. The MOCOPA[®] Review Panel has considered some of the issues associated with the connection of a separate WAN module direct to the cut-out, of particular concern is the physical construction of the module would need to be designed to be protected by a 100amp fuse and accommodate 25mm² cables, and the operative will need to be trained in the safe installation. These considerations will be fed into the SMDG considerations.

The High Level Functional Requirement E for load management should replicate the existing customers 'load switching' for existing 'off peak' loads, replicating the existing timeswitch/teleswitching functionality. Without this switching being maintained there will be a negative reaction from millions of customers. In the future this may be replaced by intelligent use of the HAN to communicate with load controlling devices (e.g. immersion heater) around the house.

The High Level Functional Requirement G is described as "measure net export" whereas the expectation is to measure "gross" exported electricity. By measuring the 'gross export' and 'gross import' the net value can be derived (in any half hour if required).

Provision of remote disablement/enabling is appropriate for single phase electricity meters (up to 20kW), but consideration should be given to making it optional in multi-phase meters. Adding this functionality into multi-phase meters will be more expensive and make the meter physically larger. Physically larger meters may cause issues for customers in providing sufficient space. It also provides consistency with the proposed gas arrangements.

The AMO provided detailed comments to Ofgem as part of our response to the Review of Metering Arrangements with respect to developing appropriate commercial interoperability arrangements.

The roll-out will be made more challenging if every gas meter must be exchanged during the accelerated delivery period. This arises if an integral gas valve is specified for every meter. An alternative, considered in the Impact Assessment, is to permit the installation of a retro-fit smart device onto suitable gas meters. Permitting retro-fit allows more single visit installations to be completed because an electricity meter installer can easily 'smarten' the gas meter. It also assists other potential constraints in the workforce supply chain by reducing the number of true 'gas metering work' that must be completed.

3.2. Q7* Do you see any issues with the proposed approach to developing technical specifications for the smart metering system?

No.

The timescales are challenging but all stakeholders appear keen to proceed with the planned workshops. Every stage of this programme is considering and clarifying the requirements which is giving increasing certainty. This certainly is welcomed.

It should be remembered that the Ofgem/DECC work is seeking to set the minimum standard to ensure the efficiency benefits are achieved whilst ensuring commercial & technical interoperability. There is a long 'wish list' whilst not wishing to ensure deter achieving an appropriate *initial* meter specification this should be completed early to ensure the programme goals, particularly timeliness and cost, are achieved. There is no doubt certain functions will be added to 'version 2, 3, 4...' of a smart meter. Appropriate project discipline needs to be applied to ensure we can actually commence manufacture, testing and deployment. Given an initial basic set of smart meter functions the 'competitive market' is more than capable of providing the added value functions and services customers need using data from a smart meter.

3.3. Q8 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?

As a point of clarity it is assumed that the question is only referring to the supplier being responsible for provision of the metering system equipment – i.e. meter(s), IHD(s) and WAN communications link. Where the existing metering system provides additional functionality, these should be replicated if still required (e.g. 'off peak' load control).

The Prospectus and the Regulatory and Commercial Framework documents do not make clear which supplier (gas or electric) provides the WAN, and if shared, how its cost is to be shared. It would have been preferable to have had a statement "The electricity supplier shall provide the primary WAN, which shall be available for use by other parties. The gas supplier will be responsible for either connecting to the primary WAN (if necessary with HAN repeaters) or for providing a secondary WAN."

In procuring the WAN service the impact within the home will need to be carefully considered. Where meters are located under stairs, in basements or within stone walled properties any radio based solution will need a powerful signal to penetrate to the meter position. The WAN solution should be required to reach [95]% of electricity meter positions. The remaining [5]% are going to need additional repeaters or wiring of external aerials. The second outcome should be minimised as it will add cost to the supplier's installation charges, cause disruption (from wiring) to the customer and increase the opportunity for system failure.

In specifying the HAN a similar service level will need to be defined. Again where IHD/gas/electricity/microgeneration meters are located such that they cannot communicate with the in home WAN module then additional repeaters or wiring will be required at the cost of the supplier. There will also need to be clarity over which supplier (gas or electricity) is responsible for the costs of these additions.

Other architectures will also need to be accommodated. For example where the gas meters are externally located connected via one WAN hub and the electricity meter and IHT are internally located via another WAN hub. How does the gas data reach the IHT?

4. Chapter 4

4.1. Q16* 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)?

The use of targets is appropriate. The reporting should all be in the public domain. Small suppliers should be treated in the same way as larger suppliers. Although smaller suppliers may need additional support and assurance from Ofgem because of their potentially greater exposure from early Smart Meter implementation, particularly if the final specification for smart meters mandate requires them to change a larger proportion of existing AMR (or 'near smart') meters.

It would be impossible to measure co-operation although there are clear cases where we need to develop pragmatic solutions in certain installation scenarios, like blocks of flats. We are keen to develop effective processes for these arrangements so that cost effective and least disruptive solutions can be developed.

The target for roll-out should take full account of the workforce modelling currently being constructed by EU Skills and the National Skills Academy for Power (NSAP). Our members are participating in providing data to populate the model.

Determining the appropriate deployment profile is a complex balancing process between speed to gain the benefit of smart meters as soon as possible against the challenge of increasing the meter change rate by 2/3/4 times today's levels. To increase the workforce requires considerable recruitment and training which will increase labour costs and if approached incorrectly could lead to poor quality operatives.

Further detail is provided in our response to the Ofgem roll-out open letter, a copy of which is attached.

4.2. Q17* 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?

If suppliers start early, they would want to be assured there would want to limit the risk that the WAN module would not need changing, or would be recompensed for undertaking it, or would be assured [x] years of use through the interim arrangements.

From a resourcing viewpoint, revisits would be unwelcome, particularly if they are within the roll-out period. It would also not give the customer a good "smart experience". It could become reported as another (government) inefficiency if reported in the media.

4.3. Q18* 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?

The workforce modelling is absolutely key to determining the cost effective roll-out profile.

The programme is very complex with many interdependences of specification, systems and organisations. Certain activities will be dependent on the 'slowest' organisation being able to commence, it is therefore important that there is strong programme management and reporting by stakeholders.

Any failure of the smart metering systems *will* impact upon customers – further visits required, failure of equipment, failure of communications, lack of meter reading, disablement of supply in inappropriate circumstances, etc. All the risk of customer impact should be minimised.

4.4. Q19* The proposed timeline 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?

The timescales are very challenging for a series of specifications, that are interdependent.

Meter functions are well understood, and therefore agreement on the meter specification should be rapid. However, staff in the utility industry have limited experience on the type of communications necessary, and therefore experts in these fields needs to be sought. “Clever” communications (e.g. seamless relaying between other metering systems and any WAN terminal) will improve the speed of installation, and make data transfer more robust.

4.5. Q20* 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?

It would be helpful to the industry (electricity and gas supply, manufacturing, etc) decisions, even if only draft, are published as soon as possible.

The programme is very complex with many interdependences of specification, systems and organisations. Certain activities will be dependent on the ‘slowest’ organisation being able to commence, it is therefore important that there is strong programme management and reporting by stakeholders. The programme should not be dependent upon the ‘slowest’ organisation holding the rest of the industry back.