

Consultation Questions

Responses required by 28th September 2010

Prospectus Document

Chapter 2

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)?

BEAMA agrees that the consumer's interests are central to the UK's smart metering programme and the consumers will only see the benefits of cost savings if they understand and can interact with the information provided. Encouraging all the positives regarding smart metering is key and government must play its part in this to ensure, as best it can, that factual information is provided to consumers; the national advertising campaigns created around the digital switch-over, national number changes and so on form the minimum base upon which a UK Smart Energy campaign should be based. Bad press based on poorly conceived, planned or executed campaigns in other geographies or even on initial efforts to deploy Smart in the UK will only hinder the long term roll-out and create a reluctant to within the UK population to take a proactive part in the roll-out.

The consumer's main interfaces with smart metering will be

- a. via the media
- b. via Government-sponsored information campaigns
- c. through their own personal experience at installation
- d. through their personal experience of the clarity and usability of the information provided
- e. Through their experience of what smarts will provide for them

The areas that can be influenced by the industry and govt are (b) to (d); (a) will happen in an uncontrolled fashion based on press exposure to actual events in UK and overseas. A positive consumer experience at this stage will reduce the number of negative incidents in (a) – the media.

Therefore BEAMA believe care must be taken in:

- (i) training of meter installers
- (ii) making the customer experience as easy as possible for the consumer – for example single visits where possible.
- (iii) providing products and information to assist the consumer in understanding what benefits the equipment will provide.
- (iv) prohibition of up front charging for smart metering equipment and installation

Chapter 3

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?

BEAMA is pleased to be representing its meter manufacturing members within the SMDG Sub Group 1 (SG1) and provide input to the process of giving clarity to both the Functional Requirements Catalogue, including Service requirements, and the Technical Specification. As a member of this group BEAMA has already responded with its own membership's concerns and discussed with SG1.

We are therefore aware of the many requirements that have been reworded to better reflect the needs of the business and some have been removed because they were too technology specific. Others have been passed to other groups for clarity and legal interpretation. At the time of submission of this response the refined document was not available for any further comment from members. BEAMA would therefore refer Ofgem to its submission made via email to SG1 on 21st September 2010, copies of which are attached.

The initial document provided a solid basis for the development of a detailed set of functional specifications and this is being addresses through SGI & SMDG.

Initial areas of most concern to BEAMA members were:

1. Accepting that a modular solution will be needed of the early deployment of smart metering, BEAMA recognise that at some future date the WAN module may need to be changed to support the chosen DCC solution; however it must be recognised that there will be associated with cost with this exercise.
2. The data requirements and amount of storage over and above what was originally expected (SRSM spec) when costs were given for the Impact Assessment
 - a. 12 months half hour data within the meter
 - b. Power Quality data requirements
3. The cost of added functions to meet minority needs and therefore requiring small volumes.

There is an assumption made by DECC/Ofgem that there is little or no cost for additional memory (Ref 3.33 of 89b/10). BEAMA would like to stress this is not a safe assumption for metering components of the Smart Metering System where processing is of the data likely to be with dedicated microcontrollers without interfaces to high volume non volatile/flash memory devices. Increased costs will be incurred if greater amounts of data are required to be stored or processed.

Question 7: Do you see any issues with the proposed approach to developing technical specifications for the smart metering system?

BEAMA feels the key to ensuring an effective programme will be for DECC to ensure rapid decisions: regarding a technical specification in the timescales required – or even more rapidly if acceleration is to be achieved.

This will only happen if key technical blocks are agreed early on. Specifically, early agreement on HAN architecture and standards will be vital.

BEAMA also has members who believe an entity, such as the WAN service provider, should be responsible for connectivity to meters, not just to homes. We therefore believe the specification of meters is not independent of the WAN and consideration should be given as to how a WAN provider can manage the communications path against SLA to the individual meters.

Work to define the user requirements for the end-to-end smart metering and smart grid system should be considered initially so that the interdependencies with customer premises equipment can be identified, resolved and designed into the customer premises equipment specifications.

BEAMA looks forward to assisting Ofgem in providing these solutions to DECC.

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)?

BEAMA supports all the proposals made in this section. Whilst BEAMA cannot comment on the commercial aspects of any targets applied to UK Suppliers, it would seem sensible that a given Supplier's deployment of smart meters should be monitored against any roll-out targets set. It would also seem sensible that roll out targets should be related to supplier customer numbers. If properly factored, this should allow a single mechanism to operate across incumbent and new entrant Suppliers without unfair bias. DECC should consider how best to incentivise overachievement of targets and penalise underachievement: these measures will be invaluable in ensuring rapid progress throughout the roll out – especially in both the early and late stages where Suppliers will incur a disproportionate degree of risk and cost but where effective progress will drive both lower overall cost and greater benefit to the UK.

Chapter 4

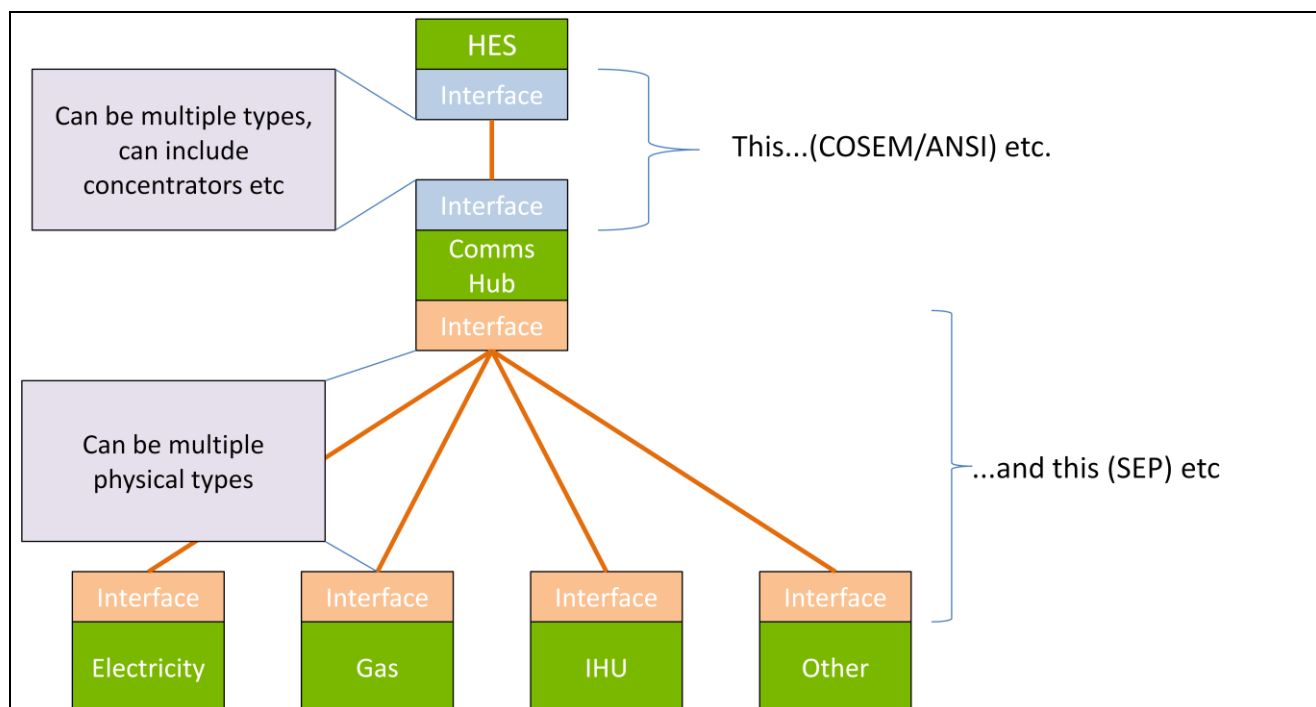
Question 17: Do you have any comments on our implementation strategy? In particular, do you have any comments on the staged approach, with rollout starting before DCC services are available?

BEAMA agrees with the staged approach to the implementation strategy. Early agreement of a technical specification to meet the functional needs for smart metering equipment within the home will allow those suppliers who wish to move early to do so. Specifically, in its previous submissions with regard to the development lead time for smart metering solutions, BEAMA has commented on the critical nature of the decision points for HAN and (at least interim) WAN solutions. DECC must ensure that these areas are agreed early in the definition process if a staged rollout is to be an effective.

This in turn will provide information to the industry, especially if experience is shared, with regard to:

1. Installation techniques
2. The training of installers
3. Consumer engagement
4. Choice of HAN
5. WAN experiences

BEAMA acknowledge some risk in early staged roll-out that smart metering equipment may not be interoperable, however BEAMA members will work together to minimise any issues in this area. It is implicit that an architecturally interoperable solution will be found in the SMDG by the defining of interfaces with the HAN, WAN and the consumer, thus paving the way for a risk free roll-out; free from interoperability problems. These interface definitions are the foundation of an interoperable system. The diagram below illustrates the key interface definitions required:



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?

Without choosing proprietary designs already available, which will undoubtedly be less open than is required by EU, government and industry we believe the best approach for an accelerated roll-out is the one proposed within this Prospectus by suggesting a staged implementation strategy. A concentrated effort by SMDG members in providing the technical specs with interface information can, we feel be a fast option to providing a start to roll-out.

Specific time saving options for delivery of a viable technical smart metering solution:

- DECC/Ofgem must, with the assistance of industry, give an interim set of guidance on acceptable HAN and WAN solutions for the interim (pre-DCC) period – potential time saving 2 months
- DECC should work to consolidate around emerging industry plans for openness. It should be possible to consolidate around a set of end-to-end options for UK Smart by the end of November – potential saving 2-3 months

DECC should consider early deployment as 'pre international standard': i.e. allow industry to operate to a common set of specifications for meter set functionality, preferred early-deployment HAN and WAN solutions and so on, but accept those solutions as pre-standard subject to parties being prepared to contribute their ideas/direction/IP to the appropriate standards bodies.

To save time, perhaps an RFI should be published as soon as possible for the WAN technology, based on the overall programme objectives for smart metering and smart grid. This will best inform industry stakeholders of the choices, and pros and cons of each solution. Based on selecting the WAN technology for central comms, centralised security and other central services, specifications for the customer premises equipment can be finalised with any interdependences solved in the process.

Question 19: 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?

BEAMA agrees there will be a great dependency on industry expertise to produce the technical specification in the time suggested especially as the functional specification is not fully finalised. BEAMA believes that one of a number of ways in which this process might lead to an earlier technical specification might be if a group of meter manufacturers, possibly in conjunction with a group of suppliers, were to bring to Ofgem a technical solutions that provided for all the agreed smart metering requirements and that all (or the majority) of parties (major manufacturers and major suppliers) were willing to accept the solution offered solution as a working way forward.

To provide full interoperability there really needs to be three agreed interfaces:

1. The interface between devices and the HAN
2. The interface between the devices and the WAN
3. The interface between the devices and the Consumer

Agreement on functionality and interfaces will allow meter manufacturers to design devices using their own methodology and IPR and ensure that the devices will work openly together.

There will obviously also need to be agreement with regard to which HAN technologies are to be used to ensure operation in 100% of homes and to date we are not aware that any work has been carried out in this area.

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?

BEAMA sees the proposal as well thought out and would suggest a firm and robust approach to ensure the programme is delivered on time and to budget. However, we are concerned regarding the possible delay that may be caused due to the need for the required submission of technical specifications to EU for approval.

BEAMA, and its sister organisation ESMIG, would wish to assist in ensuring that any possible delay in this area is kept to the minimum. See answer to Question 18 above for more detail of proposed approach.

Governance should be provided by as wide a body as possible, representation for suppliers, service providers, equipment manufacturers and consumers and BEAMA notes that this seems to have been done, from its involvement in SG2.

Supporting Document 94b/10 Statement of Design Requirements

Chapter 3

Question 1: Should the HAN hardware be exchangeable without the need to exchange the meter?

BEAMA agrees with DECC/Ofgem and believes that because of the large variety of premises no single HAN solution will be possible for all UK homes. However, it should be possible to serve the majority of homes with a standard approach.

BEAMA believes there should only be one HAN technology within a single premise since having more than one would create technical problems re interoperability, especially with IHDs and possibly with services provided by 3rd parties. It would also cause confusion for consumers who wish to purchase an upgraded IHD at some future date.

BEAMA also believes it unlikely the HAN within a consumers' home will change within the life of the smart metering system and perhaps this suggests a reason for integrating the HAN within the meters.

The cost of metering equipment could be increased by up to 5% by using separate modules to provide the meter HAN communication.

BEAMA believes there are many solutions in this area and possibly any decision in this area should be left to technical and commercial pressures which give the customer the best cost/benefit case.

Question 2: Are suitable HAN technologies available that meet the functional requirements?

BEAMA believes that a number of HAN technologies exist that could meet the needs of the UK Smart Metering deployment. We recommend that DECC (or an appointed representative) request early submissions from vendors seeking to supply into the UK market and recommending preferred HAN technologies in order to drive a rapid conclusion on the most appropriate 'day 1' HAN solution.

Question 3: How can the costs of switching between different mobile networks be minimised particularly in relation to the use of SIM cards and avoiding the need change out SIMs?

BEAMA would wish to point out that this question implies a particular technology and hence solution which may not want to be encouraged by all at this stage.

However, BEAMA believes that the balance of commercial, technical and operational factors that affect the possible use of SIM cards in meters is best addressed by discussion with the relevant communications service providers. Ultimately, this issue will need to be resolved during the debate on the final form of the DCC and is unlikely to be significantly affected by the volume of smart meters deployed prior to that debate.

Question 4: Do you believe that the Catalogue is complete and at the required level of detail to develop the technical specification?

BEAMA believe that the Catalogue is a solid starting point. However, to be sure that the scope and content is appropriate, the SMDG should work to establish a comprehensive set of use-cases that describe the use of the target functionality in defining the specific capability of the UK smart metering solution set. This set of use cases will be critical both to ensure that the functional specification is complete and that the industry's expectation with regard to what the specification is intended to deliver is appropriately aligned and managed. BEAMA fully support the work on developing technical specifications for the meters and recommend that SMDG works in parallel with DCG to define all aspects of the end to end solution. Finalising specifications for the meters will be extremely helpful but there are interdependences between various solution elements that we believe need to be considered in parallel.

BEAMA welcomes the opportunity to assist Ofgem, through SG1, in providing a more complete catalogue for both functionality and services.

Question 5: Do you agree that the additional functionalities beyond the high-level list of functional requirements are justified on a cost benefit basis?

BEAMA believe that DECC should complete a re-costing exercise for all core and additional functionality options once the use cases in Question 4 above have been fully defined. It is critical that this re-costing exercise is completed to ensure that the original theoretical cost base for UK Smart Metering is fully optimised and that full advantage is taken of any volume/timing.

We would refer you to the work carried out by ENA with the assistance of Engage Consulting and ourselves regarding "last gasp" communications on loss of supply (ENA High Level Smart Metering Cost Benefit Analysis Ref: ENA-CR009-004 -1.1 July 2010) and the recent work done in SG1 which would indicate that some of the additional functionality is not justified on a cost benefit basis. Similar work needs to be carried out around the volume and storage duration of locally retained meter data.

Question 6: Is there additional or new evidence that should cause those functional requirements that have been included or omitted to be further considered?

There are two areas that give BEAMA members in general some concern. These are:

- a. Data. For network planning purposes, 12 months of interval meter storage and prepayment history. There will be a need for a good and acceptable definition of what is required and what is meant in this area especially with regard to power quality information.
- b. Last Gasp Comms. Again the devil will be in the detail and clear specification of requirements will need to be given.

These items seem to have been included on the assumption there is no cost to additional memory (reference 3.33 of the Statement of design requirements. This cannot be a safe assumption for metering components where the processing is likely to be with dedicated microcontrollers without interfaces to high volume non volatile/flash memory devices.

In both cases there will need to be a CBA carried out since both could have cost implications on the last impact assessment.

BEAMA is happy that these topics have been discussed at length within the SMDG SG1 and await final decisions. As mentioned earlier, BEAMA believe that the UK could reap significant benefit from considering the what, why and where of a number of key potential functions to ensure that the most appropriate part of the system is assessing, recording and transmitting the most effective data set.

We agree with the exclusions referred to in 3.38

Chapter 5

Question 7: Do you agree that the proposed approach to developing technical specifications will deliver the necessary technical certainty and interoperability?

BEAMA believes that the proposed Option 2 enabling the mandated Functional and Technical specs to be finalised by the SMDG supported by industry technical groups should provide the technical certainty and interoperability required, although this should be governed through compliance testing, product approval and testing between different manufacturers products. DECC/Ofgem must be aware that some independent work is being carried out in this area which if focussed may provide an acceptable solution. The industry is best capable at providing the solution if it is guided in the way suggested. Please refer to our earlier response with regard to definition of use cases as a means of consolidating functional specifications.

Question 8: Do you agree it is necessary for the programme to facilitate and provide leadership through the specification development process? Is there a need for an obligation on suppliers to co-operate with this process?

BEAMA agrees

Question 9: Are there any particular technical issues (e.g. associated with the HAN) that could add delay to the timescales?

BEAMA has referred earlier in this response, the need to reach a rapid conclusion on HAN and WAN interfaces. A number of other fundamental aspects of architecture also need to be resolved early on in the debate – specifically the debate with regard to the following aspects must be closed out as priority tasks within the SMDG:

- HAN and WAN basic architecture
- HAN comms hub or comms module
- Location/physical architecture of comms hub or comms module
- Single WAN or separate WAN connection per metering device
- Service level ownership – specifically within the HAN (WAN will be defined within DCC debate)
- Primacy of ownership of meter functionality 'in life': which function (DNO, Supplier etc) gets last call

Question 10: Are there steps that could be taken which would enable the functional requirements and technical specifications to be agreed more quickly than the plan currently assumes?

With only 5 months to finally agree the functional requirements and turn this into a technical specification BEAMA believes that one of a number of ways in which this process might lead to an earlier technical specification might be if a group of meter manufacturers, smart meter network communication experts, possibly in conjunction with a group of suppliers, were to bring to Ofgem a defined technical solution that provided all smart metering requirements and that all (or the majority) of parties were willing to accept that solution as a working way forward. To provide full interoperability there really needs to be three agreed interfaces:

4. The interface between devices and the HAN
5. The interface between the devices and the WAN
6. The interface between the devices and the Consumer

This will allow meter manufacturers to design their meters using their own methods and IPR and ensure that the devices will work openly together.

There will also need to be an agreement with regard to which HAN technologies are to be used to ensure operation in 100% of homes and to date we are not aware that any work has been carried out in this area.

Supporting Document 94f/10 Implementation Strategy

Chapter 2

Question 1: 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?

BEAMA feels that the proposed governance and management principles fit the needs of this implementation. There is a need for the programme to deliver on time and to budget which calls for a strong and solid approach at all levels and with all groups involved in the design of this massive change in energy awareness.

Chapter 3

Question 2: Are there other cross-cutting activities that the programme should undertake and, if so, why?

BEAMA would suggest that additional cross-cutting activities need to be considered. These are:

1. Green investment Bank Initiative
2. The unification of Gas and Electricity industry procedures to ensure simpler understanding of energy by consumers and better linkage between the UK's primary energy sources
3. Smart Grid issues and associated LCNF initiatives
4. CERT and CESP – including how best to baseline energy efficiency improvement investment plans
5. Feed in Tariffs
6. Micro-generation
7. Other forms of renewable energy

Although BEAMA suggests that these activities should be added to the list, they should not in themselves delay the start of Smart meter roll-out. If it is possible to encompass and enable any of these activities every care should be taken to do so.

Chapter 5

Question 3: Do you agree with our proposal for a staged approach to implementation, with the mandated rollout of smart meters starting before the mandated use of DCC for the domestic sector?

BEAMA agrees with the staged approach to the implementation strategy.

Early agreement of a technical specification to meet the functional needs for smart metering equipment within the home will allow those suppliers who wish to move early to do so. Specifically, in its previous submissions with regard to the development lead time for smart metering solutions, BEAMA has commented on the critical nature of the decision points for HAN and (at least interim) WAN solutions. DECC/Ofgem must ensure that these areas are agreed early in the definition process if a staged rollout is to be an effective methodology. This in turn will provide information to the industry, especially if experience is shared, with regard to:

1. Installation techniques
2. The training of installers
3. Consumer engagement
4. Choice of HAN
5. WAN experiences

BEAMA cannot understand DECC/Ofgem's concern re risk that smart metering equipment may not be interoperable because of an early staged roll-out. It is implicit that an architecturally-interoperable solution will be found in the SMDG by the defining of interfaces with the HAN, WAN and the consumer, thus paving

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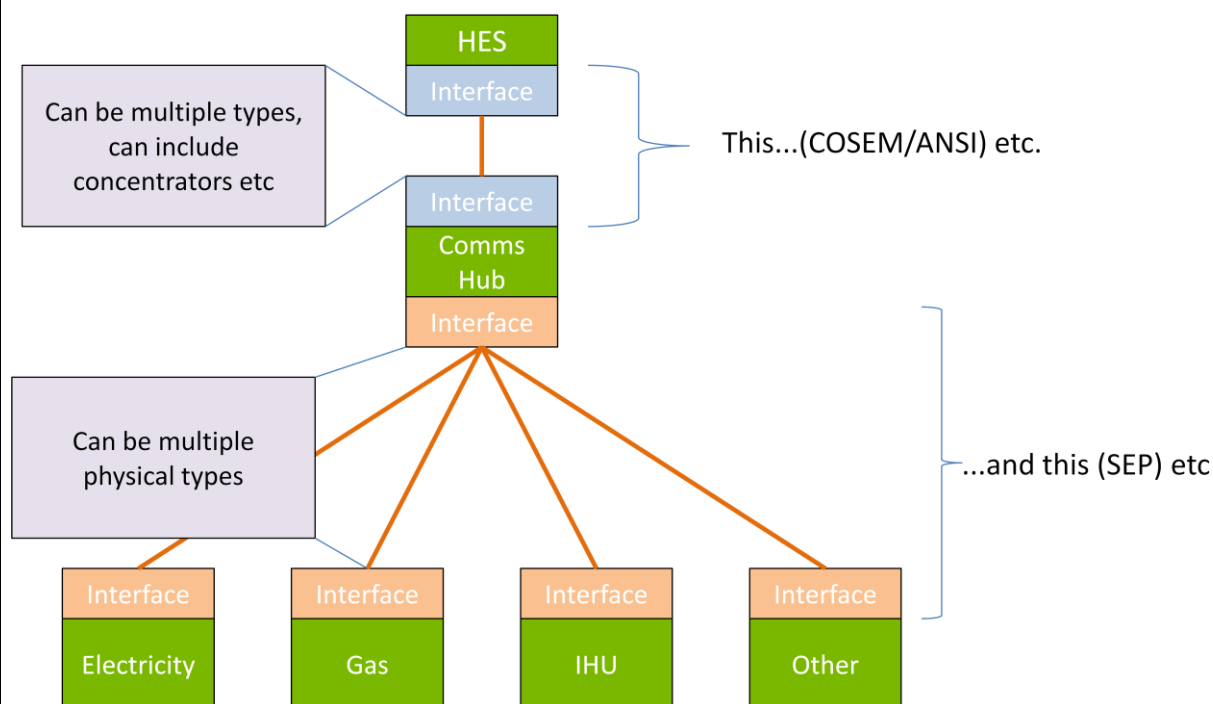
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the way for a risk free roll-out free from interoperability problems. These interface definitions are the foundation of an interoperable system. The diagram below illustrates the key interface definitions required:



BEAMA feels sure that an interoperable solution will be found in the SMDG by the defining of interfaces with the HAN, WAN and the consumer, thus paving the way for a risk free roll-out free from interoperability problems.

Question 4: Do you have any comments on the risks we have identified for staged implementation and our proposals on how these could best be managed?

BEAMA considers the risk associated with non-compliance or non-interoperability of smart meters rolled out in the interim, (prior to the DCC's establishment) should be non-existent if the SMDG is allowed to ensure the design of the HAN & WAN interfaces in the Technical Specification are sufficiently robust.

Question 5: Do you have any other suggestions as to how the rollout could be brought forward, including the work to define technical specifications, which relies on industry input?

BEAMA agrees there will be a great dependency on industry expertise to produce the technical specification in the time suggested especially as the functional specification is not fully finalised. BEAMA believes that in order to deliver an earlier technical specification, the SMDG will need to address the following aspects as a matter of urgency:

- Complete functional specification (this should be relatively straight forward)
- Define key critical interfaces (HAN and WAN – this will set the HOW for 'use case' work)
- Establish full 'use case' set to match functional requirements
- Allow ONLY those technical specifications that MUST be defined to be set from use cases

BEAMA considers that one of a number of ways in which this process might lead to an earlier technical specification might be if meter manufacturers, possibly in conjunction with suppliers, were to bring to Ofgem technical solutions that provided for all smart metering requirements and that all (or the majority) of parties

(major manufacturers and major suppliers) were willing to accept the solution offered solution as a working way forward.

Agreement on functionality and interfaces and only those critical technical specifications required to create an optimum rollout (an example here would be the physical format, location and connection of the in-home communications hub or module) will allow meter manufacturers to design devices using their own methodology and IPR and ensure that the devices will work openly together.

There will obviously also need to be agreement with regard to which HAN technologies are to be used to ensure operation in 100% of homes and to date we are not aware that any work has been carried out in this area at a DECC/Ofgem level, although we are aware that several vendors are examining the technical options that could support 100% coverage in homes.

Question 6: Do you agree with our planning assumption that a period of six months will be needed between the date when supply licence obligations mandating rollout are implemented and the date when they take effect?

BEAMA has no comment.

Question 7: Do you have any comments on the activities, assumptions, timings and dependencies presented in the high-level implementation plan?

BEAMA agrees in general terms with the activities, assumptions, timings and dependencies and would add as follows:

1. The ramp up period for Suppliers is likely to also be required for meter manufacturers to attain peak output of the required meters.
2. There is no mention of recruitment and training for meter installers and the possible need for some form of licensing/standards/code of practice for those approved to carry out the more complex job of installing dual fuel meter sets with communications

Question 8: Do you have any comments on the outputs identified for each of the phases of the programme?

BEAMA agrees with the output identified for each of the programme phases.

Supporting Document 94g/10 Rollout Strategy

Chapter 2

Question 1: Do you believe that the proposed approach provides the right balance between supplier certainty and flexibility to ensure the successful rollout of smart meters? If not, how should this balance be addressed? BEAMA has considered the proposed approach and taken note of the 3 different approaches discussed. The Proposed approach would appear to be, for good reason we believe, a mixture of all 3 approaches starting with the market lead approach to gain the innovators and early adopters. BEAMA believes it will give a good balance.

However, as identified, there will be a need for "normal business" to carry on in parallel and approaches will necessarily be made to those groups of consumer less willing to take an early interest. For many consumers the Suppliers are not known as "trusted" parties and it is likely that for a good number, the necessary meter change to smart will be seen as an imposition. To ensure a "good" response from the majority of this sector of less willing consumers there will need to be support from Suppliers and other more trusted 3rd parties. We realise liaison may be difficult since the ongoing recertification/policy meter change programme will naturally be ad-hoc.

One area not covered in this chapter is the issue of meter change in a dual fuel home with two suppliers. This builds on the situation above. It would seem incongruous to fit a single smart meter for one energy, leaving a dumb meter for the other – possibly for 5 years. BEAMA feels this would send a negative message regarding smart metering and especially so for those who have not volunteered to take a smart meter. If a regulatory or commercial approach can be taken re the sharing of a comms hub then surely a similar approach can be taken here.

Also in this section, there is also no mention of what the process would be for the small percentage of consumers who flatly refuse to have a smart meter installed in their home.

Question 2: Would the same approach be appropriate for the non-domestic sector as for the domestic sector? Obviously the approach to non-domestics with single phase 100 amp or U6 meters would have to be the same for meters that have come to the end of their certified or policy life. In this case the smart equipment fitted to replace should be the same as for domestic customers except the IHD would not be mandated. Not to do so would miss an opportunity to encourage non-domestic customers to reduce their energy consumption save costs and reduce carbon emissions. Data from suppliers to show consumers without IHDs should we feel be mandated otherwise an opportunity is lost.

For 3 phase supplies or those above 100 amps per phase then advanced metering is mandated to be fitted and these will be B2B contracts. Never the less usage information from Suppliers to Consumers should be mandated.

Question 3: Is there a case for special arrangements for smaller suppliers?

Whilst acknowledging that this is a matter for debate with the Supplier community, BEAMA feels it would be difficult to mandate a specific roll-out proposal based on anything but Approach 1 – market led

Implementation for the smaller suppliers since for area based or local project based initiatives could reduce a small supplier to doing nothing. BEAMA believes that targets should be set for all suppliers based upon their customer base size. Smaller Suppliers would be obliged to meet this target. Larger suppliers could be given further obligations based on the reviews of the supplier led roll-out as suggested in the "Proposed approach".

Chapter 3

Question 4: What is the best way to promote consumer engagement in smart metering? As part of broader efforts, do you believe that a national awareness campaign should be established for smart metering? If so, what do you believe should be its scope and what would be the best way to deliver it?

BEAMA believes that a blend of the two identified approaches will be required to ensure the optimum customer response. At the start of the programme, to ensure wide-spread 'background' awareness, a national multi-media (TV/radio/press) campaign of the sort used for National Number Change or the recent digital switch over will be required. However, the outline costs identified in the Prospectus could and should be mitigated by extending and reinforcing the value of this high level campaign with a Supplier-led regional and/or customer segment targeted campaign.

This two stage approach will be a fundamental prerequisite for the long term success of UK smart metering. Development of the message set will need significant work with the appropriate consumer groups, but should obviously be kept extremely simple. Currently, a number of BEAMA members are reporting that requests for smart meter installations are being driven very effectively by personal recommendation from those customers who have already received a smart meter set: whilst it would be impractical to suggest that pure 1-2-1 marketing could achieve the required results, it may be that a campaign based on real-life experience gained during the pre-main roll out phase could act as an extremely useful tool.

BEAMA is also a strong supporter for the use of the CESP initiative as a means of establishing community-driven smart metering demand programmes, with smart forming the datum from which a given CESP scheme's efficacy is measured.

Question 5: How should a code of practice on providing customer information and support be developed and what mechanisms should be in place for updating it over time?

BEAMA believe this is a matter for the Supplier community and the relevant consumer groups. However BEAMA is most willing to provide its help and support in developing the code of practice

Chapter 4

Question 6: Do you agree with the proposed obligation on suppliers to take all reasonable steps to install smart meters for their customers? How should a completed installation be defined?

BEAMA believe this is an important step to creating a compelling driver for Suppliers to act both responsibly and effectively during the rollout. The 'reasonable steps' need to be simple and standardised – set rules for minimum allowable space, registration of issues affecting making the space safe, recording WAN signal strength and so on will be key: once logged, these records will provide a basis for both assessing 'reasonable efforts' and then deciding how best to proceed with the installation concerned.

In terms of logging completed installations, BEAMA consider that a standard 'acceptance check' of the sort used in many internet-based order completion checks could be delivered to each consumer who's meter installation has allegedly been completed. This should be a standardised set of check questions that can be delivered via any IHD or alternative display and should be delivered to the customer separately to the installation process: 12-24 hours after the installing engineer signs the job off as complete would make sense. Items covered in such a process could be:

- a. Comms hub and electricity meters installed (or for gas only comms hub installed)
- b. Comms hub registered with head end / DCC
- c. Gas meter installed where required
- d. IHD installed where required
- e. HAN devices (gas and IHD) authorised, HAN established

- f. Meter and IHD comms confirmed end to end Head end/DCC to/from device
- g. Consumer instruction provided for basic use of IHD,
- h. Manuals and contact information provided to customer

This process would act not only to confirm that the installation had been properly completed but also that the consumer was satisfied and had properly understood the information provided. Where improvements to an aspect of the system are needed, the feedback from this process would provide a solid basis for the whole industry to benefit from.

Question 7: Do you think that there is a need for interim targets and, if so, at what frequency should they be set?

It would seem sensible to employ on-going targets rather than 'whole rollout' targets given the difficulty of recovering progress late in the deployment if one or more suppliers miss an end goal. BEAMA understand that the task of reporting and reviewing target achievement for an exercise as large as the UK smart metering deployment will be a sizeable task. However, the impact of not doing so is likely to carry a far more significant commercial and operational penalty. To make interim target management a proportionate task, it would seem sensible to limit frequency to half-yearly progress assessments.

Question 8: Do you have any views on the form these targets should take and whether they should apply to all suppliers?

Whilst this matter will of course be subject to much debate within the supplier community, BEAMA considers that it would be sensible to set targets that incentivise both high quality and high volume of installations, whilst penalising poorer quality installations and failure to meet indicated rollout volumes. A direct linkage between a notional achievement and possibly banking (where not required of a supplier in-year) of CERT or CESP points and success or failure in hitting targets would seem to be the simplest and most directly relevant metric for established suppliers and would also create an appropriate go-forward mechanism for new entrants.

Question 9: What rate of installation of smart meters is achievable and what implications would this have?

Installation Capability:

BEAMA understands the UK has historically been able to sustain installation peak installation levels of 3m homes per year and there is no reason to suspect that this could not be achieved with smart meters. Practically, however, the UK is currently installing at approximately 2m homes per year (total 3m meters). BEAMA believes that the industry is entering a period where the future demands of the smart roll out may conflict with the current cutting back of installation workforces taking place as suppliers sweat assets and reduce fit rates in the run in to smart. DECC/Ofgem needs to consider this aspect carefully in planning the lead in to smart – ensuring the period between 2010 and 2013 does not become an installation wasteland will be vital if the roll out is not to be limited by major resource and cost limitations. A steady-state deployment (all but unachievable in practice in any large scale deployment) would require 64K homes to be fitted with smart meters per week for every week between the start of 2013 and the end of 2020 – an increase of more than 50% over the current rate of fit in the UK for meter sets (full dual fuel) that take on average 2.5 times as long to install as conventional meters (80 minutes vs. 30 minutes). This indicates the need for a workforce growth of more than 4 times, in addition to the growth in incremental skills required to support the much more complex fitting of a smart meter system. Obviously, pull in can be achieved by increasing fit rates. Improving by 2 years, for example, drives the weekly fit rate to 85K homes per week, driving the implied workforce multiplier to 5.5 times – with training and employment costs to match. It is important to note that at some point, scarce resource metrics may well begin to impact the UK deployment, creating an undesirable cost base for smart meter fitment.

Production Capability:

With proper notice and suitable supply chain management, the rate of production of smart meters can be driven to high, sustainable levels. However, there is a substantial lead in period as illustrated in the attached diagram at **Appendix 1**.

It may well be feasible – given appropriate adoption of industry proposed solutions for various elements of the development process – to reduce timescales to circa 15 months for volume production. BEAMA considers that, if the UK smart metering deployment is to accelerate to the rates required, with 80% of all homes deployed by 2018, then this degree of pull in – and the assumed adoption of proposed solutions – is vital. There are two drivers for the critical nature of this phase of the programme:

1. Basic supply chain management – the earlier industry can ramp, the earlier full deployment volume can be achieved and the more likely the programme will be to succeed
2. Management of UK-generated material/component demand in the light of both a global shortage of electronic components AND of the wave of mainland European deployments which look set to hit at or before the currently-planned start of the UK roll out.

BEAMA believes that the maximisation/optimisation of the UK rollout should be the subject of a specific focus during the assessment work for the Prospectus. The output of that work should be used to guide and inform all other aspects of the Prospectus consultation.

Chapter 5

Question 10: Do you have any evidence to show that there are benefits or challenges in prioritising particular consumer groups or meter types?

BEAMA believes that current smart deployments in the UK confirm that a strong focus on dual fuel installations helps to optimise the cost and time per installation, as well as improving the overall consumer experience of the installation process.

Chapter 6

Question 11: Do you agree with our proposed approach to requiring suppliers to report on progress with the smart meter rollout? What information should suppliers be obliged to report and how frequently?

BEAMA agrees that this is a sensible approach. Previous answers to Chapter 4 questions 6, 7 and 8 suggest appropriate reporting criteria and periodicity. As a minimum, suppliers should report at least half yearly on basic statistics to show number, nature (DF/SF, PP, customer option or meter replacement) and location of successful installations, number of failed best-efforts installations, number and nature (grouped) of fail-on-fit and fail-in-field system components, number of consumers who successfully completed the post installation survey and grouping of consumer survey responses.

BEAMA considers that requiring suppliers to report on roll out costs will be challenging and may not deliver any practical benefit. Perhaps an exception reporting mechanism, where suppliers feel installation or operational costs have fallen outside of an accepted core band, would be an appropriate means of managing this requirement if DECC/Ofgem feel it has specific value to the programme?

BEAMA considers that a net (fully aggregated) smart metering energy reduction and bill reduction report should be provided by each supplier on a quarterly basis.

Chapter 7

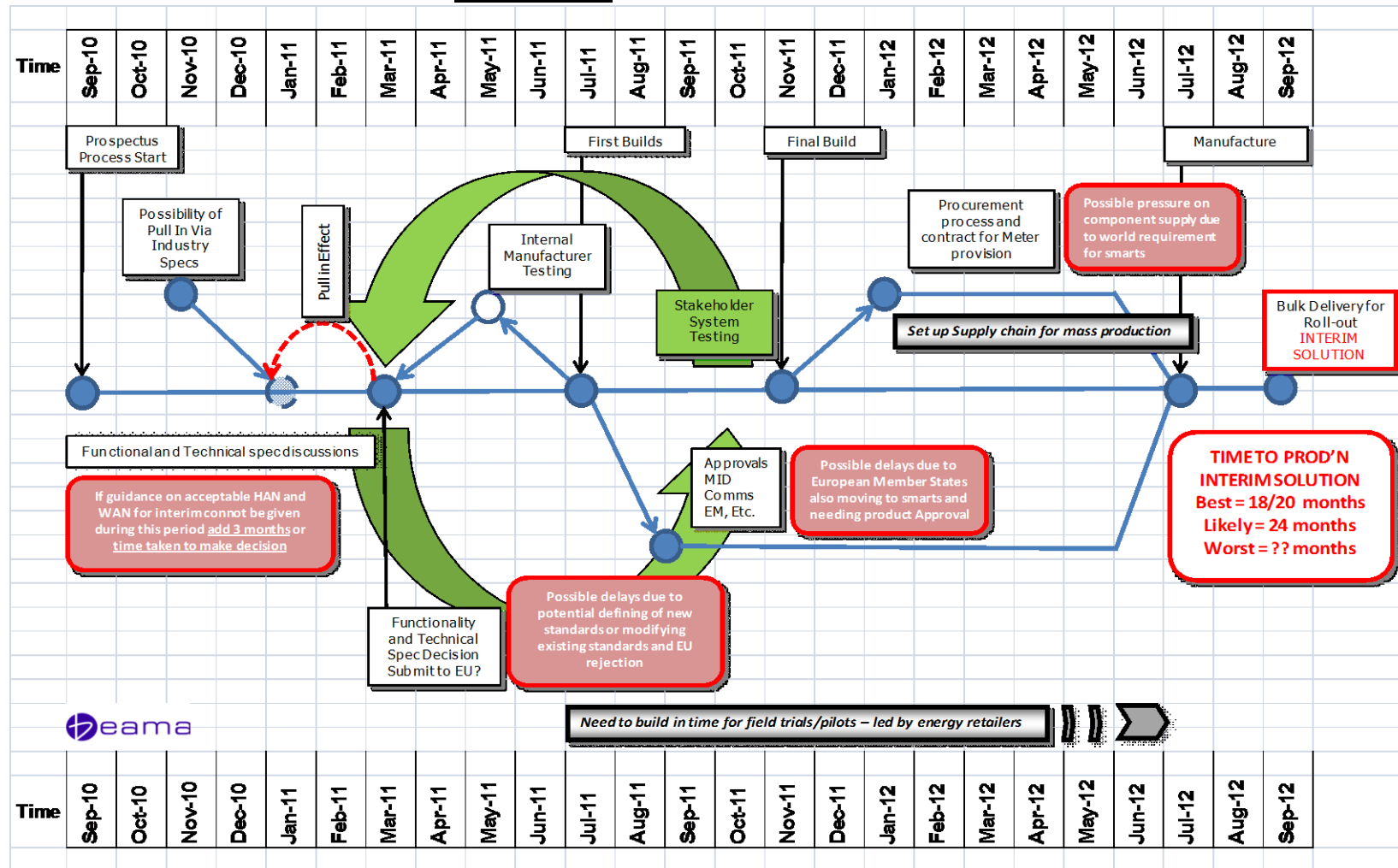
Question 12: Do you agree that there is already adequate protection in place dealing with onsite security or are there specific aspects that are not adequately addressed?

BEAMA considers this to be a subject for agreement between suppliers and the appropriate consumer groups.

Question 13: Do you agree with our proposal to require suppliers to develop a code of practice around the installation process? Are there any other aspects that should be included in this code of practice?

BEAMA considers that a code of practice – including potential NVQ or similar training and qualification levels – will be extremely important to ensure the success of the UK roll out is optimised.

Appendix 1



Smart Meters – Preparation for the Roll-out – The Manufacturer's View

The attached diagram shows the stages that meter manufacturers would need to go through to be market ready to provide a bulk supply of meters for the smart meter roll-out.

All members of the BEAMA Smart Metering Association (>95% supply of UK electricity meters) have been consulted on this planning exercise and have agreed its content.

As can be seen, the industry consider it is likely to take 24 months from the start of the Functional and Technical Specification Process (1st September 2010) to provide meters in sufficient quantities to meet the needs of an accelerated interim roll-out (i.e. smart electricity & gas meters with agreed functionality with an interim communications provision to start Mandated Supplier Roll-out – Summer 2012). The timeline is given along the top and bottom of the chart and assumes DECC/Ofgem giving early guidance on acceptable WAN and HAN communications for the Interim roll-out)

Starting at the left hand edge of the diagram:

1. Manufacturers cannot start to design meters until we know the full **functionality** required and we await SMDGs decision on this by January 2011 latest.
BEAMA believe that the time to technical specification, and hence a possible roll-out, could be reduced by a further 2 months subject to the selection of an appropriate industry-proposed architecture/technical specification.

2. Within the same timescales we also require decisions on:

- a. The type(s) of wide area network (**WAN**) and home area network (**HAN**) communications allowed for the Mandated Supplier roll-out during summer 2012.
- b. How the WAN communications are terminated within the home.

The members of the BEAMA Smart Metering Association will assist DECC/Ofgem in putting forward interface solutions for HAN & WAN, using recognised standards where possible, That will ensure technical interoperability of meters and displays in the home.

There is a risk of indeterminate delays once the Technical/Interface and Functional Specs are put to EU for approval if the choice made does not use acceptable standards or solutions aiming toward a standards based approach.

3. If no delay re interim communications is encountered product **First Builds** can be expected 3 months after decisions in 1 and 2 above, followed by **Internal Testing** by manufacturers.
4. With manufacturers happy with their product **MID Approval** (Measuring Instruments Directive) needs to be gained to enable the sale of products
There is a possible risk of delay at this stage due to many EU Member States starting similar smart metering roll-out at the same time (due to ESCO Directive and 3rd Legislative Package time requirements). There are few Approval bodies and we fear queues at the doors or delays due to too many requests.
5. Manufacturers would then move into a phase of **System Testing**. For the interim roll-out using individual data collection and management systems provided by each Supplier. There are two risks here – (a) The systems are not ready to enable testing, and /or (b) The systems are not as specified. Failure to pass tests will mean that the cycle of Build, Internal Test, Approve, System Test and Final Build has to be repeated until the product passes. It should be pointed out here that this process will have to be carried out again with the DCC system once the decision is made.
6. Overlapping with **Final Build** manufacturers would work toward setting up supply chains for the required components. This would be done concurrently with the expected **Procurement Process** between energy Suppliers and their agents and the meter manufacturers.
Again there is a risk due to Europe, and the rest of the world, moving to smart metering at the same time – there could be considerable demand for some of the required components affecting both time and cost.
7. One area not considered in the main diagram is the need for all Stakeholders to build field trials and pilots, hopefully sharing experiences and information, to ensure that equipment, systems, installation practices provide the best solution and experience for the consumer. In this way the public can be assured that their Smart

Metering experience will not inconvenience them too much and the benefits they will gain will outweigh the small amount of disruption needed to implement the energy management solutions for the future.