

Date: 14<sup>th</sup> October 2011

Smart Metering Implementation Programme – Roll-out Team  
Department of Energy & Climate Change  
3 Whitehall Place  
London  
SW1A 2AW

Dear Sir/Madam,

**Smart Metering Implementation Programme – Consultation on draft licence conditions and technical specifications for the roll-out of gas and electricity smart metering equipment**

We are grateful for the opportunity to respond to this consultation, however the main points we would like to make would seek to address more fundamental points than are raised directly by the specific questions.

We have two key concerns:

- in the shorter term, the continued delivery of significant benefits to low income households with the use of non-compliant smart meters; and
- the future ability of new technology and innovation to deliver benefits to consumers.

The ability of new entrant companies to continue funding smart meters that are delivering significant savings to low income households today, and have the potential to deliver savings to more households over the next couple of years, is being undermined by the stated requirement to remove non-compliant meters by 2019. There is no rational reason for preventing low income households gaining significant benefits now and for the next couple of years. This will assist the government's targets to reduce fuel costs and contribute towards lowering fuel poverty. Not only is this rule preventing growth but it is also going to increase costs for this vulnerable consumer group in the medium term. It is also therefore reducing competitive pressure and hence the likelihood of benefits flowing to consumers more generally.

Advanced metering systems that have been, and will be, installed at small business premises are to be excluded from the requirement to be compliant by 2019. Even though they are far less compliant than the meters being installed by Utilita. This is justified on the basis of the commercial arrangements funding the meters. The same principle applies to residential metering systems – the 2019 deadline is undermining the commercial basis for the meters.

The number of non-compliant meters will not be that great, but the continued growth of their deployment is essential for companies to develop their systems and processes for mass roll-out of compliant meters. We do not believe that the technical issues to integrate these meters into the DCC service will be significant. If they are we do not see why residential consumers should not be able to opt-out of the DCC service in the same way as small businesses. Indeed given the limited scope of the



DCC service it may be necessary for some residential smart meter systems to be excluded from the DCC service because it will not be capable of supporting them (e.g. heat and water meter reading).

In the longer term we are concerned that the obsessive requirement for interoperability will stifle innovation and thereby reduce the benefit of smart meters to consumers. On day 1 we may have a common specification, but it is inconceivable that further technical developments will not arise, and it is essential that suppliers in an open competitive market are able to deliver those benefits to consumers. If the DCC service is wrapped up in a classic energy industry change management process this will only move at the pace of the slowest company. Given that at least one of the Big 6 has yet to achieve compliance for the 1998 opening of the market, the pace can be very slow.

We believe that an ongoing opt-out of the DCC service will be an important mechanism for ensuring that it develops new capability quickly and at low cost. However, please note that fundamentally we believe that the requirement to have the DCC was over stated and that the technical issues surrounding the integration of a number of different metering systems is not that great. Meter manufacturers are already cooperating on the development of common standards – a quite normal development in an open market.

It is important that Interoperability does not become a by-word for stifling innovation. Suppliers should be able to introduce new technology, and it is inevitable that other suppliers won't be able to support it immediately (indeed they may develop innovations of their own). Clearly it is important that customers do not get trapped, but equally they should be free to make informed choices about what services they want to buy. There are simple tests to ensure that they are not disadvantaged that do not require the prevention of new development, the most important and simple test being a comparison of the price the customer is paying.

*1. The Government is seeking new evidence and views on the impacts of specifying a completion date that is in the earlier part of 2019.*

We have said on a number of occasions that we believe there will be critical resource issues. Currently the industry as whole exchanges about one million electricity meters per year and one million gas meters. In order to achieve the 2019 deadline it will need to install at a rate at least four times the current level. This would appear to indicate a considerable increase in qualified gas technicians in particular.

Clearly there may also be constraints in the ability of manufacturers to supply the number of meters required. This will depend on the GB specific nature of the design, any further delays in the smart meter programme, and on the demands arising from other countries.

We will continue to aim to install smart meters for all of our customers as we acquire them, however we do not expect everyone to be able to match that performance.



On balance we believe it is unlikely that the objective of having all meters replaced with smart meters by 2019 will be achieved. The risk of failure has been exacerbated by the lack of a commercial framework under which suppliers can install non-compliant smart meters prior to the availability of compliant meters. It does not seem practical or beneficial to customers for suppliers to have an obligation to remove non-compliant smart meters before their effective technical life and potentially before all the dumb meters have been replaced.

Furthermore, the benefits case for smart meters is finely balanced. The additional cost of early removal of non-compliant smart meters that are delivering the vast majority of the benefits to consumers is likely to undermine the benefits case. This is particularly true in the pre-payment market where the installation of non-compliant smart meters is already bringing considerable benefits, but their early removal will force up prices for low income households and thereby have a detrimental impact on fuel poverty. Equally it is not acceptable to force low income households to wait for the benefits that smart meters can bring – they should be able to make savings now.

Without a workable pre-compliance commercial framework suppliers will not be able to carry out large scale pilot tests, and thereby fully test their systems and processes. The result will be higher numbers of poor quality installations during mass roll-out.

*2. Do you think the licence conditions (AA1-2) as drafted effectively underpin the policy intention to complete roll-out of Smart Metering Equipment by a specified date? Are there any areas where you consider further clarification is necessary? Please explain your reasoning.*

More needs to be done to support larger scale early roll-out. Hitting the 2019 target date will only be achieved if larger volumes of meters are installed prior to the availability of compliant smart meters. Since only a limited number of variant non-compliant smart meters are available we do not consider this to impose a large risk on interoperability. Not supporting more installations in the short term will impose a big risk on delivering the project on time.

We believe that non-compliant smart meters installed before compliant meters are available should be allowed to endure for their normal technical life. This will be a minority of meters, and therefore any issues that the DCC or other organization has in integrating this stock into the wider programme will be limited. There is only a limited number of variants of non-compliant meters so we do not expect this would lead to widescale problems over interoperability.

We do not understand why non-compliant smart meters installed for commercial customers should be protected when those installed for residential customers are not. The commercial case is the same for both and in both instances the early removal of the smart meter will unnecessarily increase costs.

*3. Do you agree that the licence conditions as drafted effectively underpin the policy intention to deliver Smart Metering Equipment with the functionality and interoperability required to meet the business case? Please explain your reasoning.*



We believe the concept of interoperability is somewhat naive given that we do not know what technology will be available in the future. Whilst it is appropriate to set a minimum standard for smart meter functionality, it is impossible to determine the full extent of the functionality that might be required and supplier offerings will diverge. Customers should be encouraged to make informed decisions about switching supplier.

Interoperability must not become a by-word for stifling innovation. Innovation will be the driving force for delivering future unknown benefits from smart meters, and this cannot be forced to wait for the slowest adopters before being introduced and neither should it carry the cost of change for an entire industry.

*4. Do you agree that Smart Metering Equipment should be compliant with the SMETS extant at the time of installation and that it should continue to be compliant with that version of the SMETS through the operational life of the equipment? Please explain your reasoning.*

We believe that any version of the smart meter specification should be subject to some notice period to allow manufacturers time to implement changes and to use the stock already produced. Otherwise the write-off of un-installed smart meters will push up costs.

*5. Do you agree that in some exceptional circumstances suppliers should be required to retrofit Smart Metering Equipment that has already been installed? Please explain your reasoning.*

It is likely to be cheaper to develop the capability to integrate non-compliant meters with the central comms system than to re-visit the site. There will be a limited number of variants of non-compliant meters installed prior to mass roll-out, all of which will have some form of external communications capable of providing data in a defined format. The central comms provider should have access to the protocols of non-compliant meters to enable it to communicate effectively.

*6. Do you think that the licence conditions (AA3-6) as drafted effectively underpin the policy intention for the new and replacement installation of Smart Metering Equipment? Please explain your reasoning.*

We do not understand the rationale for carving out the replacement of non-compliant smart meters at commercial premises when similar meters installed at residential premises will have to be replaced. This is clearly a distortion to the market and will have anti-competitive consequences.

*7. What period of notice do you think would be appropriate before the new and replacement obligation comes into effect? Please explain your reasoning.*

Suppliers need to be able to clear their existing stocks of meters before being obliged to install a new compliant meter. The production and delivery cycle of smart meters is likely to be at least 3 months, and suppliers will hold stocks of at least that duration in order to avoid supply disruption.

Any notice period therefore needs to be at least 6 months, but in practice it may need to be as much as 12 months.

8. *What contribution do you think the interoperability licence condition as drafted could play in ensuring that suppliers work together to ensure Smart Metering Equipment is interoperable? Please explain your reasoning.*

The approval process for new meters is the most effective way to ensure a basic level of interoperability. It seems somewhat inefficient to place an obligation on suppliers when Ofgem has a direct role in approving meters. If the only meters available in the UK are those that meet the interoperability specifications then suppliers will be forced to be compliant.

We are not convinced there is a need for a licence condition to ensure interoperability and in any event it is not clear what interoperability means. There is a normal competitive market tendency to co-operate on necessary industry wide design principles. Meter manufacturers are already doing this and to a large extent non-compliant smart meters will have a degree of interoperability.

The problem with interoperability will come in the future, when technology that we currently don't even know about at present has the potential to deliver significant benefits to consumers. Any requirement to be "interoperable" must not stifle innovation.

9. *Do you think the licence conditions as drafted effectively underpin the policy intention to ensure Smart Metering Equipment is interoperable? Please explain your reasoning?*

As previously discussed the concept of interoperability, when there will be technical developments that we do not yet know about, is very limited. Suppliers should be encouraged to deliver maximum consumer value using the smart meters, this will require innovation. The current minimum specification should be seen as a starting point, rather than the end.

10. *What role could a dispute resolution mechanism have a role in ensuring interoperability? What key features should such a mechanism have?*

Customers should be free to make informed decisions about their energy supply. Energy suppliers that miss-lead customers should be subject to the law in the same way as suppliers of any other product or service.



*11. For the smaller non-domestic sector do you agree that where there is a Current Transformer meter then suppliers should be required to install an advanced rather than Smart Metering Equipment? Please explain your reasoning.*

No opinion.

*12. Do you think that the licence conditions as drafted effectively underpin the policy intention for Current Transformer meters? Please explain your reasoning.*

No opinion.

*13. Do you think under the new and replacement obligation gas suppliers should be given the option to wait for the installation of electricity Smart Metering Equipment before installing the gas Smart Metering Equipment? Please explain your reasoning.*

In our experience the cost of installation is much lower where the gas and electricity meters are installed by one technician on one visit. In order to achieve the benefits case suppliers should be incentivized to keep costs down where possible.

*14. Do you think there are any other barriers to gas Smart Metering Equipment being installed before electricity Smart Metering Equipment? Please explain your reasoning.*

In general it is likely that the power supply for the communications equipment will be connected to the electricity meter. It is therefore unlikely that a smart gas installation could be completed (including a comms test) without having a smart electricity meter already installed.

*15. What do you think the implications would be of extending the new and replacement obligations to the licences of other relevant parties in relation to installing Smart Metering Equipment in new developments without the involvement of a supplier? Do you think mechanisms other than licence conditions should be considered to achieve the policy objective? Please explain your reasoning.*

As previously stated, (from the date they are available and following the appropriate notice period) only compliant smart meters should be approved for use in the UK. This would force all suppliers and agents to adopt them, whether for new or replacement purposes.

*16. Do you think the roll-out of Smart Metering Equipment has any specific implications for the provision of emergency metering services? Please explain your reasoning.*

It will be essential that all meter technicians are qualified to install and/or repair smart meter installations. The difficulty with emergency visits is that the particular technician that visits the premises may not necessarily be familiar with the make and model of the equipment that has been installed. Often the primary objective is to get

a customer back on supply normally during unsociable hours. For Utilita, this currently this results in smart meters being replaced with old fashioned dumb assets.

*17. What period of notice do you think would be appropriate before the obligation to provide an IHD comes into effect? Please explain your reasoning.*

We intend to install an IHD with all smart meter installations.

*18. Would the consumer changing their supplier raise any particular issues with regard to the approach set out for the provision of IHDs? Please explain your reasoning.*

This is a question of Interoperability and more importantly whether or not the consumer is able to make an informed judgement based on an honest presentation of the various offers being made by suppliers.

*19. Do you think the licence conditions as drafted effectively underpin the policy intentions set out for the provision of IHDs to domestic consumers? Please explain your reasoning.*

We find it hard to understand how the benefits case for smart meters will be achieved without IHDs being made available from the outset.

*20. Do you agree that the Standard Licence Conditions identified above require consequential changes in light of the roll-out licence conditions? Do you agree with the Government's proposed approach? Please explain your reasoning.*

No opinion.

*21. Do you think there are any other consequential changes to existing licence conditions needed in order to make the proposed roll-out obligations work as intended? Please explain your reasoning.*

No opinion.

*22. Do you think there are any consequential changes to existing legislation needed in order to make the proposed roll-out obligations work correctly? Please explain your reasoning.*

No opinion.

*23. Do you think there are any consequential changes to existing codes needed in order to make the proposed roll-out obligations work correctly? Please explain your reasoning.*



No opinion.

*24. Do you think that there are other requirements that the Government should adopt in the SMETS? Please explain your reasoning.*

The key requirement is to embody the potential for change. New technology will become available and it is essential that consumers have the ability to benefit from it.

*25. Do you agree that all the requirements recommended in the IDTS should be adopted by the Government in the SMETS? Please explain your reasoning.*

It should be clearly understood that these standards are minimum standards and therefore will not prevent future development.

*26. Do you agree that the security requirements recommended in the IDTS are proportionate to the level of risk that the End-to-end Smart Metering System faces? Please explain your reasoning.*

Security and Data Protection are clearly important matters, however, these have not been issues that any of our smart meter customers have raised with us so far (over 10,000 installations). In general we believe that the energy data available for individual consumers is less revealing of their behaviour than other sources, such as loyalty cards and mobile phones. Equally we believe that the availability of data to the supplier is essential in delivering important benefits to consumers – mostly reducing wholesale costs and hence prices.

*27. Do you agree that the process outlined above is a suitable way forward to develop the SMETS? Please explain your reasoning.*

Any new metering system should meet minimum design criteria (as is currently the case). It would therefore seem sensible that future development of SMETs should become part of the Ofgem approval process for new meters.

*28. Do you think that the SMETS should ultimately be governed as part of the Smart Energy Code? What alternative arrangements could be adopted for the ongoing governance of the SMETS? Please explain your reasoning.*

We are more concerned about the nature of the change management rather than which organisation it is managed by. The critical issue is around providing sufficient flexibility to allow innovation and future technical development.

*29. What unit manufacturing cost reduction do you think can be achieved for Smart Metering Equipment over the next 20 years? Please explain your reasoning. Please also*



*provide any other comments (accompanied by evidence) on the estimated costs of the Smart Metering Equipment as set out in the Impact Assessment.*

This very much depends on the unique specifications of the GB compliant smart meter. The more the meter diverges from meters used elsewhere in the world, and especially if there is redundant capability built-in, then we will not see big price falls. If the meter specifications are maintained at a more generic level then costs could fall significantly.

We would expect at least a 50% fall in costs should be possible, and at this level it would transform the cost/benefit case for smart meters.

*30. Do you agree that the Government should include a requirement for a Communications Hub in the SMETS? Please explain your reasoning.*

The communications hub is an integral and critical part of any smart meter system.

*31. Do you agree with the estimated costs and benefits for outage detection and the Government proposal to require the Communications Hub to include the equipment necessary to provide electricity outage detection? Please explain your reasoning.*

We have no information on this issue, but believe that it would be more sensible to concentrate the specifications round features that have a clear benefit case. No body from the networks community has been able to set out a commercial case for smart meters in terms of avoided distribution price rises or better still a reduction in distribution charges, either of which could be readily translated into consumer benefit (provided there is a competitive market).

*32. Do you agree that the DCC Communication Service Providers should specify the requirements for outage detection as part of their general role in specifying the WAN technology? Please explain your reasoning*

I don't believe this is a major benefit for consumers.

*33. Do you think that the Communications Hub should also have the functionality to send a communication to the DCC when power is restored? Please explain your reasoning.*

I don't believe this is a major benefit for consumers.

*34. Do you agree with the Government's proposal that fully integrated electricity meters and Communications Hubs will not comply with the SMETS? Please explain your reasoning.*

I would imagine that separate units would enable more flexibility in the longer term, and therefore would suggest they should be kept separate. However, it is essential that the SMETS cover the specification for the connection such that communications hubs could be easily exchanged.

35. *Do you think the Smart Metering Implementation Programme objectives would be better met by:*

- a. *Using the SMETS to mandate a separate Communications Hub with a fixed WAN transceiver? Or*
- b. *Giving suppliers flexibility over options for configuration of the Communications Hub?*

*Please explain your reasoning.*

Wherever possible suppliers should have the ability and incentive to reduce costs. This is particularly relevant to site specific factors such as communications availability.

36. *Do you agree there should be no restrictions on the HAN standards adopted by suppliers, provided they are available as a European (CEN, CENELEC or ETSI) or International (IEC or ISO) standard? Please provide evidence to support your position.*

Agreed. But note that this will mean that certain features may not be interoperable.

37. *The IDTS has recommended that all standards should be recognised or be in the process of being recognised by 31 December 2014; do you agree with this recommendation? Please explain your reasoning.*

These standards are needed as soon as possible. A further two years of uncertainty around basic technical specifications will further undermine the delivery of benefits today.

38. *Do you think that regulatory obligations are needed to underpin a systematic approach to testing of HAN standards during the Foundation phase? Please explain your reasoning.*

This is unnecessary, companies have a natural vested interest in the proper functioning of equipment they install.

39. *Do you agree with industry's recommendation that DLMS should be adopted as the application layer for communications with the DCC? Do you believe there are any consumer, economic or technical issues with this solution which could be circumvented by an alternative approach? Do you have any economic, technical or consumer evidence to assist Government in evaluating industry's proposal?*



It would be better to leave the choice of technology to the DCC service provider. The least cost solution may require a mix of DLMS and other technologies.

*40. Do you agree with industry's recommendation that DLMS and Zigbee SEP 1.x should be adopted as the application layer for communications within the consumer premises, provided they install the necessary translation equipment? Do you believe there are any consumer, economic or technical issues with this solution which could be resolved by an alternative approach? Do you have any economic, technical or consumer evidence to assist Government in evaluating industry's proposal?*

It should be possible to integrate any open standard within the DCC service provided there is adequate capability and documentation.

*41. Do you think the Smart Metering Implementation Programme objectives would be best met by the proposed approach above? Or should a single, network-layer technology standard such as IPv6 be mandated? Please explain your reasoning.*

We should adopt the most flexible approach.

*42. Is the provision of a single network-layer address for each Communications Hub a reasonable and sufficient functional requirement for the Smart Meter WAN? Will this requirement limit potential future capability or present challenges, for example, in multi-occupancy buildings?*

Multi-occupancy buildings and other structures will present site specific challenges and a range of solutions may be required.

*43. Do you think that maximum and minimum demand functionality should be included in the SMETS? Please provide supporting evidence for your response*

I do not understand how we could specify a maximum demand functionality. We have no idea what developments will occur in future, or the level of benefits that they will bring to consumers.

*44. Do you think that network registers should be included in the SMETS? Please provide supporting evidence for your response (including the cost implications for Smart Metering Equipment, and any alternative approaches that would provide this functionality)*

No opinion.

*45. Do you think that the prepayment meter contactor switch should be utilised to protect consumer premises from "floating neutral" network faults? Please provide evidence on the costs and benefits to support your reasoning.*

Meters should include those features that have a clear commercial benefit to consumers.

*46. Do you agree with the proposed approach for consumers to access data and transfer it from the HAN via a separate "bridging" device? Please explain your reasoning.*

Maximum flexibility must be allowed for consumers to access their data. We believe that most consumers that take an active interest in their consumption will prefer to have the data provided over the internet rather than a specific device.

*47. Do you have any views on the options presented to ensure that electrical contractors can work safely and efficiently between the electricity meter and the consumer unit/fuse box? Please provide evidence to support your reasoning.*

No opinion.

*48. Do you agree with industry's proposals for an overall architecture of an application layer standard with translation through a Communications Hub to a HAN? Do you believe there are any consumer, economic or technical issues*

*49. Where do you believe that translation is best managed:*

- a) At the Communications Hub; Or*
- b) At the DCC?*

*Do you have any economic, technical or consumer evidence to assist Government in evaluating the options?*

If it is to deliver value to consumers the DCC should have the ability to communicate with the widest possible array of devices and communications protocols.

*50. Do you agree that the IHD should only be required to display ambient feedback based on energy usage? Please explain your answer.*

Other methods of providing consumers with information already exist and have greater capability, e.g. internet.

*51. Do you agree that Smart Metering Equipment should be designed to support the calculation and/or display of account balances as described above, even though suppliers may not initially be mandated to invoke such functionality for credit customers?*

The IHD should have basic functionality only in order to minimise costs. Consumers will use other methods of getting energy information.



52. What do you think the costs and benefits are of mandating suppliers to display an account balance (over-and-above those arising from display of information on cumulative cost of consumption) for credit customers on their IHD?

This should not be an onerous issue, but other than for pre-pay customers it may not be that valuable to consumers.

53. Do you agree with or have any comments on the Government's proposals for the outstanding issues from the Response? Please explain your reasoning.

54. Do you think that an assurance framework, underpinned by regulatory obligations, is needed to support the delivery of the required functionality, interconnectivity, interoperability, and security of Smart Metering Equipment? Please explain your reasoning.

55. Do you agree that as part of any assurance framework adopted, there should be a testing regime in place to support the delivery of the required functionality, interoperability and security? Please explain your reasoning.

56. What are your views on the options outlined for a testing regime? Are there other options that should be considered?

Suppliers that have already installed large numbers of smart meters would not see much value in a testing regime around roll-out.

57. Do you think that a different approach to assurance is necessary for the Foundation and enduring phases? Please explain your answer.

It's way too late to be thinking about an approach to assurance for the Foundation phase. Companies rolling out smart meters now will have already learnt the lessons to get the quality right. The issue will be with those companies that have not rolled out large volumes of meters prior to mass roll-out.

58. Do you think that the activities outlined above are a suitable way for achieving interoperability across Smart Metering Equipment cryptographic functionality? How else could this be achieved?

No opinion.

59. Do you agree that cryptographic/ key management is necessary to secure the End-to-end Smart Metering System? Please explain your reasoning.

No opinion.

60. Do you agree with the Government's assessment of the advantages and disadvantages of the cryptographic solutions identified above? What other options should the Government consider? Please explain your reasoning

No opinion.

61. Do you think that it would be appropriate for the DCC to be responsible for cryptographic key management for the End-to-end Smart Metering System? What other options should the Government consider? Please explain your reasoning.

No opinion.

