

Smart Metering Implementation Programme

Programme Update April 2012

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The consultation can be found on DECC's website:
http://www.decc.gov.uk/en/content/cms/consultations/cons_smip/cons_smip.aspx

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Foreword by Charles Hendry MP, Minister of State for Energy

Smart meters are the next generation of gas and electricity meters which will play a key role in bringing our energy management into the 21st century. They will unlock huge benefits for consumers, giving us more control over how we use our energy at home and at work, helping us to cut energy consumption save money and reduce carbon emissions.

Smart meters will provide accurate consumption information and bring an end to estimated billing – so no more surprises for consumers. They will also help make switching between suppliers smoother and faster.

They will also help suppliers run their businesses more effectively. New products and services will be supported in a vibrant and competitive market in energy and energy management services. The rollout will also support the development of a smart grid delivering improved network efficiency and responsiveness and supporting the uptake of electric vehicles and microgeneration.

Given these benefits, the Government is overseeing an ambitious programme for every home in Great Britain to have a smart electricity and gas meter with an In-Home Display which will show you how much energy you are using. Energy suppliers will be required to install smart meters in 28 million homes and 2 million smaller businesses in Britain, delivering over £7billion net benefit to the nation. The mass rollout of smart meters will begin in 2014 and be completed in 2019. Some energy suppliers have already started installing smart meters.

We want to ensure that the benefits of the programme are maximised and that consumers are protected. We are consulting on a series of measures such as how consumers should be engaged and how data can be accessed and protected. These steps underline our determination to put consumers' interests at the heart of the programme.

1. Publication of Government conclusions and consultations

- 1.1. Today the Government is publishing a number of conclusions and consultations arising from the work of the Smart Metering Implementation Programme. These are listed out below, with the relevant closing dates for the consultations.

Government conclusions
<ul style="list-style-type: none">• Government response to the Consultation on draft licence conditions and technical specifications for the rollout of gas and electricity smart metering equipment
<ul style="list-style-type: none">• Government Response to the Consultation on licence conditions for a code of practice for the installation of smart electricity and gas meters.

Consultations	Closing dates
<ul style="list-style-type: none">• Consultation on the Draft DCC Licence & Licence Application Regulations	1 June 2012 & 16 May 2012
<ul style="list-style-type: none">• Consultation on the scope, governance and content of the Smart Energy Code	1 June 2012
<ul style="list-style-type: none">• Data access and privacy: Consultation document	1 June 2012
<ul style="list-style-type: none">• Consultation on the consumer engagement strategy supporting the smart meter rollout	1 June 2012

2. Background and Programme progress to date

- 2.1. In March 2011, the Government set out its conclusions on the policy design for the implementation of smart metering following the consultation on the Prospectus. This design set out the overall strategy and timetable for the rollout of smart metering across Great Britain, the plan for establishing the data and communications services and the programme's approach to consumer engagement and protection.
- 2.2. The completion of the policy design phase also marked the start of the Foundation Stage for the programme, during which industry, the Government and the regulator Ofgem will make the preparations needed for the start of mass rollout in 2014.
- 2.3. DECC has since worked with industry and a wide range of external stakeholders in order to meet the early milestones in the foundation stage. These include:
- A consultation on the licence conditions and the technical specification for the rollout of smart gas and electricity metering, which was published in August 2011.
 - Commencement of the process for procuring the data and communications services in August 2011.

- A call for evidence on data access and privacy, also in August 2011.
 - A consultation on the detailed policy design of the regulatory and commercial framework for the Data and Communications Company (DCC) which was published in September 2011.
 - A consultation on the DCC Prohibition Order for smart metering communications services, in February 2012.
- 2.4. The Smart Metering Implementation Programme has now reached its next key milestone, which provides further detail on the technical and regulatory framework for rollout, and the approach to consumer engagement and protection.

3. Smart Metering Programme Vision and Strategic context

- 3.1. The Government's vision is for every home in Great Britain to have smart energy meters, empowering people to manage their energy consumption and reduce their carbon emissions. Businesses and public sector users will also have smart or advanced energy metering suited to their needs. The rollout of smart meters will play an important role in Great Britain's transition to a low-carbon economy, and help us meet some of the long-term challenges we face in ensuring an affordable, secure and sustainable energy supply.
- 3.2. The rollout of smart meters is one of the largest and most complex engineering infrastructure programmes within the EU. Smart Meters in homes and small businesses will sit at the interface between energy supply and demand, acting as an enabler to a smarter Great Britain including facilitating smarter grids, smart appliances, electric vehicles, micro-generation and new markets in energy services.
- 3.3. The strategic aim of the Programme is to rollout 53 million smart electricity and gas meters to all domestic properties and smart or advanced meters to small and medium non-domestic sites in Great Britain by 2019. This will impact approximately 30 million premises.
- 3.4. The rollout must be achieved in a cost-effective way, optimising the benefits to consumers, energy suppliers, network operators and other providers of energy services to deliver environmental and other policy goals. Smart meters will provide consumers with better information on energy usage to encourage energy efficiency, and enable the transition to a low-carbon Britain, ensuring the supply of energy which is secure, affordable, efficient and sustainable. Whilst Government plays an important enabling role, Smart Metering is a programme led by Industry.
- 3.5. The rollout of smart metering will involve a total present value cost of £11.5bn over the next twenty years, delivering total present benefits of £18.6bn, and resulting in an overall net benefit to Great Britain of £7.2bn. Taking into account all costs and benefits, the average dual fuel household will see bill savings of £25 per annum by 2020, rising to £40 by 2030. For small and medium businesses, bill savings are expected to be approximately £190 by 2020, rising to over £200 per year by 2030.

4. Building a foundation for rollout - Government conclusions and consultations

- 4.1. The conclusions set out today provide further detail regarding the overall rollout strategy and to support further developments in the Foundation Stage.
- 4.2. During the Foundation Stage, the programme is developing and implementing the framework for the enduring arrangements, which is based on open standards for connection and interoperability of equipment within the end to end system.
- 4.3. The programme is also developing a framework for the market and industry to manage the transition to the enduring arrangements, and the period while the enduring system is being established. Some development costs are inevitable in any transition programme of this scale and complexity. These include the costs of preparing systems, equipment and workforces for mass rollout while maintaining positive consumer experiences. In addition, a proportion of existing meters will need to be replaced, on a business-as-usual basis, before the full specifications are finalised. Therefore, it is important that the policy and regulatory framework for this period enables the industry to manage costs of preparing for the mass rollout and transitioning to the enduring arrangements in the most efficient way.
- 4.4. Our plans and proposals are designed to provide industry with the flexibility to manage the transition efficiently, as well as progressively increasing clarity on the enduring solution. The Government's aim, as far as possible, is to put industry in the best position to make investment and deployment decisions at each stage of the development of the enduring solution. Another key element is progressive clarification of the regulatory framework and technical requirements - to support these investment decisions - at each stage. The conclusions that we are publishing today regarding the rollout obligations and the technical specifications are key steps in that strategy.

Obligations to rollout smart metering

- 4.5. The Government will require all energy suppliers to complete the rollout of smart meters to their domestic and smaller non-domestic customers by 31 December 2019. The Government's view is that this is a challenging but achievable timescale. Suppliers will be required to offer an in-home display (IHD) as part of any compliant smart meter installation during both the Foundation Stage and mass rollout.
- 4.6. Following an open letter consultation, the Government has decided not to introduce exemptions in relation to early installations of domestic smart-type meters that do not meet the technical specifications. The publication of the initial technical specifications will facilitate moving quickly to start installing compliant meters. Furthermore, the introduction of any exemptions would have risked a poorer consumer experience and created additional complexity and cost for the overall rollout.

Technical specifications

- 4.7. The Government is publishing its conclusions regarding the Smart Metering Equipment Technical Specifications (SMETS), which define equipment that will count towards the rollout obligations. The SMETS will be published and notified to the European Commission shortly.

- 4.8. The initial version of the SMETS has been developed to deliver the key functionalities for the smart meter system that were confirmed in the Prospectus Response in March 2011. At this point, it does not, specify the communications technology to be used by this equipment, for example for the Home Area Network (HAN). However, HAN technology utilised by suppliers must be based on open standards. Giving suppliers freedom to select communication technologies will help support a productive Foundation stage. In the meantime, and in preparation for future consideration of the SMETS, the Government is undertaking a series of trials of different technology standards that could be used for the Home Area Network.
- 4.9. The Government intends develop a specification for a communications hub, as a component of the Smart Metering System, but this will not be required under the initial version of the SMETS.
- 4.10. This Government conclusion confirms the intention that equipment that complies with the version of the SMETS that is extant at the time of installation will count towards suppliers' rollout obligations. While it is the Government's objective that domestic smart meters are managed through the DCC, it will not place obligations on suppliers to enrol meters with the DCC at this point and does not intend to apply such obligations retrospectively. To facilitate the enrolment of smart meters that comply with the initial version of SMETS, the Government will publish enrolment criteria in the Summer that set out the requirements for meters to be managed by the DCC.
- 4.11. The Government believes that confirmation of the technical specifications should provide further certainty and confidence to support the development of the smart metering market, by providing the information required for industry to make robust and risk-based commercial decisions.
- 4.12. The Government has considered whether on its own, the requirement for smart meters to comply with the SMETS would provide the necessary certainty that the objectives of the Smart Metering Implementation Programme (SMIP) would be delivered. To ensure consumers receive the functionalities set out in the Prospectus Response, the Government has decided to introduce a licence condition that will require energy suppliers to utilise the functionality of smart meters installed in consumers' premises. It will consult on proposals for such a condition later this year.
- 4.13. Suppliers will be responsible for the assurance of equipment that complies with the initial version of the SMETS. The core elements of the metering equipment are already governed by existing standards. In addition, suppliers and manufacturers have clear commercial incentives to implement arrangements that ensure that equipment does not have to be replaced. Alongside the development of the SMETS, the Government is considering whether specific requirements in relation to the assurance and accreditation of smart metering systems should be introduced to further support interoperability and the establishment of the End-to-end Smart Metering System, including the DCC.
- 4.14. The Government considers that the intended approach to the development of the specifications, including standards and architecture for the communications equipment and the approach to technical assurance, are important elements in the delivery of interoperability. In addition, the Government is minded to introduce a general licence condition to help ensure suppliers take all reasonable steps to address any residual risks. How any licence condition in relation to interoperability should be framed is related to the development of the assurance regime and any related dispute resolution processes, which will be subject to consultation.

- 4.15. The Government will continue to consider a number of technical issues that would add to the functional capabilities of the Smart Metering Systems or improving the technical and commercial interoperability of the systems to be installed by suppliers. A summary of this work is set out in Section 5 below.

Consumer protections and engagement

- 4.16. The Government is committed to putting consumers at the heart of the programme and is announcing a package of measures that aims to ensure that consumers have a positive experience of the smart meter installation process and understand how they can use their Smart Metering System to improve the way they use energy. The Government has concluded that suppliers should be required to comply with high-level objectives, and a Code of Practice, regarding the **installation visit**. In particular, the Government will set out in suppliers' licences that there can be no sales concluded during the installation visit and that the consumer must agree in advance to any face-to-face marketing activity. Furthermore, suppliers must provide consumers with help in understanding how to use the IHD and save energy and they must also meet the needs of vulnerable consumers. The Government welcomes the work being done by suppliers to develop a common code covering domestic and micro-business installations and their plans to introduce this on a voluntary basis ahead of the regulations coming into force.
- 4.17. The Government is consulting on proposals around **privacy and data access** which seek to balance the need to ensure that consumers' rights to privacy are protected while enabling the benefits of the programme to be delivered and competition in energy services to develop. The Government is proposing that, with the exception of monthly data required for billing and regulatory purposes, consumers should have a choice over the level of consumption data that suppliers can access. Suppliers can collect daily data (for any purpose other than marketing) unless the consumer objects. For half-hourly data (or data to be used for marketing) consumers will have to explicitly opt in. Suppliers will, of course, need to comply with the Data Protection Act in the way that they use data. The consultation proposes a framework for network companies to access relevant information and seeks views on what arrangements should apply in the non-domestic sector. The framework also seeks to ensure that consumers can easily access their own data and provide access to third parties.
- 4.18. Finally the Government is consulting on its **consumer engagement strategy** and the roles and responsibilities of different parties for delivery. The objectives of the strategy are to build consumer support for the rollout, deliver cost effective energy savings and ensure that vulnerable and low-income customers benefit from the rollout. While the rollout is supplier led, the Government acknowledges the need to consider a broader approach to engagement. We are therefore proposing a central delivery mechanism to be delivered by suppliers, but with independent direction and effective external advisory input. In the short term we recognise that there is a role for Government in helping build consumer awareness and confidence. The consultation includes draft licence conditions that could be placed on suppliers to require them to deliver this centralised engagement. However we will continue to consider whether such an approach can be delivered without the need for regulation.

Non-domestic sector

- 4.19. The Government conclusions on the rollout of smart metering for non-domestic consumers is covered in the formal response to the consultation on rollout and the technical specification.

The consultation documents on data access and consumer engagement also set out how the proposals would apply to non-domestic consumers.

Data and Communications Company licence

- 4.20. The programme remains on target to be able to grant the first DCC licences in Q1 2013. The Government is reviewing responses to the consultation on the DCC Prohibition Order published in February 2012, and is now consulting on the draft DCC licence. The licence will set out controls over the DCC's behaviour and its obligations in relation to offering services to users. It will be the key tool used by Ofgem to regulate the behaviour of the DCC. This is a key milestone in the establishment of the DCC and provides further details for both future DCC users and potential bidders for the DCC licence.

Smart Energy Code

- 4.21. The Government is publishing the first of a number of consultations on a new industry code to support the operation of the smart metering system: the Smart Energy Code (SEC). The SEC is the key document setting out how different parties (suppliers, network operators, DCC and other authorised parties) will have to work together. Like most other industry codes, the SEC will form a contractually binding agreement between these parties. This consultation seeks views primarily on the proposed scope and governance of the SEC. It also seeks views on some of the key areas of the SEC including accession, charging and service provision.

End-to-end Security

- 4.22. The consideration of assurance and accreditation requirements is expected to include the security capabilities of the equipment given that it will be operated by the DCC. Independent assurance would provide DCC with confidence that smart metering equipment – which will be purchased and installed by energy suppliers – can be operated securely within its system. This would be coupled with assurance of DCC's communications and data services, and of the user systems which are connected to DCC. Such assurance arrangements would be mandatory for all equipment manufacturers but would take time to establish.
- 4.23. During Foundation, energy suppliers can choose the rate of deployment and will have end-to-end responsibility for the smart metering solution, including equipment which complies with the initial version of SMETS. The initial version of SMETS sets out security requirements that equipment must support, including requirements relating to the encryption of data and authentication of the source of commands received. In later versions of SMETS it is likely to be appropriate to specify the standards that equipment will need to be certified against as well as the certification procedures to be followed.
- 4.24. While suppliers are in control of all aspects of the value chain they will not need to rely on assurance provided by others. Accordingly suppliers can implement their own security assurance regimes through their procurement, contract and internal management processes. These regimes can be developed to ensure that equipment (and firmware) will support the security requirements appropriate to their risk assessment and solution design.
- 4.25. All smart metering solutions – including the smaller scale solutions that will be implemented during Foundation – need to address security threats to data privacy and confidentiality and from unauthorised access to smart meter functions. To reflect and underpin suppliers' current responsibilities for the security of their smart metering systems, the Government is minded to

place a specific obligation on suppliers in relation to the security of their smart metering systems, through a new licence condition. This condition would require suppliers to be responsible for the end-to-end security of their smart metering systems. To fulfil this obligation suppliers might be required to conduct a Risk Assessment of their end-to-end smart metering systems and to have an annual security Risk Audit conducted by suitably qualified, independent, external specialists. The security Risk Audit report would enable suppliers to address any security risks that are identified. The Programme will consult on this issue in due course, including on the parties that might be entitled to access the Risk Audit reports.

5. Forward Look

- 5.1. During the rest of 2012, the Government intends to implement the licence changes set out in the conclusions published today, further develop the regulatory, technical and commercial framework and finalise the measures relating to consumer engagement and protection.
- 5.2. The Government will bring forward the initial changes to the **regulatory framework** to implement the conclusions set out in the documents that have been published today. We will shortly notify the rollout licence conditions and the SMETS to the European Commission under the Technical Standards Directive. Following the notification, the Government expects to lay the regulations governing the rollout in Autumn 2012 so that they come into force in late 2012. The regulations relating to the installation visit and the associated Code of Practice will be progressed on the same timetable. The consultation on privacy and data access will run until late May; any necessary regulations are planned to be laid in Autumn 2012 and come into force around the turn of the year. Similarly, the Government expects any regulation relating to the consumer engagement strategy to come into force by the end of the year, so that a central delivery mechanism could be in place by end 2013.
- 5.3. The Government is working to further develop the **SMETS**. This work considers the inclusion of communications technology standards and additional functionality. In addition to the question of HAN technology, it will consider standards that should apply to the Wide Area Network, informed by proposals from bidders for the communications service contracts. Development work is also being undertaken to consider including functionality that meets network operator requirements. We plan to consult on a further version of the SMETS in the Summer.
- 5.4. During the **Foundation Stage**, the Government is keen to see smart meter deployments that improve consumer choice, enable market development and provide learning experience. Successful development of the smart meter market will mean that consumers can generally keep their smart functionality if they choose to change supplier and that suppliers will pay a rent that reflects smart functionality when they gain a customer. The Government is working closely with Ofgem and stakeholders to consider what industry or regulatory changes are required and how quickly the payment of “smart” rent on change of supplier could be introduced as standard.
- 5.5. As set out above, the Government has stated that all domestic Smart Metering Systems should be managed through the DCC and is keen to apply this principle, as far as possible, to meters installed in the Foundation Stage. Therefore it is developing appropriate criteria to facilitate the **enrolment of meters into the DCC** and the novation of Foundation Stage contracts from suppliers to the DCC. The Government is working with stakeholders to progress this work and

intends to consult on the criteria in the Summer and put the necessary licence obligations in place by early 2013.

- 5.6. The Government will publish a series of further consultation papers seeking views on the proposed policy approach on a number of issues that in due course will need to be transcribed into the **SEC**. These include transition to the enduring arrangements, treatment of non-domestic meters and security requirements. The intention is to have certain elements of the SEC in place when the DCC licence is awarded, with additional content to be added to the code during the Foundation Stage. The government is planning a consultation on the legal draft of the first version of the SEC during the Summer.
- 5.7. The Government will bring forward a consultation on the proposed obligation on suppliers in relation to the **security** of their systems, which may include requirements to carry out risk assessments and commission independent risk audits.
- 5.8. DECC is proceeding with its plan to procure the **Data and Communication Service Providers** on behalf of the future Data and Communications Company by March 2013. The qualification stage completed on schedule in November with the selection of eight bidders for the three regional communication service providers and seven bidders for the data services provider. Bidders are currently in the process of proposing their outline solutions against the high level requirements, which were developed with energy industry stakeholders. The Department will evaluate these responses and invite bidders with the best outline solutions to enter dialogue on detailed solutions from June.
- 5.9. We have developed detailed final proposals for the licence application process to select a regulated private sector organisation as the **Data and Communications Company**. This follows the consultation in September 2011 and the details of the process, as well as draft regulations, are set out as part of the consultation on the DCC Licence accompanying this document. This sets out a four stage tender process encompassing selection of qualified applications; an invitation to apply; dialogue on proposed applications culminating in a best and final offer; prior to finalisation of the licence with a preferred applicant. The application process can be used for the first and subsequent licence competitions. Subject to the Parliamentary process in respect of the Regulations, DECC intends to begin the first licence application process in Summer 2012 with a view to awarding a licence in April 2013.
- 5.10. The Government is also continuing to develop its approach to **monitoring and evaluation** and will publish its Monitoring and Evaluation Strategy later in the Spring and consult on how it will use its Energy Act powers to make modifications to licences to allow it to collect information from suppliers on the costs and benefits of the programme. The Government is also developing plans for **testing and trialling** both of the technology and, working with suppliers, alternative approaches to consumer engagement.

6. Conclusions

- 6.1. With the support and commitment of a wide range of stakeholders, the Government has now delivered against another key milestone in the Foundation Stage of the Smart Metering Implementation Programme. The conclusions and consultations published today provide further clarity for the energy industry, manufacturers and consumers. This year will continue to be a critical year for the programme, as Government continues to progress the regulatory framework, the technical requirements and the procurement process for data and

communication services. Furthermore, in order to meet all of the objectives of the programme, this work must be developed alongside, and in a consistent manner with, the frameworks for data access and consumer engagement.

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