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Promoting choice and value
for all gas and electricity customers

DEPARTMENT OF ENERGY & CLIMATE CHANGE

Smart Metering Implementation Programme

Response to Prospectus Consultation

Supporting Document 5 of 5
Implementation Strategy

March 2011

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If you would like alternative formats of this consultation document, such as Braille, audio cassette or large print, these are available on request - please contact us at the address below. This also includes a Welsh language version.

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Executive Summary

The Government's vision is for every home in Great Britain to have smart energy meters, with businesses and public sector users also having smart or advanced metering to suit their needs. This will require significant investment and commitment by many stakeholders, will involve the development of complex new commercial, regulatory and technical arrangement and, most importantly, positive adoption by consumers.

In response to the consultation on the Prospectus, the Government is now publishing its conclusions on the policy design for implementation phase. It has established a baseline plan, setting out responsibilities, the planned sequence of activities, and key milestones. These conclusions provide important clarity for stakeholders as the programme moves into implementation.

Implementation strategy

The success of the smart metering programme is dependent on a combination of activities undertaken by industry, consumers, Ofgem and government. Most of the activity to deliver smart metering will be undertaken by industry, within the framework of regulation set by Government and regulated by Ofgem. Government has established a central programme team to manage, co-ordinate and communicate the activities required to establish the right consumer, commercial, technical and regulatory environment. In order to deliver the full benefits of smart metering, Government will seek to ensure that consumers can engage positively with the programme. Government will take steps to strengthen consumer protections for rollout, where necessary. Ofgem will continue to regulate gas and electricity markets more generally such that the interests of current and future consumers are protected.

Government will amend the existing regulatory framework to support an effective and efficient rollout and DCC establishment, such that benefits are realised. Regulations will be put in place by the Secretary of State using powers conferred by the Energy Act 2008, and will be subject to the appropriate consultation processes. Compliance with the regulatory framework will be monitored and enforced by Ofgem.

The implementation plan has been developed on the basis of two distinct phases: Foundation and mass rollout. Publication of this implementation plan signals the start of the Foundation Phase. It will involve the establishment of the regulatory and commercial framework, the development and testing of individual business systems and the implementation of effective consumer engagement strategies. The objective of this period is to provide a solid foundation for mass rollout from the perspective of the range of parties with a stake in the success of smart metering as an end-to-end system.

The Foundation Phase provides an opportunity to test, trial and learn ahead of mass rollout. Mass rollout can commence when the framework and systems are in place and operational and there is sufficient degree of consumer and business readiness.

The Baseline Plan

It is important in a programme of this scale and with such a range of participants that clear baselines are established and change is rigorously managed against them. The policy positions outlined in this document constitute the initial baseline. This will be developed into specifications for regulatory, governance, process and system components, which in turn will become a more detailed baseline, and subject to formal change control.

The baseline plan includes the following major milestones:

Baseline plan major milestones	
Draft Technical Specification complete	July 2011
EU notification period for the Technical Specification complete	Jan 2012
First tranche of regulatory obligations on suppliers comes into force, including: ▪ Mandated rollout completion date ▪ Installation Code of Practice	Q2 2012
DCC licence application process commences	Q2 2012
'Smart' change of supplier arrangements become standard	Q4 2012
DCC licence awarded	Q4 2012
DCC service providers appointed	Q4 2012
Start of mass rollout	Q2 2014

These milestones are replicated in the high-level plan at Figure 3.

The baseline plan is based on currently available information and will be tested further as we enter the implementation phases of the programme. As with all large, complex programmes, it will be subject to regular, structured review and there will be ongoing communications with stakeholders throughout the programme.

Governance of the central programme

The Government recognises this task as a major programme and is structuring its management and leadership commensurately. The programme will be managed rigorously, using proven methods and formal strategies for benefits realisation, and with the active involvement of a broad range of stakeholders.

The programme will report to the Senior Responsible Owner (SRO) in DECC, who is accountable to Ministers for its successful delivery. The SRO will continue to chair a Strategic Programme Board. This will be responsible for the strategic direction and oversight of the programme, will own the plan and business case, will manage strategic change and seek to ensure alignment with other government initiatives. Ofgem will continue to play a vital role, particularly in advising Government on the development of the regulatory arrangements that underpin smart metering, and in regulating the new obligations put in place by the Secretary of State.

1. Introduction

This section sets out the background, purpose and scope of this supporting document.

1.1. The Government's vision is for every home in Great Britain to have smart energy meters, with businesses and public sector users also having smart or advanced energy metering suited to their needs. The rollout of smart meters will play an important role in 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.

1.2. To implement this vision, the Government has established a central change programme - the Smart Metering Implementation Programme[1] ("the programme"). The programme is responsible for overseeing the development and implementation of the policy design, including establishing the commercial and regulatory framework to facilitate the rollout. Ofgem E-Serve has worked with the Department of Energy and Climate Change (DECC) during the policy design phase to inform Government conclusions on the policy framework for implementation.

1.3. The Prospectus for the programme, published in July 2010, set out for consultation a range of proposals on the policy design for the implementation of electricity and gas smart metering in the domestic and smaller non-domestic[2] sectors. The installation of advanced meters[3] for larger non-domestic sites[4] has already been mandated for completion by April 2014.

1.4. The Government's conclusions on the policy design for the implementation of smart metering in the light of consultation are set out in the "Response to Prospectus Consultation: Overview Document". The new obligations to deliver the policy design will be introduced principally using powers under the Energy Act 2008, and will be subject to the appropriate consultation processes.

Purpose and structure

1.5. This document outlines the implementation strategy and baseline plan for the smart metering programme in Great Britain (GB). It provides responses to the individual Prospectus consultation questions and indicates how those have been reflected in the revised strategy and plan.

[1] Smart Metering Implementation Programme: Prospectus, DECC/ Ofgem, July 2010
[2] Electricity customers on profile classes 3 and 4 and non-domestic gas customers with consumption of less than 732 MWh per year
[3] Advanced meters are defined in supply licence condition 12 as being able to provide measured consumption data for multiple time periods (at least half hourly for electricity and hourly for gas) and to provide the supplier with remote access to the data
[4] Electricity customers on profile classes 5 to 8 and non-domestic gas customers with consumption of 732 MWh to 58,600 MWh per year

1.6. The baseline plan has been developed by the programme to manage the central programme and to provide stakeholders with visibility of clear programme milestones and interdependencies to allow them to manage their own plans. It will be shared with stakeholders at a more detailed level during phase 2. The plan will be managed under change control, with a revised baseline created if required in response to policy changes, events or new evidence. This will be communicated with stakeholders who can align their plans accordingly.

1.7. The policy conclusions reached by the Government and set out in the Overview document and other supporting documents require a series of activities to ensure their successful implementation. This document brings together those activities from other documents, adds supporting activities and describes how these come together into an overall baseline plan. The associated key deliverables and milestones are described along with key interdependencies between milestones. The rationale behind the policy conclusions can be found in the other documents and is not repeated here.

1.8. The Government also consulted on the implementation strategy and plan itself. The associated questions, consultation response summary, additional evidence gathering and conclusions are described in Appendix 2 of this document. These conclusions have been fundamental to the revision of the Prospectus plan and the development of the baseline plan. They are not repeated in the body of this document in order to provide clarity of narrative.

1.9. The document is structured as follows:

- Section 2, the programme plan: This summarises the three phases of the programme; it presents a baseline plan for the Foundation Phase.
- Section 3, managing the programme: This describes the strategy for managing the programme, including the nature of the central programme and the approach to responsibility, governance, management and stakeholder engagement.
- Appendix 1 provides a summary of responses for relevant Prospectus questions.
- Appendix 2 provides a glossary.

Definitions

1.10. Throughout these documents, 'the programme' refers to the central smart metering programme managed by DECC. Stakeholders who have a key role in delivering smart metering will have their own programmes, which need to align with the plans produced by the central programme. These stakeholders include, for example, suppliers, Distribution Network Operators (DNO), Independent Gas Transporters (IGT) and central industry bodies such as Elexon, xoserve and Electralink. These are collectively described as 'participants'.

Approach

1.11. During the course of this phase, we have drawn extensively on written submissions from stakeholders to the Prospectus consultation. We have discussed key activities driving the implementation strategy across our expert and industry groups and have analysed the evidence provided in response to information requests. We have held a series of bilateral meetings to gain greater information with individual stakeholders and representative groups. We have also sought to learn from other international smart metering programmes and trials. We have held two sessions with the Implementation Co-ordination Group (ICG) to gather input to the overall plan and readiness strategy.

1.12. We have involved consumer representatives, suppliers, network businesses, central bodies, manufacturers and service providers amongst others. We would like to thank all our stakeholders for their open and constructive input.

2. The programme plan

This chapter sets out the programme phases and the baseline plan for the next phase.

Introduction

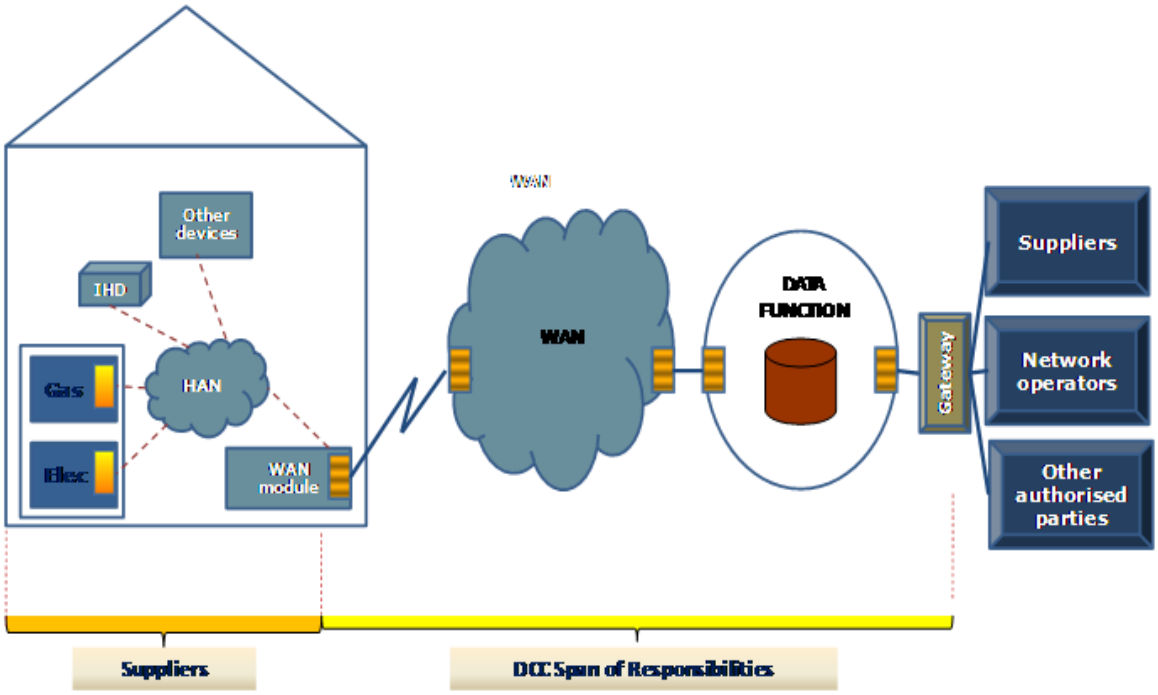
2.1. The programme plan is a key tool for managing delivery. It is a reference point against which the central programme can manage its own deliverables, and can monitor progress by other parties who have a stake in delivery. It is an important reference point for stakeholders in deciding how best to engage with the programme.

2.2. The baseline plan constitutes a sequenced set of related tasks and deliverables, consistent with the Government's policy conclusions on the overall design for implementation. It is based on currently available information and will be kept under review, and if necessary amended in the light of new information. There will be clear ongoing communication with stakeholders in respect of the plan, including in managing changes to the plan over time.

Programme Outcomes

The plan will deliver the basis for the programme outcomes. These include consumer elements and technical and infrastructure elements as set out in Figure 1 below.

Figure 1 - Smart Metering System Elements and Responsibilities



2.3. Consumer readiness and engagement: Consumers are at the heart of the programme. The programme business case is dependent on positive adoption by consumers who then change their energy usage behaviour and achieve efficiency savings and carbon reductions. They will receive new information on energy usage and new opportunities to purchase and use energy in different ways to achieve this.

2.4. Smart Metering System: the smart metering system in the premise comprises the infrastructure that provides the consumer with the information required to manage usage, and suppliers with the information to drive efficiencies. This comprises: an electricity and gas meter monitoring usage; an in-home display ("IHD"), displaying usage, a home area network (HAN) providing in-premise communication and a WAN module providing an interface between the premise and the wide area network (WAN). Suppliers will be responsible for the provision, installation and maintenance of the entire smart metering system. The ownership and specification of the WAN module will reside with the DCC.

2.5. Data and Communications: smart meters will generate a substantial increase in volume and frequency of data traffic. Management of this will be the responsibility of DCC. DCC will provide the wide area network and data management facilities, interfaces to suppliers, network operators and other authorised parties and end-to-end security infrastructure.

2.6. The establishment of the DCC will also require changes to current industry processes, data flows and systems. Prior to DCC, suppliers will be responsible for the data and communications related to smart meter traffic.

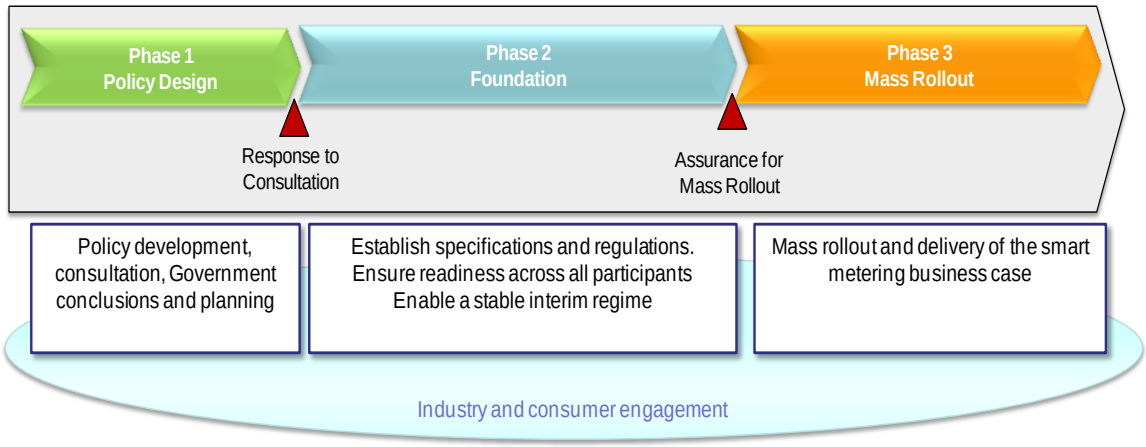
2.7. Rollout: the rollout will be an intensive exercise that touches almost all premises and small businesses in GB. This needs to be delivered efficiently and effectively with a very high degree of consumer acceptance to meet the programme business case. The Government's policy is to achieve a full rollout of smart metering in 2019.

2.8. The section on the Foundation Phase plan below, describes how each of these elements will be delivered.

Programme Phasing

2.9. The programme plan delivers progress towards these outcomes in three key phases as shown in the diagram below (figure 2) and then summarised.

Figure 2 - Programme Phasing



Phase 1: Policy Design (2009 Q4 - 2011 Q1)

2.10. The objective for this phase was to reach policy conclusions and develop plans for the implementation of smart metering. This has successfully concluded and a coherent and integrated set of policy conclusions has been reached. These are set out in the Overview and supporting documents that constitutes the Government response to consultation and represent the end of this phase.

Phase 2: Foundation (2011 Q2 - 2014 Q1)

2.11. The programme objective of this phase is to create a framework and build a state of consumer, business, market and regulatory readiness such that mass rollout can be commenced. The activity during the foundation phase will set the trajectory for mass rollout. This needs to occur within the context of a "live" competitive energy market, including competition between energy suppliers and other businesses based on meters with smart functionality.

2.12. The specific work areas involved are discussed in more detail below. At the end of this chapter, we explain how the activities undertake and decisions made during the Foundation Phase work together to create an increasingly strong basis from which to start mass rollout.

Phase 3: Mass Rollout (2014 Q2 - onwards)

2.13. The objective of this phase is to achieve the mass rollout of smart meters to the programme timescales in a safe, secure, efficient and effective way, which delivers the programme business case, including in respect of benefits to consumers resulting from improved energy efficiency.

2.14. This phase will also see the DCC take on new functions in the form of meter registration services. This implies significant consequential changes to industry responsibilities and businesses processes, and to the supporting regulatory framework.

Foundation Phase baseline plan

2.15. This section sets out the baseline plan for the Foundation Phase. The key milestone dates, as outlined in the Executive Summary, are shown in Table 1 below. The milestone numbers map to the baseline plan at Figure 3 over, which also shows key activities and interdependencies.

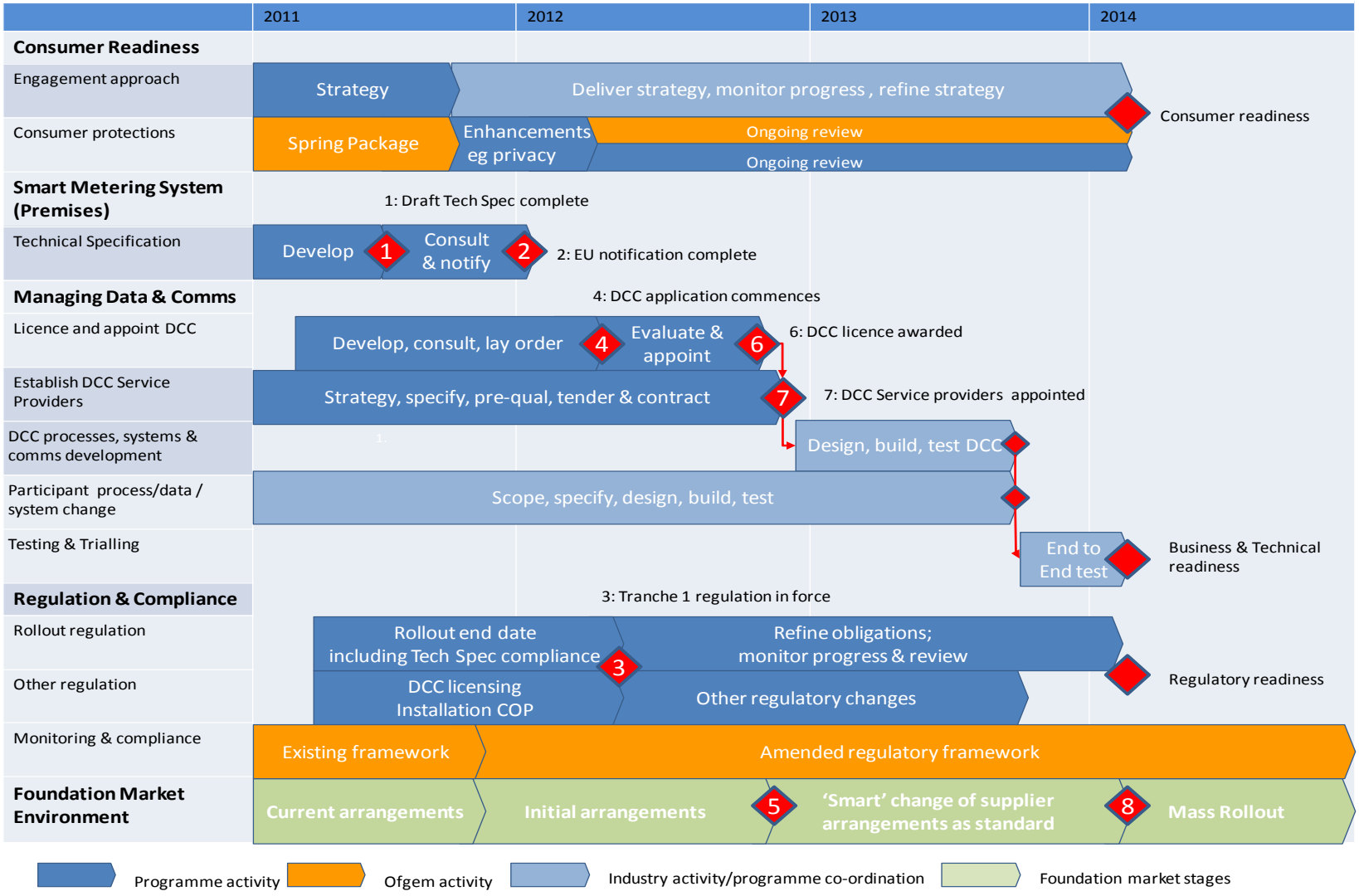
Table 1 - Baseline plan major milestones

Baseline plan major milestones		
1	Draft Technical Specification complete	July 2011
2	EU notification period for the Technical Specification complete	Jan 2012
3	First tranche of regulatory obligations on suppliers comes into force, including: ▪ Mandated rollout completion date ▪ Installation Code of Practice	Q2 2012
4	DCC licence application process commences	Q2 2012
5	'Smart' change of supplier arrangements become standard	Q4 2012
6	DCC licence awarded	Q4 2012
7	DCC service providers appointed	Q4 2012
8	Start of mass rollout	Q2 2014

2.16. Successful delivery of the baseline plan will be achieved by the programme, industry and Ofgem working together, alongside a broader range of stakeholders including consumer groups. The relative leadership responsibility is shown on the legend at the bottom of the plan. This distinguishes activities led by the programme, activities led by industry with programme co-ordination and activities led by Ofgem. The detailed approach and responsibility will be established early in phase 2.

2.17. Ofgem will have responsibilities to manage new regulatory obligations as they come into force (eg new licence conditions).

Figure 3 Foundation Baseline Plan



Consumer Readiness

2.18. Consumer readiness is shown as the first section on the baseline plan, comprising two elements: engagement and protection.

2.19. Consumer readiness is critical to the successful delivery of the programme. If consumers are poorly informed about smart metering or their experience is not a good one, then the potential benefits to consumers in terms improved energy efficiency may not be realised in full and rollout will be more difficult.

2.20. A necessary condition for consumer readiness is that the technical solution for smart metering is delivered efficiently and effectively. The programme's approach to building consumer readiness will only be sufficient if it also ensures that adequate consumers protections are in place and that engagement with consumers is planned strategically to be focused and effective.

Consumer protection

2.21. The programme will undertake the following activities to deliver appropriate consumer protections to support the rollout:

- monitor developments pursuant to Ofgem's Spring Package, and make additional or complementary amendments to the regulatory framework if required. This will require decisions by the Secretary of State to amend regulation. Monitoring of compliance against such regulation would be subsequently undertaken by Ofgem.
- put in place an effective framework for data privacy which governs data availability and consumer choice. This will include ensuring that technical design decisions are informed by data privacy considerations.
- establish an installation code of practice, underpinned by a new licence obligation on energy suppliers. This requires decisions by the Secretary of State to amend supplier licence conditions. Monitoring of compliance against such regulation would subsequently be undertaken by Ofgem.

2.22. Under the baseline plan, these changes are planned to be implemented as part of the first tranche of regulatory changes in the first half of 2012, shown as milestone 3 on the baseline plan.

Engagement approach

2.23. The programme will build on the work undertaken during the policy design phase to develop a consumer engagement strategy, and begin to implement an associated consumer engagement plan. This will be developed in conjunction with consumer organisations, energy suppliers and other key stakeholders. The strategy will be based on evidence as how best to engage with consumers to support enduring behavioural change – and it will evolve over time. The strategy will specifically consider whether a central body is required, to co-ordinate implementation of the strategy, and if so, the functions that such a body should carry out and who should fund and govern it.

2.24. The programme plans to complete the strategy later this year, to ensure adequate time for it to be implemented from 2012. This will align with the timing of other elements of the plan for the Foundation Phase being delivered. As the smart metering systems to be rolled out on a mass scale become commercially available, and as a framework to support and enable early investment in these meters and systems is implemented, we expect to see increased volumes of meters being installed. This is likely to take the form of individual trials or early deployments by individual suppliers in the first instance. Effective consumer engagement at this stage is key to managing the risks of early deployment, and the programme will be looking to capture important lessons ahead of mass rollout.

Smart Metering System (Premises)

2.25. The smart metering system for the consumer premise is shown as the second section on the baseline plan, comprising one element: the Technical Specification.

2.26. A key component part of the framework to deliver smart metering is the technical specification of the equipment to be installed in homes and businesses. The components of the smart metering system within the consumer premise are: the electricity meter, the gas meter, the Home Area Network (HAN), the IHD; the Wide Area Network (WAN) module and associated security requirements the components are connected together using the HAN.

2.27. The approach is to define a set of specifications which delivers the required range and level of functions, which constitutes integrated and secure parts of the end-to-end system, and which results in equipment that is interoperable. The technical specifications will provide certainty to funders, industry and manufacturers. This will enable procurement and installation of compliant meters.

2.28. The programme will co-ordinate the development of a technical specification with industry and other stakeholders. It will also ensure that the specification fits within the overall technical architecture of the end-to-end system. Under the baseline plan, the technical specification will comprise:

- the functional requirements catalogue
- extended statement of design requirements
- defined options for technical interoperability of components
- use cases describing how users interact with the smart metering system
- normative references which set out the applicable standards.

And will take account of:

- security standards that manufactures will need to meet
- technical standards for open system architecture
- standards adopted by other member states and ERGEG guidance
- the needs of Ofcom, CESG and other government agencies involved in the design of technical and communication devices.

2.29. Under the baseline plan, the technical specification will be accompanied by regulatory obligations to ensure compliance. This requires amendments to regulation. Monitoring of compliance against the regulatory obligations would be subsequently undertaken by Ofgem. The programme will consider the need for an assurance body to manage compliance with the specification. In addition, because these regulatory changes involve mandating technical standards, the Government intends to notify the regulatory changes to the EU before they are formally implemented.

2.30. The technical specification will be developed in consultation with industry and other stakeholder groups. The industry participants have established plans to complete this work by July 2011 (milestone 1). When the work on the technical specification is sufficiently developed it will be published for consultation. The programme will also develop the related regulatory changes such that the regulations and the technical specification can be notified to the EU.

2.31. Under the baseline plan, the EU notification process will be completed by January 2012 (milestone 2). This will enable the associated licence changes to be introduced to take effect from Q2 2012 (milestone 3). Under the baseline plan we expect compliant meters to be available in sufficient numbers to support the transition to smart change of supplier arrangements (milestone 5).

Managing Data and Communications

2.32. The management of data and communications is shown as the third section on the baseline plan, comprising five elements: licensing and appointment of the DCC; establishing DCC's service providers; DCC service development; Participant process, data and system change and testing and trialling.

2.33. There are three broad areas of activity for the programme to establish the enduring framework for smart metering data management, and to enable that framework to be made operational in a timely way. These are:

- specification of the data and communications services to be provided by DCC, with identification of the consequent changes to industry processes, interfaces and systems
- establishing the regulatory framework for DCC, including the competitive licence application process
- developing and progressing the procurement strategy for the first generation of DCC service providers.

2.34. The specification of data and communication services will be an important input to establishing the regulatory framework, to the competitive DCC licence application process and to developing the procurement strategy for DCC service providers. It is also a key input to, and will need to be developed in the light of, the design of revised industry business processes.

2.35. In addition, there is a set of activities to be undertaken by industry to amend systems and processes to be ready to operate in a market environment that contains the DCC. This includes processes internal to each business, and processes that support the operation of the market as a whole. Some of these changes might be required to support amended market operation during the Foundation Phase.

DCC Specification

2.36. The programme plans to produce specifications for the services provided by DCC. A communications specification will set out the parameters, standards, performance and resilience for the communications system. A data specification will set out the functions DCC will perform and requirements for changes to the surrounding industry processes, data and data flows.

2.37. This DCC specification will provide a significant input to the DCC licensing process and the procurement of DCC's service providers. It will also inform the technical specification for smart metering equipment described above and the changes to participant systems and processes.

Licence and appoint DCC

2.38. The DCC is to be awarded a licence because it will have a monopoly over the services that its users are obliged to use through regulation. As with other regulated monopolies, DCC's licence and other regulatory documents – most notably the Smart Energy Code – will be used to protect users (and ultimately consumers) in respect of quality, price and access to services.

2.39. The programme will develop a range of deliverables through consultation with stakeholders. Implementation will require the creation of new regulatory instruments and amendments to regulation. Monitoring of compliance with the amended regulatory framework would be subsequently undertaken by Ofgem.

2.40. It is envisaged that the key deliverables will be:

- *The Prohibition Order:* The statutory instrument that defines what activities it is unlawful to undertake without holding a DCC licence.
- Standard conditions of a DCC licence: The obligations and functions that the initial and any subsequent licence holder must meet and discharge as a condition of holding the licence.
- *DCC licence application regulations and supporting documents:* The statutory instrument defining the process through which a DCC licence will be granted, and the central documents that enable the process to be applied.
- *Special conditions of the DCC licence:* Obligations and functions that the licence holder must meet and discharge that pertain to the specific licence holder, eg the revenue restriction.
- *The Smart Energy Code (SEC):* This is the proposed new industry code governing the relationship between the DCC and its users.

- *Consequential changes to other licences and codes:* The establishment of the DCC will trigger a number of consequential changes to other licences and codes, eg to require suppliers to accede to and comply with the SEC.
- *The grant of a DCC licence:* The party with responsibility for granting the first DCC licence, likely to be the Secretary of State, will run the process as defined in the application regulations to the point where a licence is awarded.

2.41. Under the baseline plan, the core regulatory changes required to commence the competitive application process for the DCC licence will be enacted by the Secretary of State and be in force by Q2 2012. This facilitates the granting of the first DCC licence during Q4 2012.

Establish DCC service providers

2.42. On an enduring basis, the DCC will procure its services providers in a manner consistent with the obligations of its licence. In order to expedite the establishment of the DCC services, Government has decided to take direct control of the preparatory work to procure the first generation of service provider contracts. This should lay the groundwork for the DCC to sign its initial service provider contracts shortly after the DCC is granted its licence.

2.43. The programme will, on behalf of Government, develop the documentation and initiate the process to award the contracts. The work is dependent on the meter technical specification and the DCC specification work (outlined above).

DCC service development

2.44. Post contract award, DCC will manage its service providers to deliver the appropriate functionality for mass rollout. These will be based on the full DCC specification. DCC's service providers will undertake the appropriate process changes and build the communications infrastructure and data systems necessary to support the DCC. These will need to be available for readiness testing according to a detailed programme plan to be agreed in phase 2.

Industry process, data and system change

2.45. The DCC specification will define the interfaces between the DCC and other energy sector businesses. Operation across these interfaces will require system and process changes throughout the industry, including the DCC and its service providers. This will operate at the level of each individual business and in respect of collective market processes. It will also involve changes consequent to an interim specification designed to support market operation during the Foundation Phase. In summary:

- Specification: The programme will work closely with industry as it develops the necessary changes to industry processes, data flows and systems. An initial specification will be produced to enable the Foundation Phase, with a full

specification produced for the DCC environment. Suppliers, central bodies and others will need to adjust their operating model and IT systems to incorporate the changes. In parallel, suppliers will need to develop their organisation processes and systems to meet their own strategies.

- Design, build and test - Foundation: Participants will undertake appropriate changes to their systems and processes to support the Foundation Phase. The programme considers this is best managed under existing industry change arrangements, which include provisions for the necessary testing and trailing.
- Design, build and test participant systems and processes - mass rollout: based on full DCC specification, industry participants will undertake appropriate changes to their processes, communications interfaces and IT systems. Participants will take their own decisions on when to commence change. These will need to be available for readiness testing according to a detailed programme plan to be agreed in phase 2.

Testing and Trialling

2.46. DCC and participant systems development and changes will need to be completed to an agreed timescale. Readiness to enter end-to-end testing will need to be assessed. These will then need to be integrated and the agreed end to end and market testing and trialling process conducted.

Regulation and compliance

2.47. The development of regulation and ongoing compliance is shown as the fourth section on the baseline plan, comprising three elements: rollout regulation; other regulation and monitoring and compliance.

Rollout regulation

2.48. The implementation strategy for smart metering is predicated on the rollout of smart meters being undertaken by energy suppliers. The programme will develop the appropriate form of mandate for inclusion in energy supplier licences in consultation with stakeholders. Under the baseline plan, rollout obligations on suppliers will be put in place by the Secretary of State in Q2 2012 (milestone 3). Monitoring of compliance with the amended regulatory framework would be subsequently undertaken by Ofgem.

2.49. The programme will keep rollout under review in the light of experience, and will consult on changes or refinements to the regulatory framework in respect of rollout as required.

Other regulation

2.50. The introduction of smart metering will require substantial changes to be made to the licensing and contractual frameworks which currently underpin arrangements in both gas and electricity markets.

2.51. Specific obligations and code changes have been described in relation to the activities above related to consumers, the Technical Specification, DCC and rollout. The majority of obligations will be introduced using the Secretary of State's powers. However, in some instances obligations will be introduced by Ofgem using their powers.

2.52. Governance and assurance will be an aspect of regulatory change. The new industry design and specifications may necessitate new assurance and accreditation processes, for example related to the accreditation and governance of the Technical Specification, smart metering performance and security of the end-to-end system. The programme is considering the need for, and appropriate design of, new assurance and accreditation processes.

Monitoring and compliance

2.53. There will be a significant new and amended framework to regulate smart metering. Monitoring and compliance of this framework will primarily be the role of Ofgem under its statutory obligations. This activity is in place now, under existing powers, will be enhanced by the Spring Package, subject to consultation, and then further developed as the new regulatory framework comes into force on a phased basis.

Summary of Regulatory changes

2.54. The makeup of the anticipated regulatory changes under the baseline plan is summarised in Table 2 below. This will be refined in consultation with stakeholders as the programme progresses. The programme plans to introduce the regulations on a phased basis, with the first regulations active from Q2 2012 (milestone 2).

Table 2 - Baseline plan

Regulation
Consumer Readiness
Obligations on protections on remote disconnection and prepayment (introduced through Ofgem's spring package)
Obligation to adhere to privacy requirements
Obligation to adhere to an installation code of practice.
Smart Metering System
Obligation to complete installation of smart metering systems that are compliant with the Technical Specification in 2019
Consequential licence and code changes (eg changes to the BSC to accommodate new meter standards)
Managing Data and Communications
DCC prohibition order - defining those activities it is unlawful to undertake without holding a DCC licence.
Standard DCC licence conditions
DCC licence application regulations - defining the process through which a DCC licence will be granted
DCC special licence conditions
Smart Energy Code: New code governing the relationship between DCC and its users
Consequential licence and code changes arising from the creation of the DCC
Readiness
Transitional arrangements - as necessary to ensure readiness during Foundation and progression to Mass Rollout.
Rollout
Obligation to complete installation of smart metering systems that are compliant with the Technical Specification in 2019
Obligation that all new and replacement meters should be compliant smart meters
Obligation to maintain a plan and report against that
Foundation
Obligation to offer fair and reasonable terms for a metering system on change of supplier
Obligation to offer terms or a service for communications contracts on change of supplier

Readiness for Mass Rollout

2.55. The programme will establish a framework for assessing readiness for mass rollout. The achievement of readiness across consumer, business and technical and regulatory aspects is shown as unnumbered milestones on the baseline plan.

2.56. Consumer readiness will be developed through the consumer engagement strategy, and by capturing the lessons learned from early deployment. Regulatory readiness will be determined based on the completion of the appropriate obligations

and codes. A key component will be market testing of end-to-end systems, and the readiness of each business to enter such testing.

2.57. Any transitional regulatory obligations required to support this framework will be developed through consultation by the programme, and put in place by the Secretary of State.

The Foundation market environment

2.58. The preceding sections have outlined the work the programme will undertake in building towards mass rollout. A key aspect of this work is that it will create a market environment during the Foundation Phase that enables and supports early deployment of smart meters. This environment will be established incrementally, through a series of steps that reduce or remove potential risks to consumers and businesses.

2.59. Early deployment is important because it accommodates consumers' desire for early smart meters, enables elements of readiness for mass rollout to be tested in a 'live' environment and allows for learnings to be captured ahead of mass rollout. This significantly reduces any risks involved in the move to mass rollout.

2.60. The policy conclusions and detailed commercial and technical solutions that underpin these stages, particularly with regard to interoperability, are set out in the "Rollout Strategy" supporting document. This section summarises the expected outcomes below and in figure 3 over.

Current Arrangements

2.61. This stage is current and has effectively been active for some months. Smart meters are currently being rolled out to consumers in small numbers. Installing suppliers are typically bearing the commercial risk that a meter may transfer to dumb on change of supplier. There is a high risk that consumers will lose smart functionality if they change supplier.

Initial Arrangements

2.62. This stage is enabled by Ofgem's Spring Package, subject to consultation. It is envisaged that this stage will come into effect later this year. The expectation during this stage is that smart meters will still typically transfer to a dumb rent as the incoming supplier is unlikely to be able to support the technical configuration. Enhanced consumer protections will be provided in the areas of remote disconnection, pre-payment metering, the introduction of obligations to adhere to an installation code of practice and the introduction of privacy obligations.

'Smart' Change of Supplier Arrangements as Standard

2.63. This stage is enabled by Ofgem's spring package, by the availability of the Technical Specification and associated compliant smart metering systems and by the new licence conditions. Under the baseline plan, this stage will come into effect in Q4 2012 (milestone 5).

2.64. The expectation is that a smart metering system would transfer for a smart rent, irrespective of whether the incoming supplier could support smart. The commercial risk therefore moves to the gaining supplier. Given the move to full 'smart change of supplier', the programme plans to introduce obligations during this period to clarify responsibilities where a consumer has separate gas and electricity suppliers.

Figure 4 Foundation Phase - Expected Outcomes

	Foundation		
	Current Arrangements	**Initial Arrangements**	**Smart Change of Supplier Arrangements as Standard**
Key Market Triggers		Spring Package New licence conditions	Spring package guidelines modified. Conditions on technical specification Compliant smart meters available.
Commercial rules on change of Supplier	Current rules	A dumb rent will be paid for a smart meter	A smart rent will be paid for a smart meter Communications arrangements must be novated or provided
Consumer Experience	Smart meters may be available for consumers Smart functionality lost on change of supplier Existing consumer protections apply	Smart meters may be available for consumers Smart functionality lost on change of supplier Enhanced consumer protections on remote disconnection, privacy and installation code of practice	Smart meters more widely available for consumers Smart functionality retained on change of supplier Responsibility for consumer premise equipment with single fuel suppliers formalised

3. Programme management

This section outlines the governance, management, stakeholder engagement and communications approaches for the design and delivery phase of the programme.

3.1. The Smart Metering Implementation Programme to date has been primarily concerned with establishing clear policy positions that are deliverable and that will achieve the overall Government objectives.

3.2. The next phases are focused on design and delivery. The policy positions need to be grouped into projects, which in turn need to be sequenced and integrated to provide an overall programme of work. This programme has many challenging characteristics:

- The delivery of the programme requires substantial investment. A very small percentage of this is directly controlled by the central programme. The vast majority is sourced and managed by licensed energy suppliers and a new licensed entity, the DCC
- The delivery will directly impact, and require the support and acceptance of, millions of individual households and businesses
- Embedded within the programme is a substantial communications and IT procurement, that will provide a new national infrastructure
- The changes are being implemented in the context of a 'live' competitive market, which needs to be sustained and which is subject to change for other, often closely related, reasons, for example to reduce the carbon intensity of electricity generation. Further, the timescale for the programme means that parallel regimes to support both smart and 'dumb' metering will be required for several years.

3.3. Successful delivery of this programme will require rigorous management, with clarity of scope, responsibilities, sound governance, proven management disciplines and methods, intensive stakeholder involvement and engagement and a robust planning capability. These elements are outlined below; the indicative plan is covered in section 2 above.

The scope of the programme

3.4. The vast majority of investment and activity will be undertaken by market participants. The programme's primary tool for influencing these participants is to change the regulatory framework that governs them and the overall market. This is a core activity for the programme and the key basis by which certainty is provided to the market.

3.5. The programme will also be active in areas where there may be advantages from some central action, for example:

- Consumer engagement and realisation and evaluation of benefits. In these areas, an early strategy will be delivered later this year, which clearly sets out the scope of activity of the central programme and the activities which are the responsibility of participants.
- Co-ordination of end to end trialling and go live verification. A strategy will be developed this year which clearly sets out the scope of activity of the central programme and the activities which are the responsibility of participants. The responsibilities of market participants will be set out in a readiness code.

3.6. The programme will also commence procurement of DCC's service providers in parallel with the DCC establishment in order to expedite the delivery of a fully functional DCC solution.

3.7. The programme will develop an integrated overall central plan that recognises the timescales required for stakeholders to conduct their own activities.

3.8. Given the scale of the programme, there is a significant risk of scope creep. This must be avoided to ensure the programme is delivered according to its timescales and business case. The programme will manage the overall scope.

The responsibility for the programme

3.9. DECC will be directly responsible for managing the central smart metering programme. This is appropriate given the scale of the programme and the importance of government accountability for its delivery.

3.10. DECC has established a dedicated smart metering programme team to provide this major programme with the appropriate focus. The programme will report to the Senior Responsible Owner (SRO) in DECC, who is accountable to Ministers for its successful delivery. A senior programme director will lead the programme. The programme has adopted the following key guiding principles:

- Ensure the interests of consumers are paramount
- Drive a safe, secure, resilient, effective and efficient rollout
- Involve stakeholders closely in the programme
- Focus on delivering the core enablers to provide clarity to participants.
- Focus on benefits realisation to maximise the potential to deliver the programme's projected business case
- Managing the programme rigorously, with focus on risk, time, and cost and change management.

The role of Ofgem

3.11. In managing the first phase of the programme, Ofgem has made a significant contribution to the policy design and will continue to be a key stakeholder. Going forward, its independent role in regulating the electricity and gas market will ensure that the interest of consumers is rigorously protected through this complex change

process. Its regulatory expertise and advice will be a valuable input to the design of what will be a complex set of sequenced changes to the overall regulatory framework. In time, Ofgem will have additional regulatory functions to establish and regulate DCC, and new obligations on suppliers and others to enforce, which will be integral to delivering the programme's business case.

Governance and management of the programme

3.12. In designing the governance and structure for the next phase, DECC has built on the successful elements of the preceding phase, in particular the close stakeholder involvement in expert groups. DECC has also taken account of the findings and recommendations from strategic reviews.

3.13. The SRO will be accountable to Ministers as now. The SRO will continue to chair a Strategic Programme Board ("SPB"). This will be responsible for the strategic direction and oversight of the programme, will own the plan and business case, will manage strategic change and will seek to ensure alignment with other government initiatives.

3.14. Key stakeholder groups will be retained and will provide advice and support to the programme. Ministers will continue to meet senior industry and consumer representatives on a regular basis. The Implementation Coordination Group will provide advice and support to the policy and delivery boards.

3.15. There will be a delivery leadership function, comprising the programme director, programme management office, design authority and key project leads.

3.16. The programme will be managed to rigorous best practice disciplines. This includes the use of the Government standard PRINCE 2 for management. Proven methodologies will be used for the development of key components such as business processes, system architecture and technical specifications.

3.17. It is vital in a programme of this scale and with such a range of participants that clear baselines are established and change is rigorously and transparently managed against them. The policy conclusions outlined in this document will constitute the initial baseline. This will be developed into specifications for regulatory, governance, process and system components, which in turn will become a more detailed baseline. Formal change control against the baseline will be instituted.

The Programme work areas

3.18. Phase two of the programme will include the following core work areas:

- Consumer engagement
- Technical specification

- Assurance and readiness
- Communications specification
- Business process design and requirements
- DCC service provider procurement
- DCC licensing
- Regulatory design
- Rollout
- Data privacy and security
- Consumer protection
- Benefits realisation
- Stakeholder engagement and communication
- Non-domestic implementation

3.19. These work areas will be grouped into projects and cross-cutting workstreams to provide the most efficient and effective management approach.

Stakeholder involvement and communication

3.20. Stakeholders have made an excellent contribution to phase 1, providing advice to the programme to enable it to analyse options and make recommendations to Government. This role will continue in phase 2 and stakeholders will also take on responsibility for major contributions to deliverables. In the areas of the technical specification and the market process and data changes for example, we will look to stakeholders to lead activities which the programme will coordinate and verify.

3.21. The broad approach to engagement through a number of coordination, expert and advisory groups will be retained to provide and support to the programme in their respective areas. The programme will review the specific groups to ensure they reflect the changing nature of the programme and feedback from stakeholders. Membership of these groups will be revisited to ensure it is appropriate for the next phase.

3.22. Our consultative approach to working with stakeholders has been critical to the success of the programme to date. The programme is committed to working with industry, consumer groups and other stakeholders to ensure they are kept aware of the programme's status and plans – but also to gain their valuable input.

3.23. Ofgem and DECC have recently conducted a stakeholder survey to obtain valuable insights about how stakeholders have perceived our engagement with them. The programme will use these to help develop a stakeholder strategy and plan setting out a future approach to communications, aiming to refine and extend the existing approach to communications.

Appendices

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Appendix 1 - Consultation Responses

Summary of Responses

1.1. The Prospectus consultation document published on 27 July 2010 sought the views of interested parties in relation to a package of proposals. We received 279 responses from 197 different stakeholders. This appendix summarises responses received to consultation questions asked in the Prospectus and its supporting documents on the subject of implementation strategy.

1.2. Consultation responses were provided by a wide variety of stakeholders. A full list of those that responded is provided in the Overview document, which this document is published alongside. The programme has considered each consultation response and the evidence and opinions contained in it. These have informed our analytical work and, in turn, the conclusions reached by the Government.

1.3. In order to provide an accessible overview of the consultation responses received, we have sought to group responses under types of stakeholders. Where the consultation responses of particular respondents or classes of respondents have not been mentioned in the following overview this does not mean that they have not been considered or given due weight and merely reflects the summary nature of this overview.

1.4. Responses received by the programme which were not marked as being confidential have been published on Ofgem's website (www.ofgem.gov.uk).

Prospectus

Smart metering regulatory regime

Question 14: Have we identified all the wider impacts of smart metering on the energy sector?

1.5. Responses to this question did not lend themselves to being grouped by respondent category, with common themes emerged across the groups in terms of the wider impacts for consideration. Hence, an overall summary of the key themes raised by all the respondents is provided.

1.6. Broadly, the responses to the consultation indicated that the wider impacts of smart metering on the energy sector were generally well covered. Other impacts that could require further investigation were noted as:

- The implications of early deployment, in particular the benefits of the whole life cycle cost and implications for risks to the programme

- Consideration of transition costs and arrangements, including the dual operation of existing and smart metes and the efficient disposal of existing meters
- Changes to supporting system and settlement processes that will be required, and the relevant timeframes and costs
- Integration and compatibility with other initiatives to support the realisation of the wider benefits such as smart grid, the rollout of electric vehicles, growth of micro generation and the Green Deal. Specifically respondents identified the need to integrate smart metering systems with smart grid systems to provide data locally that can be used by smart grid devices to operate the grid efficiently more and effectively
- Balancing the longer term industry need to meet national targets rather than the short term needs of remote meter reading and enhancing supply competition only.

Conclusions

1.7. On the first point, the programme has invested considerable time and effort in the development of the foundation phase and has actively engaged industry in this analysis. The programme has issued an Information Request to suppliers and meter manufacturers to determine the appetite for early rollout. The programme has modelled scenarios to determine the potential benefits of advancing rollout. (See Appendix to the Rollout Strategy Supporting Documents). The programme has also assessed the risks of early deployment, for example potential increase in cost through supply chain bottlenecks and risks to the consumer experience through lower quality staff. These have contributed to the Government's policy conclusions. The Foundation phase is discussed in the Rollout supporting document and earlier in this document.

1.8. The other points largely relate to ensuring that the programme is integrated with other related initiatives. DECC are managing this integration across Government and Ofgem are and will consider issues in market development as they arise. It was noted in the Prospectus that the link between smart metering and smart grids is well established.

Building a solid foundation for the rollout

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?

1.9. A small overall majority opposed a staged approach to implementation. Opposition was strongest from the larger suppliers. Support was strongest from the meter manufacturers and meter operators.

Suppliers

1.10. There was broad opposition from the larger suppliers to mandated rollout starting before DCC services are available. The majority of respondents who opposed

the proposals raised concerns around the uncertainty of the arrangements prior to DCC, in particular the absence of the requisite commercial and technical frameworks, and the risks that this could pose for suppliers. Concern was raised that the rollout of high volumes of smart meters in the interim period could result in negative customer experience or media coverage, especially if a meter change is required on change of supplier.

1.11. A large minority of respondents suggested that a two staged approach would increase the overall costs of the programme and slow it down due to the need to switch over communications to DCC, and potentially carry out second visits as a result of technical issues with either the smart meter or the communications. There was concern that disproportionate attention would be given to the interim solution and distract attention from the enduring solution.

1.12. A majority of respondents felt there were essential pre-conditions to any rollout prior to DCC, for example commercial and technical interoperability. A minority of respondents suggested that the period of time before DCC is valuable to use as a window for carrying out a controlled market start up. This would be used to build industry and customer confidence in the technologies and implementation approach with controlled volumes of smart meters being deployed.

1.13. The minority of suppliers who supported the approach felt it important for the rollout to be accelerated to deliver benefits for customers and other stakeholders. They believe the approach allows more time for a more radical industry re-design that delivers maximum overall benefits to suppliers and subsequently customers.

1.14. There were mixed views on the staged approach from the smaller suppliers who responded. Concerns were raised on a number of issues among the small majority of respondents who opposed the proposals. Specifically, customers' difficulty when changing supplier, data security and privacy, additional costs if suppliers have to replace meters that don't meet the specification and the imposition of de facto standards based on meters rolled out prior to DCC.

1.15. The minority of smaller suppliers who supported the proposals stated that they were already active in this market and didn't want to stop and wait.

Consumer Groups

1.16. There were mixed views from the small number of consumer groups who commented. One respondent raised the need for a robust consumer protection framework for consumers who already have a smart meter, or will receive one before DCC is in place. Another commented on the need for technical and commercial arrangements to be put in place that ensure that customers do not need to get a new metering system to change supplier, as this would result in additional cost, inconvenience and potentially act as a barrier to switching.

Network Operators

1.17. Among the limited number of network operators who responded, the majority supported the proposals on staged implementation. They suggested that in addition to enabling the realisation of consumer benefits, a lower volume rollout would accelerate the installation of smart meters and allow for problems to be identified and quantified and solutions developed in advance of mass deployment. One respondent commented that the rollout can also support other trials such as those for the Low Carbon Network Fund.

Meter Manufacturers and Meter Operators

1.18. There was broad support for the proposals from the majority of meter manufacturers and meter operators who responded. A small number of respondents believed that the proposed approach provides certainty to suppliers who wish to move early. Another suggested that the implementation of smart meters must begin before the establishment of DCC as there are still a number of unresolved issues that could lead to a substantial delay in its implementation.

1.19. It was also suggested that a staged implementation will provide valuable information on installation techniques, training of installers, consumer engagement and communications performance. This was viewed to be especially useful if experiences could be shared between parties.

1.20. The minority of respondents who disagreed with the proposals believed that the staged approach introduces a number of serious risks. For example, the introduction of a significant level of complexity in the period with rollout underway but without DCC in place.

Other Respondents

1.21. There were mixed views from the other respondents including trade associations and industry bodies, consultants and service providers and respondents from the telecoms sector.

1.22. The small majority of respondents who opposed the proposals were concerned that initiating a mandate to rollout large numbers of smart meters before DCC was in place would be a highly complex project with a significant level of technical and commercial risk and these are currently insufficiently understood or quantified.

1.23. A small number of respondents suggested that it would be better to initiate a series of trials and pilots to demonstrate that the end-to-end system was working properly, and allow any unexpected problems to be addressed prior to the mass rollout commencing.

1.24. The minority of respondents who explicitly supported the proposals acknowledged the risks with the approach but considered that the approach is a

pragmatic one that facilitates early deployments of smart meters and the delivery of early benefits, as long as the risks are well managed. They believed that these could be mitigated by developing interim commercial and technical market arrangements and using proven technology.

1.25. A minority of respondents commented that a staged approach would allow early proving of the physical rollout process, functionality, customer engagement approaches and some aspects of the communications technology prior to when DCC starts providing its services. The lessons learnt in this stage could be used to maximise the efficiency of the mass rollout. Respondents highlighted a range of advantages of adopting a staged approach. These included the earlier commencement of the rollout programme, the quicker delivery of benefits to consumers, the development of DCC independently of time pressures, and the ability to identify and resolve issues and incorporate learning prior to full launch.

1.26. A small number of respondents commented that the proposed timescales may not allow sufficient time to build and test industry systems and processes, or that technologies may not be properly implemented and tested leading to a risk of recall and adverse coverage. The risk of inadequate end-to-end security and data privacy arrangements was raised as a concern.

Conclusions

1.27. The programme has undertaken intensive work in this area, with extensive involvement of stakeholders, new evidence gathering through information requests, cost benefit analysis and risk assessment of options. This has led to the establishment of the Foundation phase. The Foundation phase is discussed in the Rollout supporting document and earlier in this document. Key features relevant to the above points are:

- The Government is not currently proposing a mandate prior to DCC go live
- The programme has worked with industry through its expert groups to identify approaches to interim arrangements, specifically commercial and technical interoperability. The former has been covered early in Ofgem's Spring package. The solution for the latter includes a common standard and obligations to novate or provide communications
- The Foundation phase will be used as a period of gradual market build up to provide lessons for mass rollout
- Consumer protection measures have been advanced and will be introduced through Ofgem's Spring Package (subject to consultation) and in the first set of regulatory changes.

1.28. Overall, the Government believes the approach provides the optimum means of advancing rollout and delivering early consumer benefits, while ensuring sufficient rigour is in place to ensure a secure well functioning market.

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?

1.29. There was broad support across respondents for the approach to the governance and management principles being applied by the programme. There was strong support for transparent governance. Further clarity was sought on critical areas of the programme governance, in particular stakeholder involvement. There was also strong support for the use of expert groups and for the use of industry as key stakeholders. The importance of monitoring progress towards programme goals was noted.

Suppliers

1.30. Suppliers broadly supported the governance approach taken and welcomed the ICG. They requested further clarity on timescales for decision making and would like to ensure decisions are made at the right level. Suppliers believe a design authority and a communications function are essential in order for stakeholders to maintain an overall view of programme scope and interdependencies.

Consultant and Service Providers

1.31. Very few respondents in this group explicitly disagreed with the approach but most made suggestions related to the proposed governance arrangements and management principles. A minority commented on areas such as clarity on critical areas of governance or the establishment of an overall technical authority for the programme. These respondents considered that it would be useful to define groups to make governance more manageable, including Treasury and National Audit Office stakeholders.

Other Respondents

1.32. These groups of respondents included trade associations, industry bodies, network operators and respondents from the telecoms sector. Very few respondents explicitly disagreed with the approach but most made suggestions related to the proposed governance arrangements and management principles. A minority commented on issues such as a transparent and objective risk management process across the programme. A small number explicitly supported the use of expert groups typically with caveats around the membership with very few suggesting a wider involvement and/ or full-time industry representation on the programme to advise on specific issues such as regulations and the advancement of technical specifications. Very few of the respondents raised the need for a design authority. A similar number noted the possibility of EU notification delays and the consequent need to manage this stakeholder relationship.

Conclusions

1.33. The programme has taken account of the feedback from stakeholders and our proposals for governance and management are set out in the section entitled 'Managing the Smart Meter Programme. Key points are:

- Industry and other stakeholders will be critical to the continued development and delivery of the programme

- Several facets of the policy design phase engagement will be retained, eg the ICG and CAG. The programme will review the expert group structure with stakeholder input and ensure it is aligned to the programme workload for the next phase of the programme
- The programme structure includes a design authority. This function will be responsible for communicating the overall solution to stakeholders (via agreed communication mechanisms).

Implementation strategy

Programme management and governance

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?

1.34. See response to Implementation Strategy Question 20 above.

Programme activities

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

1.35. The largest groups of respondents were consultants, service providers and respondents from the telecoms sector. Most agreed there were other cross cutting activities that the programme should undertake. There was broad support for taking the opportunity to simplify industry processes and for needing to link to smart grids and support future market developments.

Consultant and Service Providers

1.36. Nearly all consultants and service providers identified other cross cutting activities. Examples included a review of arrangements around industry processes for electricity and gas metering including such issues as harmonisation of data flows, where possible, to allow a more seamless arrangement for new connections, change of occupancy and supplier and other industry flows. A small number also suggested the integration of the smart metering infrastructure with smart grid infrastructure. A very few respondents suggested that the DNOs should be a key part of the stakeholder engagement.

Suppliers

1.37. Nearly all suppliers identified other cross cutting activities. The majority of suppliers who responded sought linkages with smart grid activities. Examples of other cross cutting activities included consideration of overall security architecture along with data security, privacy management or consumer protection and the establishment of clear overall data security arrangements before the start of rollout, so that the first meters installed comply with an agreed security scheme. Other

examples mentioned by a minority included micro generation or renewable initiatives such as the Green Deal, Electric vehicles and energy efficiency schemes.

Other Respondents

1.38. Other respondents included industry bodies, meter manufacturers, meter operators, trade associations and the telecoms sector. Across these groups there was broad support for linking smart meters to the smart grid and for supporting future services such as demand response, electric vehicles and non-energy related services such as security. A small number of respondents identified a need to unify gas and electricity industry procedures and learn lessons from international smart metering and smart grid projects and for a programme design authority.

Conclusions

1.39. The programme has taken account of the feedback from stakeholders and considered it in our proposed work areas, structure and approach for the next phase of the programme set out in this document. Key points are:

- There is a workstream to set out the DCC specification and how industry processes need to change to best incorporate the DCC. This will cover both electricity and gas arrangements. The workstream will have the opportunity to simplify processes, consistent with ensuring it adheres to its scope.
- Security (and privacy) will be a cross-cutting workstream, as for the policy design phase, ensuring the requirements and approach is consistent across the programme. This area will also be of particular focus for the Design Authority.
- The programme will maintain close links with the smart grid initiatives within DECC.

Staged implementation approach

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?

1.40. See response to Prospectus Q 17 above.

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?

1.41. The largest groups of respondents to this open question were consultants and service providers, suppliers and those form the telecoms sector. Examples of the issues raised for staged implementation included the risk that interoperability is not possible before the DCC becomes operational, delays in increasing meter production and installer staffing shortages.

Consultants and Service Providers

1.42. Consultants and service providers appreciated the desire to rollout smart meters quickly but nearly all identified risks. A large minority identified issues related to the customer experience, either for those wishing to change during the staged implementation or who are already part of rollout activities.

1.43. There were mixed views on whether suppliers would be able to procure services of sufficient quality and flexibility. A large minority suggested variants on a staged implementation whether by targeting different groups, geographies or technologies. A few suggested a programme of interoperability trials to reduce the risk of equipment not being interoperable

1.44. A minority of respondents highlighted the risks of a late start to DCC provided services extending the interim period and of delays migrating to DCC. A small number of respondents held the view that smaller suppliers could be disadvantaged due to a need for upfront investment.

Meter manufacturers

1.45. Meter manufacturers nearly all identified risks. A small number of respondents suggested ways to reduce risks associated with early rollout of smart meters including a process for the early agreement for access management on change of supplier and establishing robust HAN and WAN interfaces in the technical specification. A small number considered that, if the robust specification was developed in the timeframe, the risks would be mitigated. One respondent identified a risk in the programme requirements not being reflected in manufacturing capabilities.

Suppliers

1.46. A majority of suppliers consider a mandated staged approach to be too risky, suggesting that it provided insufficient times to learn lessons, that it adds cost and complexity. One respondent suggested it was better to 'complete early rather than start early'. A small number sought national trials before the launch of DCC services and related licence obligations.

1.47. One respondent suggested there is a risk that a proposed obligation on DCC service providers to take on existing communications contracts may deter bidders or increase the price of bids.

Respondents from the telecoms Sector

1.48. Respondents from the telecoms sector broadly supported the need for a consensus on functional scope, service scope and industry process design before mandated rollout as they considered this would reduce the risk of cost inflation, interoperability challenges and other potential system failures.

Conclusions

1.49. The programme has taken account of the risks identified by stakeholders. These have been addressed in our approach and key risks will continue to be

managed under the programme's risk management process during the next phase of the programme. Key points are:

- The technical specifications will provide for interoperable solutions
- The Foundation phase has received specific focus to ensure a stable regime for supplies and consumers wishing to progress smart metering installation ahead of the DCC
- Security will be a cross-cutting workstream; a security by design approach has been adopted to ensure security is threaded through the entire end to end system

1.50. Responses are provided on specific points in response to earlier questions (eg Prospectus Q17) and in the Smart Meter Design, Central Communications and Data Management and Rollout supporting documents.

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?

1.51. A large minority of all respondents (across the groups, including suppliers, industry bodies, trade associations, meter manufacturers, meter operators, consultants, service providers consumer groups, network operators, consumer groups and the respondents from the telecoms sector) identified two main themes as to how the rollout could be brought forward:

- First, the early development and approval of technical specifications and common standards
- Second, a priority to accelerate DCC and central communications functions. The view was stated that this would allow the rapid ramp up of the rollout process.

Suppliers

1.52. There were mixed views from the larger suppliers on how the rollout could be brought forward. A minority of respondents made specific reference to the need to build a strong foundation for the rollout by using the initial period for preparation and planning. It was suggested that this would mitigate the risk of failure, and allow for further opportunities for acceleration to be identified from the early experiences. One suggestion was to bring forward the implementation of DCC, followed by a substantial ramp up of rollout activity. Others suggested that acceleration could be achieved by the early agreement of technical specifications.

1.53. One larger supplier suggested that the key to acceleration is earlier commercial certainty over meters, to allow earlier deployment of compliant meters and mobilisation of the supply chain. A small majority of the smaller suppliers who commented raised the need for commercial certainty. They considered this to be necessary to allow suppliers to continue to roll out smart meters but reducing the risk of stranding assets in advance of functional and technical specifications being finalised. One suggested that smart meters installed by early adopters should be exempt from the final technical specification requirements for a period of ten years subject to meeting a minimum agreed standard or to replace these meters at the

end of the rollout. A smaller supplier suggested that the delivery date for DCC could be brought forward by implementing the regulatory framework earlier in conjunction with scoping DCC.

Consultants and Service Providers

1.54. Suggestions made by consultants and service providers on the question of ways to bring forward rollout included agreeing the technically specifications early, having more expert industry groups and using existing industry work on technical and communications standards, accelerating the DCC operation to cover the interim period communications and considering options to undertake programme activity in parallel.

Other Respondents

1.55. A large minority of respondents from other groups suggested the most effective way to bring rollout forward would be through the early agreement of technical standards. These groups included of metering installers, manufacturers and operators, the telecoms sector and consumer groups. Their suggestions included using existing standards or by taking into account work already done by industry.

1.56. A small number of these groups of respondents suggested that procuring and establishing the DCC soon as practicable in parallel with the development of the regulatory framework could bring rollout forward. A small number of respondents suggested the early establishment of commercial arrangements as a way to reduce the risk of asset stranding and to encourage early movers. One respondent also suggested that it would be important to reduce uncertainty in the communications technology, interim market arrangements and transition arrangements to DCC

1.57. A small number of service providers suggested that large scale trials could be deployed in the interim period as a way of significantly de-risking the programme and accelerating rollout during this period. One service provider suggested that a speedier rollout could be achieved by allowing the retro-fit of HAN modules to existing gas meters with considerable operational lifetime.

1.58. Responses from the limited number of other parties (including trade and industry bodies, technology providers, network operators) followed broadly similar themes. The early agreement of technical specifications and the fast tracking of DCC were suggested by a minority of respondents. A small number identified a need for pilot activities. One respondent suggested the need for commercial arrangements to protect pre-compliant meters from stranding while another stated that additional benefits could be achieved by building on aspects of existing best practice governance arrangements. Network operators raised the importance of coordination between suppliers and networks during the rollout to resolve service point issues in an effective and efficient manner.

Conclusions

1.59. The programme agrees that the need to clarify the technical aspects of the programme is a priority for the next phase of work and has reflected in the section which discussed The Programme Plan.

Indicative implementation milestones

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?

1.60. There were mixed views from respondents on whether a six month period is between when supply licence obligations mandating rollout are implemented and when they take effect.

Suppliers

1.61. The majority of suppliers shared the view that the six month timeframe would be challenging with mixed views on whether this challenge could be meet. They highlighted the need for adequate time for all market participants to prepare for rollout and the dependency on the availability of the technical specifications. One supplier noted that six months is too short if product development is required.

Consultants and Service Providers

1.62. Consultants and service providers had mixed views on the planning assumption of six months between supply licence obligations and mandating rollout. Those who consider the timeframe achievable said it depended on detailed visibility of the technical specification and regulatory requirements. They stated a need for frequent updates so that suppliers can be prepared and undertake the major part of the equipment design and testing before these key documents are finalised. Others considered the time to be insufficient if rollout required the HAN and WAN. They thought that volume contracts for metering and communications equipment were not likely to be agreed before the licence obligations and that there is a possibility of delays in meter procurement due to the number of parties involved.

Meter manufacturers

1.63. Meter manufacturers gave a mixed response to the six month assumption with reservations about protracted procurement due of meters due to the number of parties involved, the need for the technical specification to be certain and the need to allow time for testing and training before rollout.

Network Operators

1.64. The network operators who responded had mixed views with concerns that final arrangements need to be known as early as possible, that time would be required to adhere to the changes in industry codes along with clarity on the arrangement on transition to the DCC.

Conclusions

1.65. The programme has undertaken analysis in this area and sought information requests from BEAMA and suppliers. Based on all the feedback, the programme has amended its assumption to nine months.

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

1.66. There was broad support for the view that six months between appointment of DCC and the start of services would be challenging for the programme. Other risks to the high level implementation plan identified by respondents included the serial nature of the critical path causing knock on impacts to the programme timescale and likely lags for manufacture, installer and supplier readiness.

Suppliers

1.67. There was a broad opposition from suppliers to the timescale on the basis that it is too ambitious. Most suppliers considered that the high level plan assumption of six months between grant of DCC licence, services procurement and the start of services to be challenging. Two main areas where slippage was deemed to be a risk were the development of the technical specification and the appointment of DCC and its service providers. A number of respondents considered that, if a two stage approach is adopted, there would be a need to consider whether or how DCC would take over interim communications solutions. One supplier expressed a concern over the decoupling of the dates for the mandating of smart metering and the start of the DCC services and licence obligations.

Respondents from the telecoms sector

1.68. A majority of respondents from the telecoms sector stated that the highest risk phase of the programme is between the creation of DCC and the start of its services. A small number identified the serial nature of activities as an area of risk, with a potentially protracted critical path where slippage of any activity risks a knock on impact to the next activity.

Consultants and service providers

1.69. The majority of consultants and service providers believe the timescales for DCC selection and testing are ambitious and the programme should consider bringing forward activities in the next phase of the programme such as development of technical meter specifications and supply licence obligations. One supplier was concerned that this could lead to an unfair disadvantage for smaller suppliers due to a lack of centrally available services and prohibitive investment costs.

Industry Bodies

1.70. The majority of industry bodies who responded believe the six month procurement is not feasible. Challenges identified to timely implementation included a ramp up period for suppliers and for meter manufacturers to attain peak output,

the need to include recruitment and training for meter installers and for some form of licensing / standards / code of practice in plans.

Other Respondents

1.71. Meter installers sought an earlier start on work on the regulatory framework for the DCC. Meter manufacturers considered that the time to ramp up could well be faster than anticipated although one considered the timings to be very optimistic. Meter operators in general did not believe the start of the rollout is early enough and sought a more aggressive start date through the use of current metering technology and service providers. Trade associations agreed in general terms with the proposed activities, assumptions, timings and dependencies but noted that in addition to the ramp up period for suppliers, a ramp up period is also likely to be required for meter manufacturers and there is a need for training for meter installers.

Conclusion

1.72. The programme has taken note of feedback from stakeholders and gathered further information through information request and extensive working with industry expert groups. The plan has undergone significant revision as a result of these activities and is included in section 2 of this document. Key points are:

- The time from service provider appointment to DCC delivered services has been extended to 15 months
- The programme intends to commence the procurement of service providers in parallel with DCC establishment to expedite progress
- Work on the Technical Specification has commenced in parallel with the completion of phase 1 to expedite progress.

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

1.73. The largest respondent group to this open question was consultants and service providers, suppliers and the telecoms sector.

1.74. Respondents broadly agreed with the high level outputs identified, with a number of additions outline below. A majority of respondents stated they expected to see more detail as the programme progresses.

Consultants and service providers

1.75. Consultants and service providers comments on the current set of outputs included incorporating DCC specifications in the technical specifications in the next phase of the programme (phase 2), that the timescales for DCC appointments and testing were unrealistic and bringing some DCC activities forward into phase 2.

Suppliers

1.76. Suppliers broadly supported the outputs identified, though they argued that consumer awareness campaigns should start earlier than phase 3 and identified a

requirement for a commercial framework to deliver interoperability, ongoing consumer protection and programme assurance during the phases.

Respondents from the Telecoms Sector

1.77. Respondents from the telecoms sector comments on the outputs included the need to add interoperability testing and tools, a code of practice for consumer engagement and raised concerns about a delay in any part of the critical path causing delays in the delivery of the programme.

Consumer groups

1.78. Only one consumer group responded. They raised the need for more emphasis on outputs related to delivering consumer benefits. the need for consumer's protection, consumer engagement and regulatory oversight prior to DCC becoming operational. They were concerned that key decisions are being made while the Impact Assessment and benefits realisation plan is still being developed.

Other respondents

1.79. Industry bodies broadly sought a clearer milestone plan. Meter manufacturers noted a need for a certification process for meters / metering systems. Meter installers supported the identification of outputs for each phase and would like to see all participants involved in any change to the regulatory framework. Trade Associations stated they would like to see DCC appointed in Phase 2 with meter registration being brought in at the same time.

Conclusion

1.80. The programme has taken account of the feedback from stakeholders and reflected these in section 2 of this document.

Regulatory and Commercial

3.24. The Regulatory and Commercial Framework consultation document set out a description of the regulatory and commercial framework that it was proposed would be needed to support smart metering. The main components included a separately licensed DCC and a new Smart Energy Code. The document also set out the proposed scope and content of the Smart Energy Code and discussed the roles and responsibilities for installing and operating equipment to be located on the customer premises.

Smart metering regulatory regime and other regulatory and commercial issues

Question 1: Have we identified all of the key elements that you would expect to see as part of the Smart Metering Regulatory Regime?
Question 11: Are there any other regulatory and commercial issues that the programme should be addressing?

1.81. Responses to this question did not lend themselves to being grouped by respondent category as the majority of the issues raised in response to the questions were raised by only one or two respondents and these covered a diverse range of subjects.

1.82. Overall, there was broad support for the view that the key elements of the regulatory regime had been identified. However, in a number of cases, respondents suggested that considerable additional detail was needed. Most respondents did not disagree in principle with the proposed approach, but instead suggested a number of other areas that needed to be addressed from a regulatory and commercial perspective.

1.83. Respondents offered a range of views and raised additional issues. A minority of those who responded to these questions believed that the opportunity should be taken to simplify existing industry arrangements. Others (half of whom were suppliers) believed that the impact on network operators needed to be considered as well as potential stranded costs for others such as Meter Asset Providers. A small number of those who responded to the questions also expressed the view that there was a need for a more general review of existing technical standards.

1.84. Issued raised included matters relating to:

- the scope and governance of DCC and the smart energy code
- consumer protection, security and privacy
- interoperability and supply competition
- the timing and nature of mandated targets and/or obligations on roll out
- the impact of smart metering on existing review processes and codes such as ROMA, project nexus, and the existing arrangements in the Balancing and Settlement Code, MAMCoP and MOCOPA
- dealing with the costs of legacy issues such as the presence of non-standard meter boards or asbestos
- The need to deal with a range of more technical and safety matters such as standards, smart grid requirements, health and safety and gas emergencies.

Conclusions

1.85. The issues above have been considered in the Government conclusions and many will require more detailed elaboration as the details of the regulatory and commercial framework are developed in the next phase of the programme. In particular see:

- Central Communications and Data Management supporting document for DCC and smart energy code issues and how these fit with existing codes and arrangements
- Rollout supporting document for issues on interoperability, the approach to targets and technical, safety and operational issues.

1.86. It is intended that much of the detail of the next phase of the programme will be developed in tandem with stakeholders and the programme will consider these matters in that process.

Other regulatory and commercial issues

Question 8: Are there additional measures that should be put in place to reduce the risks to the programme generated by early movers?

1.87. Across all the groups of respondents there was broad agreement that additional measures that should be put in place to reduce the risk to the programme generated by early movers. The largest groups of respondents were consultants/ service providers and suppliers, with very few responses from most other groups. Similar themes emerged across all the groups and accordingly the analysis is combined.

1.88. Respondents' most frequently made suggestion, made by a minority, was for the early completion of technical specifications. A few commented that unless the specification was set early de facto standards could emerge (probably defined by the larger or earlier movers). However, a small number of respondents suggested either using early movers' activities as trials to inform the programme or establishing specific trials to test the system or elements of the system, as for the Low Carbon Network Fund. A few respondents specifically expressed a desire for trials associated with communications functionality and interfaces with the metering technology.

1.89. A small number of respondents suggested that commercial interoperability arrangements and data sets need to be defined early. A similar number suggested that early movers should carry any risks associated with replacing early deployments in order to comply with the final specifications. Conversely a small number of respondents stated that the programme should not require early deployments to be replaced until the completion of the wider rollout.

1.90. Very few respondents stated that a clear communications policy is needed, particularly for customers, so that they understand the implications of moving early. The aim would be to explain that customers might either have to change their meter or may not be able to access the full benefits of the smart metering system until DCC is operational.

Conclusions

1.91. These views have all been taken into consideration in our approach to our implementation strategy, as summarised in our conclusions for question 17 in this section.

Impact on wider industry processes

Question 13: Are there changes to settlement arrangements in the electricity or gas sectors that are needed to realise the benefits of smart metering?

1.92. The largest single group of respondents to this question were suppliers. There were limited numbers of respondents in each group. Overall, there were mixed views on whether changes to the settlement arrangements were needed or not, in both long and short term.

Suppliers

1.93. There were mixed views from the supplier group. A minority expressed a view that changes are not needed or that it is not appropriate to make any changes now, in order to avoid negative impacts on the programme and timescales. A large minority noted that existing industry review activities are likely to be relevant to the settlement arrangements needed for smart metering. A similar proportion commented on the potential for scaling existing regimes rather than developing new ones.

1.94. Individual respondents identified potential benefits such as changes to the settlement process to avoid emerging saturation of the current systems, to provide opportunities for innovative tariffs or products and to make it more cost effective from a faster settlement process. One respondent proposed an expert industry group, including members such as Elexon and Xoserve, with a goal of determining how the settlement process should treat smart meters. A small number commented on the use of DCC for carrying out processing and settlement, either suggesting support for that approach (if indicated by a cost benefit analysis) or that complex services should only be deployed via DCC on a staged basis, after allowing core functions and data volumes to stabilise.

Industry bodies and Trade associations

1.95. This aggregated group of respondents was broadly in favour of changes now or in the short term. Specific benefits were anticipated from reducing the settlement timescale and increasing profiling accuracy. One commented that it was hard to see how tariff innovations could develop without such changes. A large minority commented on the ongoing Significant Code Review process as a vehicle for assessing the business case for potential changes to settlement arrangements.

Other Respondents

1.96. This group of respondents included meter installers, manufacturers or operators and network operators, also consultants and service providers and respondents from the telecoms sector. Overall, a large minority of respondents supported changes now or in the short term. A small number of respondents commented that smart metering provides opportunities to change the settlement system but that it would be preferable to do so after implementation, in a staged manner as part of an overall review of settlements processes. A similar proportion suggested cost benefit modelling is needed to understand the benefit of shorter settlement times on risks, costs and settlement delays. One respondent identified a specific technical issue of how to account for losses, whether from poor maintenance, ineffective operations or theft.

Conclusions

1.97. The programme's focus will continue to be on the rollout of smart meters, the systems required to facilitate this and associated benefits. The programme provides an opportunity to address existing settlement issues which will be considered in the next phase of the programme and by Ofgem under their statutory authority.

Question 15: Are there any other industry processes that will be affected by smart metering and which the programme needs to take into account?

1.98. The largest single group of respondents to this question was suppliers.

Suppliers

1.99. There were mixed views on whether there are other industry processes that will be affected by smart metering and which the programme needs to take into account.

1.100. A number of common themes on industry processes emerged, with a minority of respondents commenting on each:

- Other elements of smart grids and metering such as micro generation, specifically the feed in tariff export elements and the green Deal proposals – one respondent suggested that DCC could play a role in the Green Deal by providing a single point of contact for premises reference data
- Issues related to the industry processes for settlement, system charges, data transfer and other activities related to settlement with queries around clarity on access to data, demarcation or ownership
- Safety and emergencies, including emergency meter replacement – the continuation of safety inspection rules was suggested to represent a significant cost as the need to physically read meters disappears and an alternative, remote diagnostic approach was suggested. However a process is required to handle emergency calls which cross jurisdictions, including the role of DCC.

1.101. One respondent commented on the HAN specifically and suggested that more consideration needs to be given to understanding the HAN, deployment issues, technology options and technical standards, test protocols and commented on the need for trials to enable the programme to make an informed decision.

1.102. A minority of respondents suggested specific mechanisms by which the programme could take these factors into account through the use of a design authority and ongoing assessment of key changes to processes.

Industry bodies and trade associations

1.103. There was broad agreement that there are other industry processes that will be affected by smart metering and which the programme needs to take into account. A minority of respondents felt that the programme should revisit the question after the initial industry feedback and following the findings of the consultation process.

1.104. There was no overarching theme, with only a minority of respondents commenting on any specific issues, such as:

- settlement arrangements and implications for codes, data flows and related processes
- the change in the nature and delivery of customer support, and
- as, above, the Green Deal.

1.105. A minority of respondents suggested the Smart Metering Significant Code Review or Smart Energy Code activities could help the programme in considering those processes that will be affected by smart metering.

Other groups of respondents

1.106. This group of respondents included meter installers, manufacturers or operators and network operators, also consultants and service providers and respondents from the telecoms sector.

1.107. There was broad agreement that there are other industry processes that will be affected by smart metering and which the programme needs to take into account.

1.108. A number of themes were identified by a minority of respondents, including:

- Prepayment, vending systems and their compatibility – concerns were raised that prepayment processes and vending system compatibility have both been overlooked. Others suggested a need for processes to overcome current problems of misdirected payments on change of supplier, data errors or unallocated payments
- Customer support and messaging on IHDs – the end to end support of meters will run across a number of organisations including retailers and the DCC. Respondents suggested a smooth handover will require a common definition of incidents and how these are handled
- End to end security and auditing – respondents raised the issue of the need for new processes to allow smooth running across multiple organisations.
- Other elements of smart grids and metering such as electric vehicles, feed in tariffs, the Green Deal proposals and water metering – a small number of respondents expressed a desire for processes related to these to be included more fully in the programme and to be consolidated early, using the Smart Energy Code as a framework.

Conclusions
The programme has taken account of the feedback from stakeholders and will work with stakeholders to detail the interfaces of the programme with industry processes in the next phase of the programme.

Appendix 2 - Glossary

A

Advanced meters

Advanced meters are defined in standard supply licence conditions as being able to provide measured consumption data for multiple time periods (at least half hourly for electricity and hourly for gas) and to provide the supplier with remote access to the data.

Authorised parties

Any organisation or person who is authorised by the Smart Energy Code to carry out an activity on the smart metering system.

B

Balancing and Settlement Code (BSC)

The BSC contains the rules and governance arrangements for electricity balancing and settlement in Great Britain. All licensed electricity suppliers must be party to it (see Codes).

C

Catalogue

The minimum functional requirements of the smart metering system are brought together in the Smart Metering System Functional Requirements Catalogue (the "Catalogue"). This covers the smart metering system for both the domestic and smaller non-domestic sectors.

Codes

Industry codes establish detailed rules that govern market operation, the terms for connection and access to energy networks. The supply and network licences require the establishment of a number of industry codes that underpin the gas and electricity markets.

Commercial interoperability

The ability of an incoming supplier to agree mutually acceptable commercial terms with the meter owner for the use of the meter and related equipment when a customer changes supplier.

Consumer

Person or organisation using electricity or gas at a meter point.

Customer

Any person supplied or entitled to be supplied with electricity or gas by a supplier.

Customer premises equipment

All smart metering equipment in a customer's home or business.

D

Data and Communications Expert Group (DCG)

One of several expert groups established by the programme, following publication of the Prospectus, to draw on the experience of industry and other stakeholders. DCG has considered the scope, set up and activities of the central data and communications body.

DataCommsCo (DCC)

The new entity that will be created and licensed to deliver central data and communications activities. DCC will be responsible for the procurement and contract management of data and communications services that will underpin the smart metering system.

Distribution Network Operators (DNOs)

DNOs take electricity off the high-voltage transmission system and distribute this over low-voltage networks to industrial complexes, offices and homes. DNOs must hold a licence and comply with all distribution licence conditions for networks that they own and operate within their own distribution services area. There are 14 DNOs covering discrete geographical regions of Britain.

E

Early movers

Suppliers who are already installing meters with "smart" functionality.

Electricity meter

A measuring instrument that records the quantity of electricity supplied.

ELEXON

ELEXON is the Balancing and Settlement Code Company (BSCCo) defined and created by the BSC.

End-to-end smart metering system

The end-to-end smart metering system covers all equipment, communication links and connections from every customer through DCC to suppliers, network operators and authorised third-party service providers.

Energy supplier

A company licensed by Ofgem to sell energy to and bill customers in Great Britain.

European Regulators' Group for Electricity and Gas (ERGEG)

The European Commission's formal advisory group of energy regulators. ERGEG was established by the European Commission, in November 2003, to assist the Commission in creating a single EU market for electricity and gas. ERGEG's members are the heads of the national energy regulatory authorities in the 27 EU Member States.

F

Foundation stage

The period before market readiness for the mass rollout is fully established. This is also referred to as Phase 2 of the Smart Metering Implementation Programme.

Functional requirements

The minimum functions that must be supported by the different elements of the smart metering system to ensure the delivery of the benefits of smart metering. These describe what the smart metering system must do (not how it must do so).

G

Gas and Electricity Markets Authority (GEMA)

The Authority is Ofgem's governing body. It consists of non-executive and executive members and a non-executive chair. The Authority determines strategy, sets policy priorities and takes decisions on a range of matters, including price controls and enforcement. The Authority's principal objective is to protect the interests of existing and future consumers in relation to gas conveyed through pipes and electricity conveyed by distribution or transmission systems. The interests of such consumers are their interests taken as a whole, including their interests in the reduction of greenhouse gases and in the security of the supply of gas and electricity to them. The Authority's powers are provided for under the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998 and the Enterprise Act 2002.

Gas meter

A measuring instrument that records the volume of gas supplied.

Green Deal

The Green Deal is the Government's initiative to establish a framework that will enable private firms to offer consumers energy efficiency improvements to their homes, community spaces and businesses at no upfront cost, and to recoup payments through a charge in instalments on the energy bill.

H

Home area network (HAN)

The smart metering HAN will be used for communication between smart meters, IHDs and other devices in consumers' premises.

I

Implementation Coordination Group

A stakeholder group established by the programme, following the publication of the Prospectus, to provide a direct communication channel with key delivery partners and consumer organisations.

In-home display (IHD)

An IHD is an electronic device, linked to a smart meter, which provides information on a customer's energy consumption.

Installer

Person or persons appointed by the supplier who physically installs, configures, commissions or repairs equipment, as appropriate, in a consumer’s premises.

Interoperability

The ability of diverse systems, devices or organisations to work together (interoperate) on both a technical and commercial basis. See also commercial interoperability and technical interoperability.

L

Licence

Transporting, shipping and supplying gas; and generating, transmitting, distributing and supplying electricity are all licensable activities. Ofgem grants licences that

permit parties to carry out these activities in the GB market. The licences require the establishment of a number of multilateral industry codes that underpin the gas and electricity markets. Licensees need to be signatories to codes in order to operate in the gas and electricity markets (see codes).

Licence application regulations

The regulations that will define the different steps in the competitive licence application process to grant the DCC licence.

M

Meter Asset Manager's Code of Practice (MAMCoP)

The MAMCoP applies to natural gas only. It extends the duties of a MAM. It applies to Independent Gas Transporters undertaking meter asset management services, as part of a bundled gas transportation business, or MAMs who work on behalf of a gas customer, gas supplier or gas transporter to manage primary meter installations connected to the Network as defined by the Gas Safety (Management) Regulations.

Meter Operation Code of Practice Agreement (MOCOPA)

An agreement between electricity distribution businesses and electricity meter operators in Great Britain. The agreement authorises meter operators to install and connect meters to the electricity network by clarifying that the equipment being provided, installed and maintained meets appropriate technical requirements and that work is carried out to adequate safety standards.

Meter Operator (MoP)

In electricity, a Meter Operator is responsible for the installation, commissioning, testing, repair, maintenance, removal and replacement of electricity metering equipment.

N

Network operators

The companies that are licensed by Ofgem to maintain and manage the electricity and gas networks in Great Britain.

O

Ofcom

The independent regulator and competition authority for the UK communications industries.

Ofgem

The Office of the Gas and Electricity Markets (Ofgem) is responsible for protecting gas and electricity consumers in Great Britain. It does this by promoting competition, wherever appropriate, and regulating the monopoly companies that run the gas and electricity networks. Ofgem is governed by the Gas and Electricity Markets Authority.

Ofgem E-Serve

Ofgem E-Serve is responsible for Ofgem's support and delivery functions. It focuses on administering environmental programmes and the delivery of sustainability projects such as the policy design phase of the Smart Metering Implementation Programme.

P

Prepayment mode

Smart meters are capable of switching between prepayment and credit mode. When operating in prepayment mode customers have to pay for their energy before using it.

Programme

The Smart Metering Implementation Programme ("the programme") is the central change programme established by the Government. It is responsible for overseeing the development and implementation of the policy design, including establishing the commercial and regulatory framework to facilitate the rollout. Ofgem E-Serve has managed, on behalf of DECC, the policy design phase of the programme that has informed the Government decisions set out in this document. DECC will be directly responsible for managing the programme during the implementation phase.

S

Senior Responsible Owner (SRO)

The individual responsible for ensuring that a government project or programme of change meets its objectives and delivers the projected benefits.

Smaller non-domestic sector

For the purposes of this document, smaller non-domestic electricity and gas sites are those sites in electricity profile groups 3 and 4 and those non-domestic gas sites with consumption of less than 732 MWh per annum.

Smart Energy Code (SEC)

The proposed new industry code that will cover both gas and electricity and will contain the detailed regulatory, commercial and technical arrangements applicable to smart metering during rollout and on an enduring basis.

Smart grids

As part of an electricity power system, a smart grid can intelligently integrate the actions of all users connected to it - generators, consumers and those that do both - in order to efficiently deliver sustainable, economic and secure electricity supplies.

Smart meter

A meter which, in addition to traditional metering functionality (measuring and registering the amount of energy which passes through it) is capable of providing additional functionality for example two-way communication allowing it to transmit meter reads and receive data remotely. The proposed minimum functionality of smart meters is set out in the Functional Requirements Catalogue.

Smart Metering Design Expert Group (SMDG)

One of several expert groups established by the programme, following publication of the Prospectus, to draw on the experience of industry and other stakeholders. SMDG has considered functional requirements for smart metering equipment.

Smart metering system

The smart metering system refers to smart metering equipment in customers' premises. In the domestic sector, this equipment comprises the electricity meter, the gas meter, the HAN, the WAN module and the IHD.

Smart metering regulatory regime

The regime that will provide the arrangements for the introduction and ongoing operation of smart metering. These regulatory arrangements will be introduced principally using powers under the Energy Act 2008 to amend existing licences and codes, and to create a new licensable activity and a new licence.

Strategic Programme Board

The Strategic Programme Board is responsible for the strategic direction and oversight of the programme, manages strategic change and seeks to ensure alignment with other government initiatives. The Board comprises DECC, Ofgem, Ofcom and a number of interested government departments.

Special licence conditions

Licence conditions that among other objectives legally define the revenue allowances and performance obligations of companies regulated by licence.

Standard licence conditions

Licence conditions common across all licences.

T

Technical interoperability

Technical interoperability is the ability for different smart metering system components to exchange data and work together independent of manufacturer. This ensures that different suppliers can install in premises without having to change existing equipment at change of supplier, thereby minimising disruption to the consumer. It is also the capability of systems or devices to provide and receive services and information between each other, and to use these services and information exchange to operate effectively together in predictable ways without significant user intervention. Within the context of smart metering, this means the seamless, end-to-end connectivity of hardware and software from consumer premises equipment through to DCC, suppliers, network operators and other authorised parties.

Technical specifications

The technical specifications for the smart metering system will be an explicit set of solutions and guidelines as to how the smart metering system will fulfil the minimum functional requirements.

W

Wide area network (WAN)

The smart metering WAN will be used for two-way communication between smart meters and DCC (via the WAN module in the customer‟s premises).

WAN module

The WAN module connects the meter to DCC.

X

xoserve

xoserve delivers transportation transactional services on behalf of all the major gas network transportation companies, and provides a consistent service point for the gas shipper companies.