

Smart Metering Implementation Programme

Response to Prospectus Consultation

Supporting Document 4 of 5 Central Communications and Data Management

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Table of Contents

Summary	1
1. Introduction	4
The purpose of this document	4
Structure of this document.....	5
2. DCC scope and services	6
Scope of DCC's activities.....	6
DCC's role in prepayment services	11
Roles and responsibilities at the consumer premises.....	13
Use of DCC in the non-domestic sector	16
3. DCC regulatory and commercial model, and governance regime .	20
DCC regulatory and commercial model	20
DCC cost recovery and incentivisation	23
Content and governance of the Smart Energy Code.....	26
4. Establishment of DCC's services and transitional arrangements..	30
Establishment of DCC's services.....	30
Transition to DCC.....	32
5. Next Steps	36
Appendices	39
Appendix 1 - Consultation Questions	40
Appendix 2 - Glossary.....	72

Executive Summary

The Government has concluded that DCC should be responsible for managing the procurement and contract management of smart metering data and communications services. The Government has also concluded that a new licence should be granted for the central procurement and contract management activities through a competitive licence applications process.

Scope of DCC's activities

The Government has concluded that the scope of the activities to be performed by the central data and communications body – "DataCommsCo" (DCC) – should be developed in a phased manner, initially covering secure access control, translation and scheduled data retrieval. This will allow DCC to achieve an early implementation date, thus supporting the early delivery of the benefits.

The Government has also concluded that meter point/supplier registration of all metering points should be transferred to DCC. This will allow the change of supplier process to be streamlined delivering consumer benefits. It is considered that registration can be transferred to DCC within 2-3 years of DCC providing its initial services, during which period DCC will access the existing registration systems to verify whether a party is authorised to access a specified meter. Detailed work will be undertaken by the programme and stakeholders to establish the most appropriate approach and timetable for this transfer.

Transferring data processing, aggregation and storage to DCC may have an impact on competition for these services and could raise data privacy issues. Further work is needed prior to drawing conclusions in these areas.

DCC's role in prepayment services

The Government has concluded that suppliers should be responsible for managing prepayment payment channels and collecting associated payments. Suppliers will also be responsible for passing details of consumer top-ups to the smart meter, using DCC's secure communications network.

Roles and responsibilities at the consumer premises

The Government has concluded that DCC and its service providers should be responsible for procurement and ownership of the Wide Area Network (WAN) modules. It has also concluded that suppliers should be responsible for the installation and end-to-end testing of each WAN module. The energy suppliers should also be tasked with maintenance work on the WAN module within the consumer premises. In the event that the WAN module needs be replaced or upgraded, DCC should also task suppliers to undertake the relevant installation work. The cost of WAN modules and ongoing maintenance work in the consumer premises should be handled through DCC in the same way as for the rest of its services.

The Government has also concluded that suppliers should be responsible for the installation and ongoing maintenance of the Home Area Network (HAN) components.

Use of DCC in the non-domestic sector

The Government has confirmed the Prospectus proposal that suppliers and metering service providers in the non-domestic sector should not be obliged to use DCC. The Government will keep this position under review.

To facilitate the ongoing evolution of the market for energy management and energy efficiency services, DCC's ability to offer these services should be limited.

DCC cost recovery and incentivisation model

DCC will be in an exclusive position with respect to the provision of communications access to smart meters in the domestic sector. An effective incentive regime for DCC should be put in place in order to promote cost efficiency and thereby provide an appropriate level of protection to users of its data and communications services. This should include imposing regulatory incentives for DCC to manage its own costs efficiently.

DCC's costs will be recovered through service charges to suppliers and other service users. Service charges will comprise a mix of standard and variable charges designed to reflect different types of service (eg routine reads per month, charges per prepayment top-up). The general principles of DCC's charging methodology will be set out in its licence, while the detailed charging methodology will be set out in the Code. DCC is likely to be allowed to charge higher rates to address the higher costs of provision of elective services requested by individual users or groups of users.

Content and governance of a Smart Energy Code

The Government has concluded that a Smart Energy Code (SEC) should be established to govern the arrangements around smart metering. The SEC will be developed by the programme, in consultation with stakeholders, and then implemented through licence conditions on DCC and suppliers to adopt and comply with the Code, but with a SEC panel procuring the secretariat services and recovering the costs of such through DCC. All users of DCC's services should be obliged to be parties to the Code and to comply with its obligations. The provisions in the SEC should be given contractual force through a framework agreement signed by DCC, suppliers, network operators and other users of DCC services.

Establishment of DCC's services

The Government will follow a parallel procurement approach whereby it will initiate procurement of service provider contracts in parallel with the DCC licence applications process.

Transition to DCC

To provide certainty to suppliers and so facilitate early rollout benefits, the Government has concluded that DCC should be required to adopt communications contracts with respect to compliant metering systems installed before DCC services are available, subject to the associated communications contracts meeting agreed pre-defined criteria. There is likely to be a limit on the number of contracts that DCC would guarantee to adopt. DCC will have the discretion to adopt contracts in excess of this number where it is satisfied this is consistent with the procurement strategy objectives set out in its licence.

1. Introduction

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 Programme¹ ("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-domestic² sectors. The installation of advanced meters³ for larger non-domestic sites⁴ 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.

The purpose of this document

1.5. This document is the fourth of five supporting documents to the government response overview document. It relates to the subject area of smart metering communications and data management as discussed in Chapter 5 of the government response.

1.6. Each supporting document forms part of the government response to the Prospectus, and serves a number of purposes, as follows. First, it explains further the evidence base used and reasoning behind the conclusions set out in the overview document. Second, it sets out related but more technical or detailed positions and

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

conclusions – together with a description of the supporting evidence and reasoning. Third, it explains how conclusions relate back to the Prospectus consultation. Fourth, it provides a structured summary of consultation responses to the Prospectus.

1.7. This supporting document sets out how the central communication and data management functions will be established and managed. This document sets out the scope of DCC and the functions it will undertake, noting how it will participate in the non-domestic sector and its role with respect to the delivery of prepayment services. This document also sets out the roles and responsibilities of participants at the consumer premises where DCC interfaces with the smart metering system.

1.8. DCC will be the monopoly service provider for communication and data services in the domestic sector. This document describes the commercial and regulatory regime that will be applied to DCC including the manner in which it may recover the costs of providing its services. Also, as part of the regulatory regime, the new SEC will be established.

1.9. Finally, the supporting document sets out how the DCC services will be established. It also sets out the preferred approach to procuring DCC initial services.

1.10. Appendix 1 summarises the consultation responses to the questions raised by the Prospectus.

Structure of this document

Chapter 2: DCC scope and services

Chapter 3: DCC commercial and regulatory model and governance regime

Chapter 4: DCC establishment model and transitional arrangements

Chapter 5: Next steps

Appendix 1: Consultation Questions

Appendix 2: Glossary.

2. DCC scope and services

This chapter considers the functions that DCC should perform within the delivery of smart metering services. It describes the detailed work undertaken to analyse the economic and practical impacts of including different activities within DCC's scope. This has involved analysis of responses to the Prospectus and detailed input from stakeholders, including consumer groups and industry parties.

This chapter also sets out the roles and responsibilities for WAN modules and the HAN at consumer premises, including the responsibilities of DCC. It describes the work undertaken with the Data and Communications Expert Group (DCG) and the responses to the proposals made in the Prospectus.

Finally, this chapter sets out the Government's conclusion that the use of DCC in the smaller non-domestic sector should be optional and that this position will be kept under review. It describes the analysis of the responses to the Prospectus and considers the additional stakeholder contributions to a number of workshops held on this issue.

Scope of DCC's activities

2.1. The Prospectus confirmed the Government's commitment to the centralised data and communications model for the delivery of smart metering. The centralised model was adopted in order to protect the interests of consumer by delivering a high-level of interoperability, provide substantial economies of scale, enable comprehensive security arrangements, and support the development of smart grids and other services.

2.2. This section considers the specific functions that should be performed centrally and, importantly, the timing for any transfer of existing processes to the central body. By phasing the introduction of its activities, DCC may provide essential services from the earliest opportunity and progressively extend its scope to deliver the full set of benefits.

Prospectus proposals

2.3. The Prospectus proposed that a new licensed body, DCC, should be created to deliver centralised communications and data services. It proposed that DCC's responsibility would be the procurement and management of communications services. These services would enable DCC to transfer data between smart meters and suppliers, network operators and other authorised parties. In addition DCC would procure and manage a range of 'data' services: the Prospectus identified a set of potential data functions, and proposals were presented on whether and when each function would be included in DCC's scope.

The Prospectus proposed that DCC's scope should evolve, as follows:

- The initial scope of DCC's activities should cover secure communications and access control, security monitoring and assurance, translation, scheduled data retrieval, and initial smart grid functions⁵
- Subsequently DCC's scope should be expanded to cover meter point / supplier registration. Meter point / supplier registration (commonly referred to as 'registration') is the process for recording which supplier is responsible for supplying energy to each metering point. Registration is a key activity in the change of supplier process and the registration systems provide information which is critical to the 'supplier hub' arrangements and to settlement.
- At the same time that meter point / supplier registration is included, or later, other services could be added. These services could include data processing and aggregation, data storage, other smart grid functions, extra-industry functions (eg water metering), and consumer value added services.

Evidence

2.4. In drawing conclusions on the scope of DCC activities, detailed analysis of the responses to consultation has been undertaken as well as engagement with stakeholders through the DCC Expert Group and workshops. In addition, information requests⁶ were issued covering the costs, benefits and timescales associated with a predefined set of scenarios for DCC's data activities.

Analysis of consultation responses

2.5. Four questions in the Prospectus and Supporting Documents related to the scope of DCC's activities. The questions covered the functions which are essential for DCC to provide secure and robust services, the inclusion of meter point / supplier registration, the potential for adding data processing activities and issues related to smart meters installed at meter points owned by independent network operators.

2.6. An overwhelming majority of respondents expressed support for the proposal that secure access control, translation and scheduled data retrieval should be included in the initial scope of DCC. They regarded these functions as being critical to delivery of the central communications model to deliver a high level of interoperability on change of supplier.

2.7. Broad support was also given to the proposal that meter point / supplier registration should be included within DCC's scope. To support their conclusion, a wide range of respondents highlighted the importance of data integrity and the role registration systems would play in controlling access to smart meters. Network operators (who are currently responsible for the provision of registration systems) were generally neutral on whether registration should be transferred to DCC.

⁵ The Prospectus identified the initial smart grid functions as comprising power quality reads and load control.

⁶ <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=60&refer=e-serve/sm/Stakeholder/DCG>

2.8. A range of views was expressed regarding the most appropriate timing for the transfer of registration to DCC. Many respondents, including most of the larger suppliers, were in favour of including registration within DCC's initial scope. This view was tempered by comments that if the added complexity of this approach were to result in the start of DCC's services being delayed, then it would be preferable to add registration at a later date.

2.9. With regard to the additional functions of data processing and aggregation, respondents drew attention to the different arrangements that exist in the two sectors. In gas, data processing is performed centrally and aggregation is an integral aspect of the central settlement activities. In electricity, data collection and data aggregation are separate functions performed by agents who are appointed by suppliers competitively. A small number of respondents were opposed to DCC becoming involved in these functions on the grounds that they are not intrinsically tied to smart metering. A similar number of respondents argued that there would be efficiency from centralising these functions and that DCC would be an obvious organisation to deliver them, but generally this group did not favour their inclusion in the initial scope. Among comments made with respect to these functions, the most frequent comment was that a separate cost/benefit case should be undertaken, with some commenting that this should be part of a wider review of electricity settlement.

2.10. There was very strong support for the view that consumers connected to independent networks should be treated in the same manner as other consumers with smart meters. Respondents observed that this would ensure that all consumers can access the full benefits of smart metering.

Additional analysis

2.11. An Information Request was issued to stakeholders to provide the basis for a more detailed analysis of the economic and timetable implications of DCC scope options. Based on the information received from stakeholders in response to the request, there should be a net benefit in including registration in DCC's scope, but the implementation of this function should be deferred until after the date from which DCC starts providing initial services. The analysis also concluded that there could be a case for including data processing and aggregation within the scope of DCC, but that further analysis would be required.

2.12. Respondents to the information request also provided information on the time required to prepare and test the communications and data systems. These responses indicated that the functions covered by DCC's initial scope could be developed and tested within a period of around 15 months from awarding a contract to a data services provider. The development of registration, data processing and aggregation could take significantly longer, although estimates of the additional duration varied widely from 6 months to over 2 years.

Conclusions

2.13. The Government has concluded that the scope of DCC should be developed in a phased manner. When DCC starts providing its services, the scope should cover secure communications, access control, translation, scheduled data retrieval and

initial smart grid functions. By limiting DCC's initial scope to these essential functions, an earlier implementation date will be achieved for DCC's services than if registration or other services are included, thus supporting the rollout plans of suppliers and the early delivery of Smart Metering Implementation Programme benefits.

2.14. The Government has also concluded that meter point / supplier registration of all metering points should also be transferred to DCC. DCC's registration services should cover domestic and non-domestic meters, including those connected to independent networks. The transfer of registration to DCC will allow the change of supplier process to be streamlined and dual fuel switches to be processed simultaneously, thereby facilitating delivery of the consumer benefits. It is considered that registration can be transferred to DCC within 2-3 years of DCC providing its initial services, during which period existing registration system operators will be required to grant DCC access to the existing registration systems to verify whether a party is authorised to access a specified meter. Further work will be undertaken by the programme and stakeholders to establish the most appropriate approach and timetable for this transfer, to identify any consequential impacts and to ensure that changes are limited to those necessary to deliver the programme's objectives. Registration is already a monopoly activity so its transfer is unlikely to raise competition issues.

2.15. Further analysis is required before the Government can decide whether data processing, aggregation and storage functions should at some point also be transferred to DCC. In electricity, data collection and data aggregation functions are performed by agents operating in both the domestic and non-domestic sectors. Transferring these functions to DCC in the domestic sector may have an impact on competition for the related services in the non-domestic sector and the centralisation of data storage could raise data privacy issues. The impact of these issues will be assessed prior to reaching a position on whether DCC should provide these services. The implications of smart metering on energy settlement should also be considered. The timing of this assessment and the mechanism through which it is conducted will be considered during the next phase.

2.16. The DCC licensee may propose the launch of additional extra-industry services making use of DCC's communications network (referred to as consumer value added services). These could spread the fixed costs of DCC's services over a wider range of uses and, at the same time, provide an enhanced commercial incentive to DCC's service providers. To ensure that DCC remains focused on the delivery of high quality services to its users and to ensure that consumer interests and competition concerns are addressed, the DCC licence will oblige the licensee to seek permission before offering any consumer value added services.

2.17. Consideration has also been given to the capability of smaller suppliers to enhance their existing systems to interface with DCC. To mitigate the impact on these parties, where practicable DCC's systems should allow suppliers to continue to use existing industry data flows. This should permit smaller suppliers to choose a timetable for system enhancements which suits their business, rather than being forced to meet a cross-industry deadline.

2.18. Currently there are inconsistencies between the registration systems used by independent gas transporters and xoserve (the registration agent for gas transporters). With regard to consumers located on independent networks, Government concurs with stakeholders that the arrangements for smart metering must be designed to enable consumers on independent networks to access the same benefits from smart metering as all other consumers. Accordingly, consideration should be given as to any necessary changes that would enable DCC's access control arrangements to operate equally, regardless of the network on which the consumer is located.

Security

2.19. DCC will play a central role in end-to-end security of the smart metering system by ensuring that sensitive data (eg personal consumption data) and critical commands (eg remote disablement) are transferred between authorised parties and consumer premises in a secure manner. A comprehensive risk assessment of the end-to-end system was developed to identify all security risks. The assessment has included DCC components, smart metering devices in consumer premises, supplier smart metering systems and all communication channels between these system components. This work provides a basis for determining technical security and security governance requirements. The risk assessment will continue to be reviewed and updated as designs evolve. The risk assessment review process will be enduring and continue into steady state operation of the smart metering system to ensure changes in the risk landscape are captured and addressed.

2.20. DCC technical security requirements will need to include protecting data over the WAN and connections or interfaces to it. This will include examining the suitability of technical security controls across both the application and transport layers. It is evident that a holistic approach in this area is necessary and will result in appropriate protection of the data being transmitted between smart metering equipment and DCC.

2.21. Security governance requirements for DCC are also being defined. These will cover areas such as DCC security policies and procedures, DCC personnel vetting, security training and awareness and incident management processes. Accreditation is also being considered to provide assurance that necessary security requirements are in place and then managed on an enduring basis. This could be achieved by DCC being certified by an accreditation body and then audited on a periodic frequency to demonstrate compliance against the security requirements. Accreditation will be considered against other options for demonstrating the necessary levels of DCC security in the next phase of the programme.

2.22. Technical security and security governance requirements for the end-to-end smart metering system will be developed further in next phases of the programme. Expert groups and working groups will include security specialist members from both the programme and through the Security Technical Experts Group (STEG). This will ensure that designs are developed with necessary consideration of security. Further information of the proposed approach to security and the role of the STEG is presented in the "Design Requirements" supporting document.

Next steps

2.23. During the next phase, the programme will undertake detailed analysis of the functional and security requirements for DCC's communications and data services. The specifications produced from this work will form part of the specifications used in the procurement of communications and data services.

2.24. The analysis of requirements will focus on the initial scope of DCC. In parallel, work will be required to determine the scope of meter point / supplier registration activities which will later be transferred from network operators to DCC.

2.25. The DCC specifications should provide clarity to suppliers, network operators and others on the changes required to their systems and processes. Thus, all parties should have the same time to prepare and test their systems prior to the start of DCC's operational services. The scope of work undertaken by industry parties could include modifications to existing industry arrangements to address both foundation and enduring requirements, for example, changes to data flows managed by the Data Transfer Service (electricity) and UKLink (gas). This work will need to prioritise the changes that are critical to delivery of commercial and technical inter-operability.

DCC's role in prepayment services

2.26. The key issue to be addressed in respect of DCC's role in prepayment services is whether DCC should be obliged to provide any services comparable to those of Prepayment Infrastructure Provision (PPMIP). PPMIP covers a range of activities that enable consumers who have a dumb prepayment meter to change their supplier.

Prospectus proposals

2.27. Dumb prepayment meters generally involve the use of a physical device (eg an electronic key) which fits into the meter. To top-up his/her account balance the consumer takes this key to a payment agency (eg Paypoint, POCL, Payzone) where cash is added to the key. The payment is transferred to the meter by the consumer taking the key and inserting it back into the meter. The issue and control of these keys and the transfer of payments to suppliers is administered by PPMIPs.

2.28. Smart meters can operate in either credit or prepayment mode and suppliers can remotely switch between the two modes. In prepayment mode, smart meters will generally be topped up remotely and the available balance will be updated in real-time as energy is consumed.

Evidence

2.29. Respondents to Question 10 of the "Consumer Protection" supporting document were overwhelmingly of the view that PPMIP functions are a necessary part of traditional prepayment arrangements but are made obsolete by smart metering. In addition to addressing the central question related to PPMIP, respondents highlighted other aspects of prepayment which would need to be addressed by the smart metering system:

- The continuing need for local agencies through which cash top-ups may be processed
- The importance of designing the smart prepayment arrangements in such a way as to minimise the risk of payments either failing to result in a top-up or being directed to the wrong supplier.

2.30. In addition to reviewing consultation responses, the programme held two workshops on the topic of prepayment arrangements under smart metering. These workshops covered both consumer-related and technical issues and involved suppliers, meter manufacturers and meter operators. The topic was also discussed with the Smart Metering Consumer Advisory Group. A key issue raised in these discussions and analysed by the programme was the requirement to top-up a smart meter manually if the communications network is unavailable.

Conclusions

2.31. Responses to the consultation, discussion with stakeholders and analysis undertaken by the programme have confirmed that, under smart metering, there will be no requirement for services equivalent to those provided by PPMIPs. PPMIP services will need to continue while dumb prepayment meters are still in use, but phasing out these services will have no detrimental impact on the interests of consumers with smart meters.

2.32. Under smart metering, suppliers should be able to offer a range of payment channels. The existing cash payment agencies may be augmented by channels such as bank ATMs or internet payment sites. As today, suppliers should be responsible for managing these channels and collecting the payments made through them. Suppliers should also be responsible for passing details of consumer top-ups to the smart meter, using DCC's network to provide a secure communications link to the meter. Thus, the top-up process requires DCC to perform the same access control authorisation as for all smart metering transactions, but does not require DCC to perform any functions akin to the current PPMIP role.

2.33. To cater for exceptional circumstances where the DCC communications network is unavailable, the consumer will be provided with a unique 'top-up code' which can be entered manually into the meter or (where provided) an enhanced In-home display (IHD). Whether DCC or suppliers should be responsible for calculating the unique reference numbers that are needed to prevent fraudulent top-ups has been considered. Calculation of these numbers is closely linked with the design of the security framework and of measures to facilitate consumer switching. As these detailed design issues will not be addressed until the next phase, the conclusion on which party (or parties) should calculate the top-up reference numbers is deferred to the next stage.

2.34. During the foundation stage, complexities could arise as a result of the need to change payment arrangements on change of supplier. Accordingly, Ofgem is consulting on proposals that where a supplier installs a smart meter for use in prepayment mode that supplier must have in place arrangements to enable an incoming supplier to use the smart meter in prepayment mode.

Next steps

2.35. During the next phase the programme will analyse prepayment and other requirements in more detail and design the end-to-end security framework. The programme should then assess which party (or parties) would calculate the top-up reference numbers.

Roles and responsibilities at the consumer premises

2.36. The installation of smart metering in both the gas and electricity market will require the installation of equipment in consumer premises, including a gas and electricity meter, an IHD, a WAN module and a HAN⁷. This raises the issue of where responsibilities for installation and maintenance of equipment in consumer premises should lie. This section considers roles and responsibilities in relation to the WAN module and the HAN. The "Rollout Strategy" supporting document considers arrangements in relation to the IHD unit.

Prospectus proposal

2.37. The Prospectus proposed to follow the 'supplier hub' principle whereby suppliers have responsibility for provision and maintenance of all smart metering equipment in the consumer premises. If the supplier provides both electricity and gas to a given consumer then the responsibility for installation of both the gas and electricity smart meters is straightforward; the supplier would be responsible for the installation of both smart meters and the associated equipment, namely the WAN module, the HAN and the IHD.

2.38. The situation is more complicated when a consumer is served by different gas and electricity suppliers. In these cases, the electricity smart meter would be installed and maintained by the electricity supplier and the gas smart meter would be installed and maintained by the gas supplier. This raises the question of which supplier should be responsible for installation and maintenance of potentially shared equipment. The Prospectus proposed arrangements be put in place that facilitated the sharing of assets installed by one supplier with the consumer's other supplier.

2.39. The Prospectus proposed that a lead supplier (ie the supplier that installs its smart metering system first) would be responsible for installation of the shared assets and also the ongoing maintenance of the assets, including the WAN module. On installation of the second meter, the second supplier would use the assets of the lead supplier. Costs of the lead supplier's WAN module would be shared through charges applied by DCC to each supplier, while the lead supplier would bear the full cost of the HAN.

2.40. The Prospectus examined the issue of procurement and ownership of the WAN module in detail. While on balance it was felt that energy suppliers should be responsible for procurement and ownership of WAN modules (with DCC providing the

⁷ The HAN is a local communications system within the customer premises that communicates data from the electricity and gas meters to the IHD and to the WAN module.

specification for WAN modules) it was noted there were also arguments in favour of the responsibility being with DCC and its contracted service providers.

Evidence

2.41. Sources of evidence considered by the programme included the following:

- Review and analysis of responses to the Prospectus proposals and the issues raised by stakeholders, including consumer groups, in those responses
- Consultation with the DCG and its relevant sub-group.

2.42. A majority of Prospectus respondents agreed that the supplier hub principle should be maintained at consumers' premises but were concerned with the proposal that suppliers be responsible for procurement and ownership of the WAN module.

2.43. A number of respondents noted that they preferred an arrangement whereby DCC would procure and own WAN modules with suppliers tasked with the module's installation and maintenance. They felt it would be more efficient if one party was responsible for the WAN, and that DCC would be the most appropriate party as it will be responsible for its procurement. The Data and Communications Group (DCG)'s view was that having the DCC being responsible for the WAN module would facilitate a more effective and a more strategic approach to the procurement of communication services.

2.44. Consumer groups were broadly supportive of the proposal that suppliers be responsible for purchasing, installing and maintaining consumer premises equipment. Consumer groups also commented on the cost recovery arrangements for equipment in the consumer home and how monitoring arrangements for costs recovered from final consumers could be put in place. Consumer groups supported transparency of cost recovery to protect consumers.

2.45. The programme also tested different options for roles and responsibilities at the consumer premises with the DCG and its relevant sub-group. Options for fault logging and how different approaches might impact on the consumer and the obligations on industry parties were considered. Considerations for the fault logging process included whether the consumer should call the supplier, the network operator or the DCC when they first become aware of a fault. Issues relating to the mechanism for cost recovery and how appropriate charges for rectifying a fault could be developed were also considered.

2.46. In relation to maintenance of the WAN module and HAN, responses to the Prospectus, and input from the DCGs, indicated that there may be practical challenges with the approach proposed in the Prospectus. The DCG considered that there should be a 'one-stop-shop' principle on consumer-facing arrangements whereby it is the supplier who takes the call from the consumer who will be responsible for initiating actions to address a fault.

2.47. The DCG and its relevant sub-group also considered the scenario where DCC is the first to detect a problem with the shared infrastructure at the consumer premises. This raised the issue of which supplier DCC would contact if a fault was discovered to the shared infrastructure. A number of options were considered, including DCC contacting a default supplier or a procedure being developed for DCC to contact the supplier considered to be best placed to manage and respond to the issue.

Conclusions

2.48. The Government has concluded that DCC (through its service providers) should be responsible for procurement and ownership of the WAN modules. DCC procurement of the WAN module will facilitate its strategic approach to the overall procurement of communication services.

2.49. The Government has concluded that suppliers should be responsible for the installation and end-to-end testing of each WAN module. In cases where the suppliers of the two fuels are different, the first supplier to install a smart meter should install the WAN module.

2.50. To retain the supplier hub principle, the energy suppliers should be tasked with the maintenance work on the WAN module within the consumer premises. In cases where the smart meter premises is served by different gas and electricity suppliers, if a consumer raises a fault with the WAN module the supplier taking the call should be tasked with resolving the issue.

2.51. However, where the fault is detected by DCC it should be the electricity supplier who is tasked with resolving the issue in the premises. In the event that the WAN module needs to be replaced or upgraded, DCC will also need to task the electricity supplier to undertake the relevant installation work.

2.52. The supplier that undertakes work on the WAN module will need to recover the cost of that work from the WAN module owner and/or the other supplier at the premises. The cost of WAN modules and ongoing maintenance work in the consumer premises should be handled through DCC in the same way as for the rest of its services. Arrangements for cost recovery and logging of faults will need to be carefully structured to avoid placing an undue burden on the resources available to DCC.

2.53. The Government has concluded that suppliers should also be responsible for the installation and ongoing maintenance of the HAN components. The installing supplier should be responsible for the end-to-end testing of the HAN at the time the smart meter is installed. As with the WAN module, if a consumer raises a fault with the HAN, initial responsibility for resolving the issue should be with the supplier that takes the call from the consumer.

2.54. The approach to supplier responsibility for the installation and maintenance work at the consumer premises protects consumer interests and ensures the right incentives are placed on suppliers and DCC to manage their activities appropriately.

Next steps

2.55. During the next phase of the programme the following will be developed:

- Fault logging and resolution processes for shared infrastructure equipment to be included in the draft SEC
- Commercial arrangements and procedures for cost recovery for work on shared infrastructure
- Amendments to suppliers' licences to put in place obligations related to the WAN module and the HAN
- DCC licence obligations for procurement and ownership of WAN modules.

2.56. The programme will develop the relevant regulatory and commercial arrangements with stakeholders, and these will then need to be reflected in the drafting of the provisions of the SEC and in modifications to supplier licences.

2.57. DCC obligations for procurement and ownership of the WAN module will be developed by the programme during the development of DCC's licence. In the next phase the programme will consult with stakeholders on the draft of these obligations as it will on other parts of DCC's licence.

Use of DCC in the non-domestic sector

2.58. There are approximately 2.1 million meters associated with smaller non-domestic electricity sites and up to 1.5 million meters associated with smaller non-domestic gas sites.

2.59. A number of advanced meters have been installed by advanced metering service providers rather than suppliers. Non-domestic consumers, like domestic consumers, may install their own meters or appoint an accredited party, other than their supplier, to install the meter and collect readings from it. Metering service providers have grown in number over recent years and offer a service tailored to customers' requirements, providing feedback on consumption patterns via the internet or over a local network. This feedback allows customers to monitor their consumption and to target energy and carbon savings. Service providers contract with communications companies to permit the meter to be accessed remotely and data downloaded. In addition, these accredited parties may bundle meter provision with energy services.

2.60. The rollout of smart meters to smaller non-domestic consumers will share many common aspects with the domestic rollout. Smaller non-domestic consumers often use the same meters as domestic consumers and suppliers often use common supply chain and back office systems to provide smart meters to both sectors.

Prospectus Proposal

2.61. The Prospectus proposed not to oblige suppliers or meter service providers in the non-domestic sector to use DCC communication and data services with respect to meters with smart functionality. There is already an active market for these services and mandating the use of DCC would reduce the choice available to suppliers and risk limiting innovation in new services.

2.62. The Prospectus noted that given the range of smart and advanced metering, it is likely only commercial interoperability will be possible in the smaller non-domestic sector. The Prospectus indicated that, given the number of premises in the smaller non-domestic sector robust commercial interoperability arrangements need to be in place to protect consumer interests.

2.63. In addition, the Prospectus recognised the need for network operators to access data, including for smart grid purposes. It sought views on whether the existing Distribution, Connection and Use of System Agreement (DCUSA) requirement is adequate or whether it should be augmented with a specific licence obligation.

2.64. Further, the Prospectus noted that given DCC's exclusive position in the domestic sector there may be scope for it to compete unfairly with advance metering service providers for energy management or efficiency services. The Prospectus proposed to limit DCCs ability to offer such services.

2.65. The Prospectus also proposed that DCC would be obliged to offer terms for use of its services on an equivalent basis to suppliers or metering service agents of both non-domestic consumers and domestic consumers. Also, it proposed that DCC should be obligated to offer terms for its services for different categories of advanced meters.

Evidence

2.66. There were mixed views from respondents on whether the proposal would cause any substantive issues. Some respondents indicated that the proposal for optional use of DCC in the non-domestic sector could lead to problems with interoperability ie impede the ability of a new supplier to operate the meter on a change of supplier. Other respondents indicated that the proposal would be appropriate in the short and medium term but welcomed future review.

2.67. However, there were strong views from some respondents who supported the proposal. They indicated that elective use of the DCC would enable smaller non-domestic consumers to continue to benefit from the existing competitive market enabling greater choice and preventing the risk of tailor-made offerings not being available due to restrictions brought about by DCC service provision.

2.68. A large majority of respondents supported the proposal that DCC should offer its services on a similar basis to suppliers and metering service agents of both

domestic and non-domestic consumers. They also agreed with the proposal to limit DCC's ability to offer energy management and energy efficiency services.

2.69. There were mixed views on whether these proposals posed any limitations for the development of smart grids. Roughly half of these respondents indicated that to facilitate smart grids it would be best if there was a single route through which to obtain metering data. However, other respondents felt that more work would need to be undertaken to determine whether the proposal poses significant issues. Some respondents noted that timely receipt of data by network operators would be necessary to facilitate smart grids and the optional use of DCC will lead to multiple interfaces from which to retrieve data thus undermining network operators' ability to respond appropriately. These respondents felt that the proposal would be suitable in the short and medium term, but would need to be reviewed in light of smart grid developments.

2.70. A majority of respondents took the view that a licence obligation on suppliers would not be required to ensure that metering data is supplied to network operators or DCC. Respondents felt that amendment of the obligations set out in the DCUSA would be sufficient to ensure the appropriate metering data is provided to the network operators. A small number of respondents suggested that the proposed SEC should contain appropriate rules to underpin transfer of data to network operators.

2.71. Of those that commented on this issue, a small number of respondents noted that interoperability would improve if non-domestic suppliers used DCC while a similar number of respondents stated that common technical standards would improve interoperability. Interoperability in this sector is discussed further in the "Rollout Strategy" supporting document.

2.72. A small number of respondents noted the proposal in the Prospectus with respect to DCC offering terms for advanced meters. The majority of these respondents supported the Prospectus approach to how DCC should offer terms for the provision of its services. One respondent noted that the proposed arrangements will allow suppliers with mixed portfolios to simplify their communication arrangements across both advanced metering and smart metering within this sector.

2.73. The Prospectus indicated that the DCC should be able to recover costs associated with investigations for the provision of services to advanced metering (for example, to determine whether particular metering systems comply with existing requirements). One respondent noted that DCC ability to recover costs for investigations might act as a disincentive for suppliers or agents to use the DCC services.

Additional Analysis

2.74. Further detailed analysis of the proposal was undertaken through a number of workshops with representatives from a wide range of stakeholders.

2.75. Participants considered a number of scenarios relating to the change of supplier process to assess any potential interoperability issues. They identified that there were a large number of possible scenarios that could be adopted by the industry. Participants considered that the most appropriate scenario to be adopted would be dependent on the nature of the relationship between the supplier and the metering agent.

Conclusions

2.76. The Government has confirmed the position in the Prospectus that suppliers and metering service providers in the non-domestic sector will not be obliged to use the services of DCC for meters with smart functionality. The Government will keep this position under review.

2.77. Based on the analysis undertaken on the responses to the Prospectus there is an active market for the provision of communication and data services in this sector. The elective use of DCC should enable suppliers and metering agents to develop innovative products to meet consumers' requirements.

2.78. DCC should be obliged to offer terms for use of its service to non-domestic suppliers and metering agents, including with respect to advanced meters. With respect to compliant smart meters in the non-domestic sector, the terms for use of core services should be offered on a similar basis as those offered for the same services in the domestic sector. Offers with respect to advanced meters should be subject to the cost of providing a service, including the cost of any investigations to determine whether particular metering systems comply with existing requirements.

2.79. The Government has also confirmed the position in the Prospectus that, to facilitate the ongoing evolution of the market for energy management and energy efficiency services, DCC' ability to offer these services should be limited.

2.80. The programme will work with stakeholders to determine any relevant and necessary changes to DCUSA to ensure that the appropriate data is transferred to network operators.

Next steps

2.81. Given that suppliers will be able to 'opt-in' and to 'opt-out' of using DCC services, in the next phase the programme will work with stakeholders to design the procedures that will underpin the elective use of DCC at a smaller non-domestic site.

2.82. The programme will develop the necessary licence conditions and, if appropriate, clauses in the SEC that limit DCC's ability to deliver energy efficiency and energy management services.

2.83. The programme will also work with stakeholders to determine the nature of any modifications required to the DCUSA to ensure the appropriate data is transferred to the network operators.

3. DCC regulatory and commercial model, and governance regime

This chapter sets out the process for establishing DCC as a licensed body acting as an independent procurement and contract management entity for DCC services. It describes the extent of DCC's licensed activity and the governance model for DCC. It also describes the approach by which DCC should recover the costs of providing its services and the way in which it will be incentivised to perform. The chapter also describes the manner in which the new Smart Energy Code (SEC) should be established and governed.

DCC regulatory and commercial model

3.1. As a licensed monopoly it is important for DCC to have the right obligations and incentives in order to promote efficiency in the delivery of its services over time.

3.2. Effective governance would be required to ensure that there is no cross-subsidisation between DCC's regulated and commercial services, and that third parties are not able to exert undue influence over DCC and introduce bias into the process of awarding contracts or setting user charges.

3.3. This section sets out the analysis of alternative service delivery models for DCC. It also considers the extent to which DCC should be independent from service users and service providers.

Prospectus Proposals

3.4. The Prospectus noted that the programme had previously considered two broad options regarding the extent of DCC's licensable activity:

- DCC as a full service provider whereby DCC would deliver all services as a single entity or consortium
- DCC as a procurement and contract management entity whereby DCC would be prohibited from acting as a service provider.

3.5. The Prospectus proposed that DCC should have the role of procurement and contract management entity and that it should be prohibited from delivering services directly.

3.6. The Prospectus proposed that DCC should be independent from service providers and raised the question as to whether DCC needed to be fully independent from service users.

3.7. The Prospectus considered the options of creating a new licensed activity for DCC or modifying the conditions of existing licences to cover DCC activities. The

Prospectus proposed the creation of DCC via a new licence granted through a competitive application process.

Evidence

3.8. Detailed analysis of the responses to the Prospectus as well as engagement with stakeholders through the DCC Expert Group and workshops has been undertaken.

Analysis of consultation responses

3.9. Four questions in the Prospectus and Supporting Documents related to the regulatory and commercial structure for DCC. Responses to the questions ranged from broad to very strong support for the proposed approach.

3.10. The respondents to the Prospectus who provided feedback on the extent of the licensable activity (for DCC), indicated strong support for the proposed approach that DCC should be a procurement and contract management entity. The small number of respondents who were unsupportive opposed the fundamental concept of DCC, suggesting instead that industry should operate the central data and communications function and/or that the mandated use of DCC would inhibit competitive differentiation in the metering service market.

3.11. Those respondents to the Prospectus, who provided feedback to the question on the approach for establishing DCC through a new licence, indicated broad support for the proposed process. The small number of respondents who were unsupportive disagreed with the concept of DCC as a whole, believing that the establishment of a new licensed entity was a risk and that industry should establish/own DCC, or expressed general concerns around the timescales for establishment of DCC via this approach (ie that the timescales proposed in the Prospectus were too optimistic).

3.12. The respondents to the question relating to the level of independence of DCC indicated very strong support for the concept of independence for DCC with a substantial number going on to express the view that DCC did not need to be fully independent from users, provided adequate controls/governance were in place to prevent any one user or group of users exerting undue control over DCC. The latter group of respondents cited the examples of existing central bodies who are owned (in full or part) by industry stakeholders. Some respondents noted that a requirement for full independence from users may result in a reduced pool of applicants for DCC.

Conclusions

3.13. The Government has concluded that DCC should be responsible for managing the procurement and contract management of smart metering data and communications services. It is considered that this approach has a number of benefits including:

- Offering greater flexibility: This should be especially valuable with respect to future evolution of the smart metering market

- Allowing DCC to concentrate on procuring best value services from the market and hence provide best value services to its users
- Enabling more efficient allocation of risk, including passing the investment risk to individual service providers.

3.14. The Government has concluded that a new licence should be granted, for a fixed term, for the central procurement and contract management activities through a competitive licence applications process. This has a number of advantages including:

- An open and competitive process should ensure that the chosen DCC is capable of delivering best value for money to users of the DCC services
- Given the need for expertise in procuring and managing communications contracts, the Government wishes to attract applicants from both within and outside the energy industry
- Measures can be put in place to provide confidence that any user or group of users do not have the ability to exert undue influence over the activities of DCC.

3.15. The Government has confirmed the Prospectus position that DCC should be independent from its data and communications service providers. This should provide confidence that DCC does not favour any organisation to which it may be associated through the award of service provision contracts.

3.16. Further, it would be inappropriate for any service user to have a disproportionate level of influence over DCC. Appropriate controls would need to be considered during the development of the DCC regulatory framework to provide confidence that any user or group of users do not have the ability to exert undue influence over the activities of DCC.

3.17. In order to address risks associated with business continuity, DCC should have sufficient financial security to provide assurance of delivery against its obligations. Further, any underlying contracts should have 'step-in' provisions to allow appropriate parties to take control if needed.

Next steps

3.18. During the next phase of the programme a number of key activities need to be undertaken in order to develop the material required to support the development of the regulatory instruments associated with DCC, the process of DCC licence application and the tendering of the service provision contracts.

3.19. The programme will develop the draft of the DCC standard and special licence conditions, define the licensable (prohibited) activities relating to DCC's functions and develop the associated prohibition order.

3.20. The programme will also develop, and consult on, the draft of the licence application regulations, which will govern the process for granting the DCC licence.

DCC cost recovery and incentivisation

3.21. DCC will incur costs when providing its services. These will be:

- DCC's own costs
- DCC's service provider costs.

3.22. Given that DCC will be a licensed entity, the conditions of its licence will govern the recovery of its own costs, its service provider costs and any obligations placed on the business. An incentive mechanism will need to be put in place that allows DCC to recover its costs but also ensures efficient and economic outcomes. Charging methodology objectives will also need to be developed.

Prospectus proposals

Cost recovery

3.23. The Prospectus proposed that DCC's licence would contain appropriate measures to ensure economic and efficient outcomes including regulatory incentives for DCC to manage its own costs and performance efficiently. The Prospectus also set out the envisaged commercial interfaces and financial flows between DCC and other parties involved in the smart metering system.

Risks and incentivisation

3.24. The Prospectus proposed that DCC's operating plan and budget would be agreed through relevant governance arrangements and that DCC would have the right to earn a margin on its own costs, subject to performance incentives. The Prospectus proposed that DCC's target margin and incentives would be parameters determined as part of the competitive process for granting the entity's licence. The Prospectus noted that incentives could be applied to DCC's costs or outputs and could be set out within its licence.

Charging arrangements

3.25. The Prospectus proposed that DCC would enter into bilateral contracts with its service providers. Relationships between DCC, the energy suppliers, network operators and other users of DCC's services would be governed by the SEC. All users would be charged by DCC for data and communication services, while DCC would be charged by service providers for the provision of data and communication services.

The Prospectus proposed that charges for DCC's services would need to reflect the relevant cost drivers. Options for DCC's user charges, who could contribute to those charges and the charging arrangements for non-core ('elective') services, were considered. The Prospectus proposed that the general principles of the DCC charging methodology would be set out in its licence. The licence would require DCC charging statements to be compliant with the methodology, while its charging methodology would be set out in the SEC.

Evidence

3.26. Sources of evidence considered by the programme included the following:

- Responses to the Prospectus proposals and the issues raised by stakeholders in those responses
- Discussions with the DCG and its sub-groups
- Regulatory incentive mechanisms adopted in other parts of the energy sector and other infrastructure services
- Charging arrangements for existing regulated energy and communication service providers.

3.27. The responses to the Prospectus noted the importance of a carefully structured regulatory regime to support DCC's establishment and viability. Some respondents proposed the option of setting cost targets for DCC's own costs and allowing DCC to recover an explicit margin on those costs. Others proposed regulatory price cap models similar to those adopted in other regulated industries such as telecommunications. Respondents indicated that as the DCC would be a monopoly in the domestic sector it should be incentivised in a manner that extracts efficiency and value for money from its service providers.

3.28. Options were based on different views of what would be appropriate for DCC's business model and what would drive the right behaviour from DCC. Respondents also highlighted interdependencies with other parts of DCC's business model, such as service delivery and the scope of DCC services, to support their proposals.

3.29. Some respondents expressed a concern that the approach in the Prospectus was overly prescriptive and suggested that a broader set of options needed to be considered. For example, it was noted that different end-to-end solutions and/or business models for data and communications services would require alternative cost recovery and incentivisation mechanisms.

3.30. A majority of respondents agreed that DCC's licence needed to provide the right for it to recover from its service users its own internal costs and the costs of its service providers through a set of service charges. But there were differing views on who should contribute to different types of charges and what should be the charging arrangements for elective services. For example, a few respondents proposed additional data charges, while a number of respondents suggested different approaches for suppliers and network operators to contribute to DCC user charges depending on their requirements and use of DCC services.

3.31. The programme discussed different types of incentives and operating principles with the DCG and its sub-groups and how these might be integrated in DCC's licence and the SEC. For example, the DCG discussed cost and output based incentives, KPI ('balanced score-card') based schemes and licence revocation arrangements. The group noted the benefits of DCC being independent of its service providers in terms of greater competition and flexibility for change. The group also noted the importance of approaches that incentivised DCC to maintain ongoing contestability among its service providers at retendering points.

Conclusions

3.32. DCC should be established as a commercial business, accountable and financially incentivised to achieve service standards. During the next phase the programme, in consultation with stakeholders, will develop DCC's licence obligations, including its service obligations and operating principles, procurement objectives and any necessary conditions to counteract the monopoly position of DCC.

3.33. An appropriate performance incentive mechanism to drive economic and efficient outcomes should be developed during the next phase of the programme. DCC's right to recover from its service users its own internal costs and the allowed profit margin on those internal costs, as well as the contracted costs of its service providers, should exist in the context of this incentive mechanism. DCC's cost recovery and incentive mechanism should be designed to provide for both the entity's financial viability and the efficient provision of its services.

3.34. DCC's allowed revenue (which recovers its internal costs), including profit margin, and the parameters and design of DCC's incentive mechanism, should be finalised as part of the licence application process and be informed by the application proposals. Determination of DCC's allowed profit margin and the parameters of the regulatory incentive mechanism at the licence application process would help promote innovation from applicants and would allow evaluation of the strengths and weaknesses of different business proposals by DCC's applicants.

3.35. Consistent with the Prospectus proposals, the general principles of DCC's charging methodology should be set out in its licence, while the detailed charging methodology, which meets these charging principles, should be set out in the SEC. DCC's service charges are likely to comprise a mix of standard and variable charges and should be designed to reflect different types of service. It should be a licence obligation on DCC to publish charging statements that are developed in accordance with the charging methodology in the SEC.

3.36. It is proposed that DCC should charge for elective services requested by individual users or groups of users on a 'user pays' basis. DCC is likely to be allowed to charge higher rates to address the higher costs of providing these elective services. DCC's licence may also include other conditions related to elective services, to provide confidence that management and resources are focused on core services. The details of DCC's charging arrangements will be developed and consulted upon during the development of DCC's regulatory framework in the next phase of the programme.

Next steps

3.37. In the next phase the programme, in consultation with stakeholders, will develop the principles of DCC's cost recovery and incentives mechanisms as well as the relevant charging arrangements. These should form part of the standard licence conditions, the draft special licence conditions, and the draft SEC that would be

made available to applicants for the DCC licence. Details of DCC's revenue and incentives regime should be reflected in special licence conditions.

Content and governance of the Smart Energy Code

3.38. Existing industry codes establish the detailed rules that govern market operation, and the terms and conditions for commercial arrangements.

3.39. A similar regulatory framework to govern DCC and access to, and use of, smart electricity and gas meters is proposed. One approach would be to develop a new SEC. An alternative approach would be to modify existing codes to incorporate smart meter requirements.

Prospectus Proposals

Scope of the SEC

3.40. The Prospectus proposed the introduction of a new code - the SEC - to govern the operation of the smart metering system (rather than the alternative of amending existing codes). The SEC would cover both gas and electricity and be the first code to span the two sectors. It would contain the detailed regulatory, commercial and technical arrangements applicable to the smart metering system during rollout and on an enduring basis. The SEC would implement a regulatory framework to govern access to, and use of, smart meters and the commercial relationships between DCC and its users.

Content of the SEC

3.41. The Prospectus set out an indicative table of contents for the SEC. It proposed that the SEC would cover, among other things, details of the communication and data services to be provided by DCC to its users, technical and commercial interoperability requirements for the smart metering system, arrangements governing changes to the SEC, arrangements to ensure data protection and security and the implementation of the arrangements for cost recovery, charging methodology, billing and payment.

Governance of the SEC

3.42. The Prospectus proposed that the SEC would be implemented via licence conditions on DCC to adopt, comply with and administer the SEC, and obligations on other licensees to become parties to, and comply with, the SEC. The Prospectus proposed that once in place, the SEC would have its own governance arrangements informed by the findings and conclusions of Ofgem's Code Governance Review. The Prospectus suggested that DCC would contract with an independent service provider to deliver the administration and secretariat support necessary for the governance of the SEC.

Evidence

3.43. Sources of evidence considered by the programme included the following:

- Responses to the Prospectus proposals and the issues raised by stakeholders, including consumer groups, in those responses
- Discussions with the DCG and its sub-groups
- Findings from the Code Governance Review and existing arrangements for code governance.

3.44. Responses to the Prospectus were generally supportive of the proposal to implement the regulatory arrangements through the creation of the SEC (as opposed to modifying existing codes). A number of respondents also commented on what the appropriate governance arrangements for the SEC would be. Some respondents proposed specific models for code governance, while others indicated support for using the Ofgem Code Governance Review as a starting point for the new governance arrangements.

3.45. The independence of the code administrator function from DCC was a key issue raised by stakeholders in responses to the Prospectus. Several respondents expressed reservations over the proposed administrative arrangements for the SEC, highlighting in particular concerns over the independence and impartiality of DCC both procuring the code administration body and being a party to the SEC.

3.46. A majority of responses to the Prospectus indicated support for the suggested SEC table of contents, while a number of respondents offered suggestions for additional items to be included. For example, several respondents commented that the relevant objectives of the SEC should be outlined and that additional clarity was needed regarding separation of interim and enduring elements of the SEC and which parts of the code would apply to different parties.

3.47. The DCG and its relevant sub-group considered options for the governance of the SEC in the context of existing code governance arrangements.

3.48. For example, the programme considered an alternative option whereby a requirement would be placed on existing licensees to put the SEC in place. Under this model a jointly owned SEC company ('SECCo') would be formed by signatories to the SEC. A further alternative approach whereby the SEC Panel, rather than DCC, would procure the SEC secretariat services was also considered.

3.49. Following the development of options, a process of evaluation was followed. This included an evaluation of options against the core evaluation criteria set out in the Prospectus and the findings of the Code Governance Review.

Conclusions

The Smart Energy Code (SEC)

3.50. The Government has concluded that a SEC should be established to provide arrangements for the introduction and ongoing operation of smart metering. Among other things, the Code should detail the relationships between DCC and the users of its data and communications services. A new SEC should ensure that the smart metering arrangements are managed in a consistent and holistic manner across the gas and electricity sectors. Amending existing codes would pose a greater risk of fragmentation and complexity.

Content of the SEC

3.51. The proposed table of contents of the SEC in the Prospectus is an appropriate starting point for drafting of the SEC. Stakeholders' suggestions, provided during this consultation, to enhance the table of contents will form a useful input into ongoing work to develop the SEC in the next phase of the programme. Significant ongoing work is required to finalise the Code's elements and to develop its detailed provisions.

Governance of the SEC

3.52. The design of the SEC's governance arrangements should be informed by the findings and conclusions of Ofgem's Code Governance Review⁸. A SEC Panel should be established. The composition of the SEC Panel should include signatories to the Code and other key stakeholders, including consumer representatives.

3.53. Any material changes to the Code should be subject to consultation and approval by the Gas and Electricity Markets Authority (GEMA). In the next phase the programme, in consultation with stakeholders, will determine which elements of the Code will be subject to GEMA's approval and which elements will be subject to stakeholder self-governance through the Code Panel.

3.54. The SEC Panel should be supported by a secretariat, which the SEC Panel will independently procure. The costs of the secretariat services should be recovered through DCC's service charges.

3.55. One of the issues raised by respondents to the Prospectus was the independence of SEC governance and secretariat services. The Government considers that the modified version of the proposal (whereby the SEC Panel procures the SEC secretariat functions and recovers the cost through the DCC licence) addresses these concerns.

3.56. The procurement and selection of the SEC secretariat by the SEC Panel should mitigate concerns over independence without significantly increasing costs and complexity. In contrast, the alternative option of establishing a separate SECCo

⁸ Code Governance Review - Final Proposals, Ofgem, March 2010

would add further complication to SEC governance arrangements and an additional company to the energy industry.

3.57. It is also important to note that there will be independent control over compliance with the Code by virtue of DCC and other licensees being placed under a licence obligation to comply with the Code. Any breach of the Code will be enforced against licensees as a breach of their licences.

Establishment of the SEC

3.58. The SEC will be developed by the programme, in consultation with stakeholders on whom significant demands will inevitably fall in terms of expert input. The SEC will be implemented via licence obligations on DCC to adopt the Code, which will be attached to its licence, and to comply with the Code. All users of DCC's services will be obliged to be parties to the Code and to comply with its obligations. The provisions in the SEC will be given contractual force through a multilateral framework agreement signed by DCC, suppliers, network operators and other users of DCC services.

3.59. It is expected that a broad range of provisions dealing with transition to switching on DCC services and supporting the roll out of smart meters will need to be put in place to support the next stages of the programme, including the SEC's ongoing development.

Next steps

3.60. Drafting of the SEC and its detailed provisions as well as the draft framework agreement will be progressed by the programme, in consultation with stakeholders, building on existing work undertaken by the programme with the DCG. The essential elements of the SEC will form part of the documents provided to applicants in the DCC licence applications process. The programme intends to consult on the draft SEC.

3.61. As well as other provisions of the Code, the programme will work with stakeholders to develop the governance of the SEC, including the code modification process, panel membership, voting structure, who should be party to the Code and its funding arrangements. This will be supported by transitional governance arrangements as required.

4. Establishment of DCC's services and transitional arrangements

This chapter describes the challenge of establishing DCC services in a timely manner. It then sets out the manner in which the Government intends to procure DCC services. The chapter completes by setting out how the programme will address the challenge of migrating meters from the foundation stage to the enduring DCC.

Establishment of DCC's services

4.1. The principal steps in the establishment of DCC's services are likely to include:

- Preparation for procurement: Definition of possible contract packages for service provision and the required interfaces to enable end-to-end service delivery
- Procurement: Competitive processes for the procurement of service providers to deliver the contract package or packages
- Development and contract management: Development work undertaken by the service providers to permit DCC to start offering the services defined in the SEC. Service providers would then be managed against defined service levels in their contracts with DCC
- Testing and trialling: Integration with industry systems and processes, and testing and trialling to launch DCC's services.

Prospectus Proposals

4.2. The Prospectus proposed that a sequential approach should be followed to establish DCC, notably:

- Development of legal instruments (including the DCC licence)
- Competitive applications process for the DCC licence
- Procurement and development of DCC's data and communication services.

4.3. The Prospectus envisaged that the final phase of this process (procurement and development of DCC services) could be completed within 12 months. The associated implementation plan showed the DCC licence being granted in Autumn 2012 and DCC's services being established by Autumn 2013.

Evidence

4.4. In determining the approach, analysis of the responses to consultation was undertaken as well as engagement with stakeholders through the DCG and workshops.

4.5. In addition, information requests to industry parties and to potential service providers for DCC's services (the receiving parties determined through the Committee of Technical Experts (CoTE) and relevant trade associations) were issued. The responses received have informed the Government understanding of the timescales for establishment of DCC services.

Analysis of consultation responses

4.6. Respondents to the specific question in the "Communications Business Model" supporting document on the process for establishment of DCC and its services raised concerns over the relevant timelines set out in the Prospectus.

4.7. There was some opposition to the approach proposed in the Prospectus, with significant doubt expressed that the Autumn 2013 target could be met.

4.8. Responses to the Prospectus, interactions with the DCG and detailed analysis suggests that a delay to the above timeline would have significant impact on delivery of the objectives of the Smart Metering Implementation Programme:

- Suppliers may delay the ramp-up of their smart meter rollout programmes
- Delivery of the full benefits (from smart metering) would therefore be delayed
- An extended foundation stage will result in many more domestic smart meters being subject to an interim (less robust) change of supplier process
- Pervasiveness of foundation communications contracts procured by individual suppliers may put competing enduring solutions at a disadvantage.

4.9. A number of respondents explicitly proposed that, in order to achieve the proposed timeline, procurement of service providers should proceed in parallel with the competitive applications process for the DCC licence. Of the larger suppliers, only one was supportive of the sequential approach proposed in the Prospectus.

Additional Analysis

4.10. The time required to procure the data and communication services has been re-examined. Based on mandated timelines for EU compliant process and stakeholder feedback, it is estimated that procurement will take around 12 months.

4.11. Further, industry parties and potential service providers indicated that they would require 15 months to prepare the required services, develop or modify IT systems and then undertake cross-industry readiness trials. A similar period will be required by industry parties to modify their existing systems.

4.12. We have also conducted detailed evaluation of the advantages and disadvantages as well as detailed risk assessment of a number of options for the establishment of DCC and the procurement of its services. The options were evaluated against a set of criteria, including among other things value for money, timeframes, ability to deliver effective and secure end-to-end solution, consumer interests, ability to facilitate efficient rollout and flexibility to accommodate additional requirements.

Conclusions

4.13. The Government has decided to follow a parallel procurement approach whereby it will initiate procurement of service provider contracts in parallel with the DCC licence applications process.

4.14. Further analysis has indicated that the sequential approach to DCC licence application process and services procurement, as set out in the Prospectus, would likely delay the establishment of DCC services and thus delay the full realisation of smart metering benefits. The parallel procurement approach advocated by a number of stakeholders offered a number of significant advantages, including:

- Earlier establishment of DCC's services
- Allowing a competitive process to be adopted for granting the DCC licence
- Allowing a robust and open competition process to be designed and followed.

4.15. The Government has also re-considered the possibility of modifying an existing licence (as discussed in the Prospectus) in order to establish DCC (as opposed to granting a new licence). However, it has concluded that this approach, while having the potential to accelerate timelines (over the sequential approach) has significant weaknesses and does not achieve comparable timescales to the parallel procurement approach.

Next steps

4.16. In the next phase of the programme a team will be established to run the procurement process in parallel with the competitive applications process for the DCC licence.

4.17. The programme will work closely with stakeholders in the preparation of the detailed functional requirements for communications and data services. The programme will seek significant support from industry and other stakeholders in this activity, which among other things will need to clarify the requirements related to smart grids as well as other industry services which may be added to DCC's scope (eg water metering services).

4.18. The programme will also engage with stakeholders to develop a detailed procurement strategy for DCC service provision contracts.

Transition to DCC

4.19. Compliant smart meters installed during foundation will need to migrate to use DCC services. The transition must be planned to protect consumer interests, and minimise costs and risks for DCC and suppliers.

Prospectus Proposals

4.20. Once DCC starts providing services, it will be responsible for communications with compliant metering systems. The Prospectus proposed that:

- Between the point at which licence modifications mandating rollout targets are implemented and DCC services become available, suppliers would be responsible for procuring communications services. Communications contracts entered into

by suppliers would need to be of limited duration or capable of being novated to DCC

- Once DCC services are fully established, suppliers would use these services for communicating with smart meters in the domestic sector, including with compliant metering systems installed during foundation. This should not require a visit to the premises, for example, to change the WAN module
- To provide certainty to suppliers considering investing in smart metering, and to protect the interests of consumers, specific arrangements might be needed to facilitate transition. For example, DCC could be required to take on communications contracts agreed by suppliers ahead of DCC establishment, where these contracts meet certain pre-defined criteria. The programme was also considering earlier measures that may be necessary around interoperability to facilitate switching suppliers.

Evidence

4.21. Detailed analysis of the responses to consultation has been undertaken as well as engagement with stakeholders through the DCC Expert Group. An information request⁹ asking for details of potential communications solutions was also issued to industry parties and to potential service providers via the DCC Expert Group's Community of Technical Experts and a number of trade associations.

4.22. The Prospectus asked what measures would be needed to facilitate rollout and transition. Of those that answered the question, a small majority of respondents agreed with the requirement for novation of communications contracts to DCC, to reduce the risk of contract stranding. One respondent did not support the novation of contracts where the contract is entered into before smart meters are mandated. This was because the respondent believed that such contracts would be entered into at the supplier's risk and therefore costs should not be shared with other suppliers via novation. Some telecommunications service providers commented that novation of large numbers of contracts could be challenging for DCC and that instead energy suppliers should develop transition plans in collaboration with DCC and should be responsible for executing them.

4.23. Some respondents suggested that any communications contracts entered into before DCC services are available should be of limited duration, because this would minimise the cost of terminating them after novation. A small number of respondents thought that pre-DCC contracts should be on standard terms, to avoid the need for contract review and negotiation on change of supplier and hence reduce the cost and risks of novation. Some respondents put forward the suggestion that limited contract durations and standard terms should be enforced via licence conditions, because this would ensure that all industry participants complied.

4.24. A small number of respondents thought that details of the enduring solution should be made available as soon as possible, with some suggesting that this should include details of the communications technologies. This is because knowledge of the enduring solution would enable organisations to ensure, so far as is possible, that

⁹ <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=57&refer=e-serve/sm/Stakeholder/DCG>

investment made in interim equipment or systems can continue to be used once DCC services are operational.

4.25. Some respondents commented that interim arrangements should be allowed to run for their contracted lives rather than being novated when DCC services become available, because this would enable suppliers to get the full value from their investment in interim interoperability arrangements.

Conclusions

Adoption criteria and volume

4.26. To provide greater certainty to suppliers and so facilitate early rollout benefits, the Government has concluded that DCC should be required to adopt communications contracts associated with compliant metering systems installed before DCC services are available, subject to the contracts meeting agreed pre-defined criteria. There is likely to be a limit on the number of communications contracts that DCC would guarantee to adopt. DCC will have the discretion to adopt contracts in excess of this number where it is satisfied this is consistent with the procurement strategy objectives set out in its licence.

4.27. Responses to the relevant Information Request indicated that the cost and commercial viability of certain potential solutions for the DCC communication services could be affected if DCC were required to adopt significant numbers of communications contracts. The extent of this impact depends on the communications technology. The number of meters that DCC would be guaranteed to adopt needs, therefore, to be set at a level that avoids the potential foreclosure of what could otherwise be the most effective and efficient enduring communications solutions.

4.28. To give effect to its conclusions on adoption criteria and volume, the Government will:

- Include a condition in DCC's licence that requires DCC to adopt communications contracts associated with compliant metering systems if these satisfy pre-defined criteria and the volume of contracts adopted is consistent with the limit set by Government
- Include an obligation in the suppliers' licences that, if the communications contract associated with a compliant smart metering system does not satisfy the criteria for adoption or exceeds the limit, the supplier must replace the WAN module when requested to do so by DCC. The cost of replacement in this case would fall to the supplier. The decision to require replacement would be subject to an appropriate dispute resolution process.

Process for establishing the adoption criteria and volume

4.29. DCC adoption criteria and volume would impact on the overall programme benefits and costs. As such, they must be set together, based on the best information available. Full, reliable information is not likely to be available until DCC's communications service providers have been selected in Q4 2012. However, the

Government recognises that suppliers would benefit from an early indication of the adoption criteria and volume, so they can make robust investment decisions. The Government has therefore concluded that the following approach should be taken in setting the adoption criteria and volume:

- In parallel with the early stages of the procurement process for DCC communications services, the programme may issue a request for information to potential communication service providers. This would seek information on the impact of adoption volumes on communication options. The adoption volume should also be informed by the procurement process for the DCC communications services.
- At the same time, the programme will work with stakeholders to develop appropriate adoption criteria.
- The adoption criteria and volume identified by these processes will be implemented through the DCC licence conditions and be informed by the relevant consultation processes.

4.30. The development of the adoption criteria and limit should be based on achieving the best overall economic case for the programme, taking into account the benefits and costs to consumers, suppliers and DCC, which will be influenced by a number of factors.

4.31. Under this approach, the final adoption criteria and limit will then be available before any significant volume rollout of compliant metering systems. As such, any associated uncertainty should be resolved in time for suppliers to make firm decisions on their smart meter rollout strategy.

Replacement of adopted contracts

4.32. DCC should have the discretion to decide when an adopted contract is replaced by the DCC enduring communication services and should therefore bear the associated costs. DCC's regulatory framework should require DCC to make such decisions based on cost benefit analysis. It is expected that the overall cost of replacing an adopted contract will be lower than the costs associated with continuation of an adopted contract. It is, therefore, considered appropriate that DCC / its service providers should bear the costs associated with such replacements.

Next steps

4.33. In the next phase the programme plans to:

- Issue an information request to potential communications service providers seeking information on the impact of different adoption volume levels on the commercial viability of communications solutions
- Use the responses to the information request, along with other information, to develop adoption criteria and volumes
- Develop suitable conditions for transition and post-adoption contract termination to be included in the regulatory frameworks for DCC and suppliers.

5. Next Steps

5.1. The government response to consultation, of which this supporting document forms a part, sets out a range of decisions and conclusions. Collectively, these provide a robust platform for implementation. The next stage of work will require specific outputs to be delivered to build on this platform.

5.2. The following are the main outputs in respect of Central Communications and Data Management drawn from the material presented in chapters 2 to 4:

Key Deliverable

Regulatory instruments to enable the establishment of DCC, including standard and special conditions of the DCC licence, prohibition order, licence applications regulations and licence applications rules.

The terms of the prohibition order, the DCC's standard licence conditions and the licence application regulations need to be established to enable the DCC licence application process to be commenced. The Secretary of State will use his powers under Schedule 4 of the Energy Act to bring these regulatory instruments into effect.

Draft Smart Energy Code (SEC) including its governance arrangements.

Among other things it will detail the relationship between DCC and users of its services, and therefore a draft of key provisions will need to be available prior to commencing the DCC licence applications process. The SEC will be established through licence conditions on DCC to adopt and comply with the SEC. DCC will have a monopoly position within the domestic market and as such it will be subject to regulatory oversight with respect to its cost recovery and incentive mechanism, and charging arrangements. The programme will develop the principles to be applied to the DCC cost recovery and incentive mechanisms, and charging arrangements, which will be included in DCC's standard licence conditions, its special licence conditions and the SEC.

Principles for DCC's cost recovery and incentive mechanisms and charging arrangements.

Grant of the DCC licence through a competitive licence applications process.

The programme will design and implement the rules for the competitive process to granting the DCC licence. It will then run the competitive licence application process in accordance with these rules. On completion a licence will be granted to the successful proponent by the Secretary of State.

Key Deliverable

Obligations and procedures relating to ownership, installation and maintenance of metering equipment at the consumer premises.

In instances where a consumer has different suppliers for gas and electricity, these energy suppliers may have to share the equipment on the consumer premises. Procedures will need to be established that enable the notification and resolution of any equipment faults. In addition arrangements and procedures for the recovery of costs for work done on the shared infrastructure would need to be developed. These will be included in DCC and suppliers licence conditions, and the SEC.

Process that enables suppliers to "opt in" and to "opt out" of using DCC services in the smaller non-domestic sector.

On a change of supplier there may be instances where the supplier or metering agent will want to either use the DCC services or, where DCC is the incumbent services provider, de-appoint DCC. The processes that enable a supplier or metering agent to opt in or opt out of using the DCC services will need to be established along with the mechanism by which industry parties adhere to these procedures. These will be included in the SEC.

Specifications for the functional and security requirements for DCC's communications and data services.

The specifications will be used to procure the communications and data services that DCC will require in order to fulfil its obligations. These specifications will also provide the basis for parts of the SEC. The proposed evolutionary path of DCC is to include meter point/ registration activity within 2-3 years after DCC begins to provide its services. This is important as it seeks to streamline the change of supplier process and facilitate dual fuel switching. Following appropriate analysis, the programme will develop a detailed plan for migrating the registration processes and systems operated by network operators or their agents to DCC.

Design of DCC's meter point / registration activities.

Procurement strategy for DCC's data and communications services.

The programme will develop a procurement strategy that sets out the process for the effective and efficient procurement of DCC's service providers, which needs to be produced and approved by Government before the procurement process has commenced.

Key Deliverable

The programme will commence the procurement process for the competitive procurement of DCC's data and communications services, in accordance with the approved strategy. Develop the DCC communication services adoption criteria and volume limit.

The Government has decided to follow a parallel procurement approach whereby it will initiate procurement of service provider contracts in parallel with the DCC licence applications process. The final adoption criteria and limit should be available before any significant volume rollout of compliant metering system. As such, any associated uncertainty should be resolved in time for suppliers to make firm decisions on their smart meter rollout strategy. The adoption criteria and limit will be implemented through the DCC licence conditions.

5.3. These outputs form part of a consolidated plan for the programme as a whole. More detail on the timing and sequencing of these outputs and how they relate to other programme outputs can be found in the "Implementation Strategy" supporting document.

Appendices

Index

Appendix	Name of Appendix	Page Number
1	Appendix 1 - Consultation Questions	40
2	Appendix 2 - Glossary	72

Appendix 1 - Consultation Questions

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 central communications and data management.

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).

DCC Scope and Services

Stakeholder Engagement / views

Prospectus Question 9: Do you have any comments on the proposal that the scope of activities of the central data and communications function should be limited initially to those functions that are essential for the effective transfer of smart metering data, such as data access and scheduled data retrieval?

Communications Business Model Question 1: Do you agree that access control to secure centrally-coordinated communications, translation services and scheduled data retrieval are essential as part of the initial scope of DCC?

1.5. A substantial number of responses to these questions were received from energy suppliers, network operators, metering agents, energy industry bodies, meter manufacturers, and service providers from the telecommunications and IT sectors. The breadth of responses means that it is not meaningful to divide views on the basis of the type of respondent.

1.6. An overwhelming majority of respondents supported the proposal that secure centrally-coordinated communications, translation services and scheduled data retrieval are essential components of the initial scope of DCC. Only a very small number of respondents disagreed with their inclusion. These respondents either

disagreed in principle with the requirement for a DCC or advocated that competition should be promoted in the provision of 'head-end' services.

1.7. Different rationale was presented for supporting the inclusion of the three core functions. With regard to access control, respondents indicated that central checking of user authorisation is an essential feature of a secure smart metering solution. The rationale presented for including translation and scheduling functions in DCC was based on the economic efficiency of performing these functions centrally and the degree to which centralisation of these functions would support the transfer of meters on change of supplier.

Communications Business Model Question 2: Do you agree that meter registration should be included within DCC's scope and, if so, when?

As for the previous questions, a substantial number of responses were received from the energy supply industry, meter manufacturers, and service providers from the telecommunications and IT sectors.

Suppliers

1.8. Suppliers' expressed mixed views on whether registration should be included within DCC's scope :

- All except one of the larger suppliers supported the inclusion of registration in DCC's scope. Several commented that rationalising the multiple systems that exist today would streamline the change of supplier process (including harmonisation of electricity and gas processes), thereby enabling them to reduce costs and protect consumer interests on a change of supplier.
- The responses from smaller suppliers were mixed. Several supported the proposal (for similar reasons as the larger suppliers) while others commented that such changes would impose a significant cost for changing their internal systems. Some argued that streamlined arrangements could be achieved through simpler changes to existing systems.

Network operators

1.9. Network operators (who are currently responsible for operating the registration systems) were broadly neutral on whether or not this function should transfer to DCC, although they noted that they would still require access to data held by the registration system.

Other respondents

1.10. Respondents from other metering agents, central bodies, service providers from the telecoms and IT sectors, and trade associations were broadly supportive of the proposal to include registration in DCC's scope. They observed that the transfer

of registration to DCC should streamline supplier switching, support dual fuel switching and rationalise other industry processes.

Timing of the transfer of registration

1.11. A wide range of views was expressed on the timing of the transfer of registration to DCC. Many respondents drew attention to practical issues, including the time required to develop and test new registration systems, while others highlighted the need to consider whether a new register should cover all sites or just those with a smart meter. If the new register were to contain all sites (potentially including non-domestic and unmetered sites), respondents highlighted that a large-scale and complex data migration project would be required. Some respondents drew attention to data errors present in current systems and the need for a data cleansing exercise, indicating that installation of a smart meter might provide an opportunity to perform this cleansing. Attention was also drawn to the opportunity to use a new registration database to record other energy initiatives, for example Feed-In Tariffs and the Green Deal.

1.12. Several of the larger suppliers indicated a preference for registration being included from the start of DCC's operations. They argued that such an approach would allow suppliers to make all necessary changes to their internal systems in one step and to realise benefits immediately. However, if the added complexity of this approach were to result in the development timeline being extended, then these respondents were generally in favour of maintaining an early date for DCC services becoming available, with registration being added later.

1.13. Only two respondents - from the telecommunications and IT sectors - provided information on the time that might be required between the start of DCC operations and the transfer of registration to DCC. Both indicated a period of 12-18 months but did not present detailed evidence to substantiate this estimate.

Communications Business Model Question 3: Should data processing, aggregation and storage be included in the DCC's scope and, if so, when?

1.14. Again, a substantial number of responses were received to this question from the energy supply industry, meter manufacturers, and service providers from the telecommunications and IT sectors. The breadth of responses means that it is not meaningful to divide views on the basis of the type of respondent. Many respondents commented separately on the individual functions covered.

Data processing and aggregation

1.15. Data processing and aggregation functions are performed differently in the two industries. In gas, xoserve – on behalf of Gas Transporters - is responsible for data verification functions, for converting meter readings into energy values and for the calculation of annualised quantities. A number of respondents commented that as

these functions are already centralised the benefit of transferring them to DCC may be limited.

1.16. In electricity, Data Collection and Data Aggregation (DC and DA) agents are appointed by suppliers to perform data processing and aggregation, including the calculation of estimates of annual consumption. Many respondents - in particular, network operators - commented that detailed analysis of the requirements, costs and benefits should be undertaken prior to any decision to add data processing and aggregation to DCC's scope. Some suppliers supported the inclusion of DC and DA in DCC's scope while others argued that these functions are not essential to the operation of smart metering. Many in the latter group suggested that analysis should be undertaken as part of a more general review of the implications of smart metering on settlement.

1.17. A small number of respondents (which included suppliers, network operators, metering agents and service providers from the IT sector) opposed the transfer of DC and DA to DCC. They highlighted that DC and DA are competitive activities and that the elimination of competition in these markets could offset the benefits.

Data storage

1.18. With regard to storage of meter readings by DCC, many respondents from all sectors commented on the threats to data privacy if all data were held in a central repository managed by DCC. However, if data can be held securely, then a number of respondents argued that centralised data storage could provide a more efficient method of making data available to authorised users. Some respondents from the IT sector drew on international experience to highlight the merits of using a central repository - operated by a body comparable to DCC - to store all meter readings. The merits cited included providing consumers with access to their data via the internet.

1.19. A small number of respondents addressed the issue of whether data should be stored by DCC or in the smart meter. Of these, the number of responses favouring each approach was broadly equal. Those advocating central storage by DCC focused on the benefit of creating a single repository which could be accessed by all parties while those favouring local storage on the meter focused on the potential threats to data privacy from unauthorised access to a central data source.

Regulatory and Commercial Framework Question 14: What arrangements would need to be put in place to ensure that customers located on independent networks have access to the same benefits of smart metering as all other customers?

1.20. Responses to this question were received from suppliers, meter manufacturers and service providers from the telecoms and IT sectors. It is not meaningful to divide views regarding this question on the basis of the type of respondent.

1.21. Respondents strongly supported the view that consumers located on independent networks should have access to the same benefits of smart metering as

all other consumers. Some suppliers commented that data errors relating to consumers located on independent networks have prevented them from offering the same quality of service as for other consumers, and that these problems may become more pronounced under smart metering.

1.22. A number of metering agents and suppliers commented on the difficulty of accessing meter point information from the registration systems operated by independent gas networks. This issue was cited as a further argument in support of the centralisation of all meter point / supplier registration activities in DCC.

Consumer Protection Question 10: Do you consider that an obligation similar to Prepayment Meter Infrastructure Provision (PPMIP) may be required?

1.23. A substantial number of responses were received to this question. Responses were received from a consumer group, suppliers, meter manufacturers, and service providers from the telecommunications and IT sectors. The breadth of responses means that it is not meaningful to divide views on the basis of the type of respondent.

1.24. A variety of observations were made regarding both the current operation of prepayment meters and the ways in which smart metering should support prepayment.

1.25. With the exception of one meter manufacturer there was consensus among respondents that services akin to PPMIP would not be required under smart metering. This respondent suggested that a single, national payment services agent should be appointed to support all suppliers. It argued that this could provide a central clearing house for payments and a central point for resolving errors.

1.26. Some respondents described the limitations of existing prepayment meters, focusing on the constraints imposed by the need to use a physical device (eg an electronic key or a card) which fits into the meter.

1.27. Meter manufacturers and suppliers highlighted that all smart meters can be operated in credit or prepayment mode and the mode may be switched remotely. This will allow the supplier to top-up the smart meter remotely¹⁰. Suppliers and some meter manufacturers highlighted the importance of maintaining the National Service Provider networks of payment agents to enable consumers to make cash top-ups. They commented that these services will be required even with the introduction of innovative payment methods such as online payments or ATMs.

1.28. Several suppliers and some meter manufacturers highlighted the importance of designing the smart metering solution to avoid misdirected payments occurring under smart metering. Misdirected payments arise from data errors in processing,

¹⁰ Top-ups may be entered manually into a smart meter if the communications network is unavailable.

sometimes due to a consumer presenting a key issued by a previous supplier. Respondents reported that misdirected payments result in a significant administrative cost which adds to the cost differential between prepayment and credit consumers.

Roles and responsibilities at the consumer premises

Prospectus question 8: Do you have any comments on the proposals that energy suppliers should be responsible for purchasing, installing and, where appropriate, maintaining all customer premises equipment?

1.29. The Prospectus proposed that suppliers will be responsible for the WAN module at the consumer premises, the HAN that enables communications with smart metering equipment within the premises, an IHD and other shared devices. We received a number of responses from a wide range of respondents. In general respondents broadly agreed with suppliers taking responsibility for shared equipment at the premises but were concerned with the proposal that suppliers be responsible for procurement of the WAN module. Some respondents also queried the details of the proposal in the Prospectus and the concept of the 'lead supplier' being responsible for consumer premises equipment.

Consumer groups

1.30. Consumer groups were broadly supportive of the proposal that suppliers be responsible for purchasing, installing and maintaining consumer premises equipment. Consumer groups also commented on the cost recovery arrangements for equipment in the consumer home and monitoring arrangements for how costs are recovered from consumers. Consumer groups also supported transparency of cost recovery.

Suppliers

1.31. Suppliers broadly agreed that they should take responsibility for installation and maintenance activities in the consumer premises. However, there was strong opposition to the supplier procuring and owning the WAN module. Suppliers suggested that provision and ownership of the WAN module would be best placed with the communications service providers appointed by DCC. They felt it would be more efficient if one party was responsible for the WAN module and DCC would be the most appropriate party as it will be responsible for its procurement. One supplier also suggested that DCC should be responsible for the HAN and supported arrangements whereby there was only one visit to each site to install equipment.

1.32. A number of suppliers also suggested they were uncomfortable with the concept of a lead supplier being responsible for shared infrastructure in the consumer home and proposed a series of alternative solutions. One smaller supplier suggested that an appropriate level of flexibility be built into arrangements in order to encourage innovation.

1.33. A number of smaller suppliers also highlighted a concern that cost recovery arrangements and obligations on suppliers related to consumer premises equipment could create barriers to entry and restrict smaller suppliers' ability to maintain competitive tariffs. One supplier suggested that arrangements be put into place that ensured smaller suppliers were assisted in competing.

1.34. One supplier noted that while two suppliers sharing one IHD would present challenges for the industry, there were consumer benefits from sharing an IHD even where there are different suppliers for gas and electricity. There was broad support among suppliers for the proposal that the supplier be responsible for installing the IHD and that there be a one-year obligation to provide an IHD if this were requested by the consumer. Suppliers noted that consumer ownership of the IHD would encourage careful use and management of the equipment by the consumer.

Consultants / service providers / respondents from the telecommunications sector

1.35. There were mixed views expressed by respondents. While some respondents saw many benefits from streamlined responsibilities for consumer equipment, many service providers also supported a model where the selected communications service provider (through an obligation on DCC) is responsible for procurement and ownership of the WAN module. It was suggested that this would facilitate more efficient development of the communications solution.

1.36. A number of service providers and consultants also noted that there are alternative approaches to a supplier driven rollout of shared equipment in the consumer premises. For example, one respondent suggested that consumers should be able to purchase additional devices through retail outlets. Respondents also highlighted the range of skills required to install and maintain equipment in the home and the need to maintain interoperability and open standards. Respondents also highlighted that obligations and regulations in this area would have wider implications for more stakeholders than simply suppliers.

1.37. One respondent from the telecoms sector highlighted the IHD as a potential competitive differentiator for suppliers. The respondent suggested suppliers should therefore own and maintain the IHD(s).

Network operators

1.38. Network operators were supportive of the proposal in the Prospectus. However, one network operator suggested that proposals regarding the 'lead supplier' could require transfer of asset ownership and maintenance responsibilities and would add significant complexity and uncertainty for asset providers. One network operator noted interdependencies with other energy infrastructure in the consumer premises that is currently the responsibility of network operators (for example, the Emergency Control Valve (ECV)). It was noted that certain activities (for example in relation to the ECV) would need to remain the responsibility of network operators.

Trade associations and industry bodies

1.39. There was broad support from trade associations and industry bodies for involving experts in installation and maintenance of consumer premises equipment and that as far as practicable the supplier hub principle should be maintained. However, a number of respondents felt that the ownership model of the WAN module should mirror current arrangements for meter asset provision, with DCC adopting the role of the asset provider.

1.40. Various views were expressed on different processes for maintaining the WAN module, HAN and IHD with interdependencies with the technical specification noted by respondents. For example, the extent of warranty required on the equipment provided and the liabilities associated with failure were discussed. A number of respondents also highlighted interdependencies with the development of the SEC.

Meter manufacturers and installers

1.41. There were mixed views among meter manufacturers and meter operators on the Prospectus proposals. While generally supportive of suppliers being responsible for procurement, installation and maintenance of consumer premises equipment some respondents felt that the complexity of what was being proposed should not be underestimated. Other respondents highlighted that a competitive market had developed for meter services in Britain.

1.42. Other respondents

1.43. A number of respondents noted that the proposed ownership and maintenance arrangements could be complex. The arrangements for cost recovery and how obligations would transfer with change of supplier were cited to support this view. A water service provider suggested that there was a need for commercial interoperability between equipment owned by energy suppliers and water service providers.

Regulatory and Commercial Framework Question 7: Do you agree with the proposal that the WAN and the HAN in customer premises should be shared infrastructure, with the installing supplier retaining responsibility for ongoing maintenance? If not, would you prefer to have an arrangement by which if the gas supplier is the first to install, responsibilities for the common equipment is transferred to the electricity supplier when the electricity smart meter is installed?

1.44. There was broad support that the WAN module and the HAN in the consumer premises should be shared infrastructure. However, there were mixed views on who should be responsible for installing each system and which supplier should retain responsibility for ongoing maintenance.

Suppliers

1.45. Suppliers had mixed views on who should be responsible for maintaining the shared infrastructure equipment in the consumer home. A small number of respondents felt that the proposed arrangements in the Prospectus were unlikely to be the best way forward and that further analysis of processes and procedures was required.

1.46. One smaller supplier suggested the installing supplier should be responsible for ongoing maintenance of shared equipment which would then pass to the incoming supplier when a change of supplier takes place. The same supplier also suggested that where gas and electricity are supplied by different companies, maintenance should be shared between the two companies, with the company carrying out the maintenance work being able to recoup part of its costs from the other supplier.

1.47. Another supplier suggested that DCC should take on this responsibility and that there should be as little sharing as possible. One supplier supported an alternative option of the electricity supplier being required to install its smart meter and supporting systems in the consumer premises ahead of the gas supplier. It was suggested that this approach was likely to be the most cost effective solution.

1.48. Other respondents emphasised the impact on competition and on the ability for the consumer to switch supplier if simple delineation for shared infrastructure equipment were not put in place from the outset.

Network operators

1.49. Network operators who responded to this question broadly supported an approach whereby arrangements are put in place to facilitate sharing of equipment in the consumer home. Two network operators suggested that the consumer would prefer it if the ongoing responsibility for the WAN/HAN is simple and clear following installation. Another respondent suggested that a framework was required that supported both a shared WAN/HAN solution and an independent WAN/HAN solution.

Consultants / service providers / respondents from the telecommunications sector

1.50. There were mixed views from consultants and service providers as to the most appropriate arrangements for shared infrastructure. Some respondents agreed with the proposal that responsibility for the WAN module and HAN maintenance should sit with the installing supplier until a change of supplier occurs. Other respondents highlighted problems with the option to transfer responsibility for maintenance from the first gas installer to the second electricity installer.

1.51. Several respondents highlighted technical reasons for the electricity supplier to be responsible for installation of the WAN/HAN and its ongoing maintenance. It was also noted by a number of respondents that the WAN module may be part of the electricity meter, and that the gas meter installer may not be qualified in this case to

work on the electricity infrastructure. There was broad support from consultants and service providers that the option of installing separate systems should be discounted due to the high additional cost of this approach.

Meter installers and manufacturers

1.52. Respondents highlighted the issue with the WAN module potentially being part of the electricity meter and how this might affect the ability of different suppliers to provide ongoing maintenance for the WAN module/HAN. Some respondents felt that the option to transfer responsibility onto the electricity supplier would be of greater benefit. Others broadly agreed with the concept of the installing supplier retaining responsibility for ongoing maintenance.

1.53. While there were mixed views on how the commercial arrangements should work for the WAN module and HAN, meter installers and manufactures were broadly supportive of communications equipment shared between gas and electricity smart meters.

Trade associations and other respondents

1.54. As with other respondents, the trade associations supported arrangements that facilitated shared infrastructure. However, there were mixed views on the appropriate arrangements for ongoing maintenance of the WAN module and HAN.

1.55. Energy suppliers suggested that the concept of 'lead supplier' changed the supplier hub model and introduced a number of practical issues that might be avoided by other options (eg retaining the existing change of ownership principles of metering competition). Other trade associations highlighted interdependencies with the technical specification of the consumer premises equipment. One respondent suggested that DCC should be responsible for ongoing maintenance of the WAN module and HAN.

Use of DCC in the non-domestic sector

Prospectus Question 12: Does the proposal that suppliers of smaller non-domestic customers should not be obliged to use DCC services but may elect to use them cause any substantive problems?

Non-Domestic Sector Question 4: Do you agree with the proposed approach that use of DCC should be optional for non-domestic participants in the sector?

Larger suppliers

1.56. A large majority of the larger suppliers took the view that making the use of DCC elective in the smaller non-domestic sector would cause a number of issues. They held the view that the elective use of DCC would lead to multiple data hubs and interfaces which would undermine the development of smart grids. Further they

believed that interoperability would be undermined. They also noted that the elective use of DCC would lead to the establishment of different communication models with differing charging models leading to higher costs.

1.57. A small number of these respondents felt that the elective use of DCC in this sector was appropriate for the time being and should be reviewed at a point in the future should substantive issues arise.

Smaller suppliers

1.58. There were mixed views from this group of respondents. Some respondents did not support the proposal citing the same concerns as indicated by the larger suppliers. However other respondents from this group supported the proposal indicating that the option of using the DCC services would:

- Allow smaller non-domestic consumers to continue to benefit from the existing competitive market facilitating provision of greater flexibility and choice of solutions for small businesses to engage with the carbon agenda
- Prevent the risk of tailor-made and sometimes complicated tariffs not being offered to consumers due to potential restrictions brought about by the DCC service provision
- Save on development and investment costs for DCC as multiple translation interfaces will not be required
- Allow for service providers and suppliers to monitor the DCC development and service provision. Should it prove to be a cost effective option then service providers may opt in to provide their customers a cheaper service.

Network operators

1.59. Of the respondents that answered these questions a large majority took the view that to facilitate smart grids there should be one interface from which to obtain metering data irrespective of consumer type. These respondents indicated that optional use of DCC would lead to multiple data retrieval systems which would further undermine the development of smart grids.

1.60. A small number of these respondents indicated that the optional use of the DCC services could lead to vital data that is used for network planning purposes being unavailable and may also lead to fragmentation through the development of multiple systems and processes to convey data. However, a small number of respondents indicated that they did not perceive any substantial problems if the network operator could get the required access to data. However they indicated that this position is appropriate in the short and medium term.

Telecommunication providers

1.61. The majority of respondents did not support the proposed elective use of DCC in the smaller non-domestic sector. These respondents believed that it would be

sensible if all metering data was provided by a single service provider. Some of these respondents indicated that running parallel systems for the domestic and non-domestic sectors would be more costly.

1.62. A small number of respondents indicated that they understood the rationale behind the proposal but indicated that elective use of DCC in this sector will require further analysis.

1.63. A small number of telecommunication providers indicated their support for the elective use of DCC in the smaller non-domestic sector however they noted that the benefits identified for use of DCC in the domestic sector equally apply to the smaller non-domestic sector.

Service providers /consultants

1.64. The majority of these respondents supported the proposal and indicated that they did not see any substantive issues with the proposal. They stated that the optional use of DCC will allow for more bespoke offerings being available to smaller non-domestic consumers thus allowing these consumers to maximise the benefit of the existing market for related services.

1.65. Further, one respondent took the view that the DCC services should be restricted to the domestic sector as they believed that DCC operation in the non-domestic sector could adversely affect new entrants into this sector.

1.66. A minority of respondents felt that DCC should provide services to both the domestic and non-domestic sector. Those that expressed a view indicated that DCC would be able to secure a lower unit cost if all smart metering data is being conveyed across DCC's services.

Industry bodies

1.67. A small number of respondents felt that allowing suppliers to run separate processes and systems for some consumers would appear to increase the complexity of the overall solution. They proposed that an open and transparent charging structure, which does not include any commercial, technical or economic barriers to entry, should alleviate any such concerns of suppliers to smaller non-domestic consumers.

1.68. One central body noted that the elective use of DCC would be beneficial but felt it would be preferable to mandate the use of DCC for smaller non-domestic consumers. This was because they believed providing options would add complexity to processing and validation criteria. Another party considered that the elective use of DCC for non-domestic consumers provides a number of potential benefits. Suppliers to non-domestic consumers, or consumers themselves, may be able to negotiate favourable terms for data and communications services. However, in the longer term and in the context of smart grids, this party believed that this decision

could require re-visiting. For an integrated smart grid solution, it may be more beneficial for all consumption data for domestic and non-domestic consumers to be routed through a single service provider, as opposed to multiple service providers.

1.69. Few respondents considered that the optional use of DCC services in a scenario in which the scope of DCC obligations is concentrated on access control, translation and scheduled data retrieval services has little impact on the operation of xoserve's services to discharge Gas Transporters' obligations to the non-domestic sector. In the event that the scope of DCC obligations is extended, eg to include registration, then the optional approach to non-domestic sector use of DCC services would give rise to significant complexity and inefficiency.

Other respondents

1.70. These respondents include meter manufacturers and meter operators and trade associations.

1.71. The majority of respondents supported the proposal. These respondents stated that the elective use option would allow advanced metering installations to remain in place. They also felt that keeping the use of DCC as optional would demonstrate whether DCC is providing a competitive solution.

1.72. Further a number of respondents indicated that the mandated use of DCC may restrict service providers' ability to innovate and may restrict the number of data management solutions that may be available to the consumer.

Non-Domestic Question 5: If use of DCC is not mandated for non-domestic customers, do you agree with the proposed approach as to how it offers its services and the controls around such offers?

Suppliers

1.73. The majority of suppliers supported the proposed approach as to how DCC offers its services and the proposed controls around those offers. The suppliers indicated that it was appropriate to limit DCC's ability to provide additional services as this would prevent it from unfairly benefiting from its monopoly position. In addition, these respondents felt that requiring DCC to offer terms for its services on a similar basis in both the non-domestic and domestic sectors will enable suppliers with mixed portfolios to streamline their communication arrangements.

1.74. Those that did not support the proposed approach indicated that it is their view that DCC should be mandated in this sector as this would avoid the risk of either the incoming or outgoing supplier or service provider being financially disadvantaged.

Network operators

1.75. There was general support from this sector of the industry. This group indicated that DCC charges should be transparent and that its services provided on the same basis to suppliers and other parties in both domestic and non-domestic sectors.

1.76. This group also supported the limitations proposed on DCC to provide other services citing that this would ensure the market for these services remains competitive.

Telecommunication providers

1.77. Nearly all respondents in this category provided qualified support to the proposals. Some of these respondents said that the approach prevented DCC from gaining an unfair advantage in the non-domestic sector for the provision of its services. One respondent indicated that the approach should enable DCC to operate in a transparent and non-discriminatory manner. However, it was noted that the imposition of charges, particularly around investigations relating to the compliance of advanced meters could act as a disincentive for suppliers to use DCC services.

Service Providers/ Consultants

1.78. A small number of service providers responded to this question. The large majority supported the proposed approach highlighting that DCC services must be offered to users in a transparent, fair and reasonable manner.

Industry bodies

1.79. All the industry bodies that responded to this question supported the approach proposed in the Prospectus. Some indicated that the DCC charges needed to be cost reflective where possible and that the limitations imposed on the DCC service provision will support the existing competitive market.

Other respondents

1.80. Of those that responded to this question nearly all respondents in this category supported the proposals set out in the Prospectus. Those that responded noted in particular that the limitation on the services DCC is able to provide will enable the existing market to continue to develop and reduce the risk of DCC gaining an unfair advantage due to its monopoly position in the domestic market.

Non-Domestic Sector Question 6: To what extent does our proposed approach to the use of DCC for non-domestic customers present any significant potential limitations for smart grids?

Suppliers

1.81. The majority of suppliers that responded to this question indicated that the optional use of DCC would pose limitations on the development of smart grids. These suppliers indicated that smart grids will require real time or near real-time information on energy consumption for the entire network. Having to obtain metering data from a number of sources would limit smart grid capability. Further, having multiple systems would add additional costs and could lead to fragmentation within the industry.

Network operators

1.82. Again, this segment of the industry indicated that network operators will need data from all consumer types that are connected to their network. Having all metering data readily available through DCC would be a fundamental requirement to facilitate smart grids. One respondent indicated that it welcomed the intention to review the proposal should the elective use of DCC pose issues to the development of smart grids.

Telecommunication providers

1.83. Those that responded to this question indicated that smart grids would require real time data and full visibility of power usage. They stated that the lack of smaller non-domestic data would undermine the integrity of smart grids and lead to the development of decentralised systems.

Service providers

1.84. There were mixed views from these respondents. Some respondents felt that given the size of the smaller non-domestic sector separate arrangements for this sector could lead to numerous implementation and commercial arrangements being developed. Therefore it was viewed by these respondents that optional use of DCC would undermine the development of smart grids.

1.85. However other respondents noted that existing data collection agents could share their data in a manner that could support smart grids.

Industry bodies

1.86. This group indicated that there may be a negative impact on smart grids should network operators not receive data in a timely manner. It was noted that the optional use of DCC may not have an impact on smart grids if alternative data delivery mechanisms are adopted.

Non-Domestic Sector Question 7: Is a specific licence condition required to ensure that metering data for non-domestic customers can be provided to network operators or DCC, and should any provision be made for charging network operators for the costs of delivering such data?

Suppliers

1.87. The majority of suppliers felt that a licence condition to supply data to network operators or DCC was unnecessary. They believed that the desired outcome could be achieved by modifications to the requirements set out in the DCUSA and Uniform Network Code (UNC) and the SEC when it is established.

1.88. However, a small minority of suppliers felt that a licence obligation should be introduced to augment the obligations set out in the DCUSA.

1.89. With respect to charging the network operator for the provision of information, those suppliers that responded indicated that if that data had to be processed then it would be reasonable to charge for that service.

Network operators

1.90. These respondents did not support the view that a licence obligation is required at this time. Most respondents indicated that data requirements are set out in the respective codes and that if required an appropriate modification could be raised to ensure the data is transferred in the appropriate manner.

Industry bodies

1.91. Nearly all respondents took the view that a licence obligation was not appropriate at this time. These organisations took the view that an appropriate code modification would provide the necessary regulatory framework to ensure the relevant data is transferred to the network operators.

Non-Domestic Sector question 8: How can interoperability best be secured in the smaller non-domestic sector?

1.92. A small majority of respondents, including the majority of the larger suppliers, advocated that interoperability can best be secured by mandating the use of DCC where a compliant smart metering system is installed. A minority of respondents stated that common technical or data standards would improve interoperability as this would provide a level of technical interoperability without which commercial interoperability would not be practical. Very few respondents thought that changes to governance arrangements would be required, as they commented that the existing voluntary arrangements do not always work. A small number of respondents felt that there was already sufficient provision for interoperability in this sector.

Suppliers

1.93. Among the larger suppliers, the majority believed that interoperability can be best secured in this sector by mandating the use of DCC where a compliant smart metering system is installed. Respondents, who advocated this view, believed that bespoke arrangements outside DCC would be costly to maintain for the small number of affected customers and may become a barrier to customers changing supplier. One of the remaining larger suppliers commented that interoperability in this sector cannot readily be secured, however they did not view this as a large problem. Another suggested that the ability for DCC to be able to offer data and communications services for both advanced and smart meters, at the request of a supplier, will significantly support interoperability.

1.94. There were mixed views from the smaller suppliers who commented. One supported the mandated use of DCC on the basis that any other solution would add cost and complexity. Another advocated that to make interoperability work it will be necessary to mandate the transfer of communications protocols, passwords etc. between parties on change of agent. One other smaller supplier believed that there is already sufficient provision for interoperability in the smaller non-domestic sector.

Meter installers and manufacturers

1.95. There were mixed views from this small group of respondents on how best to secure interoperability in the smaller non-domestic sector. One respondent advocated that the interoperability arrangements could be simplified if smaller non-domestic customers were included in the same framework as domestic customers, subject to necessary exceptions. It was suggested by one respondent that the work currently being undertaken in the larger non-domestic sector around interoperability could be applied to the domestic rollout. Another believed that there are already fit for purpose interoperability arrangements in the smaller non-domestic sector.

Other groups of respondents

1.96. Overall there were mixed views on how interoperability could best be secured among this group of respondents, which included consultants and service providers, industry bodies and trade associations.

1.97. A small number of respondents suggested that the use of open and international standards and the establishment of minimum data requirements would be required to achieve technical and commercial interoperability in the smaller non-domestic sector.

1.98. A small number of respondents suggested that supplier and meter vendor interoperability is key to proper working of this market, and this must be resolved before rollout. Another view was that commercial interoperability should be the primary focus and that there needs to be consideration of the potential duplication of processes between dumb (legacy) and new systems. However, it was also suggested

that the programme needs to work closely with existing service providers if switching in and out of DCC is to be allowed.

1.99. A small number of respondents suggested that, by not mandating use of DCC, suppliers may need to run separate processes and systems for some customers. This would potentially increase the complexity of the overall solution. In addition it was considered that:

- Ideally, all participants should use DCC to maintain interoperability
- It would be reasonable to allow a number of protocols and transmission techniques but that these must be open and available to all data collection service providers, and
- The variety of bespoke solutions within the advanced metering market may well preclude interoperability in short term and that migration to a common standard should be encouraged.

1.100. There were mixed views for those from the telecoms sector that migrating to DCC should provide interoperability and that the issue can be addressed if WAN interfaces to DCC are compatible. A small number of respondents suggested that independent service providers should be obliged to provide agreed minimum services.

1.101. A very small number of respondents across these groups considered that where DCC is not being used, commercial interoperability is difficult to achieve or can only be achieved by direct contracts between the parties. A few also suggested that making a secure platform an integral part of the interoperability would limit the ability of hackers to modify data.

DCC regulatory and commercial model and governance regime

DCC commercial and regulatory model

Prospectus Question 10: Do you have any comments on the proposal to establish DCC as procurement and contract management entity that will procure communications and data services competitively?

Communications Business Model Question 5: Do you agree that the licensable activity for DCC should cover procurement and management of contracts for the provision of central services for the communication and management of smart metering data?

1.102. A substantial number of responses were received from across the energy industry and consulting / service provision sector. The breadth of responses means that it is not meaningful to divide views on the basis of the type of respondent.

1.103. There was strong support from these respondents, with some going beyond merely confirming support or re-playing rationale from the Prospectus by adding weight to the Prospectus or providing additional rationale.

1.104. The small number of respondents who were unsupportive opposed the fundamental concept of DCC, suggesting instead that industry should operate the central data and communications function and/or that the mandated use of DCC would inhibit competitive differentiation in the metering service market.

1.105. The respondents to the Prospectus who provided feedback on the extent of the licensable activity (for DCC), indicated strong support for the proposed approach that DCC should be a procurement and contract management entity (ie the 'thin' service delivery model). The small number of respondents that were unsupportive opposed the fundamental concept of DCC and its proposed scope.

1.106. Those respondents who were supportive of the proposals set out in the Prospectus generally subscribed to the consensus view that DCC should be a procurement and contract management entity in order to drive competition and innovation in the delivery of services. They also cited a number of additional reasons for adopting this approach which included:

- The monopoly position of DCC's data and communications services makes it appropriate to procure these services through an open and competitive tender process
- It will be essential in order to promote flexibility and innovation
- It provides a means of reducing the integration risk between multiple communications and data providers
- The result should be simpler and less complex while more robust from a regulatory perspective.

1.107. There were a small number of suppliers who were not fully supportive of the proposed ownership/governance model proposed for DCC, suggesting instead an alternative that DCC should be more closely controlled by industry. The small number of respondents who were unsupportive appeared to be concerned about the ownership/governance model for DCC. Their rationale included the following:

- The proposed approach may hinder competitive differentiation in metering services
- DCC does not need to be directly regulated and could be managed/controlled by its user community
- An additional industry party (DCC) would add unnecessary complication, and there is evidence that processes (Data Transfer Service and Master Registration Agreement) were made to work satisfactorily through conditions on existing licensees
- Alternative ownership/governance models should be considered in order to reduce the risk associated with creating and regulating a new entity, such as modifying the obligations of an existing licensee(s).

1.108. Of those smaller suppliers who responded to these questions there was very strong support for the proposals set out in the Prospectus. The respondents went on to make additional comments/ suggestions which included:

- DCC should actively manage performance of service providers, not just procure and administer
- Non-domestic suppliers should not be forced to use DCC
- DCC should consider/not be prevented from awarding regional communications contracts
- All suppliers should be subject to the same commercial terms and conditions from DCC.

1.109. Among the larger suppliers who responded to these questions there was very strong support for the proposals set out in the Prospectus. The respondents went on to make additional comments/ suggestions which included:

- DCC licence needs conditions to ensure contracts are procured and managed efficiently
- DCC should think long term and ensure national coverage quickly and efficiently
- Influence over code governance should be proportional to contribution to cost of service
- Incentivisation must take account of the whole and not just DCC internal performance
- DCC should have a flexible remit but shouldn't own the governance of the SEC
- DCC should be financially robust to assure delivery
- Service levels should be balanced against incentivisation mechanism
- Industry should be involved in the development of DCC licence conditions.

1.110. The respondents from the telecommunications sector expressed strong support for the proposal, with some making the comment that there would be less risk if the services were to be procured together and that DCC should be able to pass down risk to service providers enabling risk to be borne by the party best able to mitigate it.

Communications Business Model Question 6: Do you consider that DCC should be an independent company from energy suppliers and/or other users of its services and, if so, how should this be defined?

1.111. A substantial number of responses were received from across the energy industry and consulting/service provision sector. The breadth of responses means that it is not meaningful to divide views on the basis of the type of respondent.

1.112. The responses to this question indicated strong support for the concept of independence for DCC with a substantial number going on to express the view that DCC did not need to be fully independent from users, provided adequate controls/governance were in place to prevent any one user or group of users exerting undue control over DCC. The latter group of respondents cited the example of existing central bodies who are owned (in full or part) by industry stakeholders.

1.113. Those respondents who were supportive of the proposals set out in the Prospectus generally subscribed to the view that DCC should have sufficient levels of

independence/separation in order to remove the potential for conflicts of interest to arise between DCC and its users and service providers. They also cited a number of additional reasons for adopting this approach which included:

- An independent body would be best placed to ensure industry processes continue to function and best value for GB as a whole is achieved
- Without sufficient level of independence there is the risk that bias will emerge in the manner in which DCC delivers/charges for its services
- Independence will be critical to the long term success of DCC
- DCC will need the freedom to innovate and re-invest
- If there is not sufficient separation from users then network operator views could be overridden by suppliers to the detriment of smart grids.

1.114. Support for DCC to be separated from users but not fully independent of users came from network operators, consultants/service providers, industry bodies, suppliers and respondents from the telecommunications sector.

1.115. Some respondents noted that a requirement for full independence from users may result in a reduced pool of applicants for DCC.

1.116. Of the larger suppliers there were some respondents who considered that the management/ governance of the SEC should be separate from DCC and that the energy industry should govern DCC via the SEC.

Prospectus Question 11: Do you have any comments on the proposed approach for establishing DCC (through a licence awarded through a competitive licence application process with DCC then subject also to the new Smart Energy Code)?

1.117. A substantial number of responses were received from across the energy industry and consulting/service provision sector. The breadth of responses means that it is not meaningful to divide views on the basis of the type of respondent.

1.118. There was support from these respondents, with some going beyond merely confirming support or re-playing rationale from the Prospectus by adding weight to the Prospectus or providing additional rationale.

1.119. Those respondents to the Prospectus who provided feedback to the question on the approach for establishing DCC through a new licence indicated broad support for the proposed process. The small number of respondents who were unsupportive disagreed with the concept of DCC as a whole, believing that the establishment of a new licensed entity was a risk and that industry should establish/own DCC, or expressed general concerns around the timescales for establishment of DCC's services via this approach.

1.120. There were a small number of respondents who expressed some concern as to how DCC would be funded and that bias (in delivery/ charging of services) may occur as a result of the funding approach.

1.121. A small number of respondents (from the network operator and consultant/service provider categories) suggested that a new licence was not necessary and that modifications to existing (supply) licences would be sufficient.

1.122. A small number of respondents expressed an opinion that DCC should not be responsible for management/governance of the SEC, to prevent DCC from having opportunity to exert undue influence over the content of the code and therefore benefit (through increased revenues or reduced obligations).

1.123. A small number of respondents made the point that care should be given to balancing the obligations on DCC between the code and DCC licence, in order to provide greater certainty to the relevant parties and to reduce the likelihood of unnecessary 'risk-premium' being included by DCC.

1.124. Some respondents expressed a view that suppliers should have influence/control over DCC and the manner in which its services are delivered.

DCC cost recovery and incentivisation

Communications Business Model Question 8: Do you have any comments on the proposed approach to cost recovery and incentivisation for DCC?

1.125. There was broad support among respondents for the general approach to DCC cost recovery and incentivisation which was outlined in the Prospectus. However, respondents had different views on particular aspects of the proposed approach. For example, there were different views on DCC's user charging methodology and the form DCC's incentive mechanism should take.

Suppliers

1.126. Suppliers noted that DCC would provide a series of critical services for energy suppliers and other stakeholders in the future. It was therefore important there was a proper regulatory framework to drive the right behaviour.

1.127. The larger suppliers emphasised the importance of incentivising contestability and flexibility from communication services. A robust cost recovery and incentivisation framework to promote performance and cost efficiency was considered to be required.

1.128. One smaller supplier suggested DCC be funded on a cost pass through basis plus an agreed margin. Another supplier suggested that incentivisation of DCC be linked to meeting performance standards. One supplier also discussed how incentive mechanisms would impact on charges in the event that a company went into administration.

1.129. A number of suppliers commented on DCC user charges. A couple of larger suppliers suggested that DCC user charges should be cost reflective with parties bearing their appropriate portion of start-up and operating costs depending on their requirements and usage of DCC's services. Another supplier suggested cost recovery of user charges should be pro-rata on either number of meters per supplier or usage. There were differing views on the extent to which network operators should contribute to standard DCC charges.

Network operators

1.130. Network operators made a general point that if network operators are responsible for a part of DCC's charges, there would need to be provision for recovery of those costs in their price control mechanisms. Respondents also discussed governance arrangements for DCC's charging methodology and suggested that inclusion of the charging methodology in the SEC would be consistent with the recommendations of Ofgem's Code Governance Review.

1.131. One network operator was not in favour of cost incentivisation for DCC, citing that the risks associated with this model were unsustainable given the role of DCC. Another emphasised that DCC's charging methodology should maintain incentives on those parties who trigger costs to minimise them.

Consultants / service providers / respondents from the telecommunications sector

1.132. There were mixed views from service providers on the form DCC's cost recovery and incentivisation mechanism should take. Some respondents suggested that incentives needed to be simply linked to service level agreements. Others suggested a more sophisticated incentive and licence obligation framework was required.

1.133. One service provider raised a concern that the model outlined in the Prospectus was overly prescriptive and would not facilitate innovation. Another respondent suggested the approach in the Prospectus was comparable to modified rate of return regulation and proposed a multiannual price cap model instead, similar to that used in communications sector regulation. The same respondent also suggested that concerns about distraction from core aims or the dominant position of DCC could be dealt with through careful framing of the terms of the DCC licence.

1.134. A number of service providers also commented on the DCC user charging arrangements. A couple of respondents proposed additional charges to those which were outlined, while others commented on who should contribute to different components of the structure of charges (suppliers, network operators and other users). There was support from a number of service providers for suppliers largely contributing to DCC standard charges. However, one service provider suggested that due to the uncertainty around data and communication requirements to facilitate smart grids, a review should be undertaken during the development of the SEC before DCC's charging methodology is finalised.

1.135. Other service providers focused on the principles of the proposed approach, highlighting the benefits of financial and regulatory incentive mechanisms. One service provider suggested that DCC's cost recovery and incentivisation model should be flexible to different business and service models. Another respondent suggested that the proposal to create incentivisation needed to be balanced against the need to provide a stable investment environment for DCC and its contracted service providers.

Industry bodies and trade associations

1.136. A group of trade associations and industry bodies supported a regulatory framework that required DCC to operate within an open book environment. The same group of respondents suggested that a maximum DCC budget be set and managed for an initial five year period. The respondents also suggested that DCC should be allowed to improve the underlying costs of its service during that period, with any benefits split between users and DCC itself.

1.137. One industry body favoured the 'For Profit' business model and the dual focus of incentives on cost efficiency and effective contract management. The same respondent also suggested that the proposed incentive mechanism would be disproportionate if it applied only to DCC's internal operating cost base. Another industry body agreed that DCC's charges needed to be cost reflective, and that common practice included the charges outlined in the Prospectus.

Other respondents

1.138. One respondent suggested that incentives should be structured around DCC enabling consumer energy savings and carbon reductions. It was suggested that this would help to facilitate a wide range of stakeholders being eligible for the DCC licence application process. Another respondent suggested that the introduction of DCC was unnecessary for smart metering implementation, and therefore it would be possible to remove governance and regulatory arrangements for cost recovery and incentivisation.

Content and governance of a Smart Energy Code

Prospectus Question 13: Do you agree with the proposal for a Smart Energy Code to govern and operation of smart metering?
Regulatory and Commercial Framework Question 2: Do you agree with the proposal to establish a Smart Energy Code?

1.139. The number of responses means that it is not meaningful to divide views on the basis of the type of respondent. Nearly all respondents supported the proposal to establish a new SEC rather than the alternative option of amending existing codes. A majority of respondents welcomed the consolidation of arrangements between the gas and electricity sectors, and highlighted the benefits that a single SEC would bring to the energy industry.

1.140. While the majority of responses were a brief yes/no answer, a number of respondents highlighted wider issues with the establishment of a SEC. For example, a network operator suggested that a SEC should include a standard meter asset provision agreement, while a telecommunications service provider commented on how energy services would be defined in a SEC. A few respondents also commented on timescales for implementing a SEC. One larger supplier proposed early set up of an activity to scope and develop a SEC, while a service provider noted the role a SEC could play in managing interoperability during the early stages of smart meter rollout.

1.141. A few respondents noted that while they supported the creation of a SEC, appropriate governance arrangements for the code were required. Respondents also noted that it would be beneficial to consider the interactions with existing industry codes and overlapping regulatory arrangements in the communications sector when developing the SEC. Respondents noted that arrangements needed to be put in place to manage and avoid any conflicts with existing industry codes and regulation. There was also broad support for wide stakeholder engagement during the development of the SEC.

Regulatory and Commercial Framework Question 3: Do you have any comments on the indicative table of contents for the Smart Energy Code as set out in Appendix 3?

1.142. A small majority of respondents considered the table of contents for the SEC to be comprehensive and an appropriate basis to develop during the implementation and drafting of the SEC. However, most respondents also provided specific comments on particular elements of the SEC and how its contents might be developed.

Suppliers

1.143. A majority of suppliers considered the indicative table of contents to be sufficient but that the contents of the SEC need to be broad and flexible to adapt as smart metering develops. For example, one supplier highlighted interdependencies with the Renewable Heat Incentive, feed-in-tariffs and the Green Deal. There was also broad support from suppliers for a more detailed assessment of the interactions and changes that would need to be made to existing codes and working practices and how elements of other industry codes should be migrated in to the SEC.

1.144. Suppliers noted that it was important that arrangements for interim and enduring obligations were clearly distinguished within a SEC. A number of specific additions to the table of contents were also proposed including provisions related to code of practice for installation, IHD definition, data services provided by DCC, system and process assurance and security and business management. One supplier suggested that the SEC should adhere to the code administrators' code of practice, especially in developing the SEC and subsidiary documents in clear English.

Consultants / service providers / telecommunications companies

1.145. Service providers and consultants commented on different elements of the indicative table of contents for the SEC. One service provider commented on accession, dispute resolution and governance processes suggesting that the sections on parties and accession should not follow the Balancing and Settlement Code. Another service provider submitted detailed comments on objectives, funding and non-discrimination clauses for the SEC.

1.146. Service providers and consultants commented on the broad content of the SEC. One telecommunications provider noted that the SEC was likely to fall under the remit of a wide range of stakeholders, including prospective DCC service providers, and so a broad range of stakeholders would need to be engaged during the development of the SEC contents. Service providers also commented on how technical and commercial standards should be integrated in to particular sections of the SEC.

Network operators

1.147. Network operators broadly supported the indicative table of contents in the Prospectus and also commented on how elements of the code might relate to smart grids. For example, network operators suggested that the GB System Operator and technical requirements that will pave the way to smart grids should be included in the code contents and governance.

1.148. One network operator also proposed that the SEC be extended to include a standard multilateral Meter Asset Provider (MAP) agreement. Another network operator noted that DCC's charging methodology would also need to be included in the SEC to be consistent with other codes and Ofgem's Code Governance Review.

Industry bodies and trade associations

1.149. Industry bodies and trade associations were broadly supportive of the indicative table of contents for the SEC. One trade association noted that commercial interoperability arrangements were a welcome addition but also suggested that technical assurance (accreditation for smart metering equipment) needed to be included. Another trade association commented that any code of practice needed to promote competition and innovation, while an industry body commented on how governance arrangements would be reflected in the SEC, suggesting the creation of a SmartCo and the funding arrangements for its activities.

Meter installers and manufacturers

1.150. Meter installers and manufacturers broadly supported the indicative table of contents and also provided detailed comments on particular elements of the code. One meter manufacturer suggested that a number of new business processes and change processes would need to be identified for inclusion in the SEC.

1.151. One meter installer raised a concern that while the contents of the SEC appeared to provide good coverage of the issues, developing a new code to this level of detail would be overly complex and costly. The respondent suggested the same table of contents for the SEC but with significantly reduced detail to facilitate smart metering implementation under existing industry systems and processes.

Regulatory and Commercial Framework Question 4: Do you have any comments on the most appropriate governance arrangements for the Smart Energy Code?

1.152. A number of respondents commented that information gathered from Ofgem's recent Code Governance review should be used to shape the SEC governance arrangements. Others made comparisons with existing industry code governance and commented on the principle that the SEC should be governed by a panel. As well as how SEC governance should be structured, respondents also commented on specific design issues such as who should be party to the SEC, representation on the code panel and SEC voting structure.

Suppliers

1.153. Smaller suppliers were broadly supportive of governance arrangements that allowed all stakeholders to be represented. Two smaller suppliers suggested that DCC outsource governance of the SEC to a third party so as to maintain independence. Existing governance arrangements in the energy industry, including the MRASCo and Supply Point Administration Agreement, were suggested as a possible model for the SEC.

1.154. Larger suppliers also commented on the independence of SEC governance arrangements. One supplier noted that it would be helpful if the secretariat function of the SEC were separated from DCC to ensure that conflicts of commercial interests did not occur.

1.155. Other larger suppliers argued that governance of the SEC should not sit within DCC at all or DCC should not be able to vote on changes to the SEC. One supplier suggested that governance of the SEC should take the form of a separate company (SECCo) owned by the signatories to the SEC itself. Another supplier stated a preference for SEC governance similar to the framework for DCUSA. One respondent stated a preference for governance arrangements similar to the BSC.

1.156. A supplier also suggested that the SEC be designated under section 173 of the Energy Act 2004 so that it would be subject to code modification appeals if Ofgem over rode an industry vote. Another supplier commented on how a SEC panel should manage the relationship between users of DCC services and DCC. One supplier expressed a concern that appropriate governance arrangements would not be put in place before full DCC establishment. The supplier argued that the SEC should govern both interim (foundation stage) and enduring smart metering implementation.

Network operators

1.157. Network operators commented on existing models of code governance and how these might apply to the governance of the SEC. One network operator expressed a preference for an arrangement where only the higher level governance principles are set out in the SEC itself, while the details would be set out in subsidiary documents. Another network operator suggested the MRA change process offered a good model for managing detailed issues in the SEC.

1.158. One network operator noted that SEC governance arrangements would require suitable representation and decision making mechanisms to reflect the requirements of energy suppliers, network businesses and other stakeholders to support the development of smart grids. Another network operator suggested that the code should be extended to include a standard multilateral MAP agreement, signed up to by all suppliers and MAPs (covering both gas and electricity meters). One respondent also queried whether there would be an appeals process to the Competition Commission if Ofgem were to make a decision that did not accord with the SEC panel.

Consultants / service providers / respondents from the telecommunications sector

1.159. A number of service providers noted that while the SEC governance arrangements were likely to be of most relevance to parties directly subject to the code, its practical ramifications would go much wider. One service provider highlighted that SEC governance needed to offer certainty and predictability to data and communication service providers.

1.160. Another respondent suggested wide stakeholder engagement was required during the development of the SEC governance model. A transparent and public consultation on governance arrangements was considered a requirement by a number of respondents. One respondent noted that clarity on the composition of the SEC panel and participation rights of stakeholders would impact on service providers' willingness to establish technical solutions and commercial arrangements for smart metering.

1.161. One service provider suggested that supporting SEC administration should not be separated from the DCC function. Another suggested the opposite, arguing there was a strong case for the governance model to have a clear separation between DCC's responsibilities and the governance of the SEC. An alternative governance model whereby responsibility for governance services sits with parties to the SEC was proposed. Two service providers also expressed their support for a SEC panel with broad industry representation.

1.162. One industry body set out a very detailed governance model for the SEC and supported the establishment of a separate SECCo to manage code administration and other governance activities.

Meter installers and manufacturers

1.163. One meter manufacturer suggested the SEC be managed by a panel, consisting of representatives from all stakeholders. There was strong support that governance of the SEC be independent and include a broad range of industry parties and stakeholders. One meter installer suggested that governance representation should include non-domestic consumers along with industry agents and service providers. One respondent suggested that the SEC could be administered by Ofgem.

Industry bodies and trade associations

1.164. Both energy retailers and network operators associations suggested that the SEC governance arrangements should be informed by findings of the Code Governance Review. The network operators proposed that the structure of the SEC should take the form of a SECCo owned by the signatories to the code. The energy retailers highlighted that industry representation was key to SEC governance. Other industry bodies/trade associations supported a SEC governance model that included balanced representation from both energy and technology sectors.

Other respondents

1.165. A number of respondents commented on the need for balanced representation from the energy and technology sector. One respondent suggested that governance should be by stakeholders in proportion to what they are paying for smart metering services and how they are benefiting. Another respondent commented on how a SEC panel should be managed, its objectives, and processes for assurance and delivery standards.

Establishment of DCC's services and transitional arrangements

Communications Business Model Question 7: Do you have any comments on the steps DCC would need to take to be in a position to provide its services and the likely timescales involved?

1.166. A substantial number of responses were received from across the energy industry and consulting / service provision sector. The breadth of responses means that it is not meaningful to divide views on the basis of the type of respondent.

1.167. Respondents to the specific question in the Communications Business Model on the process for establishment of DCC and its services raised concerns over the relevant timelines set out in the Prospectus. This same concern was expressed by many respondents to other questions in the Prospectus and supporting documents.

1.168. There was some opposition to the approach proposed in the Prospectus, with significant doubt expressed that the Autumn 2013 target could be met.

5.4. Responses to the Prospectus, interactions with DCG and detailed analysis suggests that a delay to the above timeline would have significant impact on delivery of the core objectives of the Smart Metering Implementation Programme:

- Suppliers may delay the ramp-up of their smart meter rollout programmes
- Delivery of the full benefits (from smart metering) would therefore be delayed
- An extended foundation stage will result in many more domestic smart meters being subject to an interim (less robust) change of supplier process
- Pervasiveness of foundation communications contracts procured by individual suppliers may put competing enduring solutions at a disadvantage.

1.169. A number of respondents (of different types) proposed that, in order achieve the proposed timeline, procurement of service providers should proceed in parallel with the competitive applications process for the DCC licence. Very few respondents were supportive of the sequential approach proposed in the Prospectus.

Communications Business Model Question 4: Do any measures need to be put in place to facilitate rollout in the period before DCC service availability and the transition to provision of services by DCC, for example requiring DCC to take on communications contracts meeting certain pre-defined criteria?

1.170. This was expressed as a broad question and a range of responses were received from consultants / service providers, suppliers, respondents from the telecommunications sector, network operators, trade associations, meter operators and industry bodies. The breadth and number of responses means that it is not meaningful to divide views on the basis of the type of respondent.

Interim interoperability arrangements

1.171. Of those respondents that addressed the question, a large minority, including most of the larger suppliers, did not support the establishment of interim interoperability arrangements. All industry bodies that responded supported the implementation of interim interoperability arrangements, while among consultants / service providers there were equal numbers for and against such arrangements. A majority of the small number of meter operators, network operators, respondents from the telecommunications sector and trade associations that commented on this issue were against interim interoperability arrangements. Reasons for respondents not supporting the interim interoperability arrangements, included:

- they thought that the costs would outweigh the benefits
- they thought that these would distract from, or increase the risks to, the development of the DCC services and supporting changes to supplier systems
- the technical difficulties, for example relating to network coverage, difficult premises and security
- they preferred a 'controlled market start' approach with constrained meter volumes.

1.172. Respondents that supported the implementation of interim interoperability arrangements commented that they would reduce interoperability risks and facilitate rollout before DCC's services becoming available.

Novation

1.173. A small majority of respondents, including some that did not support interim interoperability arrangements, agreed with the requirement for novation of communication contracts to DCC, to reduce the risk of contract stranding. This small majority included most respondents from the telecommunications sector, a small majority of suppliers, trade associations, network operators and meter operators, and a minority of respondents in the consultant / service provider and industry body categories.

1.174. One supplier did not support the novation of contracts where the contract was entered into before smart meters were mandated. This was because the respondent believed that such contracts were entered into at the supplier's risk and therefore costs should not be shared with other suppliers via novation. Some respondents from the telecommunications sector commented that novation of large numbers of contracts could be challenging for DCC and that instead suppliers should develop transition plans in collaboration with DCC and be responsible for executing them.

Other respondents

1.175. A range of other responses were received, including:

- One network operator suggested that any communications contracts entered into before DCC services are available should be of limited duration, because this would minimise the cost of terminating them after novation.
- A small number of respondents, including some of the respondents from the telecommunications sector, trade associations, some suppliers and consultant/service providers, thought that pre-DCC contracts should be on standard terms, to avoid the need for contract review and negotiation on change of supplier and hence reduce the administrative cost of novation.
- A small number of respondents, including consultant/service providers, suppliers, respondents from the telecommunications sector and trade associations, suggested that limited contract durations and standard terms should be enforced via licence conditions, because this would ensure that all industry participants complied.
- A small number of consultants, industry bodies and network operators commented that interim interoperability arrangements should be allowed to run for their contracted lives rather than being novated when DCC services become available, because this would enable suppliers to get the full value from their investment in interim interoperability arrangements.
- A small number of respondents, including some consultant/service providers, a small numbers of network operators and suppliers, and an industry body, thought that details of the enduring solution should be made available as soon as possible, with some suggesting that this should include details of the

communication technologies. This was because knowledge of the enduring solution would enable organisations to ensure, so far as is possible, that investment made in interim equipment or systems can continue to be used once DCC services are operational.

Appendix 2 - Glossary

A

Access control

The mechanism used to ensure that access to smart meters and the data that they hold is only available to properly authorised parties.

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

Code Governance Review

Review of the governance of industry codes carried out by Ofgem. Final proposals and consultation on the proposed licence drafting to implement those proposals were published on 31 March 2010.

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.

Communications service providers

Providers of communications services that will enable the transfer of data to and from smart meters.

Community of Technical Experts (CoTE)

Following publication of the Prospectus, expert groups were set up to draw on the experience of stakeholders. The CoTE has considered the scope of DCC's activities, WAN usage scenarios and service levels, indicative WAN and data management cost assumptions and timescales for implementation of various options.

Compliant metering system

Smart metering system that complies with the approved technical specification.

Consumer

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

Consumer value added services

Additional extra-industry services making use of DCC's communications network.

Credit mode

Smart meters will be capable of switching between prepayment and credit mode. When operating in credit mode, customers will be billed for their energy after using it.

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 aggregation

Involves the aggregation of data from individual meters, and submission to ELEXON for settlement.

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.

Data processing

The validation of meter reading data and calculation of values used in settlement (performed by Data Collectors in electricity and xoserve in gas).

Data retrieval

Obtaining a reading (either manually or remotely) from a meter.

Data service providers

Providers of any data service to DCC, including systems integration, IT hosting and application management.

Data storage

Storage of the meter readings, which have been used in data aggregation and settlement.

Data Transfer Service

Service for managing data flows in electricity.

Distribution Connection and Use of System Agreement (DCUSA)

DCUSA provides a single centralised document, which relates to the connection to and use of the distribution networks.

Dual fuel

A type of energy supply where a customer takes gas and electricity from the same supplier.

E**Economies of scale**

Where the average costs of producing a good or providing a service falls as output increases.

Elective services

Additional (non-core) DCC services requested by individual users or groups.

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.

Emergency Control Valve (ECV)

The emergency control valve is a valve for shutting off the supply of gas in an emergency. It is installed at the end of a service or distribution main. The outlet of the ECV terminates, and therefore defines, the end of the gas distribution network.

Energy supplier

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

F**Fault**

Failure within a component such as to compromise its performance. This may be minor; eg a temporary communications failure; or major eg a gas meter battery about to expire.

Feed-in-tariff (FIT)

A feed-in tariff is a policy mechanism that came into effect in April 2010. It is designed to encourage the adoption of renewable energy sources.

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.

Gas transporter

A company licensed by Ofgem, which transports gas through its network on behalf of a gas shipper.

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

Head-end (system)

Office based system, comprising databases and software that manage interactions between authorised users and the consumer's smart meter system.

Home area network (HAN)

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

I**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.

Installing supplier

The supplier that installs a smart meter system and the associated communications links at a 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.

K**Kilowatt hour (kWh)**

Kilowatt hour is a unit used to measure energy consumption in both electricity and gas. The kilowatt hour is a unit of energy equal to 1000 watt hours or 3.6 megajoules. Energy in watt hours is the multiplication of power in watts, and time in hours. A 100W light bulb left on for one day will consume 2.4 kWh (0.1*24).

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**Master Registration Agreement (MRA)**

An agreement which sets out terms for the provision of Metering Point Administration Services (MPAS Registration), and procedures in relation to the Change of Supplier to any premise/metering point.

Master Registration Agreement Service Company (MRASCo)

The company which administers the MRA.

Meter Asset Provider (MAP)

The party responsible for the ongoing provision of the meter installation at a meter point. In electricity, the Meter Asset Provider is responsible for: supplying electricity metering equipment for the purpose of satisfying the electricity settlements process; the requirements of the relevant Use of System Agreement; and the relevant primary and secondary legislation.

Metering services

The provision, installation, commissioning, inspection, repairing, alteration, repositioning, removal, renewal and maintenance of the whole or part of an installed gas or electricity meter.

Module

Sub assembly of the smart metering system equipment capable of on-site exchange without removing the host equipment, eg the WAN module that can be exchanged without removing the meter.

N**Network operators**

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

Non-core services

See elective services.

O**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.

P**Prepayment infrastructure provision (PPMIP)**

PPMIP covers a range of activities that enable consumers who have a dumb prepayment meter to change their supplier.

Prepayment meter

Meters that require payment for energy to be made in advance of use or else they will prevent the supply of gas or electricity. A prepayment customer pays for energy by inserting electronic tokens, keys or cards into the meter.

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**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 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.

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

Tariff

A table of fixed prices (for amount of energy consumed by a consumer) that is made up of various rates and tiers.

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.

Tier

A means of charging differing amounts for energy consumed, based on the quantity of energy consumed (ie the first 100 units to be charged at x pence, the next 500 units to be charged at y pence).

U[UK Link](#)

IT systems operated by xoserve.

V[Value-added services](#)

See consumer value added services.

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.

