

# Promoting smarter energy markets: a work programme

## Final decision

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### Overview:

Following our consultation on the scope of a strategy to shape market development from the platform of smart metering, we have prioritised four key projects for further consideration. In this document, we outline how we will drive forward thinking on reforms across these priorities in order to enable market development to happen in the interests of consumers during the roll-out and beyond.

## Context

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By the end of the decade, the government's aim is that all consumers should have smart meters. Smart metering will be an important catalyst for change in the energy sector. These changes have the potential to support our key objectives of: contributing to the achievement of a low-carbon energy sector, helping to maintain security of energy supplies and promoting quality and value for all consumers.

We have an important role in ensuring the interests of consumers are protected, both during the transition to smart metering and in the enduring framework. In our Corporate Strategy and Plan 2011-2016, we committed to introducing new consumer protection measures in response to early smart meter deployments and to continue to explore the safeguards that may be necessary in the light of market developments. This work runs in parallel to our work with government in considering the opportunities and issues associated with the development of smart grids.

Our Corporate Strategy also recognised the potential wider impact of smart metering. In particular, we committed to "develop the work programme required to create smarter markets from the platform of smart meters". This response gives practical effect to that commitment and is in line with our 2012-13 Forward Work Programme.

## Associated documents

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All documents are available at [www.ofgem.gov.uk](http://www.ofgem.gov.uk):

Supporting effective switching for domestic customers with smart meters: additional statutory notice, June 2012

Ofgem's Retail Market Review – update and next steps, May 2012

Energy Affordability: helping develop Ofgem's Vulnerable Consumers' Strategy, March 2012, Ref: 49/12

Forward Work Programme 2012-13, March 2012, Ref: 40/12

The Retail Market Review: Domestic Proposals, December 2011, Ref: 166/11

Smart Metering Consumer Protections Package – Statutory Consultation, June 2011

Corporate Strategy and Plan 2011-2016, March 2011, Ref: 44/11

Smart Metering Implementation Programme – Response to Prospectus Consultation, March 2011, Ref: 45/11

Smart Metering Spring Package - Addressing Consumer Protection Issues, February 2011, Ref: 13/11



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## Executive Summary

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By the end of the decade, it is the government's aim that all consumers should have smart meters for gas and electricity. This roll-out represents a key government policy designed to help the transition to a low-carbon economy. It provides a platform for transforming how energy markets operate, benefitting consumers through innovative products, better service, lower costs and more effective competition. Ofgem's role is to ensure consumer interests are fully protected during this process of change and beyond. Our vision is for 'smarter markets' that are more efficient, dynamic and competitive, delivering better outcomes for consumers.

To this end, we consulted in December 2011 on the scope of a strategy to promote smarter markets. We are encouraged by the constructive and positive engagement by stakeholders in the smarter markets agenda. Respondents expressed broad support for Ofgem to lead a programme of work to develop thinking on a range of potential reforms to market arrangements. Respondents broadly agreed on the areas for taking forward policy development, though there was less agreement on how far reforms should go in each area.

In order to make progress towards our vision, our strategy is to proactively identify, and see implemented, changes to market arrangements to enable the development of smarter markets. We have now defined an initial programme of work to be taken forward over the next twelve months. This will prepare the way for delivering reformed market arrangements, which we would expect to see in place as soon as reasonable practicable and by the end of the roll-out at the latest. We have prioritised four areas of the market that require further analysis and where Ofgem needs to play a key role in policy development. Our longer-term objective in each area is as follows:

- **Change of supplier** – a fast, reliable and cost-effective change of supplier process, which will facilitate competition and build consumer confidence
- **Electricity settlement** – settlement arrangements that use smart metering data to allocate energy in an accurate, timely and cost-effective way, which will facilitate product innovation and efficient use of energy
- **Demand-side response** – a market environment that supports the efficient, system-wide use of demand-side response, which has the potential to reduce bills for consumers, enhance security of supply and contribute to sustainable development
- **Consumer empowerment and protection** – regulatory arrangements that empower and protect consumers to participate effectively in smarter retail energy markets, recognising the opportunities and risks involved.

The government is leading the implementation of the smart meter roll-out. Our longer-term focus on delivering the wider benefits of market development enabled by the roll-out is entirely consistent with government objectives for realising the full benefits of smart metering. Given the obvious linkages, any reforms to market arrangements will be considered alongside the roll-out and sequenced appropriately.



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Because the thinking is at different stages of maturity across these areas, the length and scope of activities in this next phase will vary. Over time, however, it will be for industry to develop detailed reform requirements and implement them. The work programme will evolve to reflect this change in roles.

In taking forward the work programme, we aim to provide for a comprehensive, coherent and coordinated approach to the design and delivery of reforms to market rules, systems and processes. This will require significant engagement with a broad range of stakeholders, including government, industry, consumer groups and potential market entrants. In addition to specific engagement on individual work areas, we will establish a senior-level stakeholder group to provide strategic input across the work programme and on its evolution. We will also provide regular updates on progress to stakeholders.

# 1. Introduction

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Smart metering can be a positive catalyst for change in the energy sector. In December 2011, we published a consultation on the scope of a strategy to promote smarter energy markets. Our core contention was that without changes to market arrangements, the potential for market development would be limited. Drawing on stakeholder views and our own analysis, we have defined the scope of our strategy and developed the initial steps we intend to take to realise this strategy.

1.1. There is a positive vision for the future in which energy markets work more effectively than today, delivering better outcomes for consumers. This vision of 'smarter markets' includes ready access to an abundance of easily digestible consumption information that allows consumers to engage effectively in the market. New products and services that help consumers make informed choices about how they buy and use energy also help support consumer engagement and drive competition in supply and related markets. A quick and reliable switching process gives consumers the confidence to change supplier when they find an offer that better suits their needs. And stronger links between costs and prices across the supply chain encourage more efficient, sustainable use of energy.

1.2. The roll-out of smart metering will play a key role in helping to realise this vision. However, without changes to existing market arrangements the potential for market development will be constrained.

1.3. Some of these arrangements relate to how consumers engage with the energy market. Today, many consumers find the market difficult to navigate and a significant proportion remains disengaged altogether. Ofgem's Retail Market Review (RMR) is seeking to address these issues in the context of supporting the longer-term development of the market. It will provide a solid foundation for smarter markets. Over time, arrangements designed to help consumers engage in today's market may need to adapt to the opportunities and risks that smart metering presents.

1.4. The potential for market development will also be constrained by existing arrangements that govern the interactions between suppliers, network companies and other industry participants. For example, the processes that underpin the competitive market are not able to fully harness the potential benefits of accurate and timely data available from smart metering. In addition, while the functionality of smart metering can enable demand to become more responsive to the costs of supplying energy, existing arrangements are likely to limit the potential benefits.

1.5. Ofgem is committed to playing a leading role in helping to deliver the changes that will be necessary to support the development of smarter markets. To this end, we published a consultation in December 2011 on the scope of a strategy for shaping market development ('our December consultation'). We set out the context of our work and explained why we consider that a strategy is necessary. We also described

at a high level what the strategy is likely to involve. This included our intention to establish a work programme to give practical effect to our strategy.

### **A strategy for promoting smarter energy markets**

1.6. The reforms that will be needed to leverage the full benefits of smart metering are fundamental, wide ranging and complex. They will cut across the domestic and non-domestic sectors in both the gas and electricity markets. While many of the changes will be focused on retail markets, there are likely to be important impacts on wholesale markets, such as the incentives on market participants to balance supply and demand. Similarly there will be implications for network regulation. This includes the way in which network operators manage their networks at times of peak demand.

1.7. There are also significant interdependencies between potential reform areas, both in terms of the potential benefits that can be realised from changes to existing market arrangements and how these changes are designed and implemented. Finally, there are important links to other changes to the regulatory framework that industry, Ofgem and the Department of Energy and Climate Change (DECC) are already progressing.

1.8. We consider that a strategy is needed to manage these challenges effectively. This will help ensure that a comprehensive set of reforms are identified and progressed in a coherent and coordinated way. A strategy will also help mitigate the risk that necessary reforms are overlooked or are delivered in a way that undermines the realisation of the benefits of smart metering in other areas.

1.9. For these reasons, we are committed to delivering a strategy for shaping market development. The aim is to help realise our vision for future energy markets by driving necessary reforms.

1.10. Ofgem is well placed to deliver this strategy. Our ability to take an objective view across the supply chain will help ensure that reforms are delivered in a way that benefits all consumers. This role also sits well with our statutory duty to ensure consumer interests are fully protected during this process of change and beyond, by ensuring an affordable, secure and sustainable energy supply.

1.11. Our strategy is focused on changes that lie outside the government's work to implement the regulatory framework that underpins the roll-out. We believe that the reform agenda we have set out will be necessary to maximise the benefits from smart meters. Our work will therefore complement that of government and, more broadly, we will also look to support realisation of the wider benefits of market development.



## **Reform areas**

1.12. Our December document identified eight areas that could materially influence the effective development of smarter markets. We described four areas where smart metering presents opportunities for market development:

- Time-of-use tariffs – suppliers could develop innovative tariffs that reward consumers for using energy at off-peak rather than peak times
- Demand-side response (DSR) – suppliers and others could develop new offerings, in addition to time-of-use tariffs, that reward changes to consumption patterns and help reduce system costs
- Energy services – new services could develop around the consumption data provided by smart metering, and existing services could become available to a wider range of consumers
- Payment methods – smart metering could make it easier for a wider range of consumers to switch between payment methods, improving customer service and reducing the costs of serving customers who pay in advance.

1.13. We also considered four areas where smart metering presents opportunities to improve the processes that underpin the operation of the competitive market:

- Settlement arrangements – accurate and timely consumption data from smart meters could improve significantly the quality of energy settlement
- Change of supplier process – smart metering can provide a catalyst to improve the speed and reliability of customer transfers
- Data processing and aggregation services – centralisation of electricity data processing and aggregation services could help lower industry costs and support a faster change of supplier process
- Structure of industry codes – rationalising the scope and role of existing codes and agreements can help reduce administrative burdens on market participants.

1.14. In each of these eight areas, we put forward a proposition based on preliminary analysis of the changes to market arrangements that might be required to support market development. These were not formal proposals. Instead, they were used to stimulate debate.

## **Stakeholder engagement**

1.15. We received 34 responses to the consultation from a diverse range of stakeholders. This included larger and smaller suppliers, Consumer Focus, central bodies, network operators, energy services companies and data management

consultants. We are grateful for the considered and informative responses that we received. A summary of responses is set out in Appendix 1.

1.16. In February 2012, we held a briefing event to help inform our consultation exercise. Attendees were asked to consider the prioritisation of potential reform areas, who would be best placed to develop options for reform in these areas and how we might coordinate across the work programme.

### **Purpose of this document**

1.17. Drawing on stakeholder views and our own analysis, this document describes the initial programme of work that we consider needs to be taken forward. This work programme sets out the practical steps we are taking to realise our strategy. Building on the potential reform areas identified in our December consultation, it describes how we consider work to deliver necessary reforms should be organised and sequenced. This includes the role that we will play and what input we would welcome from industry participants and other key stakeholders. It also takes account of linkages to other potential changes to the regulatory framework, including those underpinning the roll-out of smart metering.

1.18. At this stage, the work programme focuses on the activities we intend to undertake over the next year. During this initial period, we will play the leading role in policy development across the reform areas, in consultation with stakeholders. Over time, however, industry will likely need to develop detailed reform requirements and implement them. The work programme will evolve over time to reflect this change in roles.

1.19. This document does not set out specific reform proposals or specify how or when we envisage any reforms being implemented. These aspects will be developed as the work programme progresses.

### **Background**

1.20. The government is mandating that suppliers install smart meters for all domestic and smaller non-domestic consumers by the end of 2019.<sup>1</sup> These meters must meet a set of functional requirements defined by government. Among other things, they will be able to record usage in small time blocks, at least half-hourly in electricity and daily in gas. Smart meters will also be capable of remote two-way communication, avoiding the need for suppliers to visit customer premises to read or configure them. Alongside smart meters, suppliers will be required to offer to all domestic consumers an in-home display that provides information on energy usage.

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<sup>1</sup> Smaller non-domestic consumers are electricity consumers on Profile Classes 3 and 4 and non-domestic gas consumers with consumption of less than 732 MWh per year. This group encompasses a wide range of premises, including micro-businesses, smaller commercial premises, light industrial sites and many public sector buildings.

1.21. The government intends to appoint and licence a Data and Communications Company (DCC) to procure and manage all communication of data to and from smart meters in domestic premises (and those of smaller non-domestic consumers where a supplier requests). The detailed arrangements between the DCC and users of its services will be set out in a new industry code spanning gas and electricity, called the Smart Energy Code (SEC).

1.22. To deliver the roll-out of smart metering, DECC is managing a central change programme – the Smart Metering Implementation Programme (“the DECC Programme”). The DECC Programme has identified around £19 billion of benefits from the roll-out of smart metering.<sup>2</sup> DECC estimates that just over half of these should come from industry cost savings and the remainder from a reduction in energy consumption and associated carbon savings.

1.23. For larger non-domestic consumers, government has already introduced an obligation for the installation of advanced meters by April 2014.<sup>3</sup> These meters will be capable of recording detailed information on consumption, every half hour in electricity and every hour in gas. Advanced meters must be capable of being read remotely by suppliers. For the purposes of this document, we refer to smart and advanced metering collectively as ‘smart’ unless otherwise stated.

1.24. As the independent regulator of the gas and electricity markets, we have two roles in relation to smart metering. First, we are providing expertise and advice to support the work of the DECC Programme to implement the regulatory framework for smart metering. Second, we have an important role in promoting and protecting the interests of consumers, both during the transition to smart metering and once the roll-out is complete. This includes helping to support the development of smarter markets.

## **Structure of the document**

1.25. This document is structured as follows:

- Chapter 2 explains how we have developed a work programme
- Chapter 3 describes the work programme to be taken forward over the next year or so and discusses a range of other potential reform areas
- Chapter 4 sets out how we will coordinate across the work programme.

1.26. Appendix 1 provides a summary of consultation responses.

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<sup>2</sup> Net present value of gross benefits over 20 years. For further details, see *Smart meter rollout for the domestic sector (GB): Impact Assessment* and *Smart meter rollout for the small and medium non-domestic sector (GB): Impact Assessment*, DECC, April 2012.

<sup>3</sup> The supply licences specify that advanced meters must be provided to electricity consumers on Profile Classes 5-8 and gas consumers with consumption of 732 MWh to 58,600 MWh per year.

## 2. Developing a work programme

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In developing the content of a work programme, we examined two key factors: the potential benefits of reforms and the need for Ofgem to input or lead development of these changes. Our decision to focus on these factors and our assessment of them was informed by discussions with stakeholders and responses to our consultation.

2.1. We have developed a work programme for progressing work on potential changes to market arrangements. We have sought to prioritise and sequence the different components of the work programme. We have also identified the roles that different parties need to play. In this chapter, we explain the approach we used to develop the content of the work programme.

### **Stakeholder views**

2.2. Our December consultation asked stakeholders about the case for reform in eight areas. One key message that we took from stakeholders' responses was that there would be important links in implementing change in these areas. It was also clear that stakeholders have divergent views on the net benefits of potential reforms, especially those relating to market processes. This highlights the need for robust analysis of the impacts of potential changes.

2.3. A minority of respondents articulated priorities for reform areas – an area discussed at our February briefing event. As well as costs and benefits, attendees emphasised the potentially significant lead times for implementing changes. Furthermore, attendees requested that we take into account their limited capacity for engaging with multiple concurrent regulatory change programmes, particularly during 2012.

2.4. A majority of stakeholders considered that Ofgem would have an important role in delivering many of the potential reforms that we have described, for example where they would require changes to gas or electricity supply licences. In areas where Ofgem could play a range of different roles, stakeholders expressed diverse preferences over the extent and nature of our involvement. For example, some parties argued that industry should continue to lead in some areas, while others suggested that Ofgem should use its Significant Code Review powers to achieve changes.<sup>4</sup>

### **Methodology**

2.5. To design a work programme, we first examined the potential benefits of different reforms. Our analysis showed that there are broadly two types of benefits that may arise from reform of market arrangements on the back of smart metering.

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<sup>4</sup> The Significant Code Review process is designed to facilitate complex and significant changes to a range of industry codes. It provides a role for Ofgem to undertake a review of a code-based issue and play a leading role in facilitating code changes through the review process.

These are reductions in the costs of providing the functionality that already exists today through reform of the processes that underpin the competitive market; and improvements to the environment for competition, for example through accurate allocation of costs.

2.6. Potential cost savings from improvements to market processes can be easily attributed to specific changes and, in principle, can be easily quantified. While these savings are material, they are likely to be constrained. Potential improvements to the environment for competition could lead to much greater benefits for the market and for consumers. However, these benefits are more difficult to measure and are more uncertain because they are dependent upon a range of other factors. For example, some benefits depend on consumer behaviour or the conduct of market participants. Nonetheless, these benefits could be equally, or more, important for consumers compared to the cost savings that can be realised through reform of market processes.

2.7. In developing the work programme, we have considered both the magnitude and likelihood of potential benefits. However, we have not undertaken detailed cost-benefit analysis at this stage. Without specific policy proposals, such analysis would not be feasible. Once detailed policy proposals are developed, comprehensive impact assessments will, of course, be a vital tool for decision-making.

2.8. Second, we assessed the need for Ofgem to play a role in helping to deliver the potential benefits for consumers. In some cases, we will necessarily have a role to play to deliver an outcome in the best interests of consumers. There may also be areas where we are best placed to lead reform. To assess this, we considered a range of factors, including the benefits of using our regulatory powers, the scale and complexity of potential changes and the interests of different industry participants. For example, we may need to play a greater role in progressing changes to market arrangements where industry participants\* are unlikely to be able to agree a solution or where their interests are not aligned with those of consumers.

## **Conclusion**

2.9. Our analysis of the potential benefits of reform and the role that Ofgem should play has led us to the work programme outlined in Chapter 3. Our decision to focus on these factors and our assessment of them was informed by discussions with stakeholders and responses to consultation. We have sought to focus our involvement in those areas where our involvement is necessary to achieve progress or can deliver greater or earlier benefits to consumers.

2.10. The work programme may need to evolve in response to changing circumstances and as specific projects develop, for example as reforms are implemented. This includes the role that Ofgem will play. The methodology outlined in this chapter will provide a basis for reviewing and updating the work programme over time.

## 3. The work programme

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Our strategy for promoting smarter markets involves an initial work programme based on four key areas. These are: change of supplier processes, electricity settlement arrangements, the regulatory and commercial framework around DSR, and arrangements for consumer empowerment and protection. Over the next twelve months, these areas will enter the policy development process, starting with the identification and analysis of key issues.

3.1. To realise our vision of smarter energy markets requires regulatory arrangements that create the right conditions for markets to develop in the interests of consumers. Those conditions relate to all market participants – both how industry participants interact and how consumers engage with the retail market.

3.2. We consider that work should be taken forward in four areas as part of an initial work programme. Three areas focus on reforms to arrangements that underpin the interaction of industry participants in competitive energy markets. These include: change of supplier processes, settlement arrangements and the regulatory and commercial framework around DSR.

3.3. The fourth element of the work programme focuses on reforms to arrangements that govern how the actions of industry participants are transposed into offers for consumers. These arrangements influence the consumer experience of retail markets. It is critical that regulation provides an environment in which all consumers are empowered to take advantage of the opportunities of smarter markets, while remaining appropriately protected against risks that may arise.

3.4. For each of these four areas, we set out:

- a brief description of the area
- our longer-term objective
- the initial question that needs answering
- the role Ofgem intends to play in answering that initial question
- the first deliverable we intend to produce to help answer the question.

3.5. In the final part of this chapter, we set out our views on a range of other areas that were discussed in our December consultation or were raised by respondents subsequently.

## Change of supplier

Category	Description
<b>Subject matter</b>	Once a consumer has decided to switch supplier, change of supplier is the process by which they are transferred from one supplier to another.
<b>Longer-term objective</b>	A fast, reliable and cost-effective change of supplier process, which will facilitate competition and build consumer confidence.
<b>Initial question for Ofgem</b>	What are the potential options for reform to deliver an appropriate balance between speed, reliability and cost?
<b>First deliverable</b>	Publish a consultation document in Q2 2013 that sets out options for reform and the framework for evaluating them.

### Background


3.6. The right of a consumer to switch their energy supplier lies at the heart of the competitive retail market. Once a consumer has decided to switch, change of supplier is the process by which they are transferred from one supplier to another. This has enabled on average 4.7 million and 3.7 million customer transfers in electricity and gas respectively each year since 2003. Given the core nature of this process to the consumer experience, consumers must have confidence in the speed and reliability of the switching process for there to be an effective retail market.

3.7. There are, however, shortcomings in how the current electricity and gas processes operate. In electricity, for example, the process involves a number of data flows being exchanged between incumbent and newly-appointed metering agents. This complexity can lead to delays, errors and costs, which are borne by consumers. Even when these processes work well, they are slow when compared to other sectors, such as mobile phones and banking, where consumers have come to expect that they can switch provider quickly with little effort or risk. The electricity and gas processes are also subject to different time constraints, which frustrate dual fuel switching. These factors can lead to consumer complaints and disengagement from the competitive market.

#### *Impact of smart metering*

3.8. The roll-out of smart metering and associated changes to industry systems provide scope to reconsider market arrangements, including the potential to streamline the change of supplier process. There are three main opportunities:

- First, improved access to data facilitated by smart metering can enable significant improvements to the current arrangements. For example, a meter reading taken remotely could be used by the new supplier to set up the billing



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record and by the old supplier to send an accurate final bill to the customer. This also challenges the requirement to have in place arrangements to generate an estimated change of supplier reading.

- Second, it is proposed that the DCC will provide central registration services. Registration facilitates the change of supplier process for all gas and electricity supply points, including non-domestic consumers. Reform of these arrangements provides an opportunity to introduce improvements to the change of supplier process.
- Third, the creation of the DCC provides a catalyst for considering central procurement of electricity data processing and data aggregation arrangements. This could realise efficiencies, both in terms of reduced costs and complexity. In particular, avoiding the need to appoint and de-appoint these agents would support faster customer switching in electricity by removing the cost, time and risks involved with the flow of data between such agents.

### **Longer-term objective**

3.9. Our longer-term objective is to establish a fast, reliable and cost-effective change of supplier process. This, in turn, should facilitate more effective competition between suppliers and help build consumer confidence in retail energy markets.

#### *Benefits*

3.10. Achieving this objective should generate a range of benefits. These include the following:

- **More effective competition**
  - Increased consumer engagement – an improved change of supplier process would give consumers faster access to better deals and should result in fewer problems, such as erroneous transfers. This should encourage more consumers to engage actively in the market.
  - Greater market dynamism – a fast, reliable dual fuel process should improve the environment for competition. First, it would place greater competitive pressure on suppliers, who could lose customers quicker than otherwise would be the case. Second, it could enable suppliers and other parties (eg energy service companies) to develop new products, services and business models.
- **Cost savings**
  - Streamlined processes – a more reliable, dual fuel process would save costs for industry by significantly reducing the need for trouble-shooting teams to resolve exceptions or investigate data issues. In



addition, the ability of suppliers to take accurate readings on the day of a customer transfer should resolve the need to follow up any readings that do not match and reduce instances of incorrect billing.

3.11. We consider that improving the change of supplier process could deliver moderate direct benefits through reducing process complexity. More importantly, reform could deliver significant indirect benefits through an improved environment for competition. It is worth noting that the benefits will be influenced by the DECC Programme's approach to centralising registration, any relevant issues related to the processing and aggregation of data by the DCC, and by the level of consumer trust and engagement in the market.

#### *Stakeholder views*

3.12. We consulted on the following proposition: "The change of supplier process should be reliable and fast, so that customers can confidently switch supplier on a next day basis". The large majority of respondents agreed that there would be benefit in reforming the existing processes. Broadly, respondents supported the direction of travel in relation to improving their speed and reliability. There was also support for greater alignment of gas and electricity processes.

3.13. Around half of respondents expressed concerns about an objective of next-day switching. For example, several suppliers argued that short-term changes in the size of their customer base could hamper their ability to purchase energy effectively. Other concerns included the potential for next-day switching to undermine the reliability of the process or lead to undesirable unwinding of transfers.

3.14. Among the small number of respondents who commented on Ofgem's role, there was support for Ofgem to lead work to improve the change of supplier processes. Some respondents also suggested that Ofgem should lead work on centralisation of registration in the DCC as part of the strategy work.

3.15. In our December consultation we also put forward the following proposition: "Electricity data processing and aggregation services should be procured centrally in order to reduce costs and support fast customer switching". There was broad support for this proposition among respondents. As well as the potential benefits for other industry processes (including switching), these respondents argued that centralisation could reduce industry costs and barriers to entry. However, a small number of respondents opposed the proposition or expressed reservations. These respondents argued that the impact on competition in the metering market would need to be examined and suggested that the switching process can be improved without centralising registration.

## **Taking forward reform**

### *Initial question*

3.16. Over the next twelve months, we will assess the options for improving the change of supplier process. We will explore the potential changes to current arrangements to deliver an appropriate balance between the speed, reliability and cost of the process. We will also assess how these changes might be implemented effectively.

3.17. We have identified a number of aspects of the current arrangements to examine further in the context of improving the speed, reliability and cost-effectiveness of the change of supplier process. These include: reforming the process used by suppliers to object to customer transfers<sup>5</sup>; exploring the case for centralising data processing and aggregation services; considering the benefits of closer alignment between independent gas transporter and large gas transporter arrangements as well as non-domestic and domestic transfer processes. In terms of the latter, we will consider the implications for non-domestic suppliers that do not use the DCC.

3.18. There is a further opportunity to reduce costs and promote competition by addressing the broad differences in the gas and electricity change of supplier processes. These differences can require suppliers to operate separate systems and arrangements for gas and electricity customers and can frustrate suppliers' attempts to coordinate dual fuel customer transfers. We also intend to explore how consumers with traditional meters can benefit from faster, more reliable switching.

### *Ofgem's role*

3.19. We consider that Ofgem has an important role to play in driving reform of the change of supplier process. Without our involvement, we are not convinced that there are sufficient incentives on industry parties to improve these arrangements in the interests of consumers. This is because the benefits from this project will be distributed across a wide range of parties, for example, via improvements to the competitive environment. As a result, not all parties have an interest in realising this full range of benefits, which may lead to a sub-optimal approach.

### *First deliverable*

3.20. We intend to consult in Q2 2013 on the potential options for reform. As an input to this exercise, we intend to undertake analysis on the costs and benefits associated with these options. This will include exploring what consumers value from an improved change of supplier process. Given the complexity of the current processes, it is likely that we will set up an expert group involving relevant stakeholders to support this work. We will also work closely with the DECC

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<sup>5</sup> Suppliers can object to a proposed transfer under specific circumstances, for example, if a customer is still under contract or is in debt.

Programme on their aim of centralising registration given the important links to the change of supplier process.

## Electricity settlement

Category	Description
<b>Subject matter</b>	Electricity settlement is the process for comparing the amount of energy that a supplier has arranged to be put on the network with the amount that their customers have consumed.
<b>Longer-term objective</b>	Settlement arrangements that use smart metering data to allocate energy in an accurate, timely and cost-effective way, which will facilitate product innovation and efficient use of energy.
<b>Initial question for Ofgem</b>	What is the most effective process for delivering longer-term reform of electricity settlement arrangements?
<b>First deliverable</b>	Publish an open letter in Q1 2013 setting out how reform should be progressed, particularly the role that Ofgem will play.

### Background

3.21. Settlement is the process for comparing the amount of energy that an electricity supplier or gas shipper has arranged to be put on to the network with the amount that their customers have (or are estimated to have) consumed. Electricity suppliers and gas shippers pay charges for any difference between their energy purchases and the amount of energy that is allocated to them as consumption. This calculation is made for each settlement period, defined as every half hour in electricity and each day in gas. Settlement is also used to calculate the charges that gas shippers and electricity suppliers pay for using the network.

3.22. Existing arrangements rely on complex processes to estimate consumption in each settlement period for the majority of consumers. Only the largest consumers are settled using an actual meter reading for each settlement period. Furthermore, it can take several years to reach the final allocation of charges associated with a particular settlement period. The focus of the initial work programme is on electricity settlement. We address our approach to gas settlement in the section entitled "Other potential reform areas" at the end of this chapter.

#### *Impact of smart metering*

3.23. The roll-out of smart metering provides an opportunity to significantly improve the quality of energy settlement. In particular, the improved access to metering data facilitated by smart metering can enable the use of accurate and timely electricity consumption data in settlement. It also provides a suitable juncture to improve the

efficiency of the current design of settlements arrangements, for example, reducing the time taken to finalise the allocation of charges.

### **Longer-term objective**

3.24. Our longer-term objective is to have in place arrangements for settlement that use the data from smart metering to allocate energy in an accurate, timely and cost-effective way. This should in turn enable innovation in products and services and promote more efficient use of energy.

#### *Benefits*

3.25. Achieving this objective should generate a range of benefits. These include the following:

- **More effective competition**
  - More accurate and timely allocation of costs – improvements in the way the costs of consumption are attributed across individual industry parties should help promote competition between suppliers.
  - New products and services – using more granular data in settlement can strengthen the link between actual consumption and energy charges, leading to sharper price signals for market participants. Combined with the functionality of smart metering, reform can therefore encourage the development of new products and services, including offerings such as time-of-use tariffs that reward consumers for shifting consumption away from peak periods.
- **Cost savings**
  - Streamlined processes – cost savings can be realised, for example through improving or removing profiling and estimation processes as well as reducing the time taken to finalise the allocation of charges. The latter may have particular benefits for smaller suppliers through reduced collateral requirements.

3.26. We consider that reform to the settlement arrangements could deliver moderate direct benefits through streamlining the processes. More importantly, reform could deliver significant indirect benefits to the environment for competition, particularly through providing sharper price signals in the market. Realising these benefits in full may depend on complementary changes to other regulatory and commercial arrangements – see the section below on DSR for more details. The government has stated that it would want to ensure the framework for data access and privacy was able to accommodate any future changes to the settlement rules.<sup>6</sup>

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<sup>6</sup> *Smart Metering Implementation Programme: Data access and privacy - Consultation document*, DECC, April 2012

### *Stakeholder views*

3.27. We consulted on the following proposition: "Settlement arrangements should use actual... half-hourly meter reading data in order to improve their accuracy and efficiency". Respondents broadly agreed that changes to settlement arrangements would be fundamental to unlocking the benefits of smart metering. However, there were mixed views on the proposition itself.

3.28. A large minority of respondents expressed support for the proposition. Most of these focused on the use of half-hourly data. They highlighted the opportunity to reduce settlement timescales and costs, as well as the potential for half-hourly settlement to support innovation in products and services, including time-of-use tariffs. Other respondents disagreed with the proposition. They argued that moving to half-hourly settlement for all consumers might increase costs to the industry without commensurate benefits. Alternative solutions, such as improved estimation, were also suggested for further consideration.

### **Taking forward reform**

#### *Initial question*

3.29. Over the next twelve months, we will assess the most effective process for delivering longer-term reform to electricity settlement arrangements.

#### *Ofgem's role*

3.30. Industry has already begun to examine the nature of possible reforms to electricity settlement arrangements. The Balancing and Settlement Code (BSC) Panel has set up the Profiling and Settlement Review Group (PSRG). This group of industry experts, chaired by Elexon, has been considering short-term changes to remove barriers to the use of half-hourly data and how to ensure the arrangements continue to work effectively during the transition to full roll-out. The group has also recently begun to consider what the arrangements might look like in the longer-term.

3.31. Ofgem welcomes this industry-led initiative. We will work with industry to determine the most effective process for delivering longer-term reform to electricity settlement arrangements.

#### *Key deliverable*

3.32. In Q1 2013, we will publish an open letter setting out our view on how to progress thinking on the longer-term reform of electricity settlement arrangements, including the role Ofgem needs to play in order to protect consumer interests. To inform our assessment, we have today asked the BSC Panel to scope out a project to develop and deliver longer-term reform of settlement and to report to us by the end

of the year.<sup>7</sup> In particular, this will help inform our assessment of whether the process should be led by industry through existing code governance arrangements or whether Ofgem should intervene and use regulation to progress reform.

## Demand-side response

Category	Description
<b>Subject matter</b>	DSR refers to changes in energy use by consumers in response to a signal, for example cheaper prices.
<b>Longer-term objective</b>	Create a market environment that supports the efficient, system-wide use of DSR, which has the potential to reduce bills for consumers, enhance security of supply and contribute to sustainable development.
<b>Initial question for Ofgem</b>	How might current market arrangements constrain the development of DSR in electricity?
<b>First deliverable</b>	Publish a consultation document in Q1 2013 that considers the potential of existing arrangements to support efficient system-wide use of DSR.

### Background

3.33. Efficient energy use will play a key role in the transition to a low-carbon economy. Through our duty to contribute to the achievement of sustainable development, Ofgem is committed to encouraging all energy consumers to consume more efficiently, both in terms of how much is consumed and when. DSR could play an increasingly important role in supporting this aim.

3.34. We define DSR as a change in energy use by consumers in response to a signal, for example cheaper prices. DSR can involve a wide range of different consumer responses, from the scale of change in demand, the speed with which this can be delivered, to the duration for which it can be provided. Consumers have differing capability to provide DSR in different ways. This depends on the composition of activities for which they use energy and on technological factors such as the availability of micro-generation or storage. Similarly, market participants value DSR characteristics differently. In line with our consultation and stakeholder responses, the focus of the initial work programme is on DSR in electricity.

#### *Impact of smart metering*

3.35. Some consumers, in particular larger non-domestic consumers, already provide DSR services to a range of market participants, including the System

<sup>7</sup> Open letter to BSC panel on longer-term electricity settlement reform, Ofgem, July 2012

Operator (SO), Distribution Network Operators (DNOs), suppliers and aggregators acting as an intermediary. The roll-out of smart metering will make DSR cheaper and more feasible to provide and open to a far wider range of domestic and non-domestic consumers. The recording of half-hourly consumption data will make contracting for DSR easier by providing a means to verify changes in consumption. Furthermore, the combination of two-way communication and load-management functionality provided by smart metering could also expand opportunities for contracting around DSR.

### **Longer-term objective**

3.36. Our longer-term objective is to create a market environment that supports the efficient, system-wide use of DSR. This has the potential to reduce bills for consumers, enhance security of supply and contribute to sustainable development through the efficient use of energy.

#### *Benefits*

3.37. Achieving this objective should generate a range of benefits. These include the following:

- **More effective competition**
  - Greater market dynamism – facilitating more efficient use of DSR in the market could improve the competitive environment by encouraging the development of new products, services and business models by suppliers and other parties (eg aggregators). As a result, a wider range of consumers could benefit financially from offering DSR, for example through better contract terms for supply or fixed discounts on their bills.
- **More efficient markets**
  - Lower network costs – by encouraging consumers to shift their consumption away from peak network usage, DSR can be used by distribution and transmission network operators to manage constraints and therefore allow them to defer or avoid new network investment.
  - Reduced generation investment – DSR availability can lower the amount of spare generation capacity required at times of system stress. More DSR could lower the acceptable volume of generation capacity consistent with maintaining security of supply and could also help facilitate connection of intermittent renewable generation.
  - More cost-effective energy balancing – both suppliers and the SO have incentives to balance the supply and demand of energy. DSR could offer both parties a cheaper way to achieve this balance.

3.38. Facilitating the development of DSR could deliver significant direct benefits from greater system efficiency and significant indirect benefits from improving the environment for competition. The benefits are likely to increase over time, driven by three key factors. First, balancing the electricity system will become more challenging as the volumes of intermittent wind generation increase. Second, peak electricity demand is expected to increase considerably in the long term, in part from greater uptake of heat pumps and electric vehicles. Third, electrification of heat and transport could make it easier to shift consumption between different times of day.

3.39. It is also worth noting that the potential for DSR is likely to be strongly influenced by government policy. For example, government's proposed capacity mechanism could offer a new opportunity for consumers to provide DSR to the system.<sup>8</sup>

#### *Stakeholder views*

3.40. We consulted on the following proposition: "More efficient use of DSR can lower overall energy costs, but this will need coordinated changes to regulatory and commercial arrangements". The majority of respondents supported this proposition and identified a number of related policy issues. Most prominently, respondents advocated arrangements that take into account the range of uses that market participants may have for DSR. This message was re-iterated at our February briefing event, where stakeholders also stressed the need for a detailed understanding of the benefits of DSR.

3.41. Among other issues raised by respondents, it was suggested that using more granular data in settlement would help increase the incentives on suppliers to use DSR. In addition, some respondents highlighted that DSR products may pose new risks for consumers and urged Ofgem to put in place safeguards where necessary. There were also concerns around the distributional impact of more widespread use of DSR. For example, participation may require investment in new technologies, such as smart home appliances or micro-generation, which could act as a barrier to lower-income groups.

### **Taking forward reform**

#### *Initial question*

3.42. Over the next twelve months, Ofgem will assess how current market arrangements might constrain the development of DSR in electricity.

3.43. Our initial analysis, which is supported by work undertaken between network operators and suppliers<sup>9</sup>, suggests there is a significant risk that existing regulatory and commercial arrangements could constrain the development of DSR over time. As

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<sup>8</sup> Annex C - Electricity Market Reform: Capacity Market – Design And Implementation Update, DECC, May 2012

<sup>9</sup> Smart Demand Response: A Discussion Paper, ENA / Energy UK, July 2012



an example, Ofgem recently commissioned a report on DSR in the larger non-energy intensive sector which found that complexity in contractual agreements represents a barrier.<sup>10</sup>

3.44. The regulatory framework plays a key role in determining the use of DSR. For example, suppliers' incentives are driven in part by competitively-determined wholesale prices, whereas DNO incentives are driven by industry-led network charging methodologies and by distribution price controls set by Ofgem.

3.45. Existing commercial arrangements rely predominantly on bilateral contracting, leading to significant transaction costs. This is one reason for most DSR being provided by larger customers. Moreover, private bilateral contracting could withhold useful information from the market about how DSR is being used and when, particularly given the potential for effects on parties beyond those contractual arrangements. This lack of market-wide information could result in conflicts in the use of DSR by certain parties. There could be a situation, for example, where suppliers want to shift consumer demand to take advantage of high wind availability to reduce their generation costs. This could have the perverse effect of leading to a constraint on a particular local network.

3.46. We will focus on the longer term, rather than on short-term decisions, for two reasons. First, there is already a process in place for managing key policy decisions in the short term. For example, through the RIIO-ED1 price control<sup>11</sup>, Ofgem is examining how DNOs should be able to use DSR over the next price control period. Second, the key enablers and drivers that encourage DSR, namely smart metering, electrification of heat and transport and changes in the generation mix, are not expected to have a large impact on the market in the short term.

#### *Ofgem's role*

3.47. Given that we set many of the rules that will impact the future development of DSR, Ofgem necessarily has a role in examining how well the regulatory framework enables commercial arrangements that provide for the efficient use of DSR. This includes setting network price controls in transmission and distribution, supply licence conditions and SO incentives.

3.48. Furthermore, Ofgem's ability to take an objective view in the interests of consumers and to examine issues across the entire supply chain are particular strengths in this area. By taking a leadership role in examining the relevant regulatory frameworks and potential commercial arrangements, we can therefore help ensure that any required reforms are progressed in a coordinated manner and delivered in a way that benefits consumers.

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<sup>10</sup> *Demand-side response in the non-domestic sector*, Element Energy / De Montfort University, July 2012

<sup>11</sup> The RIIO model (Revenue = Incentives+Innovation+Outputs) is Ofgem's new regulatory framework for network price controls. The first electricity distribution price control (RIIO-ED1) will commence on 1 April 2015.

*First deliverable*

3.49. We intend to publish a consultation in Q1 2013. We aim to leverage existing groups, for example the Smart Grids Forum, to develop our thinking. Through this consultation, we intend to determine whether Ofgem needs to propose reforms to facilitate more efficient use of DSR.

## Consumer empowerment and protection

Category	Description
<b>Subject matter</b>	How consumers participate in retail energy markets characterised by smart metering and the rules that govern their interactions with market participants.
<b>Longer-term objective</b>	Regulatory arrangements that empower and protect consumers to participate effectively in smarter retail energy markets, recognising the opportunities and risks involved.
<b>Initial question for Ofgem</b>	Are existing regulatory arrangements that influence how consumers engage with energy suppliers and the retail market more broadly fit-for-purpose for the start of mass roll-out?
<b>First deliverable</b>	Publish in Q2 2013 an initial assessment of the regulatory arrangements that may need change.

### Background

3.50. Retail energy markets bring together suppliers and consumers. The consumer experience of these competitive retail markets is crucial in determining how effectively they function and how confident consumers feel in engaging actively in choosing energy products and services. This consumer experience is the sum of how different market participants and processes appear from the consumer's point of view. The interactions that form this experience are an essential part of retail market design.

3.51. Retail energy markets currently operate on the basis of a "supplier hub" principle in which the consumer's primary relationship is with their supplier. In practice, this means they have one counterparty for key matters, including metering and billing. As a result, the arrangements governing the behaviour of suppliers are important in defining the shape of these interactions and how they can evolve in relation to market developments. These arrangements need to reflect the fact that energy consumers are a diverse group with a range of drivers, appetites and capabilities for engaging with the energy market.

### *Impact of smart metering*

3.52. Smart metering can transform the consumer experience of retail energy markets. Consumers will have ready access to valuable information that can help them to understand their consumption and make informed choices about how they buy and use energy. For domestic consumers, this includes near real-time information available through in-home displays. Smart metering will also enable suppliers to offer improvements to customer service, including an end to estimated bills. The remote functionality of smart meters will improve consumers' choices over payment methods and provide prepayment consumers with more ways to pay. Smart metering can also facilitate new entry and provide opportunities for innovation in business models, products and services that can help or reward consumers for using energy more efficiently.

3.53. At the same time, the roll-out of smart metering also raises significant challenges to the current way in which consumers engage with retail markets. For example, a potential increase in the number, variety and sophistication of tariffs on offer may make it harder for consumers to find one that suits their needs. We are also likely to see a range of new market participants interested in contracting directly with consumers, for example around DSR.

### **Longer-term objective**

3.54. Our longer-term objective is to have in place regulatory arrangements that empower and protect consumers to participate effectively in smarter retail energy markets. These arrangements would recognise the opportunities and risks for consumers engaging with market developments.

### *Benefits*

3.55. Achieving this objective should generate a range of benefits. These include the following:

- Increased engagement in the energy market – smart metering can enable consumers to engage more actively in the market, helping them to save money and use energy more efficiently.
- Stronger competitive pressure – more engaged consumers will place greater pressure on suppliers as they strive to maintain and increase market share, potentially through better customer service or more competitive offers.
- Increased innovation – smart metering will facilitate innovation both in technology (eg automated smart appliances) and in energy product offerings (eg time-of-use tariffs) providing consumers with greater choice, ability to control their energy usage and better manage their expenditure.

### *Stakeholder views*

3.56. Respondents to our consultation identified potential opportunities and risks for consumers in a market with widespread deployment of smart metering. For the most part, both were considered in relation to the proposition on time-of-use tariffs, namely that: “Time-of-use tariffs should help many consumers lower their energy costs, but improved engagement will be needed to help all consumers make informed choices”.

3.57. A majority of respondents expressed support for this proposition. There was recognition of the potential benefits for consumers in terms of reducing energy costs. However, a key concern was that some consumers may not see this benefit if they are unwilling or unable to move their consumption to off-peak periods. On this basis, a small number of respondents welcomed Ofgem’s commitment to carry out analysis on the potential distributional impact of time-of-use tariffs to inform our policy thinking.

3.58. Suppliers stressed that proposals coming out of Ofgem’s RMR could deter the offering and take up of time-of-use tariffs. They argued that Ofgem should revisit the proposals or consider how they would need to evolve on the back of smart metering. Consumer Focus also argued that the RMR proposals would not fully address issues around consumer engagement with time-of-use tariffs and other DSR products. In particular, they suggested that further work was needed on rules around tariff design.

3.59. Respondents also commented on the need for new measures to help consumer engagement when discussing some of the other propositions put forward in our December consultation. Some respondents argued that new safeguards would be necessary to promote consumer confidence. However, others stressed the risk that excessive regulation could stifle innovation.

3.60. Consumer Focus noted the potential convergence of energy markets with other sectors. They argued that it would be important for Ofgem to work with other regulators to identify gaps and inconsistencies in the cross-sectoral regulatory framework.

3.61. A key message was the need to enable all consumers to benefit from smart metering, including the vulnerable and disengaged. On this point, Consumer Focus recommended that Ofgem review the social and environmental obligations on suppliers, with a view to putting in place a more effective framework for addressing fuel poverty and helping vulnerable consumers.

## **Taking forward reform**

### *Initial question*

3.62. Over the next twelve months, we intend to assess whether existing regulatory arrangements that influence how consumers engage with energy suppliers, and the retail market more broadly, are fit-for-purpose in the transition to smart metering. Our initial focus is on any changes needed in the shorter term, particularly for the start of mass roll-out due in late 2014.

3.63. In undertaking this work, we will explore how and when the consumer experience of engaging in the energy market may change. This includes considering the potential emergence of market participants other than licensed suppliers who may want to contract directly with consumers and understanding the types of products and services that could be offered. Time-of-use tariffs, for example, could have different impacts on different groups of consumers, including both those who take them up and those who do not. To inform our work, we will draw on the findings of relevant trials, including those under the Energy Demand Research Project<sup>12</sup> and the Low Carbon Networks Fund<sup>13</sup>.

3.64. An understanding of potential market developments will be important for assessing how existing arrangements may need to change in the transition to smart metering. These arrangements will need to allow innovation to take place in the market and for consumers to realise the opportunities this presents. At the same time, we need to ensure that appropriate safeguards are in place to protect consumers from new risks that may arise. We will also consider the relative outcomes for consumers that do not have smart meters.

### *Ofgem's role*

3.65. Ofgem's principal objective is to protect the interests of existing and future consumers, wherever appropriate by promoting effective competition. In doing so, we must have regard to a number of factors such as the interests of vulnerable consumers, including those who are disabled, chronically sick, of pensionable age, with low incomes, or residing in rural areas. We therefore have an important role in helping to ensure that consumers can engage confidently in the market as it develops on the back of smart metering.

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<sup>12</sup> *Energy Demand Research Project: Final Analysis*, AECOM, June 2011

<sup>13</sup> Ofgem established the £500 million Low Carbon Networks Fund to encourage electricity distribution network operators to trial innovative solutions that will help them meet the changing requirements of generators and consumers at value for money as we move to a low carbon economy.

3.66. We are committed to a proactive approach to addressing consumer issues in relation to smart metering. A key first step was our Consumer Protection Package (previously referred to as the "Spring Package"). This made it clear that current consumer protection measures will continue to have effect where suppliers use the remote functionality of smart meters to switch a customer from credit to prepayment mode or to disconnect their supply.<sup>14</sup> Our work to assess the suitability of existing arrangements in the transition from traditional to smart metering is a natural extension of the Consumer Protection Package. For example, we are introducing measures to facilitate the change of supplier process for domestic consumers who are already receiving meters with smart functionality.<sup>15</sup>

3.67. Our work to assess existing arrangements will inform Ofgem's wider initiatives to help consumers engage in retail energy markets. This will enable us to adopt an integrated approach to analysing and managing issues around the consumer experience across the lifecycle of the roll-out. For example, this work will inform Ofgem's upcoming Vulnerable Consumers' Strategy.<sup>16</sup> This will set out how we aim to address affordability concerns and help ensure that vulnerable consumers are protected appropriately in the energy market. This includes work to safeguard the interests of prepayment customers. The strategy will encompass all of Ofgem's work, identifying every area where there is an impact on vulnerable consumers.

3.68. Understand how the consumer experience may change will complement our RMR. We recognise that a market with smart metering is likely to be inherently more sophisticated. If this sophistication is seen as additional complexity by consumers, there is a risk of entrenching existing issues around disengagement. In particular, we know that many consumers already see the energy market as complex and hard to navigate. Only a small proportion of consumers actively seek out better deals. A significant proportion of consumers remain disengaged from the energy market altogether.

3.69. The RMR has a strong focus on addressing current problems with the consumer experience of retail markets. A key aim of the proposals is to provide consumers with access to the right information and tools to effectively engage in today's market. Our work on improving tariff comparability, for example, looks to achieve this through facilitating more effective decision-making by consumers. Meanwhile, our proposed information remedies aim to improve the quality of the information provided by suppliers to their customers.

3.70. All of this work, however, is being undertaken in the context of supporting the longer-term development of the market. Some of the RMR proposals will help provide an essential foundation for smarter markets, by helping to build engagement and trust. Others will tackle current shortcomings on a temporary basis until competition is sufficiently effective. We recognised the need for further work on

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<sup>14</sup> *Modification of the Standard Conditions of Gas Supply Licences granted under Section 23(3) of the Gas Act 1986 and the Electricity Supply Licences granted under Section 11A(3) of the Electricity Act 1989*, Ofgem, September 2011.

<sup>15</sup> *Supporting effective switching for domestic customers with smart meters: additional statutory notice*, Ofgem, June 2012.

<sup>16</sup> *Energy Affordability: helping develop Ofgem's Vulnerable Consumers Strategy*, Ofgem, March 2012.

linkages with smart metering in our consultation on proposals for the domestic sector.<sup>17</sup> Specifically, we committed to review the interaction between our core tariff proposal and innovative time-of-use tariffs. We will address these issues in our updated proposals before the winter.

3.71. Our work will also complement the DECC Programme's approach to consumer engagement and protection in relation to the roll-out of smart metering. This includes DECC's strategy for helping consumers understand and realise the benefits of smart metering, as well as the proposed installation code of practice.

#### *First deliverable*

3.72. We intend to publish in Q2 2013 an initial assessment of the extent to which the existing arrangements are likely to be fit-for-purpose in the transition to smart metering. This will include a distributional analysis of the potential impact of time-of-use tariffs on different types of consumers.

3.73. As an input to this assessment, we will hold a workshop later this year with consumer bodies, industry and other stakeholders. This will explore what can be done to empower consumers to engage effectively in the market, particularly vulnerable and disengaged consumers, as well as the types of consumer protection issues that may emerge as the market develops.

3.74. In line with the commitments we made in the Consumer Protection Package, we will also review later this year developments in load-limiting tariffs.<sup>18</sup> In undertaking this review, we are conscious of both the benefits and risks that load limiting may have for customers. We are also mindful of the need to understand more about how load-limiting tariffs could work in practice. Pending the outcome of this review, there may be a need to consider introducing further protections to bolster those already implemented.

## **Other potential reform areas**

3.75. As set out in this chapter, our strategy for promoting smarter markets involves an initial work programme based on four key areas. In this section, we set out our views on a range of other areas that were discussed in our December consultation or were raised by respondents. In particular, we highlight whether we see a place for these in the work programme over time.

### **Gas settlement**

3.76. As in electricity, the roll-out of smart metering provides an opportunity to improve significantly the quality of gas settlement. In gas, central systems have remained largely unchanged since market opening and will require significant

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<sup>17</sup> The Retail Market Review: Domestic Proposals, Ofgem, December 2011.

<sup>18</sup> Load limiting is where the flow or amount of electricity to a customer is restricted.

investment over the coming years to replace existing system hardware. Through Project Nexus, industry has identified a range of potential enhancements to existing arrangements that could be made at the same time as system replacement. We have urged industry parties to ensure that this work is focussed on making current systems “smart ready”, for example, by having systems in place that allow suppliers to use the data available from smart metering. An industry assessment process is now ongoing to determine which enhancements developed under Project Nexus should be implemented through modification of the Uniform Network Code.

3.77. We consulted on the following proposition: “Settlement arrangements should use actual daily... meter reading data in order to improve their accuracy and efficiency”. Respondents broadly agreed that changes to settlement arrangements would be fundamental to unlocking the benefits of smart metering. However, there were mixed views on the proposition itself. The key message from respondents with regard to gas settlement was that industry is in the process of developing a package of proposed changes to existing arrangements that would allow, but not require, the use of daily data. They asked that Ofgem’s strategy seek to build on this work rather than require substantive amendments to it.

#### *Way forward*

3.78. Given the work already being undertaken by the Project Nexus, we do not consider that this as an area where Ofgem, at this stage, needs to lead a process for delivering change. We are, however, concerned at the slow pace of progress with Project Nexus. We have therefore written to Gas Distribution Networks today to set out our expectations that they must make all reasonable efforts to support the development of settlement reforms so that they can be implemented by end-2015.<sup>19</sup> To facilitate this, we have asked for a detailed project plan and regular progress updates. We have also urged industry parties to ensure that any modification proposals sent to Ofgem for approval are supported by robust analysis.

3.79. We will consider the scope for longer-term reform to the gas settlement arrangements once any Project Nexus modifications have made significant progress towards implementation. The aim of this approach is to avoid diverting resource away from existing work being undertaken to improve settlements through Project Nexus. Nevertheless, we recognise that further improvements may be needed in the longer-term to unlock the full benefits of smart metering.

#### **Code consolidation**

3.80. There are nine main industry codes in total that gas and electricity suppliers (and shippers in the gas market) must comply with as a condition of their licences. These set out the detailed rules that support the operation of the competitive market. While there are some similarities in how each code is managed, there are differences in accreditation, governance and change control. The establishment of the SEC and the proposal to centralise registration arrangements into the DCC present an opportunity to consolidate industry codes covering gas and electricity

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<sup>19</sup> Open letter to Gas Distribution Networks on Project Nexus gas settlement reforms, Ofgem, July 2012



retail arrangements. This includes those relating to metering, registration activities and change of supplier processes.

3.81. We consulted on the following proposition: “The Smart Energy Code should be used as a vehicle to consolidate existing industry codes dealing with retail issues in gas and electricity to facilitate market development and reduce administrative burdens”. Most respondents agreed with the proposition, arguing that this could reduce administrative costs, lower barriers to entry and helpfully align gas and electricity arrangements. There was support for Ofgem to drive consolidation but there were mixed views on when any changes should be implemented.

#### *Way forward*

3.82. The reforms to the change of supplier process and, in particular, the centralising of registration will necessarily lead to an assessment of the rationale for maintaining some existing codes. Once the scale and timing of these changes is clearer, we will consider the opportunities for beneficial consolidation as part of this work programme.

3.83. If the SEC is to be the vehicle for future consolidation, it is important that it has appropriate governance arrangements. We will therefore continue to engage with the DECC Programme as they take forward development of the SEC. In doing so, we will consider the objectives of this code and the potential for consumer representation in its governance arrangements, drawing on the conclusions of Ofgem’s Code Governance Review where appropriate.<sup>20</sup>

### **Energy services**

3.84. Energy suppliers provide electricity and gas to consumers. There is also a wide range of energy services that can assist both domestic and non-domestic consumers with decisions about their energy consumption. The data from smart metering could improve the range, nature and accessibility of such services.

3.85. We consulted on the following proposition: “Innovation in energy services would increase the consumer benefits of smart metering and can happen without major change to the regulatory framework”. While a small majority of respondents supported this proposition, some argued that changes to market arrangements would be needed to support development of effective competition and to protect the interests of consumers. Issues raised included the rules governing access to data and the smart metering system, regulation of third parties and bundling of contracts for electricity and gas supply with other services.

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<sup>20</sup> *Industry Code Governance Review – second phase*, Ofgem, April 2012

### *Way forward*

3.86. In line with our proposition, we do not consider major change to the regulatory framework is required at this stage to facilitate the development of energy services at this stage. We will, however, consider the implications for consumers of such developments in the context of our work on consumer empowerment and protection (eg bundling of contracts for electricity and gas supply with other energy services and links to the Confidence Code<sup>21</sup>).

3.87. The government has recently consulted on data access arrangements for suppliers, network operators and third parties (such as energy services companies), and expects to take decisions later this year.<sup>22</sup> One of their stated aims is to promote competition and innovation in the developing energy services market. Decisions relating to data access will have implications for the ability of energy services companies to compete with suppliers in the energy services market. Ofgem will continue to provide expertise and advice to the DECC Programme in this area.

### **Payment methods**

3.88. Domestic consumers can pay for their energy in a range of different ways. These currently include prepayment, standard credit (cash or cheque) and direct debit. Smart meters can operate in either prepayment or credit mode and the services provided by the DCC will in time remove the need for bespoke payment infrastructure (PPMIP) that manages payments by customers with traditional prepayment meters.<sup>23</sup> As a result, smart metering will eliminate the time, cost and inconvenience of exchanging meters. It will also create opportunities for new payment channels to arise. For example, prepayment customers may in future be able to pay online or by phone.

3.89. We consulted on the following proposition: "Consumers will have more payment options, without changes to regulatory arrangements beyond those envisaged as part of the smart metering roll-out." Around half of respondents agreed with this proposition. However, others argued that new consumer protections may be needed or expressed concerns that prepayment customers may not be able to change supplier easily. A number of respondents also raised concerns that decisions taken by the DECC Programme may mean that the benefits for prepayment customers are not realised. Finally, larger suppliers argued that Ofgem should play a role in helping to manage the rundown of legacy PPMIP arrangements.

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<sup>21</sup> The Confidence Code is a voluntary code that provides consumers with some assurance when using switching sites.

<sup>22</sup> *Smart Metering Implementation Programme: Data access and privacy - Consultation document*, DECC, April 2012

<sup>23</sup> Prepayment Meter Infrastructure Provision (PPMIP) is a system for reconciling back to the relevant energy supplier the advance payments made by prepayment customers at outlets, such as corner shops or post offices.

*Way forward*

3.90. Smart metering can bring a range of potential benefits for prepayment customers, particularly in terms of improved customer service. To help ensure domestic consumers remain sufficiently protected during early roll-out, we have already introduced consumer protections relating to smart prepayment as part of last year's Consumer Protection Package.

3.91. Looking forward, there are some important challenges, for example, how to manage the rundown of PPMIP arrangements in an orderly way as they service an ever decreasing number of consumers. We will continue to monitor whether additional measures are needed during the roll-out and beyond as part of our "Consumer empowerment and protection" project, in particular, to help ensure that the standards of service that prepayment customers experience do not deteriorate.

**Gas energy measurement**

3.92. In order to bill gas customers for their energy consumption, the volume of gas measured by the meter is adjusted for temperature and pressure conditions through the application by suppliers of a standard national average correction factor. This approach necessarily fails to reflect the diversity of temperature and altitude conditions at each meter point and may result in a significant discrepancy between consumers' measured and actual energy consumption.<sup>24</sup>

3.93. This issue was raised by a stakeholder in the context of smart metering roll-out providing an opportunity to explore it further.

*Way forward*

3.94. While smart meters will not record temperature and pressure, suppliers will have to review and amend their systems significantly to adapt to the changes brought about smart metering. Therefore, there is a potential window of opportunity to introduce more sophisticated adjustment factors as a relatively low-cost solution. Before any decisions are taken on whether to alter the methodology, we would need to undertake an assessment of the suitability of the current methodology and identify alternative options if necessary. We aim to undertake this work next year.

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<sup>24</sup> For more details on the current approach, see *Gas energy measurement - A consultation document*, Ofgem, November 2000

## 4. Next steps

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As we enter the policy development phase, we intend to manage the four priority reform areas as a programme to help ensure any changes are developed and delivered in a coordinated and timely way. To help achieve this, we will establish a senior-level stakeholder group to provide input across the work programme. We will also provide regular updates to stakeholders on progress and developments.

4.1. This response document fulfils our Corporate Strategy commitment to “develop the work programme required to create smarter markets from the platform of smart meters”.<sup>25</sup> It marks the end of the high-level scoping phase of our work. We have now defined an initial programme of work and the actions to be taken forward over the next twelve months. This will prepare the way for delivering reformed market arrangements, which we would expect to see in place as soon as reasonable practicable and by the end of the roll-out at the latest. We have prioritised four areas of the market that require further analysis and where Ofgem needs to play a key role in policy development.

### **Policy development phase**

4.2. Over the next twelve months, the policy development phase for each project will involve two main aspects:

- **Planning** – Developing the high-level process for taking forward policy development. This will include, for example, assessing how and when to engage with stakeholders, as well as when it would be sensible and practical to implement any specific reforms.
- **Policy scoping** – Identifying and analysing the key issues that may act as constraints to market development. In some areas, this will include understanding the costs and benefits associated with particular reforms. We will also seek to learn as much as possible from international experiences of smart meter deployments and the subsequent developments in energy markets.

4.3. An important product of the policy development phase will be a roadmap for implementation. This will help guide the process of reform in the light of other significant developments in the energy sector, such as the establishment of the DCC. Such a roadmap should help provide greater certainty for market participants in planning their investments over the medium term. An important consideration will be to avoid implementing changes in a way or at a time that could jeopardise the successful roll-out of smart metering.

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<sup>25</sup> *Corporate Strategy and Plan 2011-2016*, Ofgem, March 2011, Ref: 44/11

## **Managing the work programme**

4.4. We intend to manage the different aspects of work as a distinct programme. This approach will help to ensure the design and delivery of reforms to market rules, systems and processes are coherent, coordinated and comprehensive. This reflects the complementary nature of the benefits in different reform areas as part of our wider vision and the importance of managing effectively the interdependencies.

4.5. Coordinating this work across the programme will also support effective stakeholder engagement. As the work moves forward, we are committed to continuing and extending our engagement with stakeholders. We are keen to involve a wide range of industry, consumer and other stakeholders to understand their views and to utilise their expertise effectively.

### *Senior-level advisory group*

4.6. To provide a structured approach to our engagement across the work programme, we will set up a senior-level stakeholder advisory group. During the policy development phase, this group will be asked to provide strategic input across the initial work programme and on its evolution. This will include highlighting key interdependencies and opportunities for reform, as well as providing a challenge function, for example on key planning assumptions. It will also be a forum for identifying how best to leverage expert input for each project. This will be an invitation-only group, with the first meeting to be held later in 2012.

### *Regular progress updates*

4.7. We are committed to keeping stakeholders up-to-date on progress on the projects within this work programme, as well as any wider developments. We therefore intend to publish biannual updates on the work programme, with the first issue due by March 2013.

## Appendices

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## Appendix 1 – Summary of Consultation Responses

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1.1. Our December consultation sought the views of interested parties on the scope of a strategy for shaping market development from the platform of smart metering. This appendix lists all those who responded and summarises their views.

### List of respondents

	Name
1	Association of Manufacturers of Domestic Appliances
2	British Gas
3	Carillion Energy Services
4	Co2conut
5	Consumer Focus
6	E.ON
7	EDF
8	Electricity North West
9	Elexon
10	eMeter
11	Energy Metering Technology
12	Energy Retail Association
13	Energy Services and Technology Association
14	First Utility
15	Gazprom
16	Gemserv
17	Good Energy
18	IBM
19	Institute of Engineering and Technology
20	Logica
21	Master Registration Agreement Executive Committee
22	National Grid Electricity Transmission
23	Northern Power Grid
24	Onzo
25	Opower
26	PassivSystems
27	RWE npower
28	Renewable UK
29	SSE
30	Scottish Power
31	Smartest Energy
32	UK Power Networks
33	Utilita
34	Xoserve

## Summary of responses

1.2. All the responses to the consultation have been published on Ofgem's website ([www.ofgem.gov.uk](http://www.ofgem.gov.uk)).

1.3. Our December consultation identified eight reform areas that might materially influence market development. In each of these areas, we put forward a proposition. The propositions were not formal policy proposals. Instead, they were designed to facilitate effective consultation by providing a focus for the questions we asked. We also requested views on whether there were other opportunities for market development beyond the eight reform areas that should be included within the scope of work.

1.4. The summary below sets out respondents' views on developing a strategy and on the propositions put forward in our December consultation. We divide the propositions between those that relate to enabling market development and those that concern improvements to market processes. We also describe the issues not identified in our December consultation that respondents argued should fall within scope of the strategy, where these are not picked up in the discussion on the propositions.

1.5. To make the summary of responses accessible, we have grouped them by category of stakeholder. Where we indicate the proportion of respondents that expressed a view on a proposition, this is from the total that commented on the specific proposition rather than the total number of responses we received to our consultation.

### Developing a strategy

1.6. There was broad support from respondents for Ofgem's intention to develop a strategy for shaping market development. Respondents recognised the potential for smart metering to transform energy markets and expressed their willingness to play their part in progressing necessary reforms to market arrangements.

1.7. Among smaller suppliers there were some reservations about the implications of reform. One respondent stressed that reforms should not increase the regulatory burden on market participants, while another flagged the risk that the reforms could impose disproportionate costs on smaller suppliers. In addition, one smaller supplier cautioned that Ofgem should avoid constraining innovation.

1.8. Respondents considered the components of a strategy. Larger suppliers called for a common vision that is shared by Ofgem, industry and DECC along with a roadmap for delivering this vision. They argued that together the vision and roadmap would help industry plan implementation of necessary changes. Development of a roadmap was also supported by one industry body and Consumer Focus.



## Enabling retail market development

*Proposition 1: Time-of-use tariffs should help many consumers lower their energy costs, but improved engagement will be needed to help all consumers make informed choices.*

1.9. A majority of respondents agreed with this proposition. This included some larger and smaller suppliers, network operators and energy services companies. These respondents considered the potential benefits that time-of-use tariffs may provide for consumers. One larger supplier argued that we had not fully recognised the potential for more efficient network decisions and lower carbon emissions. Another argued that the benefits of time-of-use tariffs are likely to increase over time due to greater volatility of generation and demand, for example from connection of wind generation and uptake of electric vehicles.

1.10. Consumer Focus queried whether all consumers can benefit indirectly from time-of-use tariffs because low levels of consumer engagement in the market may mean that there is not sufficient competitive pressure on suppliers to pass on cost savings. A number of respondents, especially network operators, stressed the role that automation could play in lowering the transaction costs of responding to the price signals that time-of-use tariffs provide.

1.11. Respondents identified a number of issues that might need to be addressed to realise the benefits of time-of-use tariffs. Some respondents including one smaller supplier and one data management consultant suggested that using half-hourly data in electricity settlement would increase the incentives on suppliers to offer time-of-use tariffs. However, a trade association representing larger suppliers argued that this may only be necessary for dynamic time-of-use tariffs. Respondents also commented on other incentives on suppliers. For example, one network operator and one larger supplier argued that changes to distribution charging arrangements will be required so that they reflect strains on the network at different times of day. In addition, one larger supplier argued that price signals should be sharpened across the supply chain.

1.12. Around half of respondents commented on the potential implications of the Retail Market Review (RMR) for time-of-use tariffs. Some larger and smaller suppliers argued that Ofgem's proposals could deter offer and take up. This is because requiring time-of-use tariffs to take the form of fixed-term contracts could reduce willingness among suppliers to innovate and among consumers to take up new offerings. Therefore, some suppliers argued that Ofgem should revise its current proposals or consider how they will need to evolve during the transition to smart metering. Consumer Focus argued that the RMR proposals would not address barriers to engagement with time-of-use tariffs. They argued that the proposals may have negative consequences because those consumers who remain on simple deals could also pay the highest price for their energy.

1.13. Another issue raised concerned the rules that the DECC Programme is developing around access to and use of smart metering data. A small number of

respondents, including most larger suppliers, argued that these rules could pose a barrier to wider offer and uptake of time-of-use tariffs. It was suggested that suppliers will need detailed consumption data to design appropriate tariffs and convince consumers of the benefits.

1.14. Respondents, including one data management consultant and some network operators and larger suppliers, argued that some consumers would be unwilling or unable to change their consumption patterns. Consumer Focus also stressed this point. They suggested that further research is needed to understand consumers' ability and willingness to shift load. Along with one larger supplier, they also welcomed Ofgem's commitment to undertake a distributional analysis of the impact of time-of-use tariffs but requested clarity on the timing of this work.

1.15. Respondents discussed the need for new measures to protect consumers' interests and help them engage effectively with time-of-use tariffs. While one larger supplier cautioned that premature or inappropriate protections could hinder innovation, other respondents suggested a range of potential safeguards. For example, one network operator and Consumer Focus use of common time periods for all time-of-use tariffs that would help consumers to compare offers from suppliers. The latter also stated that it may be necessary to require suppliers to provide an estimate of the costs a consumer would incur when they move onto a time-of-use tariff, based on actual consumption patterns. A number of respondents suggested there may be a need for an education campaign to build consumer understanding of time-of-use tariffs.

1.16. Finally, a small number of respondents commented on the scope for gas time-of-use tariffs. One smaller supplier felt that these tariffs are not relevant in the gas market, while two larger suppliers suggested there may be limited opportunities. Consumer Focus argued this issue should be considered further.

*Proposition 2: More efficient use of demand-side response can lower overall energy costs, but this will need coordinated changes to regulatory and commercial arrangements.*

1.17. A majority of respondents agreed with the proposition. This included most suppliers and network operators, Consumer Focus and some energy services companies.

1.18. Respondents argued that the key driver for reform is the need to manage the different uses that market participants will have for demand-side response (DSR). In particular, respondents emphasised the potential impact that one party's use of DSR could have on others. Some network operators argued that a supplier using DSR could impact on network management. Similarly, some suppliers argued that actions taken by network companies or third parties may affect their ability to balance their portfolio and hence leave them financially exposed.

1.19. Given these concerns, respondents considered what changes to the commercial and regulatory framework should seek to achieve. One larger supplier argued against

network operators being given priority over other parties and, along with another, advocated arrangements that provide a level playing field. Some network operators stressed the need for arrangements that optimise system benefit, with a particular view to the implications for security of supply if use of DSR is predominantly driven by suppliers' commercial strategies. Consumer Focus argued for flexible arrangements that allow networks and third parties to offer DSR, with a view to opening up competition and improving engagement with consumers. A number of respondents suggested that trials being conducted under the Low Carbon Networks Fund could inform the development of the current arrangements. One network operator cautioned that revised arrangements could be expensive and hence the costs and benefits of DSR should be explored more fully as a first step.

1.20. Respondents also identified other aspects of the regulatory framework that may need to be addressed. For example, two larger suppliers suggested that consumers should be able to offer DSR to multiple parties, provided potential conflicts are managed. Some respondents also argued that more granular settlement would be important in incentivising suppliers to contract for DSR, though one supplier felt that use of half-hourly data would not be needed in the short term for domestic and smaller non-domestic consumers.

1.21. Respondents also considered consumer engagement. One issue raised was that DSR products may pose new risks to consumers, for example if they are more complex. On this point, Consumer Focus stressed the need for new consumer protection measures. Respondents also raised concerns around the distributional impact of DSR, for example because participation may require investment in new technologies. Consumer Focus urged Ofgem to undertake analysis on this issue before facilitating DSR. One larger supplier and one smaller supplier also considered the status of third parties, in particular that the consumer protection obligations that apply to larger supplies do not extend to them.

1.22. Finally, a trade association representing larger suppliers argued that DECC should lead work on DSR. This is because the issue cuts across other energy policies, many of which are the responsibility of government, such as Electricity Market Reform.

*Proposition 3: Innovation in energy services would increase the consumer benefits of smart metering and can happen without major change to the regulatory framework.*

1.23. A small majority of respondents agreed with the proposition. This included some larger and smaller suppliers and a number of energy services companies. These respondents argued that regulation could restrict innovation and stunt market development. A small number of respondents argued that changes to the regulatory framework would be required, either to provide a platform for innovation and competition or to protect the interests of consumers. Two respondents argued that changes are not needed in the short term but may be needed in time.

1.24. Respondents stressed that access to consumption data would be key to the development of the energy services market. Consumer Focus argued that suppliers

should not have privileged access to their customers' data because of the competitive advantage they would gain. Some energy services companies also stressed that consumers must be able to easily and securely access their data or allow a third party to do so on their behalf. In particular, concerns were raised that consumers might not be willing to purchase a device to access data from within the home. One energy services company suggested that suppliers should provide consumption data to their customers in a standard format, as happens in the United States through the "Green Button" initiative.

1.25. As well as access to data, a small number of respondents argued for fair and open access to the home area network<sup>26</sup> and the wide area network<sup>27</sup>. This included one smaller supplier and a trade association representing energy services companies.

1.26. Respondents considered the measures that may be needed to protect consumers' interests in relation to energy services. Some larger suppliers argued that third parties offering energy services should be subject to the same consumer protection obligations as suppliers to ensure consistency and avoid any instances of malpractice that might damage consumer trust. It was suggested that regulation could be introduced via the SEC. In addition, Consumer Focus argued that third parties should be accredited. However, one energy services company disagreed on the grounds that third parties are already governed by a strong regulatory framework enforceable by the Office of Fair Trading.

1.27. Respondents had mixed views on whether bundling of tariffs with energy services products should be permitted. One larger and some smaller suppliers argued against bundling, the former on the grounds of avoiding complexity and the latter because it might prevent new or smaller players entering the market. Consumer Focus called on Ofgem to work with other regulators to ensure appropriate safeguards are in place. One energy services company urged that any rules around bundling should not prevent suppliers working with energy services companies to offer new products and services.

1.28. Among other issues raised, a small number of respondents expressed concerns that some consumers who are not engaged in the market would not be able to realise the benefits of energy services. However, one energy services company noted that it has been possible to engage vulnerable consumers effectively in other jurisdictions. On switching sites, one larger supplier suggested Ofgem would have a role to play to ensure consumer trust is maintained and Consumer Focus argued further work is needed to establish how time-of-use tariffs and bundled services can be compared.

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<sup>26</sup> The home area network will be used for communication between smart meters, in-home displays and other devices in consumers' premises.

<sup>27</sup> The wide area network will be used for two-way communication between the central systems of the DCC and the smart metering system in the consumer premise.

*Proposition 4: Consumers will have more payment options, without changes to regulatory arrangements beyond those envisaged as part of the smart metering roll-out.*

1.29. Around half of respondents agreed with the proposition. This included some larger and smaller suppliers, as well as one data management consultant. A small number of respondents opposed the proposition largely on the grounds that innovation may introduce new risks for consumers or be slow to develop without incentives or regulation.

1.30. Among respondents who considered the potential benefits, most agreed that smart metering could enable innovation in payment methods. One smaller supplier warned against focusing on conventional prepayment on the grounds that the scope for new payment methods could be broad. A small number of respondents also argued that smart metering could support development of the prepayment market by lowering suppliers' costs to serve, removing the need to install a new meter and reducing the stigma associated with this method of payment. However, one larger supplier challenged this view on the grounds that investment would be required to deliver a new prepayment service and there would be higher transaction costs associated with new top-up methods.

1.31. Respondents identified three issues that may prevent or delay realisation of the benefits identified in our December consultation. First, Consumer Focus argued that new consumer protections may be necessary. For example, these might include introducing a new obligation on smaller suppliers to offer a choice of payment methods or measures to address barriers to switching for prepayment customers. The latter was echoed by one larger supplier who argued that commercial interoperability was at risk prior to the creation of the DCC if suppliers use different prepayment solutions. Consumer Focus also stressed that Ofgem should monitor the use of credit limiting, whereby consumers are automatically cut off if they owe more than a predetermined amount. It was also suggested safeguards may be needed to ensure vulnerable consumers do not pay the costs of making prepayment safe and practicable and to avoid unjustified price differentials between different top up methods.

1.32. Second, Consumer Focus and some larger suppliers also raised concerns around decisions being taken by the DECC Programme. For example, one larger supplier argued that the DCC should manage misdirected payments. Consumer Focus also argued that the functional requirements for the in-home display and smart meters do not adequately reflect the needs of prepayment customers.

1.33. The third issue concerns the rundown of the existing arrangements to manage payments made by prepayment customers. Some larger suppliers argued that Ofgem should support suppliers in this task to achieve overall cost savings and help consumers. On this point, it was noted that Ofgem played an important role in phasing out token prepayment meters. One data management consultant suggested that Ofgem should distinguish between the rundown of the existing infrastructure and development of new payment options. This was because this issue would be

primarily about finding a way to recover costs from a shrinking number of customers, not enabling innovation on the back of smart metering.

### **Improving market processes**

*Proposition 5: Settlement arrangements should use actual daily (gas) and half-hourly (electricity) meter reading data in order to improve their accuracy and efficiency.*

1.34. A large minority of respondents agreed with this proposition. This included some smaller suppliers, network operators, one central body and one data management consultant. Other respondents broadly acknowledged that settlement reform was necessary to support smarter markets but did not agree with the proposition.

1.35. Respondents considered the costs and benefits of changes to existing arrangements, though much of the debate focused on the benefits of using more granular data in electricity. Broadly, those in favour of the proposition stressed the benefits of reform. This included the potential to reduce settlement costs and timescales, lower credit requirements and enable offer of new tariffs that incentivise consumers to shift consumption away from peak periods. A small number of respondents also identified the potential benefits to networks from more accurate information on consumption, in the form of more stable network charging and improved network planning and management.

1.36. Other respondents questioned the case for using half-hourly data in settlement for the whole market. Some larger suppliers argued that the costs of using half-hourly data could be significant for the industry. A small number of respondents argued that there are other ways of achieving some of the benefits of half-hourly settlement. For example, one smaller supplier suggested regular submission of monthly reads may be sufficient, while one data management consultant argued that existing arrangements can accommodate conventional time-of-use tariffs.

1.37. Respondents identified three key policy issues that may require further consideration. The first concerns the work that the DECC Programme is doing to put in place rules governing access to, and use of, smart metering data. Some larger suppliers, one data management consultant and one network operator argued that granular consumption data should be made available for settlement purposes given the potential benefits.

1.38. A small number of respondents identified risks around selective settling of sites in the half-hourly market. It was suggested that measures may be needed to mitigate these risks.

1.39. The third policy issue is the need to consider alternatives to half-hourly settlement. For example, one option suggested would involve using smart metering data to improve profiling. One larger supplier also argued that it may not be

appropriate to retrofit arrangements for half-hourly settlement that were designed for industrial and commercial sites to domestic consumers.

1.40. Respondents also identified specific aspects of the settlement arrangements that they would like to be reviewed on the back of smart metering. For example, one industry body and Consumer Focus suggested that the performance assurance arrangements in electricity should be considered because of the potential to remove costs from the process in the long term. Other aspects suggested by respondents included credit arrangements, unmetered supplies, the process used to calculate estimates and the methodology to apportion the costs of error across the market.

1.41. Respondents commented on the options for taking forward work on settlement. Some larger suppliers stressed the need for rigorous cost-benefit analysis to determine whether half-hourly settlement is the solution in electricity. It was also noted that the industry is already progressing reform in several areas. On this point, one central body asked that Ofgem's strategy looks to build on industry work on Project Nexus rather than require revisions. Another industry body argued that the Profiling and Settlement Review Group should take the lead in progressing reform in electricity. However, some larger suppliers requested that Ofgem drive changes on the grounds that industry work to date has been slow and that the conventional code modification processes would not be able to deliver necessary changes. Some smaller suppliers also expressed disappointment at the pace of industry-led reform, especially in gas.

*Proposition 6: The change of supplier process should be reliable and fast, so that customers can confidently switch supplier on a next day basis.*

1.42. There was strong support for reform of the existing change of supplier process on the back of smart metering. Respondents who commented on the potential benefits of a faster and more robust switching process broadly mirrored those identified in our December consultation. However, some larger suppliers disputed the suggestion that smart metering can reduce the number of errors. Other respondents identified additional benefits, including the potential for fewer switching disputes to improve the accuracy of settlement data. This is because the process for resolving disputes leads to delays in withdrawal of erroneous meter readings from settlement.

1.43. Although respondents were positive about reform, around half of those who commented expressed concerns around an objective of next-day switching. This included some larger and smaller suppliers, Consumer Focus and one data management consultant. Suppliers highlighted that the proposition could have a significant impact on their systems and could leave them unable to manage changes in their total demand. Some smaller suppliers argued the latter could be especially problematic for them because they do not have a large customer portfolio across which to spread risks. Respondents also queried how the proposition would sit alongside consumer protection measures such as cooling-off periods and suggested that quicker switching could undermine the reliability of the process or require undesirable unwinding of transfers. Given these concerns, some larger suppliers called for a thorough assessment of the impacts of reducing switching times.

1.44. Another key issue considered by respondents was whether improvements should be made for all consumers or only those with smart meters. Among the arguments put forward in favour of the latter, it was argued that there would only be a limited time period over which the benefits could be realised. However, other respondents highlighted that delivering changes only for consumers with smart meters would create a two-tier process or mean that some consumers are able to access better deals than others. One smaller supplier also argued that changes should not apply to non-domestic consumers.

1.45. Among other policy issues, there was support for alignment of electricity and gas processes. One larger supplier suggested that work on change of supplier could be extended to consider related processes such as change of agent or tenancy. One data management consultant also argued that it might be helpful to review the current requirement for each metering point to have one supplier because in the future some consumers may want to buy peak and off-peak power from different suppliers.

1.46. A small number of respondents commented on the process for reforming the change of supplier arrangements. One larger supplier argued that Ofgem is best placed to run a programme to deliver reform. Another suggested that we should examine the opportunities to reform the switching process at each stage of the smart metering roll-out.

1.47. Specifically with regard to registration, one larger supplier suggested Ofgem should use its Significant Code Review powers to incorporate registration services into the DCC. This is because we are already taking forward related work, such as reform of Xoserve governance. One industry body also argued that orderly migration of registration is a material consideration and should be recognised as a discrete factor in Ofgem's strategy. However, one smaller supplier argued that extending the scope of the DCC's services during roll-out places additional risk on the DECC Programme with little benefit and distracts from the DCC's central purpose.

*Proposition 7: Electricity data processing and aggregation services should be procured centrally in order to reduce costs and support fast customer switching.*

1.48. A majority of respondents agreed with this proposition. This included most larger suppliers and some smaller suppliers, network operators and data management consultants.

1.49. Respondents highlighted a range of reasons for centralising data processing and aggregation services. Some argued that this would support improvements to other processes, including change of supplier and settlement. Others highlighted that centralisation could reduce industry costs and barriers to entry by removing the need to appoint agents.

1.50. One industry body argued that there is little value added from competition in the provision of data aggregation services, because it is a highly prescriptive activity that makes use of centrally-developed software. Looking ahead to a smart world, the



same respondent also argued that the functions of data aggregation and processing will be reduced. With regard to the latter, the DCC will take on responsibility for data retrieval in the domestic sector. Meanwhile, an important component of data aggregation systems (namely to ensure completeness of data across multiple data aggregators and registration systems) will reduce once there is a central registration function.

1.51. A small number of respondents opposed the proposition or expressed reservations. This includes one larger supplier who challenged the view that existing arrangements for data processing and aggregation are a barrier to improving the switching process. This is because the DCC will provide the incoming and outgoing suppliers with validated reads, thereby removing the need for agents to exchange data. Another larger supplier argued that the costs of establishing new central systems were not fully drawn out in our December consultation. However, on this point one data management consultant highlighted that existing systems would also need upgrading to handle smart metering data. Other respondents, including one larger supplier and some energy services companies, expressed concerns about the potential impacts on competition in the metering market.

1.52. Respondents considered the policy issues that may need to be addressed. The key issue was the vehicle for centralisation. Of those who commented, the majority, including most larger suppliers and one industry body, argued that the DCC should take on responsibility for data processing and aggregation services. One reason put forward was that this would avoid transfer of information between parties, which inherently carries risk. Other respondents, including one smaller supplier, argued that other parties could provide central services, such as Elexon.

1.53. Among other issues raised by respondents, one larger supplier argued that centralisation of data processing and aggregation services should be linked to settlement reform because it could affect the business case for using half-hourly data. Another argued that all domestic and non-domestic sites should be required to use central data processing and aggregation services. Network operators argued that they will require a cost-effective data aggregation service and may need data to be provided in a different format to suppliers. In addition, one central body and Consumer Focus argued that centralisation would create greater risks to settlement and data security respectively.

1.54. There were mixed views on when the DCC should take on responsibility for data processing and aggregation. For example, some argued that central services should be available from the start of roll-out, while others felt DCC should take on this role simultaneously with registration.

*Proposition 8: The Smart Energy Code should be used as a vehicle to consolidate existing industry codes dealing with retail issues in gas and electricity to facilitate market development and reduce administrative burdens.*

1.55. Most respondents agreed with the proposition, including larger suppliers and some smaller suppliers, network operators and energy services companies. These

respondents agreed with many of the benefits identified in our December consultation. This included the potential for code consolidation to reduce administrative costs and lower barriers to entry. Larger suppliers highlighted the opportunity to align gas and electricity arrangements and argued that code consolidation could complement the other propositions. One larger supplier also suggested that consolidation could reduce the time and costs associated with code modifications.

1.56. Respondents identified four key issues. First, most of the central bodies highlighted the scale and complexity of the task. One recommended commissioning an exercise to learn the lessons of previous industry attempts to reform governance and systems, including registration systems. Another argued that existing market participants would likely find it easier to identify the costs associated with consolidation, rather than the benefits. Hence they argued that this initiative must be driven by a vision of the market in the future.

1.57. The second key issue was the scope of work to consolidate industry codes. One central body favoured a broader approach on the basis that responsibilities in a smart world may be very different. They suggested consolidation of aspects of codes dealing with wholesale arrangements and stressed the need to take into account industry processes that supplement or duplicate obligations, such as industry-owned codes of practice. Among other views, one larger supplier argued that code consolidation should consider the data transfer systems while one smaller supplier suggested there may be scope to amalgamate some of the industry bodies created since deregulation.

1.58. The third issue emerging from consultation concerned governance. A range of respondents stressed that there must be broad representation of relevant parties. Finally, a small number of respondents flagged links to the work that the DECC Programme is progressing. For example, one industry body argued that the DCC licence would need to extend to consolidation of existing codes to allow for the proposition.

1.59. There were a range of views expressed as to when any code consolidation should happen. Some larger suppliers argued that consolidation should coincide with the DCC taking responsibility for registration services, while one argued that consolidation should be complete by the time the DCC becomes operational. In contrast, one data management consultant argued that consolidation was not a priority.

1.60. Of the four respondents who commented on Ofgem's role, all felt that we would need to drive consolidation. One argued that regulatory oversight would be crucial to deliver consolidation because of the vested interests of organisations that will nonetheless need to be involved.

## Other areas

1.61. In addition to the eight reform areas identified in our December consultation, respondents suggested a number of other issues that may need to be addressed to help realise the opportunities for market development. The key points raised are summarised below.

1.62. Across the reform areas, respondents raised three points. First, Consumer Focus argued Ofgem should review the regulatory framework around social and environmental obligations to see how suppliers might tackle fuel poverty and help vulnerable consumers more effectively. Second, one industry body stressed that Ofgem will need to consider the outcomes for consumers without smart meters in taking forward work to reform existing market arrangements. This includes those who receive smart meters later in the roll-out or refuse to have one installed. Third, some respondents particularly network operators argued that Ofgem must consider the implications of smart metering for network arrangements as well as retail markets.

1.63. In relation to DSR, one larger supplier suggested that Ofgem consider how the supplier-hub model may need to evolve as new parties seek to contract with consumers. In addition, one trade association and one network operator argued that uptake of smart appliances and vehicles will be key to DSR. For this reason, the latter argued that Ofgem should seek to engage manufacturers of such products. Finally, one trade association argued that smart metering presents an opportunity to help consumers reduce energy consumption as well as shift load.

1.64. In relation to market processes, one network operator suggested that the strategy work presents an opportunity to address two issues that may have been missed by Ofgem's Review of Metering Arrangements.<sup>28</sup> These both relate to Meter Asset Providers, who are responsible for ongoing provision of the meter at the customer premises. The first issue concerns their access to data on meters and the second, payment of rental charges on change of supplier. Finally, another larger supplier asked Ofgem to include reform of independent Gas Transporter processes to maintain the momentum of the industry work that is already underway.

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<sup>28</sup> The Review of

## Appendix 2 - Glossary

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### **B**

#### [Balancing and Settlement Code \(BSC\)](#)

The BSC contains the governance arrangements for electricity balancing and settlement in Great Britain. See also [Codes](#).

### **C**

#### [Code Governance Review](#)

Ofgem's review of the industry codes governance arrangements. We launched the review to ensure that these arrangements remained fit-for-purpose given the wide range of changes that had occurred since the introduction of the codes and the scale of the challenges facing the energy industry over the coming decade. Our final proposals were published in March 2010. See also [Codes](#).

#### [Codes](#)

The industry codes are the regulated contractual arrangements that govern the electricity and gas wholesale and retail markets. They also define aspects of the terms under which industry participants can access the electricity and gas networks. The electricity codes include the [Balancing and Settlement Code](#), the Master Registration Agreement and the [Distribution Connection and Use of System Agreement](#). The gas codes include the [Uniform Network Code](#) and the Supply Point Administration Agreement.

### **D**

#### [Data aggregation](#)

The packaging of non-half-hourly consumption data into a single value for all of a supplier's supply points within a region for each settlement period, to meet the requirements set out in the [Balancing and Settlement Code](#).

#### [Data collection](#)

The retrieval and processing of meter readings to meet the requirements set out in the [Balancing and Settlement Code](#).

#### [Data and Communications Company \(DCC\)](#)

The new central entity that will be created and licensed to manage the procurement and contract management of smart metering data and communications services.

### Department of Energy and Climate Change (DECC)

Government department responsible for energy policy and climate change mitigation policy.

### Direct debit

A method of payment where a fixed or variable amount is taken from a bank account each month, quarter or year.

### Distribution Network Operator (DNO)

One of 14 companies that are licensed by Ofgem to operate the electricity distribution network within defined geographical distribution service areas.

### Dual fuel

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

## E

### Elexon

The organisation responsible for managing the [Balancing and Settlement Code](#).

### Energy supplier

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

## G

### Gas Distribution Network

A network that transports gas at lower pressures from the transmission system to homes and businesses of gas customers or to the point of connection with an [Independent Gas Transporter](#) pipeline system.

### Gas shipper

A company that is licensed by Ofgem to arrange with a [Gas Transporter](#) for gas to be introduced into, conveyed through, or taken out of a pipeline system operated by that [Gas Transporter](#).

### Gas Transporter

A company that is licensed by Ofgem to convey gas through its pipes to premises, or to another system of pipelines operated by another Gas Transporter.

## I

### Independent Gas Transporter (iGT)

A company that is licensed by Ofgem to develop, operate and maintain small local gas transportation networks embedded within a [Gas Distribution Network](#).

### In-home display

A device capable of displaying near real-time information on energy consumption in a readily accessible form. Government is mandating that all domestic consumers should be offered an in-home display as part of the roll-out of smart metering.

## N

### Network operators

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

## O

### Ofgem

The Office of 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


A method of paying for energy, whereby consumers pay in advance for the energy they consume.

### Prepayment Meter Infrastructure Provision (PPMIP)

A system for reconciling back to the relevant energy supplier the advance payments made by [prepayment](#) customers at outlets, such as corner shops or post offices.

### Project Nexus

[Xoserve's](#) systems have remained largely unchanged since market opening and will require significant investment over the coming years. To inform this work, Project



## Promoting smarter energy markets: a work programme

Nexus was set up by Xoserve to seek industry's views on the nature and scope of services that it should provide.

### **R**

#### Registration

The process for recording which [energy supplier](#) is responsible for supplying energy to each metering point.

#### Retail Market Review (RMR)

Ofgem's project launched in November 2010 to enhance competition in the retail energy markets and make them work more effectively so that the benefits can be realised by more consumers than at present.

### **S**

#### Settlement

The settlement processes reconcile the metered positions of generators and suppliers (in electricity) and shippers (in gas) against the volume of energy they have contracted to flow onto or take off the network.

#### Settlement period

The period over which metered and contracted volumes are reconciled. The settlement period in gas is daily while in electricity it is every half hour. See also [settlement](#).

#### Significant Code Review

The Significant Code Review process is designed to facilitate complex and significant changes to a range of industry codes. It provides a role for Ofgem to undertake a review of a code-based issue and play a leading role in facilitating code changes through the review process.

#### Smart Energy Code (SEC)

A new industry code that will govern the arrangements for the introduction and ongoing operation of smart metering. Among other things, the code will detail the relationships between the [Data and Communications Company](#) and the users of its services.

#### Smart Metering Implementation Programme ("the DECC Programme")

The central change programme established by government to develop and implement the regulatory framework for the roll-out of smart metering.

## Spring Package

A package of measures put forward by Ofgem in February 2011 to help ensure consumer interests remain protected in response to early moves by suppliers to start installing meters with smart functionality before the regulatory framework for the roll-out is in place. Protections around remote switching to prepayment and remote disconnection for domestic consumers were implemented in October 2011.

## System Operator

The entity charged with operating either the electricity or gas transmission system in Great Britain. National Grid Electricity Transmission is the System Operator of the high-voltage electricity transmission system. National Grid Gas is the System Operator of the high-pressure gas transmission system.

## T

### Time-of-use tariffs

Energy tariffs that charge different prices at different times of the day, week, month or year.

### Traditional meter

A meter for registering the consumption of gas volume or electrical energy that does not have any advance or smart metering functionality as prescribed by government. This refers to both credit and [prepayment](#) meter types.

## U

### Uniform Network Code (UNC)

Industry Code operated by large [Gas Transporters](#) that determines the arrangements for shippers to input and exit gas from their network. It governs processes such as the balancing of the gas system, network planning, and the allocation of network capacity. [Independent Gas Transporters](#) have their own network code, the Independent Gas Transporters Uniform Network Code (iGT UNC). See also [Codes](#).

## X

### Xoserve

The agent of the larger [Gas Transporters](#) responsible for supplying a range of central services that allow the gas industry to operate.



## Appendix 3 - Feedback Questionnaire

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1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case, we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments.

1.2. Please send your comments to:

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9 Millbank  
London  
SW1P 3GE  
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