

Smart Metering Implementation Programme

A call for evidence on data access and privacy

August 2011

Department of Energy and Climate Change
3 Whitehall Place
London
SW1A 2AW

Telephone: 0300 068 4000
Website: www.decc.gov.uk

© Crown copyright 2011

Copyright in the typographical arrangement and design rests with the Crown.
This publication (excluding logos) may be re-used free of charge in any format or medium provided that it is re-used accurately and not used in a misleading context. The material must be acknowledged as crown copyright and the title of the publication specified.

For further information on this call for evidence, contact:
Smart Metering Implementation Programme – Roll-out Team
Department of Energy and Climate Change
3 Whitehall Place
London
SW1A 2AW
Telephone: 0300 068 6996
Email: <mailto:smartmetering@decc.gsi.gov.uk>

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

Published by the Department of Energy and Climate Change

Executive summary

This call for evidence seeks views and further evidence to support policies which the Government is developing on the privacy framework for smart metering. This builds on the position set out in the Government Response to the Prospectus published in March 2011.

Section 1 provides an introduction including details on how to submit responses to the questions set out in this document, which should be provided by **13 October 2011**.

Section 2 sets out the Government's policy approach on who should have access to what data and seeks views on key aspects to inform the development of the policy framework in this area. The Response confirmed the principle that consumers would have a choice as to how their smart metering data is used and by whom, except where it is required to fulfil regulated duties. The Response said that Government was minded to interpret regulated duties narrowly and discussed the different purposes for which industry might want access to data. It also considered the options for providing consent and in particular the implications of opt in versus opt out. The Response highlighted a range of consumer, competition and wider considerations – including the implications for the benefits case - that bear on these decisions. The purpose of this call for evidence is to seek further evidence in these areas to support the development of more detailed policy proposals.

Section 3 sets out the questions relating to the arrangements for consumers and third parties, such as energy services companies, to gain access to data. It was made clear in the Response that unlicensed third parties would need to obtain customer consent to access any data directly from the smart metering system but that further work was needed on the technical mechanisms.

Contents

1. Introduction	5
1.1 Policy context.....	5
1.2. Development of a privacy framework	5
1.3. About this call for evidence	6
1.4. Next steps.....	6
2. The privacy policy framework	9
2.1. Introduction	9
2.2. Summary of Government Response	9
2.3. Key issues	10
(a) Consumer views.....	10
(b) Competition impact	11
(c) Impact on benefits case – supplier-driven benefits	12
(d) Network companies.....	17
(e) Choice mechanisms.....	18
(f) Data minimisation.....	19
(g) The regulatory approach	20
3. Data Access	21
3.1. Introduction	21
3.2. Summary of Government response.....	21
3.3. Key issues	22
(a) Access to data via the Smart Metering Equipment in the home.....	22
(b) Access to data via DCC	23
(c) Foundation and Non-domestic Customers.....	24
Annex 1 Digest of questions	26

1. Introduction

1.1 Policy context

1. The Government's vision is for every home in Great Britain to be equipped with smart meters, with businesses and public sector users also having smart or Advanced Meters suited to their needs. The roll-out of smart meters will give people far better information about, and control over, their energy consumption and deliver other significant benefits to consumers. For example, it will bring an end to estimated billing and make it easier to switch energy supplier. Smart metering will also play an important role in Britain's transition to a low-carbon economy and help meet some long-term challenges such as ensuring an affordable, secure and sustainable energy supply.

2. The Government's impact assessments^{1,2} estimate that the total cost of the roll-out programme will be around £11.7 billion. This investment is needed in order to support Britain's transition to a low-carbon economy. The impact assessments present a strong business case for taking the programme forward, estimating benefits across the domestic and smaller non-domestic sectors³ of over £18.7 billion in the period up to 2030, implying a net benefit of £7.1 billion. These benefits derive in large part from reductions in energy consumption and cost savings in industry processes.

3. The range of issues arising from the roll-out of smart meters has been the subject of considerable attention and extensive consultation, most recently in the Smart Metering Prospectus (the Prospectus)⁴, jointly published by DECC and Ofgem in July 2010. DECC and the Office of Gas and Electricity Markets (Ofgem) received 279 responses to the Prospectus consultation. Before, during, and after the consultation period, DECC and Ofgem have also had regular contact with a wide range of stakeholders including regular contact with consumer representatives through the Consumer Advisory Group and through a Privacy and Security Advisory Group, together with a number of ad hoc workshops on privacy and data access.

1.2. Development of a privacy framework

4. In March 2011, DECC and Ofgem published a Response to the Prospectus consultation (the Response)⁵ which set out the approach to the design of the new obligations on energy suppliers to install smart meters for consumers in the domestic and in the smaller non-domestic

¹ DECC, *Impact Assessment for the Smart Meter Roll-out for the Domestic Sector (GB)*, August 2011

http://www.decc.gov.uk/en/content/cms/consultations/cons_smip/cons_smip.aspx

² DECC, *Impact Assessment for the Smart Meter Roll-out for the Small and Medium Non-domestic sector (GB)*, August 2011. http://www.decc.gov.uk/en/content/cms/consultations/cons_smip/cons_smip.aspx

³ Non Domestic Coverage: Electricity, those customers at sites in electricity profile groups 3 and 4. Gas, those customers at non-domestic sites with consumption of less than 732 MWh per annum.

⁴ DECC/ Ofgem, *Smart Meter Implementation Programme Prospectus*, July 2010.

⁵ DECC/ Ofgem, *Smart Meter Implementation Programme, Response to Prospectus Consultation*, March 2011.

sector. The Response described the Government's overall approach to data access and privacy⁶, under which:

- Consumers should have a choice as to how their smart metering data is used and by whom, except where it is required to fulfil regulated duties;
- The Government is minded to define regulated duties narrowly given that consumers would not have a choice over whether to provide smart metering data for these purposes;
- For other purposes the Government can see the strength of the arguments for requiring industry to obtain explicit informed consent from consumers to access the data;
- Consumers would be readily able to access their own data and provide access to that data to third parties such as energy service companies or switching sites; and
- Thirteen months of data would be stored on the meter to help facilitate consumers accessing their data while keeping the data within the home.

1.3. About this call for evidence

5. This document seeks views and evidence to help inform the policy approach on privacy and data access arrangements. The range of issues around privacy and data access, including points raised by stakeholders following publication of the Prospectus, were discussed in detail in the Response document. This document does not repeat that analysis but seeks further evidence in areas where the Response identified that further analysis would be undertaken in this Phase of the programme. This call for evidence is concerned with the data access and privacy policy framework, and not the implementation of appropriate security requirements for the smart meter system, which are also being considered by the programme.

6. An important element of consumer protection highlighted in the Response is the development of a Privacy Charter setting out clearly for consumers what data is being collected, how it will be treated and what their rights are. Suppliers are working on the development of a Charter which should be available for discussion with stakeholders later in the year. This call for evidence therefore does not consider the requirements around a Privacy Charter.

1.4. Next steps

How to respond

7. Your response will most useful if it is framed in direct response to the questions posed, though further comments and evidence are also welcome. Response to this call for evidence

⁶ See footnote 4 and DECC/ Ofgem, *Smart Meter Implementation Programme, Response to Prospectus Consultation, Supporting Document 1 of 5: Data Access and Privacy*, March 2011.

should be sent to smartmetering@decc.gsi.gov.uk. The call for evidence closes on 13 October 2011.

8. Responses should be clearly marked Smart Metering Implementation Programme: A call for evidence on privacy and data access (August 2011). Responses and any enquiries related to the call for evidence, should be addressed to:

Smart Metering Implementation Programme – Roll-Out Team
Department of Energy & Climate Change,
3 Whitehall Place,
London, SW1A 2AW
Tel: 0300 068 6996
Email: smartmetering@decc.gsi.gov.uk
Reference: URN 11D/838

Territorial extent

9. This call for evidence applies to the gas and electricity markets in Great Britain. Responsibility for energy markets in Northern Ireland lies with the Department of Enterprise, Trade and Investment.

Additional copies

10. You may make copies of this document without seeking permission. An electronic version can be found at http://www.decc.gov.uk/en/content/cms/consultations/cons_smip/cons_smip.aspx. Other versions of the document in Braille, large print or audio-cassette are available on request. This includes a Welsh version. Please contact us under the above details to request alternative versions.

Confidentiality and data protection

11. Information provided in response to this call for evidence, including personal information, may be subject to publication or disclosure in accordance with the access to information legislation (primarily the Freedom of Information Act 2000, the Data Protection Act 1998 and the Environmental Information Regulations 2004).

12. If you want information that you provide to be treated as confidential please say so clearly in writing when you send your response to the call for evidence. It would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded by us as a confidentiality request.

13. The Department will summarise all responses and place this summary on the DECC website. This summary will include a list of names or organisations that responded but not people's personal names, addresses or other contact details.

What happens after the call for evidence

14. Following the conclusion of the call for evidence, the programme will consider responses and develop detailed proposals for the privacy framework and data access arrangements. It is planned that there will then be a consultation later this year on data access and privacy which may include draft licence obligations, if necessary.

Legal framework

15. In mandating the roll-out of smart meters to domestic and smaller non-domestic consumers the Government needs to ensure that the policies it introduces are lawful. The framework that the Government introduces must be compatible with the requirements of the Human rights Act 1998. In particular, the right to respect for private and family life, where any interference needs to be justified.

16. It is the legal responsibility of industry participants to ensure that they comply with the Data Protection Act (DPA) and any other data privacy laws that might also apply. In the context of a mandated roll-out of smart meters, the programme has an important role to play in ensuring that an appropriate framework is established that ensures that consumers' rights to privacy are respected and that an appropriate level of security is maintained across all industry parties involved in delivering smart metering.

17. The Information Commissioners' Office (ICO) oversees and enforces the DPA, the freedom of Information Act 2000, the Environmental Information regulations 2004, and the Privacy and Electronic Communications Regulations 2003. It is responsible for ensuring that organisations do not break these laws through influencing company policy and resolving issues and for taking enforcement actions against those who ignore or refuse to accept their data protection obligations.

18. The DPA is general legislation that provides a framework for the use and management of personal data. In the context of a mandated roll-out of smart meters however, it is important that there is clarity over who has rights to what data and the basis on which it is collected.

19. The Information Commissioner has confirmed that it would be wholly appropriate, in due course, for the programme to propose sector specific rules to clarify what are and are not legitimate uses of data in the energy market, provided this is consistent with the DPA.

2. The privacy policy framework

2.1. Introduction

1. This chapter deals with the issues we need to resolve to further develop the privacy policy framework that the Government is looking to introduce. It covers the development of a privacy policy that provides consumers with choice about how their smart metering data is used while ensuring the benefits of the programme can be delivered. In particular it seeks further views and evidence to support decisions on the privacy policy framework which would then be given effect through regulation, if appropriate.

2. In developing its thinking on privacy issues the programme continues to have regard to emerging best practice and international experience, including a commitment to privacy by design. In particular the government is aware that since the publication of the Response, the European Union's Article 29 Working Party has published opinions on smart metering and on consent^{7, 8}. There have also been significant developments in California, where a comprehensive set of privacy and data access arrangements and associated regulatory requirements have been proposed⁹.

2.2. Summary of Government Response

3. The Response confirmed the principle that the consumer should choose in which way consumption data shall be used and by whom, with the exception of data required to fulfil regulated duties. The Response then considered two issues which need to be addressed in applying this principle:

- which essential energy industry data uses should constitute regulated duties, to which consumers will not be able to choose to limit access, and what level of smart metering data is required to fulfil these regulated duties; and
- how consumers will be able to choose what smart metering data can be used for other energy industry purposes and who has access to it.

4. The Response set out that Government is minded that the data required to fulfil regulated duties should be narrowly defined. It should cover only the data that is essential to meet licence requirements, given that consumers would not have a choice over whether to provide data for these purposes. Any data used for these purposes would need to be kept to a minimum (for example through aggregation or anonymisation where possible) and not all regulated duties will require half-hourly or other forms of detailed data. Where data is collected to fulfil a regulated duty, it can only be used for that purpose. Unlicensed third parties would

⁷ Article 29 Data Protection Working Party, [Opinion 12/2011 on smart metering](#), April 2011.

⁸ Article 29 Data Protection Working Party, [Opinion 15/2011 on the definition of consent](#), July 2011.

⁹ California Public Utilities Commission, [Decision Adopting Rules to Protect the Privacy and Security of the Electricity Usage Data of the Customers of Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company](#), July 2011.

need to obtain individual customer's consent to access any data directly from the smart metering system. Chapter 3 sets out how third parties might access data in practice.

Where personal data is collected, companies must comply with the principles of data protection under the DPA, including not retaining collected information for longer than necessary.

5. The Response identified opt-in or opt-out as potential mechanisms for exerting consumer choice but acknowledged there may be other options. It was recognised that a requirement to opt-in could lead to only a limited number of consumers allowing access to the smart metering data, which might potentially undermine some of the programme's benefits. Allowing an opt-out approach would provide wider availability of smart metering data but could raise issues around how informed consumers were about the how their smart metering data was used and also could raise significant competition issues if new entrants to the energy services market were at a disadvantage compared to existing suppliers.

6. The Government concluded that it could see the strength of the arguments for requiring industry to obtain explicit, informed consent from consumers to access smart metering data for energy industry purposes, beyond what is required to fulfil regulated duties. It remained to be convinced of the case for allowing industry access to such data as the default.

7. The Response identified a number of areas where further work was needed, including:

- further consultation on the list of regulated duties, the level of data required to fulfil them and how the requirements will be implemented;
- options for reviewing and amending the list of regulated duties over time; and
- further work to evaluate the impact of different choice mechanisms.

8. This call for evidence will provide the evidence and views to inform the development of more detailed policy proposals in this area.

2.3. Key issues

(a) Consumer views

9. In considering the appropriate approach to consumer choice a key consideration is consumer attitudes and the extent to which a failure to address adequately consumer concerns in this area could put consumer engagement at risk.

10. In July 2011 Ofgem published the findings of its Consumer First Panel on Smart Metering Data Privacy Issues¹⁰. This painted a complex picture of consumer attitudes, which may change over time. Its broad conclusions were:

- most customers are not unduly concerned about suppliers or network companies having access to their consumption data but are concerned this could lead to more unwelcome

¹⁰ Ofgem's Consumer First Panel comprises 100 ordinary domestic customers

contact through sales and marketing and do not want the data to be used to sell them new products without their explicit consent;

- a small number of customers do have wider concerns about how the data would be used and it would be important that there is at least some route for them to opt out of providing more detailed data (and indeed many consumers would prefer “opt in”);
- consumers generally have low awareness of current data protection legislation and would value reassurance that their data will be handled in a clear, sensitive and transparent way;
- consumers are unclear about which other third parties might have access to their data and are concerned again about this leading to increased sales and marketing. They would expect any other third parties to have to obtain explicit consent for use of the data, apart from government, where there is some recognition that aggregated data may be needed to manage future energy supply and demand for example.

11. In responses to the Prospectus consultation, the main privacy concerns that were being raised by consumer groups were in relation to more granular data (for example half-hourly data) that some consumers are concerned could give insights into their habits. Suppliers have highlighted in discussion with us, that there are some areas where they feel that half-hourly and daily data would be of value. We would welcome views on how such data may raise privacy concerns.

12. The response recognised the variety of smaller non-domestic customers and that any proposals in respect of data privacy should take full account of the range of customers in this sector, who may not be best served by a common approach. Throughout this call for evidence we would welcome views on any particular issues for the smaller non-domestic sector.

Question	
1.	Please submit any further evidence, such as surveys or consumer research, regarding privacy issues and smart metering. In particular is there evidence available about the extent of any potential consumer concerns about the availability of daily versus half-hourly data?

(b) Competition impact

13. As discussed in the Government response, there are potential competition implications if suppliers have easier access to consumption data than other potential providers of energy services. The energy services market is a market that the Government is keen to see develop, including through the provision of Green Deal offerings. As such it is very keen to understand how far differences in the arrangements for access could impact on the development of this market.

14. As set out above, third parties would need to obtain customer consent to access any data directly from the smart metering system. The technical arrangements for doing this are discussed further in Chapter 3. As set out in Chapter 3, there are two routes for consumers and third parties to access data – either by capturing the data that is sent over the Home Area

Network (HAN), which includes the near real-time energy use information being sent to the IHD, or by going via the Data and Communications Company (DCC).

15. In terms of capturing the data sent over the HAN, the consumer would need to use a 'bridging device' that provides an interface between the Smart Metering Equipment¹¹ in the home and, for example, the customer's computer. The consumption data would be available for analysis by the consumer and/ or could be provided to the energy supplier or third party. Widening access to this level of data granularity could allow the development of more sophisticated energy efficiency services (for example web tools, smart phone applications, advanced IHDs) levelling the playing field between suppliers and other players.

16. Where there would potentially be a difference, compared to access via the HAN, would be in terms of access to up-to half-hourly data available via DCC. Depending on the approach taken to the definition of regulated duties, and the exercise of choice by consumers, suppliers could have readier access to this granular data than other energy service companies. In particular suppliers have argued that they need access to half-hourly data to provide energy efficiency advice and to promote energy saving products. While these are an important component of the benefits case for smart metering, these are very much the areas where Government would be looking for new entrants to help grow and develop the market.

17. Government would be particularly interested to understand the views of existing and potential new providers of energy services.

Question

- | | |
|-----------|---|
| 2. | To what extent would different rules for access to data between suppliers and third parties be expected to impact on the development of an energy services market (in terms of product and tariff innovation and / or entry to the energy market by third parties)? What are the particular data uses to which these concerns apply? |
|-----------|---|

(c) Impact on benefits case – supplier-driven benefits

18. At the moment, there is limited evidence of the amount of benefits that can be delivered through supplier, network and third party access to different frequencies of smart metering data. As noted in the Response, larger suppliers (through the Energy Retail Association) have commissioned work to quantify the benefits that could be realised through having access to consumers' smart metering data at different levels of detail and on different bases (aggregated, sample etc). We welcome further analysis and evidence on the benefits of access to different levels of data.

19. To date, we have not received any substantiated evidence which demonstrates that more granular data (i.e. weekly, daily or half-hourly) is needed to deliver the business case. We recognise that there may be the potential for additional supplier-driven benefits if suppliers

¹¹ *Smart Metering Equipment* means equipment installed at the premises which, on the date of installation and on an enduring basis, complies with the *Smart Metering Equipment Technical Specifications*. (see also footnote 13)

were to have access to more granular data and that consumers may be willing to provide access to more frequent data for certain benefits and advice, but this needs to be balanced against the wider implications for competition and protection of personal data.

20. There are also questions about how this balance might change over time. In the initial stages of the roll-out, it will be particularly important to ensure that consumer confidence is maintained. Moreover, the value to suppliers of having access to data for different purposes may change over time, for example, as settlement rules change. It will therefore be important to allow for the policy to evolve over time.

21. Appendix 3 of the Data Access and Privacy Supporting Document to the Response set out potential uses of consumption data that we had identified, focussed in particular on the electricity sector. Through this call for evidence we are seeking further evidence on the different data uses that were identified in that Appendix and the implications for the benefits case of access to different levels of data for these purposes. We recognise that in a number of areas discussed in this document there are likely to be differences between the data in relation to gas compared to that for electricity. In response to the call for evidence we encourage you to consider the difference between gas and electricity and to differentiate your evidence for gas and electricity as appropriate.

Question

3. Are there any data uses, apart from those set out below, where the arrangements for access to data could have an impact on the benefits of the programme. How does this analysis differ for the gas market?

Energy Efficiency

22. Delivering the benefits of smart metering depends on consumers changing their energy consumption behaviour. Some of these benefits will be delivered through consumers having an In-Home Display (IHD), but they also depend on the take-up of energy efficiency advice and actions by consumers. The conclusions from the Energy Demand Research Project (EDRP)¹² were that delivery of energy savings was greater where the direct feedback from an IHD was supported by indirect feedback through bills for example, which would rely on the supplier having accurate monthly data. Suppliers have suggested that with access to more granular data the energy savings delivered could be significantly increased, but that they would not be able to persuade consumers to take-up this advice without being able to first demonstrate the value to them, which, they argue, requires consumers to provide this data as the default.

23. We are aware that this is an area where all parties are continuing to trial different approaches and understanding the best ways of engaging consumers can be expected to develop through the Foundation Stage. However, in the meantime, we would be interested in the results of any trials which might help Government to understand the behavioural impacts of parties having access to different levels of data and the likely take-up/ interest in such services.

¹² <http://www.ofgem.gov.uk/sustainability/edrp/Pages/EDRP.aspx>

24. This is also the area where the links with the development of competition in the energy services market are most relevant, and further thinking is needed on how far the programme expects these additional benefits to be driven by suppliers, as opposed to the wider market.

25. The Response noted that while suppliers do have obligations to provide energy efficiency advice on request and in specific circumstances, they currently comply with this obligation through the provision of generic advice. While access to detailed data might allow the provision of more tailored advice this data was not necessary to fulfil suppliers' regulated duties in this area.

Question

- 4. What types of energy services and energy advice could be provided by the market (by suppliers and / or ESCOs / potential new entrants) that require access to specific levels of data? What level of data granularity (frequency, time-lag) are needed to provide such services and what is the potential impact of these services in terms of percentage energy savings? Please provide empirical examples and explain the basis of any assumptions and distinguish between gas and electricity.**

Theft

26. Energy theft is a problem for suppliers and network operators with all customers bearing the costs of energy that is not paid for. The Government's Impact Assessment (IA) indicates that £237 million could be avoided through the use of smart meters to reduce energy theft.

27. The Response noted that there may be a case for theft management to be a regulated duty for which suppliers should have access to a certain level of smart metering data and tamper alerts, but with further work needed to confirm what level of smart metering data is required. The availability of accurate meter readings and tamper alerts will enable suppliers to manage theft much more easily than at present, as reflected in the IA. The question is how much benefit there would be from allowing access to different levels of data for theft management.

28. Suppliers have argued that having access to daily meter readings would allow them to track patterns of energy use much more closely and identify potential cases of theft.

29. Ofgem will be consulting shortly on improved industry arrangements for theft management in gas. We will take account of any developments in deciding on the approach to privacy in this area.

Question

- 5. Should theft management be considered a regulated duty for which suppliers should have access to a certain level of smart metering data? What level of data would be required and how would this be used to manage theft? Please**

	provide practical examples.
6.	Does data need to be collected from all customers all of the time, for theft management, or could there be a trigger for accessing more detailed data (for example where theft is suspected)?

Time of Use tariffs

30. One of the benefits of smart metering is that it enables the introduction of more specific time-of-use tariffs which can provide an incentive for customers to shift their load away from peak times reducing cost and helping protect security of supply.

31. Suppliers have argued that they need access to half-hourly data from all smart meter customers to enable them to design and promote these tariffs.

32. The Response highlighted that the benefits are only delivered if these tariffs are taken up by consumers who will actually shift their load and not simply customers who already have a flatter profile. It highlighted the need for further work to understand how far anonymised or aggregated data could be sufficient to help in designing tariffs, recognising that where customers did take-up a time-of-use tariff then suppliers should be entitled to have access to half-hourly data to enable billing and settlement to take place on an appropriate basis.

33. In addition, there are issues we need to understand about how such tariffs could be promoted and offered to consumers (whether by the existing supplier or by alternatives, for example through switching sites) and the data required for this, given the need to ensure as far as possible that consumers will achieve financial savings by doing so, and also the need to promote competition.

Question	
7.	What level of take-up of time-of-use tariffs could be expected under different scenarios for access to data? What information is needed to design time of use tariffs? In particular would sample or anonymised data be sufficient?

Settlement

34. In the electricity market, suppliers have to purchase an amount of electricity that matches the amount they provide to their end customers. This is done through a process known as settlement. Suppliers have to “settle” on a half-hourly basis with higher charges at peak times.

35. While larger industrial customers already have half-hourly meter reading, allowing their consumption to be fed directly into settlement, for domestic and smaller industrial and commercial customers, suppliers only know total consumption on an aggregated basis, which is then apportioned across half-hourly periods based on typical “profiles”.

36. Further work is being done by Elexon looking at the benefits of moving to greater use of half-hourly meter readings for settlement, but at this stage there is no requirement on suppliers to settle individual customers using half-hourly readings, and there are significant barriers to them doing so for domestic customers, in terms of the process and systems implications, as well as the handling of other costs, such as distribution charges.

37. The Response noted that at this stage suppliers do not need access to half-hourly data to meet their obligations in relation to settlement but that changes could be made over time to the settlement rules which might require it. The question of how best to allow the privacy framework to evolve to accommodate such changes is considered further below.

38. Even with a move to half-hourly settlement, we believe that the settlement bodies would only require the data in aggregated form.

Question

- | | |
|-----------|--|
| 8. | Do you agree that individual half-hourly data is not currently required for suppliers to meet their obligations in relation to settlement? Over what timescale are any changes to settlement likely to take place and what might the implications be in terms of data requirements? |
|-----------|--|

Wholesale hedging

39. Wholesale hedging is a commercial activity linked to the settlement issue discussed above. Suppliers will typically buy a large proportion of their energy needs in advance and will need to do so for half-hourly slots. The better the information they have on their customers' usage, the better they will be able to forecast their future energy demands and buy ahead what they need and manage their costs.

40. The Response noted that further work was needed on how far aggregated or sample data could meet suppliers' needs in this area.

Question

- | | |
|-----------|---|
| 9. | How far would aggregated or sample data provide suppliers' with what they need in the area of wholesale hedging? Please provide examples of how the data would be used and where possible quantify potential benefits and costs. |
|-----------|---|

Debt management

41. Suppliers have argued that having access to daily meter reads would allow them to identify customers in payment difficulty and help ensure that debt levels are not building up. The Response noted that further information is needed from suppliers about how this would work in practice and whether this could be dealt with on a case by case basis, rather than by requiring smart meter data from all consumers.

42. The provision of accurate readings and the ability for customers to track their own usage through the IHD will help in reducing debt build-up. The question is what benefits, if any, there would be in suppliers having access to more frequent consumption data.

Question	
10.	What level of data would be required and how would this be used to manage debt? Please provide practical examples.
11.	How would suppliers envisage using daily data to support debt management and what evidence do they have to support claims of additional savings that could be achieved with access to daily data as opposed to less frequent data?

Protection of vulnerable customers

43. Consumer groups have highlighted the potential for smart metering data to be used to help in identifying and protecting vulnerable consumers, for example by monitoring self-disconnection.

44. The Response noted that the programme would consider whether there are any circumstances in which using smart meter data to identify and protect vulnerable customers, and other vulnerable members of the household, should be considered a regulated duty and whether any additional obligations need to be placed on suppliers in this context.

Question	
12.	How could smart metering data be used to identify and protect vulnerable consumers? Should such activity be considered a regulated duty and are any licence changes needed to create particular duties on suppliers in this area?

(d) Network companies

45. In the Response, it was acknowledged that network operators have important duties in terms of planning, building and operating networks and that it is important they do this cost effectively. In future, network operators will need to respond to changing requirements as more distributed generation is connected, and as individual consumer load patterns change and become more diverse, through take-up of equipment such as heat pumps or electric vehicles. Detailed smart metering data may assist network operators in responding to these changes and in maintaining continuity of supply while minimising the need for increased investment. For network operators, the majority of information that they will require to carry out their licence obligations at the beginning of the smart metering programme may be aggregated or anonymised and so be unlikely to comprise personal data. Subject to provision by network companies of evidence as to the level of smart metering data they would need, the Response indicated that there may be a case for considering some of these uses as regulated duties.

However, it was suggested that network operators should be expected to utilise aggregated or anonymised data wherever possible.

46. We are aware that network operators are continuing to work on understanding the sort of data to which they might need access. Current trials, such as those being taken forward under the Local Carbon Networks Fund, will be helpful in providing more clarity.

47. In the meantime the programme would welcome views on how the arrangements might work in relation to network operators if their use of data was to be considered as discharging a regulated duty. In particular if there were to be a requirement on network operators to utilise aggregated or anonymised data where possible, there is a question about how this would be monitored. For example network operators could simply be required to comply or they could be required to demonstrate in particular cases where individual data was required or to produce an annual statement setting out in detail what data they collect and how it is used. The question of how any anonymisation or aggregation might be performed is considered at (f) below.

Questions	
13.	Do you consider that use of data by network companies to support them in maintaining an efficient and economic network should be considered a regulated duty?
14.	Do you agree with the requirement for such data to be anonymised or aggregated wherever possible, and how should this be monitored?
15.	Would suppliers be expected to advise consumers of network company usage of data given network companies do not have a direct relationship with customers?

(e) Choice mechanisms

48. In the Response we acknowledged that the question of how consumer choice is given effect could have a significant impact on the numbers of customers providing access to their data and hence on the benefits that are delivered.

49. The Response noted that Government can see the strength of the arguments for requiring industry to obtain explicit, informed consent to access smart metering data, beyond what is required to fulfil regulated duties. It said that further work would be undertaken to evaluate the impact of different choice mechanisms and how consumer preferences should be collected.

50. Behavioural science suggests that consumers will tend to go with whatever is the default option presented to them¹³. Suppliers' experience of getting consumers to actively opt-in to

¹³ Cabinet Office, [Behaviour Change and Energy Use](#), July 2011

particular schemes or offers is that take up is generally very low, although this will inevitably depend on the precise terms of the offer.

51. We are interested in understanding the options that stakeholders could envisage in terms of when and how choices might be presented to customers. For example, could options for access to different levels of data be presented to the consumer more neutrally as alternative settings as part of “configuring” the smart metering system? If this were done linked to the installation visit, this could ensure the necessary response rate, although consumers may need the options presented to them, in writing, in advance of the visit if they are to be in a position to consider them properly.

52. There are also issues about avoiding making the range of choices too complex, while allowing consumers to have a genuine choice about the level of access they provide.

53. The choice about providing access to data is not necessarily a one-off decision. We would be interested to know if there is any evidence that consumers who receive basic energy information that they find helpful might then be more readily persuaded subsequently to “upgrade” to getting more tailored reports linked to provision of their more granular data. This could be an interesting area for pilots as part of the “test and learn” phase in the Foundation Phase.

Questions	
16.	Are there any alternatives to a basic opt-in or opt-out approach to consumer choice such as some form of prompted choice? What are the practical and consumer protection considerations in relation to different options (for example when and how)? From a consumer perspective what alternative approaches and vehicles (for example letter, email, phone) to seek customer consent are there?
17.	What evidence is there of likely take-up rates that could be achieved through different approaches to consumer choice?

(f) Data minimisation

54. In the Response, we highlighted the role that data minimisation could play in addressing privacy issues, in line with best practice and privacy by design principles. For the majority of smart metering data, it is only when the consumption data is able to be combined with other information relating to an individual, that it becomes personal data. We said that we would consider where data could be collected from a sample of set of meters or aggregated so it would not be possible to identify a “living individual”.

55. In a number of areas (particularly on networks but also for some supplier uses) it is clear that many of the benefits could be achieved through having aggregated or anonymised data which could avoid privacy issues. However there are technical questions around how this could be delivered and whether it is necessary for the data to be accessed by a party that carries out the data minimisation. Privacy enhancing technology can potentially enable anonymised or aggregated data to be provided without any party having access to the personal

data itself. The programme would welcome any suggestions as to how privacy enhancing technologies could be applied to the smart metering system.

Questions

- | | |
|------------|--|
| 18. | What current and future technical options exist for energy consumption data minimisation / privacy enhancing technologies? How might aggregated or anonymised data be provided in practice? Would this imply additional services to be provided by DCC? |
|------------|--|

(g) The regulatory approach

56. The Response noted that the Data Protection Act is general legislation that provides a framework for the use and management of personal data. In the context of a mandated roll-out of smart meters however, it is important that there is clarity over who has rights to what data and the basis on which it is collected. The Information Commissioner has confirmed that it would be wholly appropriate, in due course, for the programme to propose sector specific rules to clarify what are and are not legitimate uses of data in the energy market, provided this is consistent with the DPA.

57. The Response set out the Government approach to sector specific protection noting that this would need to be reflected in regulation, for example through licence obligations. It noted that further work was needed on options for reviewing and amending the list of regulated duties recognising that these would need to evolve over time to reflect changes in the wider energy market.

Questions

- | | |
|------------|--|
| 19. | What parts of the privacy policy framework do you think should be delivered by regulation and why? |
| 20. | What is the most effective way to set out any sector specific protections around privacy (e.g. licence conditions or other alternatives)? |

3. Data Access

3.1. Introduction

1. This chapter deals with the arrangements around how consumers, and third parties that they authorise (other than network companies or the customer's supplier), would gain access to data. As set out above it is clear that to gain access to data these third parties would need explicit, informed consent from the consumer. The Response document made clear that many of the benefits of smart metering come from the potential to encourage innovation in new products and services and the development of a market for energy services. It is therefore important that the arrangements put in place do not discourage new entry while at the same time ensuring that consumers' interests are protected.

2. The Business Process Design Group (BPDG) and Smart Meter Design Group (SMDG) have been looking at some of the technical and process issues around access to data. Representation on these groups is focussed around existing industry players and the programme is therefore particularly keen, through this call for evidence, to get views of others who may have an interest in gaining access to data such as switching sites, energy services companies (ESCOs) and others.

3. Some of the routes for providing access to data would have implications for the role of the DCC. At this stage it is not envisaged that DCC would store any data or have any sort of consumer-facing role. However, depending on the responses, there may be a need to consider options for future development of DCC's role to include additional responsibilities linked to authentication of data access requests. This could potentially be linked to the inclusion of meter registration within DCC's scope.

3.2. Summary of Government response

4. The Response document highlighted that enabling consumers to readily access their data is key to providing the information they need to better manage their energy use. The Government has already decided that domestic consumers should be provided with an IHD giving near real-time feedback on energy use. Consumers may also want to access historical data, or to provide their granular consumption data to a third party. To facilitate this the Response included the requirement for thirteen months of half-hourly data to be stored within the smart metering system.

5. The Response document identified two ways in which this data could then be accessed:

- either locally via an IHD or data capture device (for example a connection to a PC or web portal via the Smart Metering HAN)
- or remotely via suppliers or DCC.

6. The Response noted that further work was needed to establish in more detail how such access would be provided, balancing the needs for appropriate protections with the need to make the process easy to use and hence support the development of innovative services. In

the Response, the Government committed to evaluate the options for providing mechanisms for data sharing and how consent should be given.

3.3. Key issues

(a) Access to data via the Smart Metering Equipment in the home

7. As set out in the Response, the IHD provided with the Smart Metering Equipment will give consumers significant information about their energy use. However, it is important that customers can readily access data via other interfaces should they wish. We expect innovation in terms of the range of IHDs and products that interface with the smart metering system on the market and see this as key to helping deliver the benefits of the programme.
8. Over the Smart Metering HAN (SMHAN) it will be possible for consumers to gain access to the 13 months of half-hourly data that is stored in the meter and also to the near real-time updates of usage that are transmitted. The consumer can then capture this information through a “bridging device” for their own use, or for sharing with third parties should they wish to do so.
9. In setting minimum specifications for the data to be supported on the SMHAN, consideration has been given to the need to support functionality beyond that required for the minimum specification IHD. For example although carbon will not be required to be displayed on the minimum specification IHD, the information could be available if provided as a HAN data item by the relevant supplier, over the SMHAN if, for example, other display providers wish to include it.
10. It is important that the customer experience in this area is positive and that the process of attaching new devices to the HAN is as simple as possible. However, it is also important that security arrangements prevent unauthorised access (for example someone outside the home attaching a device to the HAN) and preserve the integrity of the “end to end” smart metering system.
11. The technical specification which is discussed in the roll-out consultation¹⁴ explores the technical means by which additional devices could be connected to the SMHAN and introduces the concept of a logically separate “Consumer HAN” which would allow devices to be connected while preserving the security and integrity of the SMHAN. Devices attached to the Consumer HAN would have a more limited set of permissions so that they could, for example, capture the data that is being transmitted over the HAN but could not interfere in any way with the core smart metering functionality. The technical solutions in terms of some form of “bridging device” or gateway are discussed further in Industry’s Draft Technical Specification¹⁵.
12. Regardless of the technical solution for preserving the integrity of the SMHAN, there will be a need for some form of authentication to ensure that the devices being attached to the HAN belong to that consumer in order to prevent the consumers’ data being captured by someone else in close proximity to the property.

¹⁴ DECC, *A consultation on draft licence conditions and technical specifications for the roll-out of gas and electricity smart metering equipment*, August 2011

http://www.decc.gov.uk/en/content/cms/consultations/cons_smip/cons_smip.aspx

¹⁵ The *Industry’s Draft Technical Specifications* available at

http://www.decc.gov.uk/en/content/cms/tackling/smart_meters/smdg/smdg.aspx

13. Discussions are ongoing with industry and other stakeholders as to the most appropriate solution in this area and how the “pairing” could be achieved in as simple a way as possible for the consumer. The concept is similar to that of attaching a new device to a Wi-Fi network in the home and is likely to need the customer to enter some form of code. Further work is needed on how that code might be provided – using a code that is permanently displayed on the meter (such as the meter reference number) would be simplest, but would be less secure, given the meter may be in a public space, than requiring the consumer to go through some form of check before the code is issued. Moreover the programme is aware that even that level of complexity may be beyond many consumers and there may be a need for suppliers or authorised third parties to provide a help desk service. Further work is needed to consider how far suppliers’ responsibilities should extend in relation to additional devices that the consumer may wish to attach to the HAN.

Questions	
21.	What practical options for authentication would provide the right balance between allowing easy access to consumer data in the home while providing the necessary privacy protection? Are there any other issues or options that the programme should be considering in developing the approach in this area?
22.	Are there other issues that need to be considered to make using the HAN a viable route for access to data in the home, from either a process or consumer perspective?

(b) Access to data via DCC

14. As noted above, the alternative approach for obtaining access to data is that third parties who have explicit, informed consumer consent would be able to access data via DCC. Again the aim is for this arrangement to be easy to allow new services to develop but also recognising the importance of having appropriate arrangements in place to protect consumers’ data. Further thinking has been done through BPDG on how this could work in practice and what the extent of DCC’s role in validation and authentication should be.

15. One option for how data access via DCC could work would be:

- third parties would need to be signatories to the Smart Energy Code (SEC)¹⁶;
- as a part of this they would be contractually committed to only requesting data where they have appropriate authority (which would include making clear to the customer in advance what data would be collected);
- third parties would also be required under the SEC to inform customers annually if they are collecting data on an ongoing basis (rather than just a one off request) and if so how to cancel the arrangement;

¹⁶ The Smart Energy Code (SEC) will be established, spanning gas and electricity, to provide arrangements for the introduction and ongoing operation of the end to end smart metering system. Among other things, the Code will detail the relationships between DCC and the users of its services around the new data and communications activities. Suppliers, network operators and other users of DCC’s services will also need to comply with the Code.

- under the SEC, third parties would need to take certain steps to authenticate that the request came from the consumer;
- DCC would check that the third party submitting the request for data was authorised to have the level of access requested (for example meter reading data could be collected but disconnection would not be permitted);
- DCC would keep a record of all requests and would commission independent audits from time to time to ensure that third parties had the necessary consents;
- a failure by a third party to comply with the requirements of the SEC could lead to them being prevented from gaining access to data via DCC in future and could also constitute a breach of the DPA which would be taken forward by the ICO.

16. With these protections in place it should be possible for third parties to gain near-instant access to the customer’s data, which may be critical for certain services (such as switching sites).

17. One area where further work is needed is in relation to the level of authentication that the third party would be expected to provide. For example, as a minimum an obligation could be placed on the third party (through the SEC) to take appropriate steps to check that the consumer is who they say they are. A more robust approach could involve the provision of individual “PIN” numbers which the consumer would have to provide but this could be more complex for the consumer and more costly.

18. More stringent arrangements are likely to be required if third parties wish to be able to offer load control as part of energy services package. Such services might be able to be developed over time but may be dependent on DCC having meter registration data and hence having to play a stronger role in the authentication of such requests.

19. Further work will be needed to ensure that appropriate protections are in place to accommodate these more advanced services but also to ensure that existing industry participants do not gain an unfair advantage in this emerging market.

20. It is expected that where a supplier is providing energy services to a customer for whom they are not the energy supplier they would need to follow the same arrangements as other third parties.

Question

23. What sort of arrangements would provide an appropriate balance between providing ease of access for consumers seeking to sign up to new services and adequate protection for consumers’ data when accessed via DCC? Do you have any suggestions for alternative approaches?

(c) Foundation and Non-domestic Customers

21. The Response document highlighted the additional complexities that arise in the Foundation stage and for non-domestic customers where DCC is not being used. For these customers the expectation is that access to data would need to be achieved either locally or via the supplier.

22. For metering systems that do not comply with the technical specification, there will inevitably be problems with interoperability and consumers may not be able readily to connect additional devices to the HAN. However, it should be possible at a practical level for consumers to get access to the data via their suppliers.

23. Many of the issues around third parties gaining access to data in the non-domestic sector are already being considered in the context of existing advanced metering systems. We will work with industry to understand what the issues are with the current arrangements and how these might be addressed.

Question	
24.	Are there other issues or options that the programme should be thinking about for the Foundation Stage or for non-domestic customers to facilitate access to data?
25.	Do you have any suggestions as to how the Foundation Stage can be used to further learn about our approach to data access and privacy?

Annex 1 Digest of questions

1.	<p>Please submit any further evidence, such as surveys or consumer research, regarding privacy issues and smart metering. In particular is there evidence available about the effects of the availability and aggregation levels of more granular data (for example daily)?</p>
2.	<p>To what extent would different rules for access to data between suppliers and third parties be expected to impact on the development of an energy services market (in terms of product and tariff innovation and / or entry to the energy market by third parties)? What are the particular data uses to which these concerns apply?</p>
3.	<p>Are there any data uses, apart from those set out below, where the arrangements for access to data could have an impact on the benefits of the programme. How does this analysis differ for the gas market?</p>
4.	<p>What types of energy services and energy advice could be provided by the market (by suppliers and / or ESCOs / potential new entrants) that require access to specific levels of data?</p> <p>What level of data granularity (frequency, time-lag) are needed to provide such services and what is the potential impact of these services in terms of percentage energy savings?</p> <p>Please provide empirical examples and explain the basis of any assumptions and distinguish between gas and electricity.</p>
5.	<p>Should theft management be considered a regulated duty for which suppliers should have access to a certain level of smart metering data? What level of data would be required and how would this be used to manage theft? Please provide practical examples.</p>
6.	<p>Does data need to be collected from all customers all of the time, for theft management, or could there be a trigger for accessing more detailed data (for example where theft is suspected)?</p>
7.	<p>What level of take-up of time-of-use tariffs could be expected under different scenarios for access to data? What information is needed to design time of use tariffs? In particular would sample or anonymised data be sufficient?</p>

8.	Do you agree that individual half-hourly data is not currently required for suppliers to meet their obligations in relation to settlement? Over what timescale are any changes to settlement likely to take place and what might the implications be in terms of data requirements?
9.	How far would aggregated or sample data provide suppliers' with what they need in the area of wholesale hedging? Please provide examples of how the data would be used and where possible quantify potential benefits and costs.
10.	What level of data would be required and how would this be used to manage debt? Please provide practical examples.
11.	How would suppliers envisage using daily data to support debt management and what evidence do they have to support claims of additional savings that could be achieved with access to daily data as opposed to less frequent data?
12.	How could smart metering data be used to identify and protect vulnerable consumers? Should such activity be considered a regulated duty and are any licence changes needed to create particular duties on suppliers in this area?
13.	Do you consider that use of data by network companies to support them in maintaining an efficient and economic network should be considered a regulated duty?
14.	Do you agree with the requirement for such data to be anonymised or aggregated wherever possible, and how should this be monitored?
15.	Would suppliers be expected to advise consumers of network company usage of data given network companies do not have a direct relationship with customers?
16.	Are there any alternatives to a basic opt-in or opt-out approach to consumer choice such as some form of prompted choice? What are the practical and consumer protection considerations in relation to different options(for example when and how)? From a consumer perspective what alternative approaches and vehicles (for example letter, email, phone) to seek customer consent are there?
17.	What evidence is there of likely take-up rates that could be achieved

	through different approaches to consumer choice?
18.	What current and future technical options exist for energy consumption data minimisation / privacy enhancing technologies? How might aggregated or anonymised data be provided in practice? Would this imply additional services to be provided by DCC?
19.	What parts of the privacy policy framework do you think should be delivered by regulation and why?
20.	What is the most effective way to set out any sector specific protections around privacy (e.g. licence conditions or other alternatives)?
21.	What practical options for authentication would provide the right balance between allowing easy access to consumer data in the home while providing the necessary privacy protection? Are there any other issues or options that the programme should be considering in developing the approach in this area?
22.	Are there other issues that need to be considered to make using the HAN a viable route for access to data in the home, from either a process or consumer perspective?
23.	What sort of arrangements would provide an appropriate balance between providing ease of access for consumers seeking to sign up to new services and adequate protection for consumers' data when accessed via DCC? Do you have any suggestions for alternative approaches?
24.	Are there other issues or options that the programme should be thinking about for the Foundation Stage or for non-domestic customers to facilitate access to data?
25.	Do you have any suggestions as to how the Foundation Stage can be used to further learn about our approach to data access and privacy?

© Crown copyright 2011
Department of Energy & Climate Change
3 Whitehall Place
London SW1A 2AW
www.decc.gov.uk

URN 11D/838