



House of Commons
Committee of Public Accounts

Preparations for the roll-out of smart meters

Sixty-third Report of Session 2010–12

*Report, together with formal minutes, oral and
written evidence*

*Ordered by the House of Commons
to be printed 14 December 2011*

HC 1617
Published on 17 January 2012
by authority of the House of Commons
London: The Stationery Office Limited
£13.50

Committee of Public Accounts

The Committee of Public Accounts is appointed by the House of Commons to examine "the accounts showing the appropriation of the sums granted by Parliament to meet the public expenditure, and of such other accounts laid before Parliament as the committee may think fit" (Standing Order No 148).

Current membership

Rt Hon Margaret Hodge (*Labour, Barking*) (Chair)
Mr Richard Bacon (*Conservative, South Norfolk*)
Mr Stephen Barclay (*Conservative, North East Cambridgeshire*)
Jackie Doyle-Price (*Conservative, Thurrock*)
Matthew Hancock (*Conservative, West Suffolk*)
Chris Heaton-Harris (*Conservative, Daventry*)
Meg Hillier (*Labour, Hackney South and Shoreditch*)
Joseph Johnson (*Conservative, Orpington*)
Fiona Mactaggart (*Labour, Slough*)
Mr Austin Mitchell (*Labour, Great Grimsby*)
Nick Smith (*Labour, Blaenau Gwent*)
Ian Swales (*Liberal Democrats, Redcar*)
James Wharton (*Conservative, Stockton South*)

The following Members were also Members of the committee during the parliament:

Dr Stella Creasy (*Labour/Cooperative, Walthamstow*)
Justine Greening (*Conservative, Putney*)
Eric Joyce (*Labour, Falkirk*)
Rt Hon Mrs Anne McGuire (*Labour, Stirling*)

Powers

The powers of the Committee are set out in House of Commons Standing Orders, principally in SO No 148. These are available on the internet via www.parliament.uk.

Publications

The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the internet at www.parliament.uk/pac. A list of Reports of the Committee in the present Parliament is at the back of this volume. Additional written evidence may be published on the internet only.

Committee staff

The current staff of the Committee is Philip Aylett (Clerk), Lori Verwaerde (Senior Committee Assistant), Ian Blair and Michelle Garratty (Committee Assistants) and Alex Paterson (Media Officer).

Contacts

All correspondence should be addressed to the Clerk, Committee of Public Accounts, House of Commons, 7 Millbank, London SW1P 3JA. The telephone number for general enquiries is 020 7219 5708; the Committee's email address is pubaccom@parliament.uk.

Contents

Report	<i>Page</i>
Summary	3
Conclusions and recommendations	5
1 Managing this challenging programme	7
2 Minimising costs and securing the benefits for all consumers	10
Formal Minutes	12
Witnesses	13
List of printed written evidence	13
List of Reports from the Committee during the current Parliament	14

Summary

Under European Directives, all member states are required to install ‘intelligent metering systems’ – smart meters – to at least 80% of domestic electricity consumers by 2020. The UK Government has opted for a more challenging programme, with plans for energy suppliers to install smart electricity and gas meters in all homes and smaller non-domestic premises in Great Britain by 2019. We welcome the introduction of smart meters, but have concerns over the way the programme has been planned. The Department of Energy and Climate Change (the Department) estimates that the smart meters programme will cost some £11.7 billion. This is a large complex programme requiring replacing around 53 million gas and electricity meters with significant uncertainties over the estimated costs and benefits involved.

In particular, it is far from certain that all consumers will benefit from the regulatory requirement placed on suppliers to install smart meters in their homes. We recognise however that the Department will work to ensure that consumers do benefit from being able to monitor their energy costs. The costs of installing smart meters will be borne by consumers through their energy bills, but many of the benefits accrue in the first instance to energy suppliers. No transparent mechanism presently exists for ensuring savings to the supplier are passed on to consumers, and the track record of energy companies to date does not inspire confidence that this will happen.

The Department has acknowledged that it is accountable for delivering the programme, keeping the costs down and ensuring that consumers benefit through reduced bills from the lower costs borne by suppliers and reduced energy use. The Department insists that suppliers are best placed to deliver the programme and that competition between energy suppliers is the best way to ensure consumers benefit from suppliers’ savings. We are concerned, however, that past performance suggests that competition does not work effectively in this market and should not be relied on to keep prices low.

There remain significant uncertainties in a number of key areas in the programme. Consumers may not be willing to cooperate with the installation of smart meters: the communications programme which is promised for 2012 is therefore absolutely vital to help consumers use smart meters to reduce consumption. Significant practical difficulties may arise in procuring and installing the required data communications service before the planned roll-out of smart meters in 2014 (at a projected cost of £3 billion). The Department needs to address remaining uncertainties by conducting proper trials to identify and manage the risks associated with an IT project involving such a substantial amount of money which is financed by individuals as consumers.

The Department needs to ensure that the vulnerable, those on low incomes and those who use prepayment meters also benefit from smart meters. It would be unacceptable if these consumers bore the costs of smart meters through higher charges without getting a share of the potential benefits. The Government must put in place measures to ensure vulnerable people are not readily disconnected if they fall behind with payments.

There are issues around cyber security which need to be addressed if confidence in this

new technology is to be gained by the population who are expected to have smart meters in their home and pay for them.

On the basis of a report by the Comptroller and Auditor General,¹ we took evidence from the Department on preparations for the roll-out of smart meters, including the procurement of the Data Communications Service.

¹ C&AG's Report, *Department of Energy and Climate Change: Preparations for the roll-out of smart meters*, HC (2010-12) 1091

Conclusions and recommendations

- 1. Consumers will have to pay energy suppliers for the costs of installing smart meters through their energy bills, but many of the benefits will pass in the first instance to the energy suppliers.** The costs of installing smart meters will not be transparent in consumers' bills. Energy suppliers will benefit significantly from smart metering, for example, through cost savings on staff associated with automated meter reading. We are sceptical that suppliers will pass on these benefits in full to consumers, given their track record and the failures of suppliers to reduce retail prices promptly when wholesale energy costs have fallen. The Department needs to build consumer trust by ensuring suppliers report transparently the costs and savings of smart metering and the Department should set out clearly how it will review suppliers' implementation plans and monitor their performance and the information they give to ensure that the benefits are shared with consumers. The Department is relying on competition to drive down prices, but Ofgem have clearly found that the energy market is not functioning effectively as a competitive market. The Department must act to ensure open competition does prevail.
- 2. The benefits of smart meters can only be fully realised if there is widespread take-up and consumers use them to reduce their energy bills, yet the role of suppliers in helping to achieve this remains undefined.** To benefit from smart meters consumers will need to change their behaviour in response to the information the meters provide on consumption and costs, and change tariff and supplier where necessary to secure the best deal. The Department has some public funding for helping consumers to understand how to make best use of smart meters, and we await its consumer energy strategy due to be published in 2012. The Department should clearly set out what energy suppliers' responsibilities will be for engaging with consumers to deliver the benefits; and how they will be held accountable to both the Department and consumers. The Department should also set out how it proposes to engage and inform consumers of the potential benefits to them. Furthermore, smart meters have a limited life and the Department, working with industry, should make absolutely clear the potential costs beyond the next decade.
- 3. The benefits from smart meters may not reach vulnerable consumers, those on low incomes and those who use prepayment meters.** Already at a significant disadvantage when energy costs rise, the vulnerable, elderly and those on low incomes are at risk of not benefiting from smart metering. Introducing smart meters in this way by expecting consumers to pay for the installation is of itself regressive. Some consumers are not knowledgeable about energy suppliers and tariffs, which are difficult to understand, some do not have a bank account, so will miss out on savings from using direct debits, and some choose prepayment meters to allay the fear of disconnection. The Department should set out how it intends to ensure vulnerable and low income consumers do not miss out on the benefits from smart metering. The Department must also ensure protocols are in place to ensure that vulnerable customers are not automatically disconnected if they fall behind with payments.

4. **Trials so far have been inconclusive about consumers' willingness to cooperate with the installation process and to use smart meters to reduce their energy consumption.** There are also uncertainties around the practicalities of the proposed timetable for procuring a new system, installing the data communications system, and the rolling-out of smart meters to every home in Great Britain. The Department told us it expects to gather more evidence during the two years remaining before the start of the roll-out in 2014. To make the best use of this time, the Department should identify the remaining uncertainties and address these by conducting proper trials to gather the robust evidence it needs to identify and manage the remaining risks.
5. **The data communications service required to link smart meters to suppliers is a complex IT project that may cost as much as £3 billion.** There is a risk that the smart metering system may not be able to support the development of smart grids, designed to better match electricity supply and demand, without incurring additional expenditure to modify or upgrade the meters and the data communications system. We expect the Department to take on board the lessons learned from other large Government IT programmes and to ensure that the contracts they place are sufficiently flexible to cater for smart grids and avoid additional costs falling to consumers.
6. **The Department and energy suppliers face significant challenges to install smart meters in every home in the country.** The Department is confident that it has adequately accounted for the risks involved in the smart metering programme, particularly the risk of cost escalation. We note these assurances, but do not share the Department's optimism. We expect the Department to proceed on the basis of detailed plans underpinned by robust evidence. We welcome the Department's confirmation that it will be reviewing progress and could pull the plug or subsequently rethink its approach if the programme is not delivering for consumers. The Department should report to this Committee in 2013 on: its progress in addressing the issues we have raised; the reasons for any further changes in the estimated costs and benefits from proceeding with the roll-out in 2014; and its plans for monitoring and reporting on actual costs and benefits through the roll-out.

1 Managing this challenging programme

1. Under European Directives, all member states are required to introduce “intelligent metering systems” - smart meters – to at least 80% of domestic electricity consumers by 2020. The UK Government has opted to replace some 53 million existing gas and electricity meters in Great Britain with smart meters by 2019. The new meters will provide consumers with more sophisticated information, enabling households to monitor their energy usage, which the Government hopes will lead them to reduce their energy consumption. The Department of Energy and Climate Change (the Department) accepted that it was accountable for delivering this challenging programme on time and within budget and for realising the consumer benefits.²

2. The Department has decided that suppliers are the right people to install smart meters in people’s homes.³ Some suppliers want to get on with installing smart meters quickly, so they can start reducing their costs and attract new customers; while other suppliers are taking a more cautious approach.⁴ The Department’s view is that competition between energy suppliers is the best way to deliver benefits for consumers. However the track record in this market does not demonstrate that competition between suppliers is working in providing greater choice and driving down prices. We believe that suppliers are likely to see this programme, which requires them to visit every consumer, as an opportunity for them to sell more services.⁵

3. Suppliers will be required to offer smart meters to everyone and to take all reasonable steps to complete the roll-out by 2019. Consumers will not be forced to accept the installation of a smart meter and we think it unrealistic to expect every householder to volunteer for a smart meter over this timescale.⁶ Consumer groups told us that, in their view, the consumer engagement part of the smart meter programme was ‘nowhere near ready’.⁷ The Department estimated that around £100 million will be spent on consumer engagement work over the lifetime of the programme, of which the Government was providing £20 million over the next four years. But the Department had not yet worked out how this money will be used or how suppliers will contribute to this important aspect of the programme. The Department told us that its consumer engagement strategy, due to be published in 2012, would address how to promote widespread take-up and encourage consumers to actively engage with smart meters to reduce their energy consumption. It would also seek to support consumers to identify lower charges through using the most appropriate tariff offered by their supplier or other suppliers.⁸

4. One of consumers’ key concerns is their privacy and the security of their personal information and we understand there is a real threat of cyber attack on the smart metering

2 Q48

3 Q58

4 Q70

5 Qq45, 86

6 Q159

7 Q14

8 Qq131, 133, 174-175

communication system.⁹ The Department assured us that it has learned the lessons from the Netherlands' experience of public rejection of smart meters that privacy requirements need to be addressed seriously. The Department told us it had now undertaken risk mitigation work and had in place a plan to make sure that the smart metering system would not be at risk.¹⁰

5. One of the suppliers taking part in the roll-out made a strong case for further widespread piloting of smart meter installation before the main programme starts in 2014. Despite earlier trials, the supplier urged caution as there was still uncertainty in a number of areas including consumers' willingness to cooperate with the installation process.¹¹ While the Department had amassed evidence to support the programme it recognised that there had been weaknesses in the earlier trials and that there were some gaps in the evidence. It expected to gather more evidence during the two years remaining before the planned roll-out begins in 2014. The Department noted that it wanted to strike the right balance between getting enough evidence before proceeding and getting on with the roll-out.¹² Nonetheless, the roll-out of smart meters will be an enormous challenge with significant implementation risks. The sheer scale of the implementation programme will require installers to work at an unprecedented pace, raising concerns about suppliers' capacity to procure and install smart meters quickly and safely in the time available.¹³

6. The Department and suppliers had not yet agreed a specification for the data communications system needed to collect data from smart meters and make it available to suppliers and to support the proposed smart grid programme designed to better match electricity supply and demand. Unless there is joined-up planning for smart metering, the data communications system, and the longer-term proposed smart grid programme, consumers will face further substantial costs to modify or replace the relevant equipment.¹⁴

7. The data communications service being procured by the Department is a complex IT project in its own right that may cost as much as £3 billion. In response to our concerns about the risks to successful delivery of this project the Department noted that it would: review progress before concluding the procurement of the data communications system in 2012; and that it would be possible to pull the plug on the programme overall should that be necessary before roll-out in 2013.¹⁵

8. The challenges associated with the roll-out of the smart meter programme to every home in the country are huge. The Department is confident that it has adequately accounted for the risks involved in the complex and ambitious smart metering programme, especially cost escalation. This Committee does not share the Department's optimism and expects the

9 Q18

10 Q105, Q167-170

11 Qq14, 19

12 Q149

13 Qq4-5, 19

14 Qq150-151, 154

15 Qq52-53

Department to proceed only on the basis of detailed plans underpinned by robust evidence, preferably from further trials.¹⁶

16 Qq155, 159, 177

2 Minimising costs and securing the benefits for all consumers

9. The costs of the smart meter programme will fall to consumers through increased energy charges. The Department has estimated that by 2015 the programme will on average add a net £6 to all dual fuel customers' bills (£14 costs less £8 assumed savings from the benefits that consumers will be receiving by then).¹⁷ The Department estimates that if consumers engage with the programme in line with its forecasts, households could see a positive net benefit by 2017.¹⁸ However, consumers may find it easier instead to compare the estimated lifetime cost of £240 for a dual fuel meter with the range of potential benefits that may be achievable.¹⁹ Transparency in costs are essential if confidence in smart meters is to be achieved.

10. Suppliers stand to benefit significantly from the installation of smart metering, for example through the introduction of automated meter reading.²⁰ Of the £18.7 billion total benefits identified by the Department in its updated detailed benefits analysis £9 billion (48% of the total) were expected to accrue to suppliers.²¹ The Department argued that competition between suppliers would ensure that consumers secure the benefits from smart meters. Suppliers would shop around to get the best deal on the procurement of the meters and consumers could switch suppliers if they did not consider they were getting a good price or service. However experience to date suggests consumers find it very difficult to understand different tariffs, and the pricing structure and information provided by suppliers does not encourage competition. The Department was actively encouraging people to switch and smart meters could help consumers to see their energy costs and switch sooner.²²

11. We asked what safeguards were proposed to ensure that suppliers did not profit unfairly from installing smart meters in every home, for example by inflating costs or selling additional products.²³ We were also concerned about the Department's ability to ensure that suppliers pass their cost savings on in full to consumers.²⁴ Historically, suppliers have been quick to pass on higher charges to consumers but slow to reduce retail prices when wholesale energy costs fall.²⁵ The Department was confident that suppliers will pass the benefits of smart meters to consumers but we were not convinced that the Department had fully developed a strategy to achieve this.²⁶

17 Qq 8, 36-40, 123 -126, 131, 135

18 Q 40

19 Qq 131, 137

20 Q 113

21 DECC Consultation Document, Smart Metering Implementation Programme, August 2011, para 2, C&AG's Report, Figure 7

22 Qq 58-59, 68, 73, 114, 116

23 Qq 45-46

24 Qq 113-114

25 Qq 10, 12, 59

26 Qq 71, 113-115, 149.

12. The Department told us that it did not expect the cost of smart meters to be separately disclosed in energy bills as there are concerns that existing bills are too complex. Moreover, the cost of smart metering was only expected to account for around 1% of households' energy bills.²⁷ The Department told us it would, however, monitor costs and with Ofgem look at suppliers' accounts as it would be accountable for constraining the costs and delivering the benefits.²⁸ The Department was not clear, however, on how it proposed to ensure greater transparency for consumers about the cost of smart meters and about the way suppliers would pass on cost savings to consumers.²⁹

13. Many consumers already take advantage of ways to reduce their energy bills but there are others who do not. Participants in many of the trials undertaken have been energy savvy consumers, who were keen to participate in the programme and already recognised the scope for benefits from using smart meters to reduce their energy consumption.³⁰ It is by no means certain that the rest of the country will embrace the programme as willingly or will be able to switch to preferential tariffs. Some consumers do not have a bank account, precluding them from taking advantage of potential savings available from using direct debits.³¹ It would be naïve to expect competition alone to fully protect these consumers and there is a pressing need for simple, low cost tariffs, easy to understand.³² We were particularly concerned that vulnerable consumers should be protected from remote disconnection without proper engagement if they failed to pay their bills.

14. Vulnerable consumers, those on low incomes and those who use prepayment meters, who are already at a significant disadvantage when energy costs rise, are also at risk of not being able to take advantage of the benefits of smart metering, and the method chosen by the Department to introduce smart metering by charging every customer for the cost of the meter and its installation is by its nature regressive.³³ The Department told us that it has funded dedicated qualitative research with low-income consumers to identify the impact on them of smart meters and their particular issues in engaging with the meters.³⁴ The Department assured us it will be tracking how the benefits and costs affect different groups of users, including the impact on the vulnerable.³⁵

27 Q 87

28 Qq 86, 92-93

29 Qq 91-92

30 Qq 16, 80, 103, 108, 149; Ev 40

31 Qq 138, 139

32 Qq 17, 42, 58, 59, 146, 147

33 Qq 3, 25, 40, 42, 43, 107 and 146

34 Q106

35 Q140

Formal Minutes

Wednesday 14 December 2011

Rt Hon Margaret Hodge, in the Chair

Mr Richard Bacon

Stephen Barclay

Jackie Doyle-Price

Matthew Hancock

Chris Heaton-Harris

Meg Hillier

Jo Johnson

Fiona Mactaggart

Austin Mitchell

Nick Smith

Ian Swales

Draft Report (*Preparations for the roll-out of smart meters*) proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 14 read and agreed to.

Conclusions and recommendations 1 to 6 read and agreed to.

Summary read and agreed to.

Resolved, That the Report be the Sixty-third Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence was ordered to be reported to the House for placing in the Library and Parliamentary Archives.

[Adjourned till Monday 16 January at 3.00pm]

Witnesses

Monday 31 October 2011

Page

Christine Farnish, Chair, Consumer Focus, **Vincent de Rivaz**, Chief Executive Officer, EDF Energy, and **Richard Lloyd**, Director of Consumer Action, Which? Ev 1

Moira Wallace, Permanent Secretary, and **Daron Walker**, Director, Fuel Poverty and Smart Meters, Department of Energy and Climate Change Ev 8

List of printed written evidence

1	Orsis UK Ltd	Ev 24
2	British Gas	Ev 25: Ev 27
3	Centrica	Ev 28
4	Department of Energy and Climate Change	Ev 29
5	Consumer Focus	Ev 30: Ev 38
6	Ross Anderson	Ev 39
7	Which?	Ev 40

List of Reports from the Committee during the current Parliament

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2010–12

First Report	Support to incapacity benefits claimants through Pathways to Work	HC 404
Second Report	Delivering Multi-Role Tanker Aircraft Capability	HC 425
Third Report	Tackling inequalities in life expectancy in areas with the worst health and deprivation	HC 470
Fourth Report	Progress with VFM savings and lessons for cost reduction programmes	HC 440
Fifth Report	Increasing Passenger Rail Capacity	HC 471
Sixth Report	Cafcass's response to increased demand for its services	HC 439
Seventh Report	Funding the development of renewable energy technologies	HC 538
Eighth Report	Customer First Programme: Delivery of Student Finance	HC 424
Ninth Report	Financing PFI projects in the credit crisis and the Treasury's response	HC 553
Tenth Report	Managing the defence budget and estate	HC 503
Eleventh Report	Community Care Grant	HC 573
Twelfth Report	Central government's use of consultants and interims	HC 610
Thirteenth Report	Department for International Development's bilateral support to primary education	HC 594
Fourteenth Report	PFI in Housing and Hospitals	HC 631
Fifteenth Report	Educating the next generation of scientists	HC 632
Sixteenth Report	Ministry of Justice Financial Management	HC 574
Seventeenth Report	The Academies Programme	HC 552
Eighteenth Report	HM Revenue and Customs' 2009-10 Accounts	HC 502
Nineteenth Report	M25 Private Finance Contract	HC 651
Twentieth Report	Ofcom: the effectiveness of converged regulation	HC 688
Twenty-First Report	The youth justice system in England and Wales: reducing offending by young people	HC 721
Twenty-second Report	Excess Votes 2009-10	HC 801
Twenty-third Report	The Major Projects Report 2010	HC 687

Twenty-fourth Report	Delivering the Cancer Reform Strategy	HC 667
Twenty-fifth Report	Reducing errors in the benefit system	HC 668
Twenty-sixth Report	Management of NHS hospital productivity	HC 741
Twenty-seventh Report	HM Revenue and Customs: Managing civil tax investigations	HC 765
Twenty-eighth Report	Accountability for Public Money	HC 740
Twenty-ninth Report	The BBC's management of its Digital Media Initiative	HC 808
Thirtieth Report	Management of the Typhoon project	HC 860
Thirty-first Report	HM Treasury: The Asset Protection Scheme	HC 785
Thirty-second Report	Maintaining financial stability of UK banks: update on the support schemes	HC 973
Thirty-third Report	National Health Service Landscape Review	HC 764
Thirty-fourth Report	Immigration: the Points Based System – Work Routes	HC 913
Thirty-fifth Report	The procurement of consumables by National Health Service acute and Foundation Trusts	HC 875
Thirty-seventh Report	Departmental Business Planning	HC 650
Thirty-eighth Report	The impact of the 2007-08 changes to public service pensions	HC 833
Thirty-ninth Report	Department for Transport: The InterCity East Coast Passenger Rail Franchise	HC 1035
Fortieth Report	Information and Communications Technology in government	HC 1050
Forty-first Report	Office of Rail Regulation: Regulating Network Rail's efficiency	HC 1036
Forty-second Report	Getting value for money from the education of 16- to 18-year olds	HC 1116
Forty –third Report	The use of information to manage the defence logistics supply chain	HC 1202
Forty-fourth Report	Lessons from PFI and other projects	HC 1201
Forty-fifth Report	The National Programme for IT in the NHS: an update on the delivery of detailed care records	HC 1070
Forty-sixth report	Transforming NHS ambulance services	HC 1353
Forty-seventh Report	Reducing costs in the Department for Work and pensions	HC 1351
Forty-eighth Report	Spending reduction in the Foreign and Commonwealth Office	HC 1284
Forty-ninth Report	The Efficiency and Reform Group's role in improving public sector value for money	HC 1352
Fiftieth Report	The failure of the FiReControl project	HC 1397

Fifty-first Report	Independent Parliamentary Standards Authority	HC 1426
Fifty-second Report	DfID Financial Management	HC 1398
Fifty-third Report	Managing high value capital equipment	HC 1469
Fifty-fourth Report	Protecting Consumers – The system for enforcing consumer law	HC 1468
Fifty-fifth Report	Formula funding of local public services	HC 1502
Fifty-sixth Report	Providing the UK's Carrier Strike Capability	HC 1427
Fifty-seventh Report	Oversight of user choice and provider competition in care markets	HC 1530
Fifty-eighth Report	HM Revenue and Customs: PAYE, tax credit debt and cost reduction	HC 1565
Fifty-ninth Report	The cost-effective delivery of an armoured vehicle capability	HC 1444
Sixtieth Report	Achievement of foundation trust status by NHS hospital trusts	HC 1566
Sixty-first Report	HM Revenue and Customs 2010-11 Accounts: tax disputes	HC 1531
Sixty-second Report	Means Testing	HC 1627
Sixty-third Report	Preparations for the roll-out of smart meters	HC 1617

Oral evidence

Taken before the Committee of Public Accounts on Monday 31 October 2011

Members present:

Margaret Hodge (Chair)

Mr Richard Bacon
Jackie Doyle-Price
Matthew Hancock
Chris Heaton-Harris
Meg Hillier
Joseph Johnson

Fiona Mactaggart
Austin Mitchell
Nick Smith
Ian Swales
James Wharton

Amyas Morse, Comptroller and Auditor General, **Jill Goldsmith**, Director, NAO, **Gabrielle Cohen**, Assistant Auditor General, and **Marius Gallaher**, Alternate Treasury Officer of Accounts, HM Treasury were in attendance.

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL

Preparations for the roll-out of smart meters (HC 1091)

Examination of Witnesses

Witnesses: **Christine Farnish**, Chair, Consumer Focus, **Vincent de Rivaz**, Chief Executive Officer, EDF Energy, and **Richard Lloyd**, Director of Consumer Action, Which?, gave evidence.

Q1 Chair: Welcome, everybody. Some visitors from the Ghanaian Parliament may be joining us later.

Thank you to the three witnesses for giving us the early session. The information you give us is totally non-confrontational. It helps to inform our questioning of the accounting officers at a later stage. It is interesting to see the energy company squeezed in between two consumer organisations.

The opening question to all of you is: what is the benefit to the consumer and to the energy companies, from your perspectives? Would you like to start, Christine?

Christine Farnish: We see a number of potential benefits—

Q2 Chair: Or disbenefits.

Christine Farnish: Perhaps I will start with the benefits. They are potential benefits, because they require certain things to happen to be achieved. One of the key benefits, if we get this right, is for consumers to be able to control their energy consumption and be certain about the costs that they will pay for energy. The legacy, traditional way of billing for energy, as you know, is retrospective and often leads to inaccurate, estimated bills, bills that are missed and nasty surprises, because billing systems are not the most modern and sophisticated in the world.

If we get the roll-out right, consumers will be able not only to see how much cost they are clocking up every day in their own homes, but know what they are going to pay at the end of the billing period. They will also have signals on how to reduce those costs and, hopefully, simple tariffs they can switch to, or suppliers they can switch to. That is, if we get it right. We see some very big risks in the way in which this

huge, sophisticated, complex programme is rolled out over the next eight to nine years. It is really important that the UK squeezes out the greatest possible benefits for consumers; otherwise, it ain't going to be worth doing.

Q3 Chair: What are the risks, if you could tell us quickly and succinctly?

Christine Farnish: The risks would be missed opportunities for consumers to save money; unfair costs and disproportionate costs being passed on to consumers, because they will be the ones who end up funding all the development; vulnerable and low-income consumers who depend on energy to live their lives having to pay disproportionately more. Those are just a few.

Q4 Chair: Mr de Rivaz, your perspective as a supplier.

Vincent de Rivaz: Thank you for inviting me. I don't feel squeezed at all. I am pleased to be with customer champions. We are all customer champions, so it is good to work together. If we can work more together to rebuild the trust in our industry it will be good for everybody.

I concur with what has just been said, but I want to give a wider perspective on this big issue. We are talking about a £12 billion programme; installing 50 million meters over a five-year period will, according to current assumptions, cost that amount. To give a sense of the scale of the changes compared to today, the number of meter installations per year will be multiplied by five; the average number of installations per day will be multiplied by four.

Q5 Nick Smith: Sorry, what will be multiplied by four?

Vincent de Rivaz: The number of installations per day will be multiplied by four. The number of installers needed will be multiplied by six; the time to install the meters will be multiplied by two to four. The obsolescence of the new meters will be to the tune of 10 years, while today it is 25 to 30 years. We should not underestimate the sheer scale of the challenge for UK plc. We have got to get it right—£12 billion. There is a huge implementation risk in the project, if we want it to provide the expected benefits.

Q6 Chair: Where does that lead you? Where is the benefit to you? If there is a risk, are we going too fast?

Vincent de Rivaz: That is a key point. We have to have project management that gives the design authority the time to design what is needed. We should certainly not start before the DCC is in place. We should certainly not cut corners in this big project, because at the end of the day we could have the opposite of what we expect, which is engaged customers, and we do not want to disengage them. We want to use this huge project to rebuild trust in our industry, in Government, in all the parties involved. That is, for me, the most important thing. In the past 20 years, this industry has been de-integrated.

Q7 Chair: Has been?

Vincent de Rivaz: De-integrated. It was all one business: networks, suppliers, generators. For all sorts of reasons, it has been de-integrated. In a sense, when we talk about smart meters, we talk about smart grids, and smart grids are all about smart producers, smart suppliers, smart distributors and smart customers. The smart meters are just a tool to achieve that goal. We have to recognise that it is a huge and complex challenge to move from something that has been de-integrated to something that is much more integrated. You can see that we know that our customers—you will probably not say the opposite—are complaining a lot at the moment about the complexity of our industry and the complexity of the tariffs. In a sense, smart meters are about having more sophisticated tariffs. That is the second paradox that we need to achieve. For me, the last paradox is that we have a mandatory programme, decided by the Government, that, instead of being in the regulated part of the business—the networks—has been put in the competitive part of the business, the suppliers. It is a supplier-led project.

We have those three paradoxes—from de-integration to integration, from complexity to simplicity, and being mandatory in the competitive market—and it is our duty, all of us, to help the Government to get it right and to support the Government in the very robust project management of this huge programme.

Q8 Chair: The benefit to you, if I can put it crudely—I will come on to Mr Lloyd—is that it cuts your costs. You do not have to send people round to read the meter, so there is a massive cut in costs; it allows you much more information, so you increase your sales; and it allows you to cut off people without anyone necessarily interfering.

Vincent de Rivaz: It starts by increasing the costs.

Q9 Chair: Except that you pass that on to the consumers.

Vincent de Rivaz: That will be the challenge—how to avoid the roll-out of smart meters ending in an increase in bills. It is designed to decrease the bills by decreasing the—

Q10 Chair: The evidence so far is that you are rather good at passing on increases in costs to the consumers, and rather bad at passing on decreases in costs to the consumers.

Vincent de Rivaz: I am very comfortable with that. My company has been the last to increase its tariff, and it has done so by the lowest increase. We are the cheapest in the industry.

Q11 Chair: And the first to decrease the value?

Vincent de Rivaz: Two winters in a row, we have had a winter price freeze.

Q12 Chair: Most of the stuff that we see, to which we will come in a minute, shows that, on the whole, the energy companies have been fast to increase their prices when energy costs have increased, and very slow to decrease them. There is not a great deal of confidence in the world of the consumer that you have the consumer's interests at heart. It seems to me that the reason why the energy companies are interested—correct me if I am wrong—is that smart meters cut your costs by allowing you a new relationship with your consumers, so that you can flog them more, and by allowing you greater flexibility in switching off if people do not pay. There are concerns there about poor people. You do not agree—or do you?

Vincent de Rivaz: I agree that we have been slower to decrease our tariffs than to increase them.

Q13 Chair: The benefits to you as a supplier are that smart meters cut your costs, allow you a new relationship so that you can sell more products—and different products—to your consumers, and give you greater freedom to cut off people if they do not pay.

Vincent de Rivaz: It has to be a win-win. If not, it will not happen.

Q14 Chair: How do you answer that assertion?

Vincent de Rivaz: Reducing costs will start by increasing costs. That is the basic point. We need to be cautious and conscious of that. Why are we doing it? Because we think that we are in a world of engaging the customers to make them more in charge of their energy bills. In a sense, we are in the business of delivering power to the consumers, and I think we should also be in the business of empowering the customers.

Having said that, the goals—energy saving, CO₂ reduction, etc.—are right. We need to get it right. The £12-billion investment is the equivalent of two nuclear power plants. It is one of the largest infrastructure project investments in this country. It is not about spin, and it is not about making us happy because we have good ideas; it is about making it efficient and affordable. We need to learn from the experience of

others. They are experienced in Australia—we know them well—and they are experienced in California, the Netherlands and France. It is very important that we learn about the others.

My proposal is that, when DCC is in place, and before the roll-out of all the 50 million meters we want to change, we have large-scale pilot projects, to give us the chance to listen to the customers, because clearly it is a policy choice, and it could become a political issue. I think it is right that DECC is in charge and is accountable, because it is a big political issue, beyond being a policy issue. Let us have the modesty to have these large-scale trials—maybe in six regions—before pressing the button to complete roll-out, as well as listening to the customers. The engagement of the customers is critical. If we do not have them, it will fail.

Richard Lloyd: I am in the unusual position of agreeing with Vincent that engagement is absolutely critical to this. I agree with Christine on the potential benefits to consumers. It seems to us that the benefits to the suppliers are much clearer and more realisable. The benefits to consumers will depend on their engagement, and the degree to which this will succeed will depend on consumers letting suppliers in through the front door and trusting that the suppliers will give them something that will help them to save energy.

We have asked consumers what they think about smart metering, and only one in 10 said that they saw smart meters as a means of reducing their energy consumption. Mostly, people are seeing this as something that will help them with more accurate billing, rather than reducing their costs. If you look at where consumers are today, they do not trust the energy suppliers, who are the very people who have to get through the front door and install. Consumers are not convinced that opportunity will not be used to sell products. This is an industry with a history of mis-selling, in particular on the doorstep.

The degree of disengagement is such that it is a big leap of faith to assume that people, as consumers, will realise the benefits from the technology going in. It is pretty unrealistic, given where consumers are right now and their degree of disengagement with the industry and their lack of trust in it, that those assumptions will turn out to be true. Affordability for consumers is the primary concern here. When people know—as they have found out in Australia, where I have been working recently—that they are paying for these devices and cannot see, or are not educated into seeing, that they are saving energy as a result of having the devices in their homes, people will get very angry indeed and will start refusing to let people through the door even more.

There is a huge risk here. The consumer engagement part of this programme is nowhere near ready. The Central Office of Information has been commissioned to work that up, and it is being abolished, so there is another risk. It is unclear to us at Which? right now whether this programme will deliver, in an affordable way, the kinds of benefits that have been assumed.

Q15 Chair: What would you do now to protect consumers?

Richard Lloyd: We must see much more emphasis on protecting consumers. For example, we have been asking all the suppliers to sign up to a promise not to sell when they are installing. Let us get some trust back into this relationship on a voluntary basis. We need to see the consumer engagement programme. What will that mean? Will it be effective enough? Will it genuinely change consumer behaviour? Through that, we can have some realism about the benefits to consumers. Will this go at the right speed? Is this going too far, too fast, considering that we are planning to go further than the European Union Directives? Will the energy companies co-ordinate their approach to this, or will it happen in a haphazard way that will further fuel mistrust and confusion? There is a lot about the practicalities and the consumer-facing side of this that we are talking to DECC about practically hourly. It is a bit late in the day, because we are close to this programme being started. The voluntary roll-out is already going on with British Gas and others as we speak.

Q16 Austin Mitchell: That is a huge worry, because it is such a big programme. It has all the capacity for going wrong that computing for health had. On this kind of scale, it can be very expensive. Let me ask about the way that it could go wrong, because the test work done seems to have been done on volunteers. In other words, there are people coming forward and saying, “I’ll accept a smart meter. I’d love one.” Those are likely to be earnest, middle-class types—the kind of people who take *Which?* and join the Consumers Association—yet your own note says that the installers found unexpected difficulties that will increase the costs. For example, there was the person who had installed a meter in his shower for some reason. I thought that was quite good. I do not know whether he was tempted to turn it on when the meter reader comes round. There are others, however, for whom the meter is an integral part of the kitchen furniture, and they have to knock stuff down to get a new meter in. Is it your impression that, because the costs proved to be higher in middle-class cases keen to have the new meter, the costs will be much higher when it comes to the general population?

Richard Lloyd: You are right that there are *Which?* members who have actively engaged with this, and who have talked to us about their experience. They have quite liked having the smart meter and have used it, but they have used it not to reduce their consumption, but to get more accurate bills. That is the primary thing that people have told us.

Austin Mitchell: They are the kind of people who would like to be able reduce their bills.

Richard Lloyd: *Which?* is for all consumers, and a whole range of people are part of us, but you are quite right that these are savvy consumers who care deeply about their energy consumption.

I think the big problem with this is the assumption that competition in the energy industry will somehow keep costs under control. We have a regulator that says that we need a whole range of reforms to the energy supply industry, because it is not competitive. If, say, installers are repeatedly unable to gain access to a property, or find many more meters in showers,

or if there is a whole other range of scenarios in which they have to keep going back to properties time after time—in part because people may, when word about this goes round, say, “Look, you’re not coming in. Last time you came in, you sold me a tariff that was terrible”—that is how the costs can escalate. Relying on competitive forces in this market, which the regulator itself says is not competitive, to keep those costs under control is pretty naive.

Austin Mitchell: So the costs will be higher, and the benefits less—

Chair: Austin.

Austin Mitchell: Can I just ask—

Chair: No, and I will tell you why. We are going to move to the issue of the proper accounting officer, and I have a list of six people. If everybody keeps it really short and sharp, we can move on to the accounting officers for this and question them.

Q17 Meg Hillier: Mr de Rivaz touched on the issue of the speed of installation, and I have heard from other sources that there is a minimum estimate of about 12 being installed a day, per fitter. I wonder whether there are any estimates that you have heard of that you can talk about, and whether you feel that that is over-ambitious. The deadline is getting closer, so it is as if we are adding more installations a day. Perhaps I am misreading it.

The other thing that has not been touched on massively is the issue of privacy, information, and where the information flow goes. The meter goes in, and it benefits the energy company and potentially the consumer, but can you turn the tap on or off, in terms of where that information about your use goes?

Chair: Who are you asking that of?

Meg Hillier: Vincent de Rivas sort of answered that already, but I wondered whether any of the others wanted to comment.

Christine Farnish: I am very happy to chip in here. We think a maximum of somewhere between six and eight installations is the most that anyone should realistically aim for if we do not want to build up a host of problems that will cost even more money to put right; 12 is definitely over-ambitious if you want quality installations.

On privacy, there are some serious concerns about the use of customer information in this programme. We believe that customers should have control and choice over the way in which their own personal data are used.

Q18 Chair: What does that mean?

Christine Farnish: That means a very, very strict code of practice and rules that the suppliers should have to abide by, which are enforced by the regulator, as to what is legitimate in terms of the use of consumers’ information. If you think about the model here, we have a model of suppliers being asked to roll this initiative out, rather than any other part of the energy industry, which leads to some quite interesting conflicts of interest in certain areas. Obviously, suppliers want to sell more energy, attract new customers and keep the customers that they have, and they want to sell more products to the ones they have and pass costs on to their customers. We are not

entirely convinced that that is the optimum model for roll-out.

We think that there should be reflection, in the light of the learning that there has been from the work done so far in this very complex programme, where technology is moving very fast and where there is a huge number of unknowns in terms of how consumers are going to respond, so there is time for more consumer research and evaluation of the real benefits, and of how to achieve consumer benefits and keep costs down.

Vincent de Rivaz: I agree that this big £12 billion programme relies entirely on the engagement of the customers. If we are not spending enough time on listening to them and checking with them how engaged they are, we will miss the point; I repeat that strongly. That is why I make the proposal that before there is a complete roll-out, there are some pilot zones—large cities or a mix of large cities and rural areas—where we can really test, real scale, how it works, because the trials made have not been really conclusive about customer engagement. They have been interesting for technical points, about the connections, but not really for big issues of customer engagement.

On what has been said about installers, according to the DECC impact assessment, the average number of installations per installer will be five—it is even lower. It will probably take between one and two hours, whereas today it is just 30 minutes. We need to take into account the very important point of safety. Electrical meters and gas meters can both be potentially dangerous if the safety priority is not present. It is not about rushing to make these changes; it is about doing them well.

On your programme about not selling but just installing, I understand and I fully support the sense of this move. At the same time, I would not expect installers to spend two hours or three hours in a house and be purely silent.

Q19 Mr Bacon: Are they going to sell them a greenhouse or something?

Vincent de Rivaz: If we are talking about engagement of the customers, and you have installers bringing in a meter, saying, “I’m sorry, I cannot say anything to you,” there is a problem about engagement.

Richard Lloyd: No, we are not saying that; we are saying that you should be there educating, helping people to understand what the device will do, not trying to sell them insulation and other products that they may not need.

Chair: I call that soft selling.

Q20 Nick Smith: Mr de Rivaz, you have painted a very cautious picture this afternoon. You have talked about the scale of this initiative, the complexity of it and the need for collaboration, not competition, in a varied marketplace. Basically, you have said, “Stop this train—I want to get off, unless there is large-scale piloting.”

Vincent de Rivaz: No. I am used to large-scale projects; I have made a reference about nuclear. A £12 billion investment project is not something I am uncomfortable with. I am just saying that, when you

have such big numbers with such potential political impact, because of customers' reactions, we need to be well organised.

To be honest, I think DECC is doing a good job at the moment. That has not always been the case. I have been in this industry for 10 years, and I have been hearing about smart meters for 10 years—2002 was the first time, and we are in 2012 more or less. Probably, in all those years, we have lost a bit of time, in talking and talking without having a real implementation programme. Since last year, DECC has put in place an organisation which I think is fit for purpose. So I am not at all suggesting that we stop; I am just underlying the importance of not cutting corners, jumping guns or underestimating difficulties. We have to talk about privacy. In our modern world, there is the question of privacy; I do not need to say it in this place, after what has happened in the newspaper industry. I do not want us, the suppliers—the energy companies—one day to be accused of breaching the privacy of our customers. We need to have strict rules and we need to be conscious that those rules may limit some of our expectations—we cannot have everything at the same time. Our customers are asking for more simplicity. We need to be sure that the system that we are developing will not bring more complexity. That's all I'm saying.

Q21 Nick Smith: Do you think that the proposal will be a success without large-scale piloting and trials?

Vincent de Rivaz: There is a plan to have the DCC, which is a communication centre, in place. By the way, there is more than £3 billion in this. That is just the tool to organise the communication between the systems. Three billion pounds is a quarter of the total investment of £12 billion. It would be folly to start the roll-out without that in place. For the roll-out to start, I suggest that we have a phase of large-scale pilot projects before the final roll-out.

Chair: British Gas wouldn't necessarily agree.

Q22 Chris Heaton-Harris: Monsieur de Rivaz, thank you for coming. I am an EDF customer and generally very happy, but I appreciate the pressure for simplified bills, because at the moment, mine might as well just be in French.

I have one point, for clarification more than anything else. You said in your opening remarks that the new smart meters would have a life expectancy of 10 years. If we slow down the project's roll-out to the pace at which the meters can be fitted, it will take about 10 years. Is this more of a job creation scheme? Are we painting the Forth bridge, or are there proper benefits for consumers? Are those figures correct?

Vincent de Rivaz: This question of affordability and a business case has to be absolutely part of the process. I am not in a position today to sign anything off and say that we have an absolutely compelling business case. I am not saying that we will not have it; the proof still has to be given.

Yes, it is a new technology—it is about the digital world—and it is fair that meters move from old technology to the new one. However, new technology, by definition, is more frequently obsolete. I am talking about 10 years, and maybe it will be a bit longer, but

not necessarily a lot longer. If we talk about £12 billion and we have to do it every 10 years, you can see the issues here. Let us take a deep breath. DECC is certainly listening to that. As an organisation, it is now much better than it used to be and much more efficient in its project management, organisation, design authority and all the rest to address these issues.

We have talked about safety, affordability, privacy and simplicity. The impact on CO₂ emissions is also important. At the end of the day, the acid test for me in everything that we do is to ask, "Will it increase the trust that our industry is desperately lacking?"

Chair: I will keep you moving because I am conscious of the time.

Q23 Joseph Johnson: Monsieur de Rivaz, you operate across Europe. Is any other EU country going as far and as fast as the UK in implementing the EU directive?

Vincent de Rivaz: I think it will be interesting for your Committee, if you are ready, to organise visits to other countries with help from DECC, for instance France, which has made a different choice with a similar objective, to compare different cases. In France, there was a distributor—DNO—levy, which we had hopes for, but was unsuccessful, I have to say. So now we are where we are. The Government have chosen a supplier-led system. However, let us see how the experience of other countries can help, because at the moment, the cost of the system in France is significantly lower than the cost in Britain. We need to be sure that for UK plc, we will be better off at the end of it. It is a different approach—perhaps less ambitious, but also less costly.

Q24 Joseph Johnson: So no other country is going as rapidly as we are in implementing the directive, just to get to the nub of the matter?

Vincent de Rivaz: I hesitate to say that we are going fast, because, as I told you, we started to discuss that 10 years ago—the question is now. The go-live of DECC in 2014 is probably optimistic.

Chair: Optimistic?

Vincent de Rivaz: Optimistic.

Richard Lloyd: May I add that it is instructive to look at the case of Australia, which has been trying very ambitious roll-out, particularly in Victoria, where it has been mandatory. The scheme became a huge election issue there because consumers were saying, "What's this box that's appeared on my property? I'm paying for it. I'm now getting bills with time-of-use tariffs that actually don't work for me, particularly if I'm at home during the day. My costs have gone up; I can't see benefits." It has become a political issue to the extent that the state government has commissioned yet another cost-benefit analysis to see whether it should proceed. So where the scheme has progressed at an ambitious pace and on a mandatory basis, it has run into significant problems.

Q25 Joseph Johnson: Thank you. Again, to Monsieur de Rivaz and the two other panellists: can you think of better ways of spending £12 billion with the end objective of reducing energy bills?

Vincent de Rivaz: It is not either/or. We must invest in generation capacity and we do it, as you know—£12 billion is the order of magnitude of two nuclear power plants in terms of cost. Smart meters are a needed evolution of our industry.

Q26 Chair: Needed by whom? You.

Vincent de Rivaz: Needed by all of us. We have not been leading it; it is mandatory—all-out. We do what we are asked to do.

Q27 Joseph Johnson: But can you think of other projects with a higher benefit-to-cost ratio than smart metering?

Vincent de Rivaz: At the moment, it is too early to say what the benefits will be. There are assumptions—DECC is making assumptions about the impact on the residential dual fuel bill, saying the scheme will start by costing something and at other times will be highly beneficial. There is no reason to doubt the DECC assumptions—it is providing, through robust processes, interesting numbers.

But for me, we have not reached the point at which we have a clear definition of the specification of the DCC and a clear timetable for implementation, including the pilot project. It is too early to say what the benefits will be and to compare systems. But we need both generation and other investment—and empowerment of customers is a battle we need to win.

Christine Farnish: It is questionable whether £12 billion spent on this initiative is better value for money from a consumer's perspective than investing in energy efficiency in the UK's housing stock, which, compared with most European countries—indeed, with just about every other developed country round the world—is a huge problem. That said, we need to move to smart technology, but only if we do so in the most cost-effective way, which requires better management and co-ordination, and only if the programme really is driven from consumer interest, so that consumers get the benefits. We think that approach needs a rather different mindset, and stronger control and overall co-ordination than we have seen so far.

Q28 Matthew Hancock: What do you all think of the cost difference between trying to roll out the scheme to a mandated 80%, as per the directive, and trying to hit every single household in the UK. Sorry, hit is pejorative, I mean—

Richard Lloyd: Reach.

Q29 Matthew Hancock: Yes, reach every household. Many people say that getting to the hardest to reach involves a much greater marginal cost. The hardest to reach may be people who think that they will not benefit, so they may not be only those measured on a scale of income or on a poverty indicator. What would be the relative cost of 80% and 100% roll-outs?

Richard Lloyd: I do not have that number, but it is the right question to be asking. There is probably a very good reason why no one else in Europe is trying to achieve the kind of penetration that we are. The assumptions about the cost of installing a smart meter

per household in some cases will be dramatically higher. I am thinking about tower blocks and more remote areas where communications problems will be harder. It is self-evident that for some parts of the country where people's meters are reaching the end of their natural life and where there is more engagement and interest in this, costs will be lower. However, I think reaching that 97% will be extraordinarily expensive. That is probably a question that you should put to DECC later.

Christine Farnish: Clearly some segments of the community and some geographical areas can probably get this technology installed relatively cost effectively, if it is done in a properly planned and co-ordinated way. But getting the last 20% could be far more expensive. There is usually a tail at the end of every distribution curve, as we know. There is nothing magic about the 2019 date. It is a target and it is aspirational. So, to my mind, if the cost-benefit shows that those costs go up significantly to get the last tail, we should wait until it is cheaper to do it. We should also think about tying in with other areas, for example water meters. There is some talk of intelligent water meters and the whole notion of having intelligent systems using radio wavelengths in homes. They could be multi-purpose. I do not think we have looked widely enough at the wider cost-benefit of progressing some of this across our entire housing stock and across all consumers yet. We should perhaps think more widely about a bigger package of benefits for a fixed cost.

Vincent de Rivaz: I can understand the benefit of having smart meters for water, but if we try to do everything at the same time we may be led more by complexity than simplicity. It is an interesting point. I am not sure about this.

Q30 Chair: From the consumer point of view, if in five years' time we come along and say we want a water meter in everybody's house, it is a double cost to the consumer and a problem. So there is something in that, is there not?

Vincent de Rivaz: Yes, but we have decided to have a supplier-led roll-out. It is the people in charge of supplying gas and electricity who are delivering gas and electricity meters. It is difficult for them at the same time to do anything about water meters, which have a different technology. The connection to the pipes is not the same. So we should not seek to be a master of all trades. If we are Jack of too many, we are master of none.

Q31 Matthew Hancock: And what about the 80% point?

Vincent de Rivaz: It is part of the feasibility study that has to be looked at. More can be less. That is a very sensible point.

Q32 Fiona Mactaggart: Who at the moment spends most per therm of energy? Is it people who are wealthy or people who are poor?

Christine Farnish: It tends to be people who are poor and on pre-payment meters.

Q33 Fiona Mactaggart: Would the smart metering programme do anything to help them?

Christine Farnish: Potentially it could because you could move to a better tariff structure that did not have that additional up-front cost built in because cash has to be collected. It is linked to whether people will still pay in cash or through some other mechanism for their energy.

Q34 Fiona Mactaggart: Are you saying that smart meters will stop people being able to pay in cash?

Christine Farnish: I think it depends on how the whole system is rolled out. One of our concerns is that there has not yet been any thorough analysis of the benefits for relatively vulnerable and low-income consumers in this whole programme. We think that is an urgent piece of work that needs to be done. We think that theoretically there should be some benefits there, but they have not been articulated.

Q35 Fiona Mactaggart: I am sorry: I have read the papers, but I am new to this Committee. One of the things that I do not know is how this will show in people's bills, Mr de Rivaz. You get a smart meter, but it is not paid for by the taxpayer as taxpayer; it is paid for by the taxpayer as consumer. When and how does it get paid? Do you suddenly have a really big bill?

Vincent de Rivaz: The DECC assumption is that we will start with an increase of £6 on the average bill by 2015.

Q36 Mr Bacon: Six pounds per—?

Vincent de Rivaz: Per annual bill.

Q37 Mr Bacon: Per quarter?

Vincent de Rivaz: No, no, it is—

Q38 Fiona Mactaggart: But the figure is not capped. It is not included in the decc cap.

Vincent de Rivaz: I am giving you the numbers from DECC.

Q39 Mr Bacon: I just want to be clear; do you mean £6 per year?

Vincent de Rivaz: Yes.

Chair: Per year?

Vincent de Rivaz: Yes.

Christine Farnish: But it will not be transparent on the bills.

Vincent de Rivaz: At the moment, not all the details are given to consumers on the bills.

Fiona Mactaggart: French bills.

Vincent de Rivaz: We should discuss the underlying costs—joules, environmental cost, monetary programmes, energy costs. That is probably something we should do. The DECC estimate is that from 2017 onwards, the net impact will start to be positive. By the DECC estimate, by 2030 average bill savings will be as large as £42 per household. Those are the assumptions.

Richard Lloyd: I think you have raised a really important point about poorer households paying more, which is the case now. A potential benefit of smart

metering is that a whole new range of tariffs—time-of-use tariffs—can be available. That is the more sophisticated equivalent of Economy 7. We know that poorer households are even less engaged with their energy supplier than the rest of the population and, as Vincent has said, this potentially brings a whole new layer of complexity that seems to us more likely to mean that poorer households are even less engaged, and therefore less likely to benefit from the new time-of-use tariffs than others. There is a real risk that those least able to afford their energy are least helped by the smart meter roll-out.

Chair: Jackie, finally.

Q40 Jackie Doyle-Price: I want to pick up Christine's response to Jo's question and the idea that we are talking about £12 billion of investment. If we look at figure 7 on page 27 of the Report, we can see that the benefit to users is only £6 billion and the energy-saving component for households is only £4.5 billion. You have mentioned the need to upgrade houses, which would be a more effective tool, but do you have any estimates of the kind of investment needed to get that kind of energy saving?

Christine Farnish: I do not, but I could write to you with that information if it would be helpful.

Jackie Doyle-Price: I think it would be.

Christine Farnish: I would not like to leave the impression that it should be one or the other. They both need to be done, but clearly consumers have to benefit from this sort of national investment.

Q41 Jackie Doyle-Price: Are there any other tools that you think would be useful in encouraging better energy saving among households?

Christine Farnish: One thing we do know, and it is a point that has already been touched on, is that consumers need simpler information, simpler bills—bills and charges that they can understand expressed in terms that they can understand—so that they can make comparisons between one supplier and another. They need fair and affordable access to energy. Those things are absolutely fundamental needs of consumers, and they are not going to go away. It does not matter how much education we try to do, those are the basic requirements in the new world as well as now. We are a long way from being able to satisfy those requirements today. We have to design this new technology in a way that satisfies them better tomorrow, and I think that that is the big challenge for getting this programme to work.

Chair: Richard and then James—very quickly.

Q42 Mr Bacon: Mr Lloyd, I want to re-visit your last answer. You said that there is a real risk that those who are least able to pay for their energy will benefit least from the installation of smart meters. Could you put that even more strongly? I am not trying to lead you, although it might sound like it. I just want to know your opinion. Is it actually the case that the way this is designed makes what you just said not so much a risk as a fact? That will be the eventuality. Because of how this is designed, those who are least able to pay at the moment will be, as a fact, those who benefit

least from the installation of smart metering. Is that a yes or a no?

Richard Lloyd: It is a yes. That has been the experience in Australia where time-of-use tariffs have been introduced. For example, it is more expensive in New South Wales to use electricity during the day. People who are at home and who use more electricity during the day are not able to benefit.

Q43 Mr Bacon: So when you said “risk”, you were just being polite.

Richard Lloyd: I’m afraid I was, yes.

Q44 James Wharton: Very quickly, Mr de Rivaz, if I were running EDF and installing smart meters when the roll-out comes, I would be looking at what I could do to bring benefit to my company, either from investing in the companies that make the smart meters or from investing in a subsidiary company that is going to install them and take a profit. Will EDF make any profit from the installation or manufacture either directly or through any subsidiaries from the roll-out of smart meters?

Vincent de Rivaz: Not from manufacturing. We have no interest in any manufacturing industry. By the way, the rhythm of the roll-out begs the question whether the supplier of the equipment is ready to cope. If the curve is too steep, the price will go up, so there is also an optimum to be funded. There is a basic answer to your question. We are in a business, obviously, where we need to make a profit and to invest in what is needed for the country. But I think also that there is no lasting solution in the energy industry that is good

at the same time for consumers, investors and policy makers.

The energy business is a special case, because we are not providing commodities like others—electricity and gas are vital for people—where you can afford to have solutions that would be too favourable for investors, consumers or policy makers. I can give you an example of that. If EDF Energy has been able to increase the electricity price this year by only 4.5%, which is lower than inflation, it is because I made the conscious choice to have a fair balance between shareholders’ and consumers’ expectations. It is also because we are an integrated business. We have had a good year in our generation and, crucially, in our nuclear generation, and I thought it was fair that the customers on the other side of the business would benefit from it. So that is the type of business we are in.

Q45 James Wharton: I do not dispute any of that. Will you just give me a straight yes or no answer? Will EDF, either directly or through any subsidiary companies, make a profit from the actual installation of smart meters? In your projections, do you anticipate that you will make a profit? I am not saying whether you should or you should not.

Vincent de Rivaz: If we are installers, we are going to have a minimum benefit from any activity, including installation.

Chair: Thank you. I am sorry to rush you, but we have the main session with the accounting officers. I am grateful; that was a very informative contribution from you all, so thank you very much indeed.

Examination of Witnesses

Witnesses: **Moira Wallace**, Permanent Secretary, Department of Energy and Climate Change, and **Daron Walker**, Director, Fuel Poverty and Smart Meters, gave evidence.

Q46 Chair: On the letter from British Gas, I thought we had all got it. It gives a slightly different viewpoint on the issue.

I am going to start with a series of questions to which I would like short answers, if possible. The programme is funded by industry and consumers, so who is accountable for delivering it on time, within budget and for realising the consumer benefits? Moira, do you want to take that? Let us get the accountabilities right before we go into the issues.

Moira Wallace: Obviously we have to work in partnership with others, but we take the accountability.

Q47 Chair: So you are accountable for delivering this on time and within budget and for realising the consumer benefits? Who is responsible for specifying the data communication service?

Moira Wallace: We are. Again, we are working with experts in industry to get their input, but we are taking the responsibility as a Government.

Q48 Chair: Who is responsible for the functionality of the smart meters?

Moira Wallace: Same answer.

Q49 Chair: What lessons had you learned from the failures of other big IT projects before you embarked on this one?

Moira Wallace: We are trying to learn all the lessons, obviously, and we appreciate all the help that we get from people to do that. We are trying to make sure that we have appropriate time for consultation. You will see that we have done a lot of consultation on technical details, we are working with industry groups and we are trying to make sure that, wherever possible, we use technology that is already working and simple—we are not custom designing, where we do not need to.

Q50 Chair: All right—[*Interruption.*] But you can see that there is quite a lot of scepticism around the table, as you will have gathered from the previous questioner.

Moira Wallace: Yes, I can.

Q51 Chair: At what points will you be reviewing the programme to make sure that it continues to represent value for money for consumers?

Moira Wallace: We will review it very frequently. We update the impact assessment—the cost-benefit

analysis—every time something significant changes, but there are two big reviews that I draw your attention to. First, next year we will be doing the procurement for the data and communications services that will link smart meters in your home up to national systems; we will be reviewing that before we make final decisions on what is quite a big licence award and procurement. Secondly, there will be a review in 2013, by which time we will have quite a lot more evidence from this foundation stage, as we call it.

Q52 Chair: Could you pull the plug?

Moira Wallace: I suppose we could, yes.

Q53 Chair: When?

Moira Wallace: We could pull it then; we could pull it now. We are not planning to at the moment, but we have built-in reviews.

Q54 Chair: Okay. What did you change after the general election? The report says you changed some things. What changed? Because this is a programme started under the previous Government, what changed after the general election?

Moira Wallace: Okay, well a number of changes were made, partly in response to the programme development done under the previous Government. We changed the timetables and accelerated the roll-out, from 2020 to 2019—that is the end of the general roll-out—and we also made a very significant decision, which was to bring the programme in-house into DECC, because previously it had been led out of Ofgem, the regulator. We decided after a lot of thought and work with the regulator to bring the programme into DECC and to hire a multidisciplinary team in DECC, because we saw the decisions as being ones of public policy, as your discussion has already revealed.

Chair: But your main advice comes from the energy companies, all of which have a commercial interest.

Moira Wallace: No, we get advice from a whole set of interests, including from consumer bodies, which we are involving very directly for all the reasons that have become obvious, and from security bodies. Of course energy is involved, but consumer bodies and, indeed, the public are involved, too.

Q55 Chair: Are you pretty confident in the advice? You have spent a lot of money on consultants. I am not sure in whose interests they are, but millions have gone on consultants—I can't remember the figure, but it is somewhere. Are you confident that you are looking at the consumer interest, or is it the energy company interest?

Moira Wallace: We are very clear that this has to be a programme that delivers for consumers. You have heard lots of reasons why—it won't work if consumers are distrustful, so it has to work for consumers—but of course we are taking advice from the energy industry, whose systems will have to adapt. They run their own billing systems, and we need to make sure that they test and prepare them and that they work for them. They employ the installers, so we need to have their buy-in and their expertise.

You talk about consultants, but I want to say that we are using external expertise and not advisory consultants to come in and substitute for our policy thinking. Actually, there are a lot of skills that we will need once for a short period during the life of the programme, so where it is more cost-effective to do so, we are getting those skills from outside.

Q56 Chair: One final question, and then I will go to Jo. The whole programme seems to be premised on the fact that consumers will benefit because there is competition between suppliers—that seems to be the premise underpinning your policy thinking. Yet all the evidence, such as the latest report from Ofgem—the March report that it is working on—says that competition is being stifled. None of us can understand our bills; even if you try to find a better supplier, it is jolly difficult to find your way through it. There is supplier behaviour, lack of transparency and all that stuff, so what on earth gives you the confidence that there is real competition between the six big suppliers that will drive consumer benefits through the introduction of smart meters?

Moira Wallace: There are several bits to that. First, we are not at all complacent about competition in the supply market, and we are encouraging Ofgem to do more things to encourage competition and to reduce the barriers to new entrants. We are also encouraging the public to switch, because the best way to drive competition is for people to move on if they do not like what they are getting. So, there is quite a lot that we are doing to try to keep that market competitive, but we are not complacent.

However, what is the alternative? The alternative would be to have this rolled out by the network distributors. Nobody knows who runs their network. You wouldn't recognise the names of the companies, and you have no choice about it. If you had it done through the networks, it would be done by monopoly. If you didn't like it—if they were bad at it—you would not be able to switch.

There is already some evidence of different companies—I think you have it before you—seeking to differentiate their offer to the customer on the basis of smart meters, giving people a smart meter early and giving them more information about their bill before it lands on the mat. I am not complacent, but I do think suppliers are the right people to do this, because they are the people you deal with as a customer, and they are the people you can fire if you don't like it.

Q57 Chair: I want to press you on that, and then I will go to Jo. You haven't really answered the question. The point is that Ofgem's March report found that there wasn't competition. That is all the evidence at the moment: it demonstrates that, although there are six big ones, competition is stifled. I think those are the words used.

Look at price changes. I said when they gave evidence that prices go up rapidly, maybe a week or a couple of weeks in between. They all raise their prices pretty swiftly when energy goes up, but they are much slower about reducing prices when energy costs go down. Yet you have premised this all, from the consumer point of view, on the fact that there is

competition. Of course, I accept that you are doing everything—you are not complacent, and you are encouraging competition. However, the fact is that there isn't any competition, so the premise on which you have based your analysis seems questionable to me.

Moira Wallace: We are not complacent, but there is competition and a lot of people benefit from it. Some 60% of people have switched supplier, but 40% have never switched supplier. A lot of people benefit from competition, and one of our challenges is to ensure that more people do and that it is easier for them to do so. Smart meters could actually help with that and help people fire their energy company sooner if they are not happy.

The only alternative would have been to have put this with the network businesses, which you cannot fire if you don't like them because they are a monopoly. We have put it where there is most competition. We do all kinds of things, and so does Ofgem, to try to encourage more competition and reduce barriers to entry, because it is very important for all the reasons you give.

Q58 Joseph Johnson: Would you agree that a Government programme that is mandatory is effectively a tax on gas and electricity users?

Moira Wallace: I would not try to be the person who classifies taxes, because we have the Office for National Statistics to do that. I don't think it has taken the view that this is a tax. It does look at a lot of our programmes to try to establish that. We are mandating it, though, because we believe there is a strong benefits case to do that.

Q59 Joseph Johnson: What efforts have you made to reduce the cost to the consumer of implementing the directive? I refer you to the evidence of Mr de Rivaz, who said we could learn a lot from the way that France is doing it. In particular, I think he said it is at half the cost of what the UK is doing.

Moira Wallace: In France they are only doing electricity; they are not doing gas. So it is half the cost and half the coverage. I think I am right about that.

Daron Walker: Absolutely right.

Q60 Joseph Johnson: Have we made any effort to benchmark across the EU as to how other countries are planning to implement this directive?

Daron Walker: The first thing to say is that the programme will comply with the EU directive, but the design that we have taken is not driven by the directive. We have designed the programme because we believe that it has a strong business case. The business case is £7 billion net present value benefit. That is the first point.

We are learning from other member states and other countries around the world, and we will continue to do so. To go to the specific example of France and the costs there, it is very early days. They have not published an impact assessment. They are rolling out electricity only. Our conversations since the publication of their press notices have shown that they have not included optimism bias or financing costs.

So it is still quite an early stage at which to assess the true cost of that potential roll-out.

Q61 Joseph Johnson: May I just push you on the £7 billion net present value of the benefit? Page 6 of the NAO Report says that the range of error for initial estimates of large projects with a big ICT component is, I think, something between 10% and 200%. We are starting off here with two very big numbers, and the £7 billion net present value figure is really the difference between two quite substantial numbers, so were the cost side of that equation to increase by anything between 10% and 20%, there will be no £7 billion net present value figure. How confident are you of the £12 billion initial cost figure?

Moira Wallace: As you go through these programmes, it is good practice, when you are very unsure about things, to include a large optimism bias and a large range of error, and, as you become surer and get more information, to reduce it. Over the history of this programme, we have become surer, and we have actually gone out and looked at the things that people will be buying and installing. There is no doubt about their cost, because they are available, and you can almost buy them off the shelf. We have not said, "Ooh, we might pay 200% more for this." So we have tried to use actual information.

In terms of the actual £11 billion, £2 billion of that is an allowance for a cost escalation, so there is quite a margin in there. Of course, all sides of this calculation could change, but £2 billion of it is allowed for cost escalation and then there is a very substantial cushion of customer benefits.

I want to say that we have been sitting there listening to the evidence from your first group of witnesses, and it is absolutely key that customers understand this, that they welcome it, and that they see how this can help them. But actually this can really help them if the alternative is that we are using meters from the 1970s that actually give you no idea at all of when and how you can save most energy or what your bill is going to be. I do not think that that is a very pro-customer proposition.

Chair: I have a whole lot of people: I will call Ian, Austin, Matt, James, Meg and then Nick.

Q62 Ian Swales: I would like to build on what you have just been saying. If you take figure 8 and you are talking about the total cost of installation as £11.3 billion, and then you look at figure 7 and you see the list of benefits that the Department have claimed, I would like you to talk through who you think pays the £11 billion and then who receives the £18 billion, because there seems to be mismatch between the consumer paying and some of the key beneficiaries, who are actually the suppliers and the network. How do you see it all working?

Daron Walker: On the profile of how benefits are spread over time, we heard earlier from EDF that, initially, the costs on each household bill will go up. The highest net figure is £6 per annum per household, but, over time, as the meters are rolled out and installed, the costs will decrease, because the meters will be installed, and the benefits will then flow through to consumers. We envisage that bills will go

31 October 2011 Consumer Focus, EDF, Which?, DECC and Fuel Poverty/Smart Meters

up initially, but, over time, as the benefits come through from the suppliers' side, but also as consumers start to engage with the in-home display and start making their own savings on energy, you will see a reduction in bills. We estimate that to be around £20 in 2020, rising to over £40 per household, on average, by 2030.

Q63 Ian Swales: For those who go on this early, all they are going to see is pain. That is basically what you are saying.

Daron Walker: People who get on early will straight away be able to interact with their in-home display and have better information about their bills and respond to that information and make changes.

Q64 Ian Swales: But you are saying that, on average, their bills will go up.

Daron Walker: On average, across the whole of all households, they will go up.

Q65 Chair: Will the £6 up and the £20 down be visible to people? How will I see that as a consumer?

Moira Wallace: Actually, you will have more visibility about your bill than ever before, because you will be able to see it in your kitchen through your in-home display.

Chair: Yes, you will be able to see when you consume, but how will I know what I am paying extra?

Q66 Ian Swales: May I build on that? This is a massive act of faith, because we are talking about suppliers benefiting to the tune of £9 billion through this programme, and you are kind of assuming that that will somehow find its way back to consumers. We are also talking about networks—presumably the National Grid Company and so on. We are essentially talking about private companies here, so how are you going to ensure that the benefits that accrue to these private companies—generators, network operators, suppliers—actually do end up paying for this programme in the eyes and bills of consumers?

Moira Wallace: A number of comments have been made, and I will try to answer them all.

I do not expect the cost of smart meters to be identified separately on the bill. They are costs that suppliers will face, and the suppliers will try to recover them from all customers. The costs will be very small, and we estimate that they will be about £6 per annum per customer in the early years. We rely on competition—we have just been talking about that—and differentiation between suppliers, which we want to drive very hard. That is why we have put the smart meters in a competitive part of the market, rather than the regulated part of the market.

There are a range of benefits, starting with simply understanding what your bill is going to be. If you compare it with your bank account, we are all quite used to going up to a hole in the wall and working out what our current balance is; we cannot do that with energy, because the energy company does not have the information. Now we will have that information on a display in our house. It will have all sorts of very simple, very accessible ways of showing

us when we are using an enormous amount of energy. They will probably turn red, so there will be a direct, do-something-now trigger to reduce energy.

Q67 Ian Swales: I do understand that. I am looking at the motivations here. Will there also be an in-built disincentive for energy companies to go quickly? Will the ones that go slower be better placed in this programme, because they will not have those extra costs and will be able to compete better than the ones that are going faster? Is that a possibility?

Moira Wallace: The costs and benefits go hand in hand. There are companies—I think you have had correspondence from one of them—that want to go very quickly, partly because they see it reducing their own costs for meter readers and call centres to deal with people saying, “My estimated bill is crazy.” So they will save themselves money. It is, of course, costing them money to install early, but the costs and benefits will go hand in hand. Different people are taking different views. We are trying to ensure that, in this transition where different companies take different views, the consumer is protected and the one thing we do not lose is the ability to switch, the interoperability. We do not want people being told, “Oh no, you can't switch to a better tariff because we are the only people who have this meter, and you can't switch to someone else.” That would be going backwards, which would be a big mistake.

Q68 Ian Swales: If some companies are so keen to go quickly because of the operational benefits, why will bills go up? If they see such an advantage for themselves, why do we think that consumers' bills will go up?

Daron Walker: In effect, the devices you are putting into the home are more costly than the existing meters. So the companies will need to recover the costs of those higher-cost meters.

On the point about people going faster and people going slower, you have heard from British Gas, which sees this as a real centre of its consumer strategy. British Gas is looking to develop energy services, and it believes that this can sit at the heart of its consumer offer. British Gas believes that it will attract new consumers, which will, of course, drive competition and people switching.

Other companies have taken a slightly different view. EDF has taken a more cautious approach, and there are people in between. Part of the programme is about assessing the balance between the relevant positions and ensuring that we strike a sensible balance for the whole programme and for consumers.

Q69 Austin Mitchell: At the end of the day, after all that, what are you going to do to ensure that the benefits are passed on to the consumer? I see there are going to be real costs for the smart meter, but what is there to ensure that the benefits are passed on? Are you going to enforce prices?

Moira Wallace: There are two parts to that. The first is to ensure that we have the most competitive market that we can and to encourage—

Q70 Austin Mitchell: Yes, but that requires a consumer to shop around. What are you going to do?

Moira Wallace: We are going to encourage consumers to shop around. We have just had a big summit, which we organised with consumer groups, Ofgem and energy companies.

Q71 Austin Mitchell: Well, I have shopped around, and all I have done is been screwed up by various companies, which are predatory. What did you as a Department—

Mr Bacon: They saw you coming, Austin.

Moira Wallace: You have to shop around, and you have to keep shopping around. All the evidence is that it is the people who do not shop around who really get screwed, in your words, because they are the ones who are paying for the attractive deals that lure you in. So we do actually need to encourage more people to switch. That is the No. 1 thing we need to do.

In terms of smart meters, we need everybody to understand and we need to help people to use them and to see what they can offer. I was quite disheartened by some of the negative comments that were made in the first half, which is a reminder of how important it will be for all of us to get across that this is a way for the customer to take control.

Q72 Austin Mitchell: I've got a very impressionable wife, and, unless you're going to do something, I think I'm going to be roughed up.

I just want to ask you a couple of simple questions. Who is going to make the meters? Are they made abroad and imported, or are they made in this country?

Moira Wallace: I do not think we have a meter manufacturer in this country.

Daron Walker: We basically have some factories in the UK that assemble parts. It is likely that some of the meters will be manufactured overseas.

Q73 Austin Mitchell: Are we doing all this for the benefit of foreign manufacturers of smart meters?

Daron Walker: There will be real benefits in the UK, both to consumers—

Q74 Mr Bacon: Whereabouts overseas? Are you talking about China or Germany?

Daron Walker: It will depend on how the energy companies procure the meters. They will shop to get the best deal, so that they can get the most cost-effective procurement. That is an important part of reducing costs in the system. At the moment, they have not made their decisions, but it is likely to be overseas.

Q75 Austin Mitchell: I would have thought that it would have made sense, in any sensible industrial strategy—not that this Government have one, because they probably do not—to have a credible agent, so that if you have a huge programme like this, the benefits go to British manufacturing and you attempt to channel benefits that way.

Moira Wallace: There will be benefits. I do not know that we can guarantee that they will be manufactured in this country. This is a very big engineering and

infrastructure programme, because it involves replacing more than 50 million meters in 30 million households.

Q76 Austin Mitchell: They would not take that position in France. Can you tell me how many meter readers, such as lovely Rita the meter maid and all the ugly ones, will be made redundant by this?

Moira Wallace: I do not think that I can put a number on it, but in the long term there will be far fewer meter readers and in the short term there will be a lot more meter installers. There will be pluses and minuses.

Q77 Austin Mitchell: Paragraph 1.4 of the NAO Report states, “The Government’s timetable for suppliers is to start the mass roll-out of 53 million smart electricity and gas meters to 30 million homes and smaller non-domestic premises in 2014”. In a letter, British Gas said, “British Gas, without a 2012 start, will be unable to complete its roll-out of 16 million meters by 2019.” What are you going to do about that?

Moira Wallace: That letter is talking about something else. It is talking about agreeing some of the precursor specifications by 2012. Those are the technical specifications of the meter and the data and communications company that underpin it. We expect we will be pretty much on that timetable. British Gas is very keen to go fast and is an early adopter. It is already going fast. We are committed to the mass roll-out in 2014. The letter is not talking about a mass roll-out; it is talking about some of the technical specifications and getting them set in stone.

Q78 Matthew Hancock: I also have a very impressive wife. I just wanted to put that on the record. My question, like Austin’s, is completely unconnected to that fact.

Reading the NAO Report, the broad goals of smart meters are something that it broadly supports. Certainly your arguments in favour of it are strong. The questions that are coming, and will come, from the Committee are first about the roll-out of such a large project, especially given the history of large IT projects in the public sector. If the DCC spend is £3 billion, as one of the earlier witnesses said, that is a huge programme, which gets into the same area as some of the large unsuccessful IT projects. You will understand the high degree of scepticism around that. Secondly, this is mandated to reach every household without large-scale pilots. May I press you on the question that I asked the previous three witnesses: what extra cost, per household, do you see for reaching all the households above the 80% threshold, where it is really a matter of strong support, rather than mandating? The difference between aiming at 80% and aiming at 97% or 100% is the gap between being able to go for most households, unless they object, and going for all households, even where there are difficulties and problems. What is the difference in cost between those two targets?

Daron Walker: I do not think that it is a simple equation, because of two things. First, we are clear that we want all to benefit. We are looking to have this as a truly national roll-out. Above 80%—

Q79 Matthew Hancock: Sorry, let me just pick you up on that. You are clear that you want all people to benefit. If people do not think that they will benefit, you still want them to benefit, even if they calculate that they will not benefit.

Daron Walker: Can I answer the first question, and then come back to that, if that is okay?

Chair: We have a bell, so can you answer very quickly? We will go, and then come back.

Daron Walker: One of the things that is clear is that while you still have 20% of households operating under a dumb system, you effectively have the cost of two systems in place. The equation is not simply that some of those will be more costly to reach. We have to assess the overall cost of running two systems in parallel. As we get to very high levels of penetration, the cost of running two systems will diminish, because you will mostly have a smart system. Can you remind me of the other question?

Q80 Matthew Hancock: The second question is tied to that. You were saying that you were mandating, if it helps people. It sounds rather paternalistic to say, "We have decided that we will help everybody."

Moira Wallace: Can I have a go at that? We are not mandating it for individuals. We are not going to come and say to anyone's aggressive wife that we will get a warrant, burst into their home and fit a smart meter against their will. We want every supplier to offer this. It offers considerable benefits to the whole system and will reduce costs, which we think is an advantage. We want to offer it to everyone, but we will not push it in the final cases. On the question of what the costs and benefits will be on an 80% roll-out, we will come back to you on that.

Q81 Matthew Hancock: Well I would be grateful for that, as well as for an explanation of what other countries are doing under the EU directive. Given that it says 80%, they must have a reason for that. You have just stated a reason to be different, but are there any other countries that are going for as high a target as us?

Daron Walker: Italy has gone beyond 90% for rolling out electricity meters, for example.

Q82 Matthew Hancock: I will repeat the question. Have any countries gone as high as us? The difference between 90% and 97% is very significant.

Daron Walker: Others are still pursuing, over time, the higher numbers. Why do we not say, as Moira has suggested, that we will write to the Committee?

Chair: Within a week, otherwise it holds up our report. We must go and vote.

Sitting suspended for a Division in the House.

On resuming—

Q83 James Wharton: Looking at this scheme, one of my main concerns, which we touched on in our earlier evidence, is the different ways that energy companies might find to make a profit out of it, particularly by compartmentalising the different areas of their business. It always reminds me of the petrol stations and the oil companies. Whenever there is a big problem with fuel, big oil companies say that they

do not make any money at the forecourt. They make all their money on the profit margin, because they supply their own forecourt, but because they compartmentalise it, they can make that argument.

I am looking at figure 9 on page 32, where it says that the indicative cost of an electricity smart meter is £104, about 70% of which is made up from the meter, the in-home display and the wide area network module. For me as a layman, that means that about 70% of that expected cost is basically "the box" and whatever goes with it. If an electricity supplier says, "We will put your bill up by £6 a year to meet the costs", and then manages to negotiate a better deal from a supplier on its meter, how will you ensure that the framework is such that those sort of benefits are passed on to consumers, and we do not see the companies making a profit by the back door? Effectively, we could see that £6, which is meant to cover the cost of the meters and their installation in real terms, being driven down, and the difference being retained by the installing companies. How will you try to avoid that?

Moira Wallace: Well, I am sure we will be monitoring this very closely and trying to work out what is happening to costs, but as to how we expect that to be controlled, my answer is the same: through competition. We want there to be as vigorous competition as possible. If we can see new market entrants, that will be great. We are trying to reduce the barriers to that. We are trying to encourage people to be tough on their energy suppliers if they do not like what they are getting. We are not about to introduce a regulation regime to replace competition. We think competition will be better than regulation, and we have to make competition work.

Q84 James Wharton: I understand the argument, and I am generally a fan of competition. The argument you have made previously is that one of the ways you will encourage competition is by simplifying the information that people have, so that they can make direct comparisons. If companies can compartmentalise their costs, that will make the information more difficult to decipher. Would you consider having a separate column on the electricity bill that said, "This is the cost of your meter, as it is being fed through on to your bill", or something that gives people the information to make that informed judgment? This goes against everything you have been saying. You have said that the simpler and more straightforward it is, the more competition there will be. If you allow these companies to install and to look at those costs potentially under a different heading, you make it more complicated, and they can hide costs in the bill.

Moira Wallace: We can think about it. There might be some pros and cons there.

Daron Walker: One of the things that consumers often complain about is the complexity of their bills, the amount of information they have and the difficulty of assessing all the different costs. This is one relatively small part of the costs of the whole system. Is this the specific cost that you would choose to put on your bill, over the other costs? It is around 1% of the cost of your bill. There is a debate going on about whether

regulation will be better than competition. We believe that for the energy market, energy suppliers and consumers, competition is the right way forward. The key thing is to make sure that that works as effectively as possible. The reforms that Ofgem is proposing on simplifying tariffs, on tackling poor behaviour—all of those elements—are trying to drive better competition and better behaviour in the market. We think that is the best way of delivering benefit.

Q85 Chair: Nobody can deny the importance of competition, but you are doing it on a wing and a prayer. If you could prove that competition took place in the market, that would be one thing, but all the evidence so far suggests that this is not the competitive market. It also suggests that consumers are being screwed in the way that prices go up without justification. You are not in a competitive situation. It is no good just saying, “We believe in competition.” Of course, we all believe in competition, but you are not delivering it. You have given us, the consumers, no certainty that competition will exist here to drive better consumer outcomes.

Moira Wallace: We all share the desire to see the best competition we can. One reason why prices have gone up is because gas prices have gone up. There are global developments here that we should not forget about.

Q86 Chair: Sorry to interrupt. Of course, there is some truth in that, but the evidence from Which? and all the consumer studies is that prices to consumers have gone up beyond energy prices, that they do not go down when energy prices go down, and that there seem to be cartel movements in the way prices are set. All the evidence is there to that effect. Are you denying that? Are you saying that what Which? says, or what every consumer body says, is wrong?

Moira Wallace: No. I think I am saying the same as you. People are obviously frustrated if they think that competition is less than perfect in any way, and we are not at all complacent about it.

Chair: “We are not complacent about it” is not good enough, Moira. At the moment there is no competition, and you are driving this policy based on a belief that there will be competition. It is not there.

Q87 Fiona Mactaggart: When did you last meet one of the attempted new entrants, outside the big suppliers?

Moira Wallace: I have not met them personally, but we had all the new entrants in to the Department to talk to them about what the things that could help them were.

Q88 Fiona Mactaggart: What did they say?

Moira Wallace: They said a variety of things. They said that the big thing they would like is what Ofgem is doing through what is called its liquidity reforms, which is to require the vertically integrated companies to sell more energy than they currently have to, so that the market is opened up to people who are smaller. They are also interested in cutting red tape. The other thing they want to know is that people are going to be responsive, and that we are going to encourage

switching. Smart meters are part of that story. Simpler tariffs are the other thing, because tariffs are bamboozling. I accept your suggestion about having another thing on your bill, but bills are really poor, in terms of the information that they present. People need to be able to understand how things compare.

Q89 James Wharton: The concern that I have is that we are going to see a very presentable argument from suppliers, who will say that their profits through electricity supply are staying stable, for example, whereas in reality they start to make their profits from the installation. We have already taken evidence that indicates that they are looking to share some of the benefit of this programme, if it goes forward, which basically means that they want to make a profit out of it. They want to be paid for the extra work that they are doing. That is understandable.

What I would like reassurance on is that this is at the forefront of your mind, and that when you draw up these contracts, you will have provisions in them that mean that you are not tied down to whatever you think is going to be the case today. That way, if the situation changes—the meters will probably get cheaper as time goes on, and as people buy more—you can react to it and ensure that companies do not make excessive profits out of this Government scheme.

Moira Wallace: What I will say to you is that we are absolutely committed to delivering benefits for the customer. There are very sizable benefits to be had. That depends on constraining the costs, and on delivering the benefits. We will be all over this; we will be monitoring it, and monitoring the underlying costs. I take your suggestions about putting things on the bill, and about implicitly regulating. I do not know that we will go down that road; I very much doubt it. Your first question was: “Who is accountable for delivering this, including the benefits?” We are. There is a difference between very big numbers, and we will keep a handle on that.

Q90 Chair: But what will you do if it is not happening?

Moira Wallace: We will have to rethink. As for whether we are suddenly going to tear up the existing market structure, I do not think we are, but we are going to try to make sure that it is as competitive as possible.

Amyas Morse: Forgive me, Chair. This might have got lost between James’s question and your answer, Moira. Just to be clear, we are not talking about contracts, are we? You are actually going to be mandating a standard design. You are not going to have contracts with these companies.

Moira Wallace: With the energy supply companies, no, we are not.

Amyas Morse: For clarity’s sake, will the monitoring primarily be looking at the companies’ accounts to see how profitable they are? Is that mainly how it will be done? How will it be done?

Moira Wallace: What I am talking about is the monitoring of the roll-out, and of the technologies that are going in—how much they typically cost, and what the customer experience is. We and Ofgem do look at the companies’ accounts, but we are talking about the

actual costs and benefits that are here—what we think people paid, and what we think customers’ benefits and other benefits are. The whole point of the way we are running this programme as a proper programme is to say, “What is it that you are trying to achieve and expect to happen, and are you on track?”

Q91 Chair: Monitoring price?

Moira Wallace: I am sure that we will, yes.

Chair: That seems pretty important.

Q92 Meg Hillier: I have some quick final questions. The 10-year life that Vincent de Rivaz talked about is much shorter than the life of the current meters. Does that worry you, and what is your plan for 10 years’ time, when all that is complete?

Daron Walker: The 10-year life that EDF referred to was for the phase 2 meters that are being rolled out in small numbers at the moment. The expectation—what we have set out in the impact assessment—is that the meters that will be part of the mandated roll-out will have 15 years of life, not 10.

Meg Hillier: We are going through this whole exercise, and 15 years later, there will be a lot of installers, because there will be a constant roll-over of installers being appointed to start again. It is like how the Forth bridge used to be, although that has been solved now.

Daron Walker: At the moment, the assets have a given life that is slightly longer than 15 years. It may well be that it is longer than 15 years for these assets, but at the moment, that seems to be the most sensible central assumption for the life of these assets.

Q93 Meg Hillier: That gives quite a lot of leeway to energy companies to either make a profit or come back and say, “You’ve got to go through all this again,” and charge consumers more. You are saying that it is a guesstimate at this point.

Daron Walker: From talking to manufacturing and energy companies, 15 years seems to be the most likely asset life for these meters.

Q94 Meg Hillier: I think there is an opportunity for British manufacturing to get a better product out there. We had a letter from British Gas, which takes quite a different view from EDF on the roll-out. British Gas has been ahead of the game in getting out there. Is that perhaps partly because if it goes early, it can help shape the technical specification that you have not yet published? Do you think that that is possible?

Moira Wallace: I think that its going early is a big part of its commercial strategy. We are undoubtedly learning from early adopters, but we are developing the technical specification. All the energy companies are doing that, and British Gas is a part. However, I would not say that it was having undue influence over the process. It would be crazy to keep the process secret from the energy companies, because we would run the risk of being in the wrong position, and they would run the risk of installing lots of things that were of no use.

Q95 Meg Hillier: Clearly, DECC will be under some pressure, particularly from the big six, because they want to roll out their own models and to influence the technical specification. If you came up with a specification that was different from that of British Gas, it would have to start over again. There would be enormous pressure on you not to do that.

Moira Wallace: There would be. We have talked clearly and have been straight with those doing large-scale early adoptions. We have regulations in place to ensure that they do not compel people and make people unable to switch. However, we have also tried to be visible about the way our thinking is going on the technical specification, so a huge divergence between what someone is doing and where we are going is unlikely to arise. It is clear that the big six have slightly different views on the matter; they do not all agree with each other. We are also keeping a close eye on consumer interest. As has been mentioned, sometimes there are big differences between consumer interests and the big six’s interests.

Q96 Meg Hillier: Everyone here has talked about consumers and prices, but is tackling climate change not one of the main imperatives? Which is the more important?

Moira Wallace: One of the reasons why we are so keen on this is that it presses a lot of different buttons in terms of policies that we are trying to develop. It helps people to control their bills and reduce their emissions, and also helps us to build up smart infrastructure that we will need for the smart grid in the future, so that we do not need to generate as much for the supply that we need. There are many different reasons why we should do it.

Q97 Meg Hillier: There has been quite a lot of criticism about the cost-benefit analysis. Would you argue, from the DECC climate change point of view, and from the point of view of your team there, that there could be a higher priority—that climate change could trump the direct cost-benefits to the consumer, and that there is a generational benefit if we use this to help tackle climate change?

Moira Wallace: We think that all the reasons are important. Meeting our climate change targets is challenging, come what may. Before we came on stage, you were asking whether there were other ways to spend money to reduce people’s bills. Actually, you need to do lots of insulation, and you need to do this as well. You need to do quite a lot of things in parallel to meet our climate change targets.

Q98 Meg Hillier: But £12 billion is a lot of money to spend on an untested approach; there have not been area-wide pilots. To go to the question that was asked earlier—I suppose you have to say yes to this—have you looked at what that £12 billion could do if it was spent in other ways to reduce emissions?

Moira Wallace: We do not accept that it is untested now, or that it will be untested by the time we do mandated roll-out. There is already a huge amount of evidence—some from this country, some from other places—on a lot of early roll-out during the foundation stage. Once we have agreed the technical

specification of the meters, there will be extensive trialling. If right now I were to sign in blood and say, "Come what may, there is going to be a mandated roll-out on 1 April 2014, and I won't hear another word between now and then," that would be untested, but a lot of testing has gone on, and a lot more will come along.

Q99 Nick Smith: I want to push a bit further on that point. In principle, I see the value of the initiative. It could be fantastic, particularly if your points about competition are right, but one thing that troubles me is the assumptions about consumer behaviour. It feels to me as though you are rushing your fences a little. Why have you not done large-scale random trials on this already, to reduce the risk of what seems to be a very large—£12 billion—punt?

Moira Wallace: That is one of the points made about the evidence that we have. There was a very diverse set of trials, but they were not set up on a randomised control basis. Maybe we should think about doing that, but that does not disguise the fact that there is a huge weight of evidence about the potential savings from customer behaviour—evidence not just from here, but from many different countries internationally.

We can develop the evidence base further, but you have to make a decision on whether you are going to allow, mandate or ban smart meters. In fact, you have to have one of those three positions. We decided that the best one for customers, in our view and on the basis of the evidence, was to make sure that they were available to everybody and that we mandated to modernise our system. We will continue to work on the evidence, but you either have to ban them, allow them partially or mandate them. It has to be one of those three.

Q100 Chair: And what is your justification for mandating them?

Moira Wallace: We think that that gives the best cost-benefit, and ensures that everyone has the chance to benefit. If you have a very segregated system, which you talked about earlier, there is a set of people—all the people who are switching, all the people who are extremely savvy about this—who will opt into it and be on very clever time-of-use tariffs, and the differences between those who are very savvy about energy and those who are not will get wider. That is one reason behind our thinking that everyone should have one.

Q101 Nick Smith: Mr Walker, I want to tease out a further point. You talked about learning from overseas, but Mr Lloyd, one of our earlier witnesses, just came back from Australia and painted a problematic picture. He said that Australia's decision had been reopened for consideration. What is your learning from Australia?

Daron Walker: There are a number of things that I would point to. One was that they did not have a particularly significant central programme overseeing the process. They relied on, for example, the technology risk sitting with the companies, which

created its own issues. They also rolled out time-of-use tariffs very early in the process. We are seeking to learn from the experiences there. There are other examples. For instance, in the Netherlands, they did not take privacy seriously enough in the initial stages, which created a big backlash by consumers. The key is to learn all those lessons. The central programme that we are putting in place will look to address the shortcomings that we have observed elsewhere. That is my response.

Q102 James Wharton: There was some acknowledgement that different types of customers would gain different levels of benefit, for a variety of socio-economic reasons. In the early years, how closely will the Department monitor where the electricity companies install smart meters to ensure that they do not have the wrong impact? For example, if an electricity company installs smart meters where people will not get the maximum benefit, it will get all the advantages of going through the scheme, but electricity use will not drop as much as we would like it to drop in the early years, which will increase its profits. I am sure that our moral and good electricity supply companies would never do that, but what will the Department do to ensure that they do not and cannot?

Moira Wallace: One piece of evidence-gathering that we are doing in the next stage is this: we have funded dedicated research into low-income customers in the next roll-out—what impact it will have on them, and their particular issues in engaging with it. We will, I am sure, look at patterns of roll-out, but we are doing detailed qualitative research with low-income customers, who will be part of the next phase of trials, because we are interested in and concerned about this.

Q103 James Wharton: Briefly, is the priority to cut national electricity use or to save money for low-income customers, because the two may not run in parallel?

Moira Wallace: As I said in response to Meg Hillier, this programme meets a variety of goals: controlling bills, cutting carbon, energy security. I will take the question away and look at it but it is not our only policy to deal with the needs of low-income customers. We believe it can make a real contribution and we need to keep a special eye on how it impacts on them.

Q104 Joseph Johnson: Going back to Nick's point about consumer behaviour, Ms Wallace, you said that there was a huge weight of evidence to support the suggestion that consumer behaviour would change. Paragraph 4.5 of the Report says that the evidence for consumer benefits is inconclusive. The NAO is fairly equivocal about the evidence. In particular, the point about perhaps benefiting from a mass randomised testing seems to have a lot of support from what it says here about the problems of "self-selection by participants and inconsistencies in the use of control groups". I wondered whether you wanted to say as confidently as you did that there is a huge weight of evidence in support of consumer behaviour.

Moira Wallace: I am not just referring to that study. This is something that many countries are engaged in and there is new evidence coming in all the time. There has just been a major international study.

Q105 Joseph Johnson: Since the NAO's Report.

Moira Wallace: Yes, this month there has been a major international study, which has looked at something like half a million cases. As I say, it was compiled across many countries. It has generally found larger benefits. That does not make me think that instantly that would happen, just because somebody has published a new study about what happened in other countries. I do agree that we need to do more evidence gathering here. Actually, the evidence we have, through the EDRP project, which is what the NAO Report referred to, did give us some very important insights about how things might work in the UK market. It was not a randomised control trial, but it did tell us useful things about what might work, what did and what did not work. We have incorporated evidence from that, so we got quite a lot of value out of it.

Q106 Jackie Doyle-Price: I want to come back to the issue of the directive, which was presumably the impetus driving this forward at this time. The directive said to install to cover 80% of domestic electricity consumers, and to consider the cost and timetable for installing intelligent gas metering. How did you get from meeting the baseline of that directive to rolling out across the board in gas and electricity?

Daron Walker: We basically built up an evidence base for this programme over a number of years. That started in 2009 when we consulted on different delivery models for how we might roll out smart metering. Fundamentally, the business case and the analysis we did showed that, by doing the dual-fuel roll-out, we were going to deliver a bigger net benefit to society and consumers. We have gone through quite a rigorous process over the past three years to gather evidence, to develop our programme, and we are confident that we have delivered a model that will generate big benefits for society.

Q107 Jackie Doyle-Price: But delivering the smart gas meters is more expensive than electricity meters.

Daron Walker: The meters do cost more than electricity meters. There may be something in the Report about it, but we are clear that the benefit of rolling out together at the same time is a positive outcome for society. There are a lot of different ways to do it. Some other member states are rolling out electricity only. We are convinced that the case for rolling out dual-fuel meters is a strong one. That is why we are pursuing that model.

Q108 Jackie Doyle-Price: I am trying to compute this in my head. It seems to me that, if part of the agenda is to encourage energy saving, you can see with electricity meters that consumers will be able to react and alter their behaviour. However, surely use of gas is more demand inelastic than use of electricity.

Daron Walker: First, there is evidence that people respond to the information they are given in home

display. If you think about the efficiencies you will drive if you end up having a smart electricity system, you will need to keep all of the associated costs of having a dumb system on the gas side. You will still need meter readers, and you will still need consumer helplines for all those elements of the system. So we are pretty clear that the synergies of doing them both together are strong, to make the case.

Q109 Jackie Doyle-Price: That is exactly it, isn't it?

If we look at figure 7 of this report, we can see that, yes, you have got a £12 billion investment but that the net gains here are actually to the suppliers, with the reduced impact of having meter readings and so on. On the actual benefit to consumers and users, for users it is £6 billion, but if you take that down to domestic consumers it is only £4.5 billion. This comes back to the point that Jo made earlier, that this is actually a tax on the consumer to pay for these smart meters.

Daron Walker: You are absolutely right that, initially, these benefits will be going to suppliers as they recover the costs of installing the system, but as and when the system is installed and all the meters are out there, they will then have a lower cost to serve consumers and those cost savings will be passed through to consumers—

Chair: How can you be sure?

Q110 Mr Bacon: You make that sound like a prophetic, biblical certainty. What makes you so certain?

Daron Walker: It comes back to the same point that we have been pursuing, that competition is more effective than regulation. Fundamentally, we believe that competition is the right way to ensure—

Chair: You believe it, but it is not the reality in this market.

Daron Walker: But then the choice is about whether you believe that regulation would be better than this. This is not really just about smart meters—

Q111 Mr Bacon: Hang on, this does not stop being a regulated industry. That is an extraordinary sentence, actually: competition is better than regulation. This is a regulated industry. Competition is better than regulation in the foreign exchange market, and you have perfect competition in the foreign exchange market. In the regulated utilities, you necessarily have a regulator; in this case it is called Ofgem, and the issue is not whether you regulate but how and to what extent you regulate in what is, essentially, an oligopolistic situation. Do you agree with that, because the person behind you is nodding—she obviously does?

Daron Walker: I agree that we have a regulated market, but we are discussing price regulation really. We believe that at the retail end competition will drive better cost-effective pricing for consumers—

Q112 Chair: Where is the evidence for that?

Moira Wallace: We have the lowest electricity and gas prices in Europe. So you can compare systems, and you do get different results out of this.

I know it is a while back, but may I come back on the point about gas?

Jackie Doyle-Price: Yes, please.

Moira Wallace: I can see that there is an argument developing about whether we have over-implemented a directive. One of the reasons we want to include smart meters for gas was not because we thought, "How can we implement this directive three times over?", but because gas is such a big part of people's energy bills in this country. There are actually really big savings to be made by quite simple things—turning down your thermostat, turning it off when you go out for the day—and making that visible in pounds and pence, which is what smart meter in-home displays will do, could be very powerful. People can actually see the clock running and see what they spend.

Q113 Jackie Doyle-Price: But the reality is, the way to get down gas bills is not by having meters, it is by having investment in your housing stock so we are not heating the air above our houses.

Moira Wallace: We need to do both. A lot of people do not know how to operate their heating controls, or just don't.

Q114 Jackie Doyle-Price: But who is to say that they will with smart meters? We all get our bills every quarter, we can all see what we are spending—

Moira Wallace: Yes. My gas meter is in the cellar, my electricity meter I have to stand on a chair to read and they are expressed in units that I can make no sense of, and I am the permanent secretary of the Department of Energy and Climate Change. The meter does not say to me, "Moira, you went out today, you should have switched your gas off, and by not doing so here's how many pounds you have spent." I would find that useful.

Q115 Jackie Doyle-Price: Perhaps that is a lesson for you to think about the information—

Moira Wallace: It is, I shall reflect on it, but I am quite keen to share it with others.

Q116 Jackie Doyle-Price: I can see the advantages in the synergy of implementing both simultaneously, but particularly for suppliers, frankly, because they can then go in and in one fell swoop put the meters in. But it comes back to the point that figure 9 shows: the cost of electricity meters is £104 for installation and the cost of a gas one is £136, which means that the overall cost of this is £240 that will be passed on to the consumer. We look elsewhere in the report and it says that the average benefit over a year will be £23 per bill. Again, surely it comes back to this being a tax on the consumer, to meet this EU directive.

Moira Wallace: We think that there is a very strong benefits case for doing this, in helping people to control their bills, helping the nation to tackle climate change and—we have not talked about this much today—paving the way for smart grids, which will really help us manage the overall system better. So we think that this is very considerably in the consumer's interest, and that is what all the cost and benefit

calculations that we have done show, but it is obviously up to us to demonstrate that.

Q117 Mr Bacon: Can I just ask about the £6? Several people have said that the additional cost to the consumer will be £6—that is to say, £6 on top of the bill. That is correct, Mr Walker, isn't it?

Daron Walker: That is the net impact.

Moira Wallace: In the early years.

Daron Walker: That is the net impact in the early years, because you have a combined effect of the customer—

Q118 Mr Bacon: Let's just talk about the gross impact.

Daron Walker: The gross impact maxes out at £14 a year.

Q119 Mr Bacon: So £14 a year for getting one of these smart meters that does both. Yes? Fourteen—1–4?

Daron Walker: Yes.

Q120 Mr Bacon: And it cost you £240—£104 plus £136—and you are saying that the actual cost is £14 per year, so you are paying for it over 17 years. Yes?

Daron Walker: I am saying that that cost reaches a maximum of £14.

Q121 Mr Bacon: Hang on. The consumer is paying for this thing. It costs £240. Over how many years does the consumer pay? They do not get a bill that is suddenly £240 higher one year, do they? So they are paying for it over a number of years. Over how many years are they paying for it?

Daron Walker: It would be spread over the life of the asset.

Q122 Mr Bacon: Right—£240 divided by £14 gives you 17 years. You have just said these things last only 10 or maybe 15 years.

Daron Walker: Fifteen.

Mr Bacon: Fifteen years.

Daron Walker: We have profiled what the average impact on bills will be as the roll-out happens. On a net basis, that combines the savings that—

Q123 Mr Bacon: Instead of having the net basis, it would be better to have all the costs and all the benefits and then we can look at them.

Daron Walker: Well, we have both. I can give them—

Q124 Mr Bacon: I am always suspicious when I see large charts of benefits and I do not see lots of charts of costs. You are talking about £6 a year, which is a very good line. In fact, it is the sort of line that insurance companies intent on mis-selling might try to use. Plainly, it is not £6; it is £240. That is probably the first piece of information the consumer needs: "This is going to cost you £240. That is the gross cost, because there are benefits from it, and here are all the benefits you are going to get. The benefits are £23 and £40" rising to over £40 in 2030—I think that is what you said—"depending on how much you reduce your consumption."

By the way, I think your assumption is quite modest. A 2.8% reduction, for those who have these meters compared with those who do not, is a perfectly credible assumption to me. I just think the consumer needs all the facts. So far, the facts they are getting are that this is going to cost only up to £6 in any one year—that is what you are saying—but it is actually £240 in total. Why not start with that, and then tell them about the benefits.

Moira Wallace: We are getting some valuable free advice for our consumer engagement strategy.

Mr Bacon: I am very keen on giving free advice.

Moira Wallace: And we will value it and reflect on it.

Q125 Chair: What does that mean?

Moira Wallace: It has been incredibly striking hearing first-hand from you and from the earlier witnesses, and being reminded of, the many ways that people could see this as not being in their interests. There are many risks, of which we are terribly conscious, but there are also huge advantages. When you think about the fact that most people have no comprehensible way, as they are running up the biggest bill they face, of knowing how big it is or what they could do to reduce it, that is quite a big benefit that we have to get out there and sell. You have to help us, and we have to help you to do that.

Q126 Chair: But you could do it on existing bills. There is nothing, in regulation, to stop you making these ruddy energy companies produce comprehensible bills now—full stop. It does not depend on smart meters. We would all love it if you did that.

Moira Wallace: That will not tell you day by day, hour by hour.

Chair: No, but it would give you the start of something over which you could begin to get in the competition that you are so keen on. At the moment, all the Which? research demonstrates that when you switch suppliers, you are quite often being conned and you do not save money. At the moment, the whole thing is so opaque, even for the rather more informed audience you have in front of you.

Q127 Mr Bacon: It is probably because £6 is deeply misrepresenting it, rather than because I am correct and my numbers add up, but if it is £6, £6 times 53 million customers is £318 million. If that is spread over 10 years it is £3.1 billion, and over 15 years it is £4.7 billion. If you take the £240 per meter number and multiply it by 53 million customers, you get £1.2 billion.

You make it sound as though the consumer will put in £6 and get out between £23 and £40. That sounds great—it sounds like a benefit of somewhere between 3.8 and 6.6 times, which is a cost-benefit ratio to die for. Anybody would go for that. Yet when you look at the summary of all the benefits, of the £18 billion of benefit, consumers get only £6 billion—they get only a third of the total benefit. If they are actually getting a benefit of four to six times what they are putting in, it suggests that somebody else is getting more benefit. Am I missing something? Is it because it is not £6? Is it actually a lot more than that, or what?

Daron Walker: When we gave the figure as £6, that was the net average impact on bills at the peak, when meter installation is at its highest. We have a set of numbers in the impact assessment that effectively shows, year by year, what we expect the net impact to be on the average bill as the meters are rolled out, and £6 is the peak net figure for a dual fuel customer.

Q128 Mr Bacon: But that is assuming that the assumptions about reductions in energy consumption are correct.

Daron Walker: Absolutely.

Q129 Mr Bacon: Right. Consumers are not actually thick; they are very distrustful, for very good reasons. In this particular industry, they've been rogered; they've been rogered in the insurance industry and lots of other industries as well. They have every reason to be sceptical. Wouldn't it be easier just to be plain and simple, tell them the raw numbers and say, "Here are your total costs, here are the total benefits, arranged depending on how often you turn off your fire when you're not using it and so on, and here is the potential total benefit," rather than coming up with a spivvy number like £6?

Moira Wallace: I think that is the first impact assessment that has been described as "spivvy". Well, maybe not the first. I would like to make a distinction. We are using those numbers in a very technical document called an impact assessment, which is not our consumer engagement strategy. You make some very good points about explaining what will happen when, how they can benefit most and what it will cost. Those are perfectly good points. We would not pretend that the numbers in our assessment are a marketing tool or are about engaging the consumer.

Q130 Fiona Mactaggart: Are you concerned that you trust these companies too much? We have already heard that they charge poorer people more for each therm of energy. You say that the average expectation will be £6, but I do not see any suggestion that that will be capped in any way, or that it will be regulated so that it does not bear harder on the poorer customer. Earlier, Moira said that your job in this is protecting customers. I cannot see that that is what you're doing.

Moira Wallace: At the moment, lots of people are paying more than they should for their energy, and we need to encourage them to go out and get the best tariff that they can. We are doing lots on that at the moment, including writing to the 8 million people who currently pay in cash or by cheque, as we all used to do 20 years ago, saying, "This is crazy. You should get on to at least a direct debit deal. Here's how to do it."

Fiona Mactaggart: But poorer people don't have bank accounts, Moira.

Moira Wallace: Some do and some don't. There are quite a lot of people who do have bank accounts and could pay by direct debit but do not—I count a number of them among my elderly relatives. There are lots of people who just have a way of doing it, and we need to help them get on to a different means of paying, so that they are getting the better deal that other people are getting and that they are currently

subsidising. That is something that we are trying to do quite apart from this, but this might help. In all markets, some people subsidise others if you are not careful. You have to be very savvy. We have to help people who do not have all the tools to do this to be very savvy. Smart meters might do that. They would be much more comprehensible than a bill, however user-friendly you make a bill.

Q131 Fiona Mactaggart: I think you have misunderstood your poorer consumer. I imagine a desperate mum sitting there with her kid's football kit that has to go into the washing machine, knowing that if she puts it into the washing machine in time for it to be dry by the time the kid has to play football, she will pay more than she should for it. She might not have the flexibility in her life to say, as I would, "Sod it, I can pay the extra."

I am really worried. I am very glad that you are going to do research with poorer customers, but I am concerned. I look at your business plan: smart metering has 12 points of action, vulnerable customers have three points of action. That says something to me: They're all done, unlike smart metering. It seems to me that there is no engagement between those two programmes, and that there is a real lack of effort to use it intelligently to understand how poorer customers work. The poorest customers know when they spend the most, because they use a key. They are the best informed about what costs what, when. They are therefore the least likely to benefit from this programme, and I see nothing in here in which you are using your regulatory power to protect them.

Moirá Wallace: We are trying to identify the ways that poorer customers could benefit, or the ways that they could be prejudiced. We are trying to turn up the volume on the first and turn down the volume on the second, and we welcome any input on this. But in terms of the actual choices that we have made, one of the reasons—I will come back to this—why we have chosen to say that this is what new meters will look like, is that otherwise the market will be cherry-picked. The market will be cherry-picked and some people who have the flexibility to take advantage of very sophisticated time-of-use tariffs will do so, and the differential between what the rich pay and what the poor pay will get wider. So we are trying to do this in a way that actually builds everyone in and makes it available to everyone, which otherwise might not be done in terms of the company's own commercial incentives. But, as I have said, we are trying to be on the look out for ways we could maximise the benefit to poorer customers and to avoid any prejudice. I have a feeling Daron wants to say more.

Daron Walker: The other thing to add is that a fundamental part of our evaluation strategy that we are working up, and which we plan to publish next spring, will be tracking the distributional impacts, including the impacts on the vulnerable, from this programme. So we are very alive to the issue. I am actually also the SRO for fuel poverty, so it is something I worry about a lot in another part of my daily life.

Q132 Chair: How long do you expect to be in your current job, Mr Walker?

Moirá Wallace: A long time, if I have anything to do it. We talked about this. Someone said they are going to ask if you are going to be there till 2019, and I think that that might be unreasonable, but we are trying to keep our SROs in place for a good long time, and Daron has not been there that long.

Q133 Mr Bacon: Mr Walker, the *Financial Times* reported the other day that the Queen was about to enter fuel poverty. As the fuel poverty SRO, do you have any comment on that?

Daron Walker: It is a very interesting fact that I also read in the *FT*. There is currently an independent review of the fuel poverty definition.

Mr Bacon: The headline was "They're changing bulbs at Buckingham Palace".

Moirá Wallace: Is it not also the case that she has got a smart meter?

Daron Walker: She has got a smart meter.

Q134 Fiona Mactaggart: Is there a reason why the amount that the consumer pays is not capped, whereas some other charges will be capped?

Moirá Wallace: By capped?

Q135 Fiona Mactaggart: There is a maximum. There are some of your charges in your agreement where there is a maximum amount that can be charged, aren't there?

Moirá Wallace: Yes. Some of the investment programmes that we fund directly, but which are recovered from the energy bill, are subject to a cap. This has not been considered as one of those because it has been run rather differently, because it has been run directly by the suppliers.

Q136 Fiona Mactaggart: Why can it not be capped, then?

Moirá Wallace: I think it comes back to the competition discussion, which we are now going to head back to for the umpteenth time, which is that our view is—

Chair: Don't repeat it.

Q137 Meg Hillier: Picking up on Fiona's points about poorer customers, what are you going to do about people being cut off? There are two issues here. One, the technology makes it a lot easier to do it remotely. Two, what regulatory powers will you have to stop people being cut off, because it is so much easier?

Daron Walker: This is one of a number of things that the regulatory regime will have to adapt to, to take account of these new possibilities. Ofgem consulted earlier in the year on new rules around remote disconnection. There will be licence conditions obligations on energy companies. In addition, they will have to go through a series of checks to establish whether the customer they are about to disconnect is vulnerable, and they will have a number of measures before they are allowed to remote disconnect.

Q138 Meg Hillier: It could still happen by accident, couldn't it, because the technology will allow it—the flick of a switch, or a computer button pressed?

Daron Walker: Again, that comes back to the safeguards in place to ensure that they have a rigorous process before they remote disconnect.

Q139 Meg Hillier: A lot of my constituents use keys—the pre-pay meters—because they know exactly what they are paying. In fact, some of my young constituents use their EMA to pay for electricity and to keep the lights on in the house. That is how they know precisely what is going on. We did not quite get the answer out of you or the other witnesses. Will the new meters allow for people to use some sort of pre-pay? I know that they can see the data more clearly, but they still worry about that bill every quarter.

Daron Walker: One of the potential benefits is that you will be able to reduce the cost of having PPM in the system, so you should see the cost of serving a PPM customer aligning more closely with the standard credit, for example, because you will be able to switch it into pre-paid mode and you will be able to do all that without having to visit the home. The cost of serving should go down, so you should start seeing the tariffs go down.

Q140 Fiona Mactaggart: You keep saying “should” and I understand that. But you believe these companies, which have operated a cartel and which have made it very hard for new companies to develop, because they are not selling enough gas, as you have pointed out. You believe that they will pass this on, but I don't understand why you believe that, because so far they haven't. Evidence suggests that they are not passing on savings to customers, so why “should” they? They “ought” to—is that what you mean by “should”? Or do you know they will?

Daron Walker: Ofgem has been tracking various things. One of the things that it introduced 18 months ago, or a couple of years ago, was the requirement for non-discriminatory pricing, to check that if prices are divided by more than the information about cost to serve, the company is no longer complying with their licence condition. Ofgem has taken action and we have seen differentials between tariffs reducing as a result of that. But fundamentally, if you have a pre-payment system that is cheaper, that will reduce costs. That information will be transparent—that it is reducing costs—and the regulator will take action if people are not reducing the differential between tariffs.

Amyas Morse: I have one question, if I may. As I listened to the EDF witness, each time he had a chance to speak he repeated the suggestion that you do substantial area trialling. Are you convinced about that? I mean, why do you think he is suggesting that and are you really convinced that that is not of any value?

Moira Wallace: We do want to do more trialling.

Amyas Morse: But on the basis that he was suggesting? He was talking about selecting quite large urban groupings and carrying out these area trials to see if the behaviour and all the other aspects stack up.

I am not recommending it myself, but since he chose to keep on saying it about three or four times in his testimony, I am bound to ask about it. I just wondered what your reaction to it was.

Moira Wallace: We want to do more trialling and I think that we have to see how we can fill in the evidence gaps. I want to think a little bit about the right way to do that. When I say that, it is not because I don't want the evidence, but there is a balance to be struck here because there is also quite a lot to be said for getting on with this, because the sooner that people can start to realise the benefits, the longer they will realise them for.

So I want enough evidence and enough confidence, but I don't want this to be one of those programmes that is always a couple of years away from actually starting, because the other thing that Mr de Rivaz said was that people have been talking about this for 10 years. We have a metering system that is 40 years old, in terms of the technology that is being replaced. It is '70s and '60s technology, and we would be better placed if we had a different technology. I don't want this to take for ever.

Q141 Chair: Everybody says that this stuff gets redundant and that new meters will be redundant much more quickly, and we are all hearing about this smart grid that is coming in. So the smart grid comes in and the smart meters are no longer appropriate, so we will have to put in new smart meters. It could well happen. Who pays for that?

Moira Wallace: We are trying to organise it so that we don't have to do that.

Q142 Chair: But you don't know, because you haven't developed your smart grid enough. There is something to be said for developing the two concurrently. You have decided not to do that. You are going for the smart meter first and waiting for the smart grid to come along. I bet the technology will say that the smart meters are no longer appropriate.

Moira Wallace: We are doing everything we can to prevent that from happening, subject to keeping the costs under control. It has influenced a number of decisions that we've made, not least because we read the NAO Report. The Report said that we should build in flexibility, and so we're building in flexibility.

There are two particular places where we are building in flexibility. The first thing is that the smart meter will be modular, so there will be the meter and the communications module, which is the element that it is most likely that you would want to replace first. That will be separate, so we have taken that decision not to have everything in one big box that you would have to completely redo if things change later on. But we are also building in flexibility in the communications procurement that we are doing, to understand if we can now build in the functionality that we need for a smart grid. Would that be worth doing? How much would it cost? How much would it benefit? So we are trying to avoid the situation where, a little while later, someone comes along and says, “No, no, we need the latest thing.”

Q143 Chair: But if there are modifications—even though you have limited them—who pays?

Moira Wallace: We would have to settle that at the time.

Q144 Chair: But who would you expect to pay in your current business model?

Moira Wallace: It would depend a little bit, because with the smart grid, it's more distributed. I do not really want to guess at it; I would just be making up the answer.

Daron Walker: On the meter itself, we have done thorough testing with a range of experts, and we have included functionality for current and foreseeable future needs for smart grids. The point Moira was talking about is that the key area where flexibility is needed is around communications procurement.

Q145 Chair: But at the moment, the industry and consumers are paying for that. You have to modify things for the smart grid. Who pays? It is a simple question.

Daron Walker: We would have to take a decision about whether the cost-benefit of modifying the communication set-up stacked up before we made any changes, but the reality is that if we did make those changes, and there was a positive NPV case for doing that, ultimately consumers would pay for those costs.

Chair: Thank you. That's what I thought.

Q146 Ian Swales: In this Committee, we talk a lot about money, but one of the big hidden costs that we always discover is slippage in time. I just want to explore whether your programme is actually realistic. First, installers tell us we have only 20% of the capacity that we will need in two years' time, and that is probably based on an unrealistic level of installations per day. What are you going to do to make sure we have enough people who can actually do what you need when you want to start in just two and a bit years' time?

Daron Walker: The first thing to say is that this programme is very much a partnership between Government, in the central programme, trying to define the framework; the energy companies, and we are working closely with them; and consumer groups. The key thing for the energy companies is the transparency of the forward plan, and we are working closely with them to share assumptions and ensure that they understand at what stage things will come to fruition. But, fundamentally, it will be for the energy suppliers to mobilise their resources. At the moment, 5% of meters are replaced every year, and metering is with the energy suppliers. They make sure that the logistics work. The same will be true for the roll-out of smart metering.

Q147 Ian Swales: You have led me into my next question. You have said that 5% of meters are replaced every year, but Ms Wallace said that nobody is going to have their homes forcibly entered. How on earth are you going to get basically to every house—30 million houses—by 2019? There are going to be an awful lot of people who are not going to let the

energy companies through the door. How on earth are you going to get to 30 million?

Daron Walker: Two things. First, the assessment of the 2019 end date was based on an extensive piece of consultation and research, and on working with the energy companies on what was practically achievable. That followed our consultation last July, when we published the prospectus. We worked with the energy companies over that time to work out a sensible and achievable roll-out time scale. We have finished consulting on the licence obligation, and we are now analysing responses. Again, we proposed the 2019 end date, and we are still analysing those responses. The evidence base from the suppliers and from other experts was that that was achievable and doable.

Q148 Ian Swales: It might be, assuming someone invests in a lot of training over the next few years, and we do not know who that will be, but as to the assumption that it is technically achievable in terms of boots on the street and so on, how are you going to get into 30 million houses in that time scale? The number of people who do not want to do this will not be small; it will be large. What levels of coercion are you going to employ? What did you mean by licence obligation? Did that relate to this point?

Daron Walker: The licence obligation is effectively mandating the energy companies to take all reasonable steps to complete the roll-out by 2019. The questions you ask are effectively questions for the energy suppliers about how they organise their manpower and access to consumers' homes, and about how they ensure they engage with consumers to make sure they—

Chair: You are accountable—that was the reason for the accountability questions.

Q149 Ian Swales: Let us be specific. I am going back to what Ms Wallace said earlier—nobody is going to be forced to have one of these meters.

Moira Wallace: Part of it comes back to the importance of customer engagement and customer information programmes, because it is very clear that people are going to have to see what is in it for them. They are going to have to understand it and have all the consumer groups and all their welfare groups saying, "This is a good idea for you and this is what it will help you to do." That is a big task for us.

Q150 Ian Swales: If I can come back on that, it comes back to something that Fiona said a few minutes ago. We have to understand the psychology of people. Cavity wall insulation has been a no-brainer for two decades, but what is the take up for that? Even though it is virtually being given away through various programmes, there are still loads of people who don't want it, can't be bothered and take no interest. I think you are being completely unrealistic, if you do not mind me saying so, about the likelihood of virtually every single householder in the country putting their hands up and saying, "Yes, we want one of these," in this time scale.

Moira Wallace: People got their meters replaced even before we invented the smart meters programme. I am sure most of you have had your meters replaced at some point.

Q151 Ian Swales: I think that 5% a year was the statistic.

Moira Wallace: Yes.

Q152 Ian Swales: So is the plan that we will simply have a faster meter replacement programme?

Moira Wallace: Yes, and it will be quite fast. In the later years of the programme, four or five times as many meters will be replaced, as would be if we were not going down there. So yes, it is a significant escalation.

Q153 Ian Swales: So what did you mean when you said that nobody is going to be forced to have one of these meters? In fact, everybody will be forced via the—

Moira Wallace: What we mean is that everyone will be very strongly encouraged. If you had your meter replaced five years ago, you got lots of letters from your energy company, saying, “We would really like to come to replace your meter. We called five times, but you were out. When would be a good time?” They would also phone you. When we say that people are not going to be forced to do this, what I mean is that some other countries made it mandatory on the individual and suggested that people would have to pay a fine or be sent to prison if they did not do it. We are not going down that road.

Q154 Ian Swales: My final question is: as these are installed, who owns the meter?

Daron Walker: The energy suppliers, as they do now.

Q155 Ian Swales: So if I change energy suppliers, the ownership of my meter changes, does it?

Daron Walker: It is a core part of the programme’s function to ensure proper interoperability. That is technical interoperability, so if you switch from one supplier to another, the new supplier is able to operate the system in smart mode. That is a key thing that we are trying to achieve.

Q156 Chair: Who owns the meter?

Daron Walker: They will then have commercial arrangements, as they do now, for dumb meters and they will arrange payments between the relevant suppliers. That commercial arrangement functions at the moment and that will be true for the future.

Q157 Mr Bacon: May I ask you about security and cyber-attacks? Paragraph 3.9 says: “The Department is seeking to mitigate the risks that the system is vulnerable to security breaches, criminal cyber-attacks and the accidental release, theft and misuse of personal data.” At the bottom of that paragraph, however, it says: “The scope of the risk assessment does not currently cover the data communications company data centre and operational premises that have still to be designed. The Department has also still to develop a detailed mitigation plan.”

As I drove down from Norfolk this morning, I listened to a radio programme that talked about the problem of cyber-attack and the fact that many of the entities that need to protect against it are in the private sector, are not necessarily as willing to spend as much on it as they should, and will probably only wake up to it when something bad has already happened. One fellow said that, for entities involved in these sorts of activities, whether they be electricity companies or whatever, it may have to become a licensing condition for them to show that they have adequate protection against cyber attack, in order to have a licence. That may become one of the conditions. Is that likely?

Moira Wallace: Yes, I think so. We are now a lot further on than the position described in the report. We have put a lot of effort into this. Cyber-security is something you need take very seriously. We already take it seriously throughout the energy infrastructure, because it is very important, even now.

Mr Bacon: But if it is going to be remote—

Moira Wallace: I will check with Daron, but I am confident that it is no longer true to say that we have not risk-assessed the data communication company, because I believe we have. We have taken advice from the top people, including those who will have been talking about it this morning, on what the risks are, how to mitigate them, what the standards will be, and who will have to be accredited.

Q158 Mr Bacon: Do you now have a detailed mitigation plan?

Moira Wallace: Yes we do.

Q159 Mr Bacon: You do. Is it partly as a result of the publication of this report that you stepped up your pace of activity?

Moira Wallace: I don’t know that that is actually true, but anyway we do take it very seriously and we are involving all the people it would effect.

Q160 Chair: Pike Research—one of the staff gave me this quote—has said, “It would be naive to think that smart meters will not be successfully attacked. They will be.” Do you disagree?

Moira Wallace: I am sure that people will attempt it, but we are taking the absolute best advice we can.

Chair: I know you are taking it seriously, but the whole point is that the system itself is open to risk of people getting information, finding out when you are in and deciding when to burgle your house.

Moira Wallace: The whole purpose of the risk mitigation work we are doing is to make sure that that can’t happen.

Q161 Chair: Can’t happen or mitigate it happening?

Moira Wallace: Can’t happen. That is the standard people will expect.

Q162 Chair: So this guy who said, “It would be naive to think that smart meters will not be successfully attacked. They will be” is wrong?

Moira Wallace: I am happy to go away and take that to our experts, but, as you can imagine, it is our intention to give people a very, very high level of assurance about this.

Q163 Mr Bacon: I met an anti-virus campaigner recently. Among other things, we were talking about online banking. This chap said, "I wouldn't dream of doing it. I know far too much." It is a fact that although the risks are quite low, they are significantly higher if you do online banking than they are if you do other kinds of more vanilla traditional banking. This is accepted as a risk some people are happy to take, but it is known to be a higher risk. You make it sound as if it is not going to be a higher risk.

Moira Wallace: It is a huge risk, which is why we are devoting a very large amount of effort not just to saying, "Oh, there's a risk," but to all the different points in the system that need to be protected and to keeping what level of protection they need constantly under review. A huge amount of effort goes into that, not just in our programme, but across all the critical national infrastructure of which this would be part. We have critical national infrastructure already where we do this work.

Q164 Meg Hillier: What is the Department's budget for this public information programme?

Moira Wallace: For the public information programme, we have assumed about £100 million.

Daron Walker: In the impact assessment, there is a sum of around £100 million over the life of the programme. In the budget that we have for the next four years, there is around £20 million for consumer engagement. However, that is an estimate, because one of the key things will be the consumer engagement strategy that we are due to publish for consultation next year. We need to make sure that we get the balance right between what we do from Government and the central programme, and what suppliers do. At the moment, that is just an estimate, but there is a figure in the budget.

Q165 Meg Hillier: So it is £20 million over four years.

Daron Walker: In that four year period. However—

Moira Wallace: We are in year one.

Daron Walker: We are in year one and we will need to revise that according to the consumer engagement strategy, the responses we get, the further evidence we gather and the work with suppliers. I would not stick to that figure, but that is the figure we have for now.

Q166 Ian Swales: Just a quick and perhaps naive question, figure 8 says that the cost of installing smart meters is £11 billion, which no doubt will move. The benefit statement says that the networks and the suppliers get about £9 billion or £10 billion of benefit. In other words, my question is: what would the companies do if we just said, "Right, the Government are playing no part in this. We are not going to spend a penny."? Do you honestly think we would still have dumb meters in every house by 2019?

Moira Wallace: We would have smart meters in some houses and they would not be interoperable. It would become a barrier to competition. That is what I think would happen.

Q167 Ian Swales: So the energy companies would put meters in that would only work with that company? It is an interesting thought.

Mr Bacon: It rather depends what Ofgem told them they could and could not do, doesn't it?

Ian Swales: You could regulate. My point is that with technology moving and the amount of benefit for the energy companies, the Government should not be a soft touch on this, because they have massive reasons for doing this themselves.

Mr Bacon: This is why British Gas is absolutely choking at the chain and has written to the Chair on this issue. It is gagging to get on with this. It sees all these call centres that it has had to run being minimised. It sees huge benefits to it, anyway. I think that is Mr Swales's point.

Moira Wallace: There is a great deal of consumer protection that we are building in. Just as British Gas is influencing us, we are influencing it. One of the big things that we are putting into this is the in-home display. It would be perfectly possible to achieve all the benefits that the companies might want, with the consumer seeing no difference at all and my meter still being something I have to stand on a chair to reach.

Chair: Thank you. That was very clear evidence. You have met a sceptical audience this afternoon. The interesting thing is the unanimity across the Committee, so I hope you take that away and at least think about trialling. Most of us feel, before embarking on what could be another disaster, you might just trial it and see whether there is a real benefit. Thank you.

Written evidence from Orsis UK Ltd

NATIONAL AUDIT OFFICE REPORT

Preparations for the roll out of smart meters

The National Audit Office recently published a report "*Preparations for the roll-out of smart meters*" which examined the Government's proposals for the national domestic roll-out of electricity and gas smart meters. Whilst, as we do, it supports the aspirations of the Government for a national roll-out programme, the NAO shares similar concerns and issues with us as to the realistic possibilities that the current proposals will not achieve those aspirations. Therefore we urge the Public Accounts Committee to look into the smart meter roll-out programme.

ORSIS is a smart metering provider with installations in over 10,000 premises in the UK and our parent company, Revenco enterprises, has much experience in the area of mass data-processing, including the installing of over 3 million smart meters in China. Our over-arching concern is that the current plans for smart metering rollout are unlikely to deliver the Government's requirements including aspirations of a reduction in energy consumption, more efficient use of energy and to reduce bills for the consumer. We feel that a simpler, back-office type approach would deliver maximum benefit at a much reduced cost.

Much of the NAO Report supports our concerns: in terms of the proposed timescale for rollout, the cost of the programme, and the likely benefits to consumers. We feel that the cost benefit analysis, whilst showing significant savings across the piece, is unlikely to deliver the full amount accounted for, and that an alternative, simpler approach will still allow the consumer and the Supplier to benefit from the installation of smart metering, without the significant costs associated with the prospectus proposals.

Our specific concerns with the current roll-out proposals fall into five main areas: cost, complexity, timescale, In-Home-Display (IHD) and the Impact Assessment—of particular interest to the Public Accounts Committee will be:

Cost: The most up to date estimate of cost per consumer is £350—this is likely to rise rather than fall as the full cost of technology and systems are known. The most recent assessment of benefits is that by 2020 the consumer will save £23 per year. A simpler solution will cost a fraction of this, and has not been considered.

Timescale: as the NAO report states, there is little contingency in the proposals for delays to any of the key deadlines within the prospectus. The current installation workforce will only achieve 20% of this target—therefore there is an urgent need for a skilled workforce to be developed before 2014 that are capable of safe installation of gas and electricity meters, and explaining the workings of the meters and the IHD—all for a price of £58 per household (for dual fuel—£29 electricity and £39 gas). This factor alone could delay the programme and have a detrimental effect on the achievement of the Governments targets for energy savings. In this respect we feel that the NAO report does not investigate this matter in sufficient detail, and suggest that further work is required to assess the risk and cost of failure to deliver within the five year period.

IHD: ORSIS agrees with the NAO report that there is little evidence to support the assumption that customers will make significant and lasting changes to their energy consumption as a result of the installation of smart metering. The “gadget” effect of the IHD may not have a lasting effect, Suppliers will only support it for one year, and there is evidence that suggests once the novelty has worn off, consumers lose interest, and the device ends up in a drawer.

We believe that the IHD should be one of a range of solutions offered to consumers, and that it should be an opt-in rather than an opt-out solution. The fuel poor will not necessarily benefit from the level of information provided by an IHD—but rather from timely and user-friendly advice from their Supplier on the most effective tariff for their needs. The current estimate of cost of the IHD is £15, which we feel is hugely understated, the fuel poor are already struggling, this is an additional financial burden. We do not feel that the current proposals have considered the impact—financial and in terms of successful rollout.

Impact Assessment: ORSIS has concerns that the Impact Assessment is now hugely inaccurate—and as the NAO report states, it is essential that DECC continue to update the cost benefit analysis to ensure that the most accurate information is used. However, ORSIS believes that there are many costs that have not been included in the assessment, and feels that the benefits have been significantly overstated given the delays already experienced, and the likelihood that full rollout will not be complete by 2019.

We welcome the comment from the Chair of the Committee, the Rt Hon. Margaret Hodge MP, that the Public Accounts Committee will keep a watching brief on the programme and urged DECC to address the risks identified in this report. However, given the significant impact that this programme will have on every household in the UK we would urge the Committee to hold an inquiry into the smart meter roll-out programme as soon as possible.

20 July 2011

Written evidence from the Managing Director, British Gas

I wanted to write to you ahead of your Committee's hearing on 31 October and before we speak tomorrow. We believe strongly in the smart meter mandate and feel we represent a proactive British view on investing in this vital part of our national infrastructure.

British Gas will be responsible for installing around a third of the smart meters required in the UK. Already around 400k of our customers benefit from smart meters. We are taking a leadership position and deploying smart meters now because we recognise that smart meters will transform our relationship with our customers by giving them real-time, transparent billing information—and by advising them on how best to cut energy use. We have undertaken a huge amount of customer research, including trials with both the Cabinet Office and Ofgem, and interviews with over 20,000 smart meter customers to ensure we give customers what they want. Of course not everyone shares our ambition and indeed some suppliers are seeking to delay the roll-out of smart metering to suit their own investment plans. I want to ensure that your Committee is privy to the

whole picture with regard to the rollout of smart metering by energy suppliers. Our view is that the evidence you are hearing orally will be from those who are ill-informed or ill-equipped to handle the complexities of smart meters, have little experience of having done so, and would therefore rather we simply delay key decisions.

British Gas fully supports a 2019 completion date. I know this target has been called into question by some energy suppliers for whom significant billing system investment is required to be “smart ready”. However, we firmly believe that the customer benefits of understanding energy bills—and how to tackle them—must be realised as soon as possible given the rising unit cost of energy and current consumer concern over pricing. Further, lack of a clear end date will result in further delay and stalling by those parties less enthusiastic or committed to the deployment of smart metering.

Installing smart meters alone will not be enough to stimulate the behaviour change required of consumers if they are to reduce consumption. However, significant reductions in energy usage—above those set out in the Government Impact Assessment—can be made with proper support (12% according the world’s most comprehensive study of smart meter use). Such savings will occur because there is an incentive for the energy supplier to engage with their customer—both to win them and keep them as energy customers, but also to ensure customers see British Gas as a leading provider of energy services such as energy efficiency (which is where our business model is going).

We need two things from DECC to ensure the consumption savings expected of smart meters can be realised:

- Firstly, customers must be able to receive holistic energy efficiency advice as they receive their smart meter. Consumer Groups, however, are proposing to ban any wider conversation an Engineer might have when in the home. This makes little sense particularly as we try to raise awareness of the Green Deal, but we have developed a Sales and Marketing Charter that, whilst preventing the completion of Sales during a Smart Meter Installation visit, it does provide a clear choice for customers before the smart metering installation visit as to whether they wish to receive information about products and services. We believe this protects the consumer but also ensures customers can get quality energy efficiency advice.
- Secondly, default access to half-hourly data is needed for maximum understanding and management of energy use. Consumer Groups argue this is an invasion of privacy if energy companies have access to this data (something mobile phone companies have clearly overcome). Without this data, tailored bills are difficult; appliance-by-appliance level analysis over how to cut bills is impossible, and Time of Use Tariffs will be ruled out. We therefore advocate default access to data, but with clear opportunities for “opt-out” for customers who wish to (less than 19 out of 100,000 we wrote to recently have done so).

In your response to the NAO report, you also noted the importance of ensuring flexibility where technology changes so rapidly. We agree with this, and would recommend that, where enduring solutions are not yet possible, DECC should isolate challenging design decisions in the foundation phase and make these nearer the “go live”, specifying clearly which design exceptions are tolerable in the interim. This would improve market confidence and transparency whilst retaining control and confidence that sufficient functional richness is in place to deliver the Impact Assessment benefits. DECC must also provide those suppliers actively planning to install meters in foundation phase with an assurance that their assets, including the communications module, need not be replaced prior to the end of their natural life. I would like to stress that interoperability is not a constraint as some may suggest. Ofgem has already developed a regulatory framework for Advanced Meters that can be extended to “compliant” smart meters in the foundation phase. In addition, we are aware of a growing presence in the market of interoperability facilitators that can provide pseudo DCC services on a commercial basis.

DECC does have a number of critical decisions to make in the coming months. A 2019 roll-out completion depends on DECC enabling active deployment in the foundation phase. British Gas, without a 2012 start, will be unable to complete its roll-out of 16 million meters by 2019 without unacceptable increases in cost and degradation in quality arising. We see this being true for the industry the longer they wait. For example, without an active foundation phase, the peak number of meter installers required will be 2,600 more, leading to a premium cost of circa £120 million per annum. However, we believe that DECC is in a good position to make these decisions, provided they build in flexibility where necessary.

I hope this information has been helpful in summarising our approach. We are keen to do all we can to shape an ambitious and customer-centric rollout that we believe is good for the UK, good for the customer, and good for British Gas. We would be happy to contribute further as you wish. I look forward to speaking tomorrow.

27 October 2011

Supplementary written evidence from British Gas

ABOUT BRITISH GAS

British Gas is the UK's leading energy supplier, supplying or providing energy services to half of all UK homes and c 1 million businesses.

With 11,000 engineers, British Gas is the UK's leading supplier of decentralised energy and energy efficiency measures:

- We have insulated 200,000 homes in the past year alone and have gone early on the Government's Green Deal through our "Home Energy Plan".
- We are leading the rollout of Smart Meters, installing c 400,000 so far.
- We are partners on over 50 Community Energy Saving Programme, or CESP, projects, giving whole-house makeovers to communities around the UK.
- Our analysis shows that all of this can make a huge difference to energy use. To take energy efficiency alone, British Gas customers have cut consumption by over 22% over the past five years as a result of energy efficiency measures—with those installing loft insulation and new boilers cutting energy use by 44%.

SMART METERS

British Gas will be responsible for installing around a third of the smart meters required in the UK. Already around 400k of our customers benefit from smart meters.

We are taking a leadership position and deploying smart meters now because we recognise that smart meters will transform our relationship with our customers by giving them real-time, transparent billing information—and by advising them on how best to cut energy use. We have undertaken a huge amount of customer research, including trials with both the Cabinet Office and Ofgem, and interviews with over 20,000 smart meter customers to ensure we give customers what they want. British Gas fully supports a 2019 completion date. We firmly believe that the customer benefits of understanding energy bills—and how to tackle them—must be realised as soon as possible given the rising unit cost of energy and current consumer concern over pricing.

BEHAVIOUR CHANGE

We agree with the NAO report that smart meters alone will not be enough to stimulate the behaviour change required of consumers if they are to reduce consumption. However, significant reductions in energy usage—above those set out in the Government Impact Assessment—can be made with proper support (12% according to the world's most comprehensive study of smart meter use), above all tailored building and the provision of energy efficiency advice.

Such savings will occur because there is an incentive for the energy supplier to engage with their customer—both to win them and keep them as energy customers, but also to ensure customers see British Gas as a leading provider of energy services such as energy efficiency (which is where our business model is going).

We do need two things from DECC to ensure the consumption savings expected of smart meters can be realised:

- Firstly, customers must be able to receive holistic energy efficiency advice as they receive their smart meter. Some Consumer Groups are proposing to ban a conversation an Engineer might have when in the home, as they are concerned this could be a sales technique. This makes little sense particularly as we try to raise awareness of the Green Deal, but we have developed a Sales and Marketing Charter that, whilst preventing the completion of Sales during a Smart Meter Installation visit, does provide a clear choice for customers before the smart metering installation visit as to whether they wish to receive information about products and services. We believe this protects the consumer but also ensures customers can get quality energy efficiency advice.
- Secondly, default access to half-hourly data is needed for maximum understanding and management of energy use. Without this data, tailored bills are difficult; appliance-by-appliance level analysis over how to cut bills is impossible, and Time of Use Tariffs will be ruled out. We therefore advocate default access to data, but with clear opportunities for "opt-out" for customers who wish to (less than 19 out of 100,000 we wrote to recently have done so).

IMPLEMENTATION

In the PAC Committee's initial response to the NAO report, the Committee noted the importance of ensuring flexibility where technology changes so rapidly.

We agree with this, and would recommend that, where enduring solutions are not yet possible, DECC should isolate challenging design decisions in the foundation phase and make these nearer the "go live", specifying clearly which design exceptions are tolerable in the interim. This would improve market confidence and

transparency whilst retaining control and confidence that sufficient functional richness is in place to deliver the Impact Assessment benefits. DECC must also provide those suppliers actively planning to install meters in foundation phase with an assurance that their assets, including the communications module, need not be replaced prior to the end of their natural life.

We do not believe that interoperability is the constraint that some may suggest. Ofgem has already developed a regulatory framework for Advanced Meters that can be extended to “compliant” smart meters in the foundation phase. In addition, we are aware of a growing presence in the market of interoperability facilitators that can provide pseudo-Data Communications Company (DCC) services on a commercial basis.

DECC does have a number of critical decisions to make in the coming months. A 2019 roll-out completion depends on DECC enabling active deployment in the foundation phase. Without a 2012 start, we believe suppliers will be unable to complete its roll-out of 16 million meters by 2019 without unacceptable increases in cost and degradation in quality arising. We see this being true for the industry the longer they wait. For example, without an active foundation phase, the peak number of meter installers required will be 2,600 more, leading to a premium cost of circa £120 million per annum. However, we believe that DECC is in a good position to make these decisions, provided they build in flexibility where necessary.

CONCLUSION

We hope this information has been helpful in summarising our approach. British Gas is keen to do all we can to shape an ambitious and customer-centric rollout.

28 October 2011

Written evidence from Centrica

Thanks again for all your help regarding the 3pm session today.

In advance of this, please find below a table setting out estimated customer consumption savings from smart meters, as I know this was an area of concern for Margaret when our Managing Director spoke with her on Friday.

BRITISH GAS ESTIMATES OF SAVING THAT COULD BE ACHIEVED FROM SMART METERS

<i>Estimated reduction</i>	<i>Elec</i>	<i>Gas</i>	<i>Benefit⁽¹⁾</i>	<i>Benefits vs DECC IA⁽²⁾</i>
Smart meter, IHD, no feedback, reads just for quarterly bills	2.00%	0.50%	£3.061 billion	–£10 per customer
Smart meter, IHD, no feedback, reads just for monthly bills	2.50%	1.00%	£4.227 billion	–£5 per customer
Smart meter, IHD, feedback using daily data	4.00%	2.00%	£7.191 billion	+£6 per customer
Smart meter, IHD Half hourly data	6.00%	4.00%	£11.884 billion	+£23 per customer

CURRENT SAVINGS BEING SEEN BY CUSTOMERS⁽³⁾

<i>Reduction</i>	<i>Elec</i>	<i>Gas</i>
November 2010 Analysis ⁽⁴⁾	2.00%	0.50%
March 2011 Analysis ⁽⁵⁾	4.00%	4.00%
September 2011 (1) ⁽⁶⁾	1.5%	4.00%
September 2011 (2) ⁽⁷⁾	0.6%	0.3%

⁽¹⁾ Assumption in Appendix 3.

⁽²⁾ Assumptions in Appendix 3.

⁽³⁾ These savings are based on early analysis of the savings smart metering customers have made. However, given the limited time customers have been on a smart meter it is too early to conclude that these represent sustainable savings. At least 2–3 years worth of data would be needed before any long term savings conclusion can be reached. All figures are adjusted for weather and underlying consumption reduction.

⁽⁴⁾ 1,000 smart meter customers, compared to a control group.

⁽⁵⁾ 15,000 smart meter customers, three months consumption data, compared with 50,000 standard meter control group.

⁽⁶⁾ 15,000 smart meter customers, compared with 50,000 standard meter customers over one year period.

⁽⁷⁾ 3,700 electricity and 2,600 gas smart meter customers, compared with 2m standard meter customers for at least 12 months.

We would also like to highlight that there are many other benefits of smart metering data. Monthly and daily meter readings can facilitate a reduction of £33 million per annum in our bad debt charge; a total reduction of £225 million over the course of our programme. For theft, we believe a benefit of up to £350 million could be delivered in an area where the absence of data at the moment puts suppliers at a huge disadvantage when tackling theft. Data can also help us ensure that meters are working properly, that we deliver customer focused smart grids and demand side management, and that can continue to reduce operating costs and improve customer service.

Finally, we have also identified that only 6% of customers objected to the collection of half hourly meter readings. Customers have been overwhelmingly positive about smart with comments about privacy (promoted or unpromoted) very much the exception.

October 2011

Written evidence from the Permanent Secretary, Department of Energy and Climate Change

During the hearing on smart meters on 31 October 2011, we agreed to write to the Committee with further information on the effects of limiting the roll-out of smart meters to 80% of consumers as required under the EU Third Package Directives.

ROLL-OUT AMBITION

We have undertaken some analysis of the impacts of a limited roll-out. Based on the averaged assumptions in our economic modelling, limiting the rollout to 80% of consumers would reduce net benefit by £1.4 billion. In practice the reduction in net benefits would be likely to be lower than this, if we assume the 20% left out would cost more to install than the average (in effect the average installation cost may fall). On the other hand, there would be ongoing additional costs involved if suppliers have to maintain systems capable of supporting large numbers of dumb meters alongside smart meters on an enduring basis.

The target of 80% of electricity meters incorporated in the Third Package was a compromise figure arrived at during the negotiation of the Directive by the Commission and Member States. It therefore represents a target that the Commission and Member States felt capable of being met across the EU. Rather than an optimal target for individual Member States.

Experience and progress in other EU countries is mixed. In terms of electricity, Italy and Sweden have completed smart meter roll-outs to over 90% of customers. France also recently announced its intention to roll-out to 90% of customers.

Our approach to the roll-out of smart meters aims to ensure that all domestic and smaller non-domestic electricity and gas consumers have the opportunity to benefit. Limiting the roll-out to 80% would mean that a significant proportion would not be offered a smart meter for reasons beyond their control, perhaps because of geography, technical issues or the commercial choices of suppliers.

We recognise that there will be challenges to achieving a full national roll-out. Our impact assessment modelling, policy and regulatory approach aims to take these into account for example:

- Our impact assessment analysis already takes into account the fact that some meter installations will be more difficult than others, for instance because of meter location. Our installation cost assumption is therefore based on the average cost of installation, which includes allowance for the cost of the more difficult installations.
- We have increased our focus on consumer engagement and benefit realisation since the start of phase 2 of the programme recognising the importance of supporting consumer understanding and positive demand for smart meters.
- As part of our recent consultation¹ we proposed that suppliers should be required to take “all reasonable steps” to complete the roll-out, enabling account to be taken of cases where installation may be difficult or unduly costly. Once we have more experience of the issues we may look to provide guidance on what constitutes all reasonable steps. We are currently considering the responses to this consultation.

We have a strong evidence and cost benefit case for a full national roll-out of both electricity and gas smart meters, which was well developed in advance of the Third Package requirements. Whilst the roll-out will be our means of meeting the Third Package requirements it is not driven by them. What is driving us is delivering the £7.1 billion benefits for consumers, the industry and society as a whole.

¹ DECC, *A consultation on draft licence conditions and technical specifications for the roll-out of gas and electricity smart metering equipment*, August 2011 (consultation closed 13 October 2011).

SECURITY

There was also a brief discussion of the important issue of security. This is an area we are, as you would expect, addressing very seriously, looking across the full smart meter system. We have completed a substantial amount of work in this area drawing in expertise from within government as well as the industry to understand the security threats and significantly minimise the likelihood of a successful security breach occurring. We will consider the comments from Pike Research, that you raised with us at the hearing, and others as we continue this work.

7 November 2011

Written evidence from Consumer Focus

RE: SUPPLEMENTARY EVIDENCE FOR THE PUBLIC ACCOUNTS COMMITTEE ON SMART METER ROLL-OUT—MONDAY 31 OCTOBER 2011

Further to our discussions with your colleagues and your correspondence, please find attached supplementary evidence to the Public Accounts Committee session on smart meter roll-out. As requested, where appropriate we have linked to the relevant question numbers in the transcript.

Potential benefits of smart metering (Q1 Chair)

Consumer Focus recognises that there are a number of *potential* benefits that smart metering can bring— notably an end to estimate bills, a major source of consumer complaints; giving customers a tool to them better manage their energy consumption and helping to ensure security of supply as we move towards a low carbon energy market and economy. We also think there are opportunities to deliver improved social assistance to vulnerable and low income households, increase competition and achieve benefits for prepay customers. However, without the right regulatory framework and leadership these benefits may not be realised and rollout could result in detriment to consumers.

Risks to smart meter roll-out/disbenefits (Q2 & 3 Chair)

This is a highly complex infrastructure, regulatory and behaviour change programme. On the consumer side key challenges include:

- Customer acceptance and engagement—concerns around privacy, security, health and rising costs could prompt consumers to reject meters eg in parts of the US and Netherlands there have been backlash against rollout for these reasons. Government must address concerns and put protections in place.
- Interoperability—ensuring customers do not have to change their smart meter, display or other smart appliances when they move home or switch supplier. Consumer Direct is starting to get calls from customers who have smart meters who are having problems switching. Ofgem has made proposals in this area but these must go further.
- Problems with communications technology and suppliers billing systems—some customers report that they continue to get estimate bills or no bills at all after their smart meters are installed. While these are small numbers, this is a critical benefit to deliver to customers.
- Ensuring affordability and value for money with a competitive rollout model.

Speed of rollout (Q6, Q82 Chair, Q25 Joseph Johnson, Q79 Austin Mitchell)

This is a complex programme—the focus should be on getting it right and maximising the consumer benefits, not on rushing to get the meters on the walls.

- Accelerated rollout means some benefits could come on line more quickly and there would be a reduction in time that the suppliers would have to run parallel processes.
- But this could result in further pressure on installers to get in and out of the home as quickly as possible, potentially at the expense of a high-quality customer experience including a proper demonstration of the display, energy efficiency advice and appropriate support for vulnerable and low income customers.
- Accelerated rollout increases the risk of additional stranded assets (meters replaced before the end of their natural life), and particular challenges involved in acquiring and training competent labour and meters within compressed periods. This has safety and cost implications.
- We support suppliers conducting trials at volume pre DCC becoming operational but these should be within reasonable limits until protections are in place and interoperability issues resolved. Trialling is needed to help develop strategies to overcome the many operational, technical and customer engagement challenges.

- Some customers may welcome early rollout if it means that they can access the benefits of smart metering more quickly—but they must be clear of the problems (such as barriers should they chose to switch) so they are able to make informed decisions as to whether they want a meter in this foundation phase.

Value for money—relying on competition to deliver cost savings to customers (Q9, 10, 12, 52, 58, 71, 87, 88, 89—among others)

We remain to be convinced that the shape of the current roll-out will deliver smart metering at lowest cost, minimal hassle and maximum benefit to consumers.

- We don't believe that relying on the competitive market is enough to keep the costs in check—experience of wholesale retail markets and prepayment market suggests this is an oversimplification.
- New barriers to competition may arise eg smart meter customers are starting to face barriers to switching because interoperability issues have not been resolved; likely increase in long-term smart-related contracts could lock-in consumers; greater tariff complexity resulting from new demand response deals has not been addressed by the Ofgem Retail Market Review.
- Trust in suppliers is low, it will be a real challenge to get people to open their door and then engage with the new technology.
- There is no mechanism in place to limit the financial risk to consumers should costs start to rise. The August 2011 Impact Assessment estimated that the cost of rollout was £11,067 billion compared to £10,757 billion in the March IA.
- As far as we are aware, we are the only country in the world to have a supplier-led rollout. The norm is distribution network led rollout model—this allows for a greater degree of financial oversight via price controls.
- Likely that the latest Impact Assessment continues to underestimate the costs eg Wales and West Utilities (gas distribution network operator for Wales and South West England). October 2011 analysis suggests that as many as 28% of installations could be non-standard potentially resulting in an additional costs of £1 billion which has not been included/increased costs to deal with communication challenges e.g. signal problems, interference with other appliances etc.
- We remain to be convinced that Government has explored the potential cost savings that could be achieved from synergies with water meter rollout, the Digital Britain agenda and local and national energy efficiency and fuel poverty programmes.
- Billion pound benefits that could result from greater supplier co-ordination risk being missed.

Recommendations:

- Government must put measures in place to make sure costs are transparent, provide value for money and that industry savings are fully passed on to customers.
- Ensuring accountability within the competitive market is challenging.
- DECC needs to develop a strategy to deliver the consumer benefits of smart metering.
- There should be *annual* reporting on costs to consumers and taxpayers and benefits actually delivered in practice to customers. This should include both monetised and non-monetised benefits. Also the contribution that the Programme has made to carbon reduction and fuel poverty targets. This is important so that any necessary changes to the Programme can be made in a timely manner.
- Reporting should include a distributional analysis broken down by fuel, social group, payment type, location and building type to ensure that no one group or region is systematically left behind.
- There should be particular attention paid to rollout in the foundation phase—not a wait and see approach adopted until 2014. Up to 6.5 million meters could be installed before then according to DECC's own estimates.
- We are working on the detail of reporting arrangements with DECC at present.

Remote disconnection (Q13 Chair, Q146 Meg Hillier)

New licence conditions to prevent the misuse of remote disconnection and switching to prepayment by suppliers came into force in October 2011. Ofgem has said it will consider enforcement action in the case of a single breach. We welcome this approach but Ofgem will need to monitor compliance if protections are to be effective. Ofgem has also introduced new protections to prevent load limiting and will review its approach in a year.

Roll-out model (Q16, Q58)

- Government has adopted a supplier-led rollout with the DCC. This is because Ofgem introduced competition for metering in 2001. In other countries the metering assets have been treated as part of the network infrastructure.
- As far as we are aware, we are the only country in the world to have a supplier-led rollout.
- The norm is distribution network led rollout model—DNO rollout allows for a greater degree of financial oversight via price controls; minimises customer visits as gas and electricity can be done at the same time, would make ensuring interoperability cheaper and easier, and could facilitate customer engagement strategies and link up with wider programmes such as water metering.
- There is currently no requirement on suppliers to coordinate installations whether on a regional or community level (though DECC says it will review this before 2014)—this is a missed opportunity to reduce costs and engage customers.
- Experience of the Low Carbon Network Fund Pilots and Warm Zones indicates suppliers don't naturally work together even when there are benefits and cost savings that could be delivered to consumers.
- In the Energy Retail Association (ERA) Newsletter *Smart Comment* July 2009 Issue 4 companies stated "It is difficult to envisage how suppliers alone could lead any form of co-ordination under what is fundamentally a competitive meter installation approach".
- Frontier Economics' (former Government consultant) research implies that a more coordinated approach could result in billion pound savings.² Although their assessment is based on analysis of a network-led rollout, much of the rationale such as reduced travel costs and increased consumer engagement that could result from more coordinated approaches still applies.
- Customer convenience: around a third of customers do not have dual fuel. A coordinated approach would help minimise disruption and inconvenience caused by the need for two visits. In practice it will be hard for customers to arrange both visits on the same day if they have two separate suppliers. Dual fuel is not always the cheapest deal—in some areas taking fuels from different suppliers can be the cheapest option.
- According to the UK Cost of Waiting Survey, waiting in for the meter man results in loss of earnings, disproportionately impacting those on low incomes who are paid by the hour; results in days taken off sick—a cost to the economy, and inconvenience and annoyance for customers.
- The Energy Networks Association estimates that 22% of installations will be non standard, potentially requiring network support and the possibility of an additional visit. Community based approaches and greater information sharing between companies could facilitate the networks to have "floating help teams" fewer visits for the customer and quicker resolution of problems.
- Government has proposed to review the rollout strategy to establish whether additional requirements should be placed on suppliers with regard to local coordination but no action has been taken or timetable set.

Recommendation:

- Consumer Focus believes that immediate steps must be taken to evaluate the benefits of a more coordinated and community based approach and pilots set up so that there are clear benchmarks against which the efficiency of the market-led approach can be measured.

Value for money in terms of energy savings/energy efficiency for consumers (Q28 Joseph Johnson, Q41, 42 Jackie Doyle-Price, Q108 Joseph Johnson among others)

- Having a smart meter will not automatically save customers money but it does have the potential to deliver significant savings.
- How much customers save on their energy bill will depend on whether they are *able* to/or *decide* to use the information on their energy monitor to work out where they can reduce their energy use and cut their bill. Some customers may already be very energy efficient and see little or no saving.
- Smart meters will facilitate the introduction of new demand response related energy deals—some customers *may* be able to take advantage of lower cost off-peak deals depending on how these develop.

² Less is more? How to Optimise the Smart meter Roll-out. Frontier Economics. January 2008.
http://www.frontier-economics.com/_library/publications/Frontier%20bulletin%20-%20less%20is%20more%20stp.pdf

- DECC estimates that customers will reduce their energy consumption by on average 0.3–4% a year or an estimated £22 a year for a dual fuel customer by 2020. This seems like a reasonable estimate if rollout is carried out alongside an engagement strategy with appropriate advice and support for customers and well-designed technology.
- The American Council for an Energy Efficient Economy (ACEEE) which looked at international rollouts and pilots found that on average feedback reduces energy consumption between 4–12%, with higher savings 9% from real-time feedback from smart/advanced metering. Kema Dutch Ministry of Economy Affairs assumes 6.4% electricity savings with direct feedback via an IHD, and 5.1% for gas. Irish cost benefit analysis adopts 3% for illustrative purposes. International experiences are not directly comparable (different fuel balance, energy uses, climate, energy efficiency of housing stock, cultural differences)—so DECC is right to adopt a cautious estimate.
- There are arguably insufficient commercial drivers on suppliers to offer all customers the energy efficiency advice and support that many will need to maximise bill savings from energy efficiency.
- Consumer Focus research suggests that for £9.19 billion you could cut £3.89 billion from energy bills, and help 78% of households. CO₂ emissions would be reduced by 22% by 2020 and 46% by 2050 with the “evolving” baseline (ie concurrent predicted decarbonisation of the grid). We support smart metering in addition to improvements in the energy efficiency of the housing stock. Rollout has the potential to deliver wider benefits.

Recommendations:

- DECC has committed to develop a consumer engagement strategy but work on this has been slow to progress. More focus is needed on social marketing approaches and segmenting the customer base to ensure that messages are tailored to different groups.
- Customers should have access to high-quality support and advice to help use their smart meter to save money on their bills. The mandatory smart metering installation code of practice should therefore outline:
 - Minimum levels of energy efficiency advice before, during and after the installation visit—both verbal and hard copy information. Consistency of approach with Green Deal.
 - Signposting of customers to independent information on energy efficiency measures and how to cut their bills. Consumer Focus’s survey of 2,000 customers (March 2010) reported that only 23% of gas customers and 26% of electricity customers trust their supplier to give them help and advice on cutting their energy bills and going green.³

Privacy issues—data access and use (Q18 Meg Hillier, Q170 Chair)

- Consumer Focus research shows that customers have very divergent views about data access and use but even when they are happy to share their data they want choice and control over how it is used.
- Suppliers’ access to data will be decided by how Government defines “regulated duties” ie what is essential data that they need to deliver their service to customers. For all other data suppliers will have to seek customers informed prior consent.
- DECC has recently issued a call for evidence on data access and use to help establish this.
- We welcome aspects of the current approach:
 - Commitment for suppliers to carry out Privacy Impact Assessments.
 - Privacy and security by design have been adopted as key principles in the design of the programme.
 - Customers have choice in how data is used and by whom, except for regulated duties.
 - The current approach is expected to define ‘regulated duties narrowly’ meaning suppliers would not have access to granular data which could give a unique insight into customers private lives without the customer’s permission.
 - Industry required to produce a privacy charter—though the devil will be in the detail.

While we are confident that protections will be put in place in time for mass rollout, we do not believe that current protections in this foundation period are adequate. Many customers have had smart meters installed, unaware of the step change in the amount of data that suppliers are collecting about them.

Recommendations:

- Time table for action and a final decision is needed on the definition of “regulated duties”.
- We believe that there needs to be specific protections in place for energy ie not simply rely on existing data protection legislation.

³ This was an online survey of 2,048 consumers aged over 18 years conducted by ICM on behalf of Consumer Focus.

- As with other aspects of the programme we want to see clear roles and responsibilities for monitoring and enforcement and consumer education.
- To protect customers receiving smart meters now, suppliers should be encouraged to sign up to Consumer Focus’s privacy commitments—notably not to collect real time information, appliance level data or information that is more granular than daily use without explicit prior consent of the customer.

Low income and vulnerable consumers (Q34 Fiona Mactaggart, Q43 Mr Bacon, Q106–7 James Wharton among others)

- It is essential that all consumers are able to access the benefits of smart metering they are paying for. Little practical consideration has been given to the needs of low income and vulnerable consumers and few of the suppliers’ smart meter trials have considered the needs of these specific customer groups.
- DECC has stated that it will review the impact of rollout on different consumer groups, during the foundation stage but no timetable has been set for that. If they wait until 2014 there are expected to be around 4 million meters installed—this is too late in the day.
- It is crucial that research is conducted now to understand how we can ensure that all customers have the support they need to access the benefits of smart metering and that action is taken to protect customers from potential detriment. For example, it is unknown if having near real-time information on energy consumption in pounds and pence will worry some vulnerable customers and cause them to ration their energy use to such an extent that it puts their health in danger.
- While not all PPM customers are on low incomes they are disproportionately represented. It is likely that prepayment meter customers will not achieve the same energy savings from smart as those on other payment types yet they will still be required to foot the bill. This may be because they are already more energy aware or energy efficient due to budgetary constraints. DECC’s impact assessment for example estimates that gas prepayment meter customers will achieve average savings of 0.5% compared to 2% for gas credit. It is therefore crucial that they get other benefits such as more convenient ways to top up and improved customer service.
- As we understand it, Treasury Green Book guidelines suggest that a distributional analysis⁴ of smart meter rollout should take place. The only impact assessment that appears to do this and considers fuel poverty was in 2007. We would question why a similar assessment has not taken place as part in any of the six subsequent impact assessments. We welcome DECC’s commitment therefore to conduct this in Spring 2011.
- The NAO report suggests that low income customers may not be able to engage in the market to be able to access the cheaper deals which smart will facilitate. This could result in the costs and benefits being unevenly distributed. We share this concern. In Victoria, Australia concerns have been raised that certain groups of consumers such as low income working families would not be able to use their energy at off-peak times and have little discretionary load. Also that they would not be able to afford appliances required to access cheaper deals that require automation.
- Even if customers do have a profile that would enable them to benefit from time of use tariffs, research suggests that they are less likely to engage in the market and find the best deal for them. Ofgem’s proposals on the retail market review failed to consider the likely emergence of smart deals despite DECC’s forecasts that 2 in 5 of us will have time of use. The proposed recommendations to simplify tariffs could simply result in customers on the proposed new simple deals, also on the most expensive tariffs.
- It is worth noting that since the publication of the NAO report DECC’s latest impact assessment has been adjusted. It now recognises that “*Bill savings for some customers may be offset by bill increases for other customers as the cross subsidy unwinds*”. It also categorises this as a business not a consumer benefit.

Recommendations:

- Carry out an analysis on the distributional impact of smart metering—including on different payment types, social/income groups, regions.
- Report on the impact on smart metering on fuel poverty—in line with Government’s wider strategy and targets to eliminate fuel poverty.

⁴ HM Treasury. The Green Book. Appraisal and Evaluation in Central Government. http://www.hm-treasury.gov.uk/d/green_book_complete.pdf

- Crucially, explore opportunities to maximise benefits to low income and vulnerable consumers. This should include developing an enhanced installation service for low income and vulnerable consumers during rollout to maximise the benefit from the home visit and ensure all customers can access the benefits of smart. This could help deliver existing schemes such as CERT/ECO and suppliers social assistance programmes more cost effectively.

Switching—(Q71–73)

It is proposed that smart metering will make switching easier for consumers and improve customer choice. Also DECC emphasises this as a solution to improving competition in the energy market. However in a smart world there are a number of challenges to this:

- In practice the physical process of switching is unlikely to be easier or faster until interoperability issues have been resolved. Consumer Focus continues to have concerns that pre the development of the Data Communications Company (DCC) (expected at the earliest 2014) that up to 1 million customers could incur barriers to switching. It is an open secret within industry that some suppliers, despite their duty to supply, are rejecting customers who have smart meters and this is starting to be reflected in calls to Consumer Direct. Government has made a number of proposals on interoperability which we support but more needs to be done. We have particular concerns about the cost implications of developing multiple systems and processes to manage a range of different meter types to help resolve this problem which would have been minimised by a network led rollout. Failure to address this issue could result in increased customer inconvenience; higher costs⁵ to the consumer; loss of income if people have to take time off work for an installation visit where smart meters have to be replaced with standard meters;⁶ increased environmental waste; as well as barriers to competition.
- Smart meters will facilitate a range of new tariffs. For example, multiple rate time of use tariffs, critical peak pricing, energy efficiency packages, remote control of appliances, more localised pricing and single energy tariffs amongst them. We already have a situation where around a third of consumers do not see a price reduction when they switch. Smart metering risks adding further complexity to a market that customers already find hard to navigate. While the process of switching might become quicker in the long run, unless action is taken, finding the best deal may become harder for customers. Recent Retail Market Review proposals do not address these concerns.
- Consumer Focus's research into the micro businesses market found that some suppliers are charging up to 53p a day for customers, some of them sole traders, to access their own energy consumption information via an online portal. This will need to be addressed to ensure that competition in the market is not adversely affected and consumers can find the best deal for them. Also to ensure that consumers can access the energy savings of smart.
- If suppliers chose to differentiate on high-quality displays or energy efficiency packages we are likely to see a rise in long-term contracts that lock-in consumers to recoup costs over a period of months, or even years, as was the case with mobile phones. Customers must be fully informed of the implications of locking themselves into longer deals and how their energy bills may increase if their lifestyle changes eg they start working from home during the day or have children. Ofgem needs to update safeguards around information and advice to ensure that suppliers provide customers with the information they need before signing up to new deals.

Recommendations:

- Ofgem needs to ensure that consumers have the tools they need to find the best deal in what will be an increasingly complex market. Customers should be able to access their own historic energy consumption data free of charge in a format that enables them to make like-for-like comparisons with other deals available on the market. They should also be able to share this information with accredited third parties. In this way they will be able to use any number of the price comparison services and green advice agencies that are likely to emerge from the introduction of smart metering—including automatic review and switching. Some suppliers are strongly resistant to this proposal and want to charge customers to access their own energy consumption data.
- Ofgem should monitor interoperability issues very closely—we think it is unacceptable that the regulator does not know how many meters are installed or what type of technology is in place as this has implications for the success of proposed protections and costs to consumers.

⁵ This could be as result of the customer having to pay for new compatible equipment, the cost of stranded assets passed on via bills, or lack of competitive pressure on pricing for example.

⁶ According the UK Cost of Waiting Survey(PDF 4.72MB), waiting in for the meter man results in loss of earnings, disproportionately impacting those on low incomes who are paid by the hour. This results in days taken off sick—a cost to the economy, and inconvenience and annoyance for customers.

- Prior to the DCC becoming operational and protections being in place, customers should be able to make an informed decision about whether or not they want a smart meter. This should include customers being told before they have a smart meter installed, about any potential problems eg potential loss of service or possible inconvenience caused by a meter exchange if they decide to switch. This includes the supplier being required to make clear to the customer, prior to selling them any kind of enhanced display or smart appliance that the device may not work or have full functionality if the customer moves home or switches supplier. This should be included in the Supplier Installation Code of Practice as a minimum.
- Customers should not be charged to have their smart meters removed in any instance. Current proposals only extend to where the customer switches and is on a prepayment meter.

Customer choice (Q83, Q158 Ian Swales)

- Ofgem has stated that they will not be forcing customers to accept smart meters but they are mandating the suppliers rollout smart meters. It is unclear what will happen in practice if customers refuse a smart meter given that suppliers are obliged under licence conditions to roll them out and may not have standard dumb meters available.
- Consumer Focus's May 2011 face to face survey (sample size 1,374 bill payers), found 50% of customers are interested in having a smart meter installed in their home; 26% are not sure and 24% are not interested. This was despite a positive description of the benefits of smart metering being given. This highlights the challenge to consumer acceptance and engagement.
- In the Netherlands it was originally proposed that if customers refused a smart meter they would face a fine or even a jail sentence. This contributed to a consumer backlash against smart meters and the delaying of rollout.
- Consumer Focus believes that customers should have a choice in whether or not they have a smart meter installed—the emphasis should be on proving the case for the new technology and winning over hearts and minds.
- There is a wider issue of what will happen to those households who for whatever reason will not be able to receive a meter and want one. Eg because technically it does not work in their property.

Prepayment—(Q35 Fiona Mactaggart, Q148 Meg Hillier)

- We have concerns that opportunities to deliver benefits to prepayment meter customers will be missed. For example, because of the challenges in ensuring interoperability for prepayment meter customers, the risk is that PPM customers will be the last group of consumers to get smart meters. Also little consideration has been given to how smart technologies can tackle historic problems in the prepayment meter market such as improving the information provided via displays or usability problems with meters. We also have concerns that the default response of industry is to provide a separate solution for prepay customers rather than adopt an inclusive approach. Instead of a decrease in the price of tariffs, we could see a relative increase in prices if prepay customers have to have specially designed keypads, wired devices or in home displays.
- DECC has mandated that all new meters (gas and electricity) will be prepay ready so customers will not have to have a separate meter installed should they need or wish to switch to prepayment.
- Consumer Focus has successfully advocated for a licence condition to ensure that cash top up remains for customers and that there is monitoring to ensure the price of topping up by cash does not increase relative to other options such as internet or phone top up. This is important given the number of households without bank accounts, many of whom are among the poorest and most vulnerable.
- Smart metering provides a rare opportunity to help revolutionise the prepayment energy market and remove historical barriers to competition. If done well, it should not only reduce the relative cost to serve PPM customers but also help tackle barriers to consumer interest in this payment method. This is because the customer's meter will no longer have to be exchanged if they move to or from prepayment, and consumers should get access to a greater range of top-up options—over the phone, internet, via a cash point—improving convenience. Greater choice of pay as you go (PAYG) energy products should also reduce the stigma associated with this payment method. All these factors in turn could open up the PAYG energy market and further drive down prices.⁷

⁷ *Cutting back, cutting down, cutting off—Self-disconnection among prepayment meter users.* Consumer Focus, July 2010, <http://consumerfocus.org.uk/g/4lx>. Annex 4.

- Consumer Focus research into the experiences of prepayment meter (PPM) customers found that, despite dissatisfaction with poor customer service and higher cost tariffs, prepayment is still a popular payment method.⁸ Our March 2010 survey also indicated that at least a third of consumers could be interested in pay as you go (PAYG) energy if the price was comparable with direct debit and it was easy to top-up.⁹

Security and cyber attacks (Q166 Mr Bacon)

- Security is high on the Government's agenda but this work is not visible to consumers.
- A range of experts—including representatives from the Centre for the Protection of National Infrastructure and the data security arm of GCHQ—have been brought together under the Security Technical Expert Group to consider all aspects the system and ensure it is well-protected.
- However while we are confident that steps will be taken for mass rollout post 2014, it is unclear how secure smart meters are that have already been installed. IO Active reports that a substantial number of meters in the international market have poor authentication and lack of encryption making them accessible to hacking. These experts suggest that addressing security concerns once devices are installed could be cost prohibitive.
- End to end testing needs to be carried out as soon as possible—energy suppliers do not have a good track record on security (eg recent PPM fraud) so they need to get their house in order.
- The impact of poor security on consumers, in terms of inconvenience, cost, and potential danger to health for those who rely on their energy supply, are very significant—it's important that Government and industry get this right.

BACKGROUND: CONSUMER FOCUS'S INVOLVEMENT WITH THE SMART METERING PROGRAMME

- We have a lead consumer advocacy role—this has included pushing for and sitting on the Consumer Advisory Group (CAG) and the Consumer Engagement and Rollout Group (CERG) and associated sub groups (as is Which?) and Ofgem's Disability Advisory Group.
- We are the sole consumer rep on the Implementation Coordination Group (ICG), the Overview and Design Advisory Group (ODAG), the Data Communications Groups (DCG) and associated working groups.
- We also participated in the Smart Metering Design Group (SMDG) and associated technical groups and privacy, data access and use and security groups.
- Consumer Focus has helped to support other consumer groups in engaging with smart metering Programme, providing expertise where needed to non-energy and energy experts alike and has organised and pushed for workshops with consumer groups and cross-sector representatives to ensure that key issues are heard and properly debated. For example on privacy, the Supplier Installation Code of Practice, vulnerable consumers and we have an upcoming event on health concerns.
- Responded to formal and informal consultations and requests for information on a range of technical issues including prepayment, account balance, outage management, data storage in the meter.
- To develop a robust evidence base we carry out consumer research including analysing data from Consumer Direct, and the Extra Help Unit; research on smart prepay, demand response, usability of in home displays and customer surveys.
- At a European level, we are the lead consumer voice on consumer smart metering issues and have led BEUC, the European consumer group on this issue.
- We also had a place at the table at the European Smart Grids Task Group and the respective working groups including privacy and roles and responsibilities which made policy recommendations to the European Commission.

If you require further information or clarification on any points please do not hesitate to get in touch.

8 November 2011

⁸ *Cutting back, cutting down, cutting off—Self-disconnection among prepayment meter users*. Consumer Focus, July 2010, <http://consumerfocus.org.uk/g/4lx>

⁹ ICM online survey for Consumer Focus of 1,839 customers, March 2010. This indicated that at least a third of energy consumers may be interested in a pay as you go energy tariff (as with mobile phones) if the price was competitive with Direct Debit and they could top up easily. Experience in Northern Ireland where semi-smart meters have been introduced suggests that pre-pay is the payment method of choice for many consumers. Around 30% (230,000) of all electricity consumers were using the keypad prepayment meters by mid-2009 with new connections continuing at a rate of 2,000 per month. About 58% are on low incomes but 32% are middle or higher incomes including 17% who are 'wealthy achievers' (Acorn classification).

Supplementary written evidence from Consumer Focus

ADDITIONAL INFORMATION FROM CONSUMER FOCUS: PUBLIC ACCOUNTS COMMITTEE INQUIRY INTO THE ROLLOUT OF SMART METERS

CUSTOMERS MAY NOT GET ACCURATE INFORMATION ON THE COSTS OF THEIR ENERGY ON THEIR IHD

Government is consulting on whether or not the in-home display will show consumers how much they owe for their gas and electricity use in pounds and pence (an accurate account balance). The current proposal is that the display will only show an indicative cost for the energy used, not the actual cost. This will be the unit price for energy and will not include additional elements such as the standing charge, future green deal charges or outstanding debt. Consumer Focus believes this is a concern as it could mean that the customer's bill at the end of the month is unexpectedly higher than the figure on their display. It may result in the information on the display being misleading and customers not being able to use it for budgeting purposes. Consumer Focus research (May 2011) found that 93% of customers were interested in having an account balance on their IHD, not just indicative costs.

BARRIERS TO SWITCHING—INTEROPERABILITY ISSUES

Smart metering could result in increased barriers to switching and less switching particularly in the short-term. Consumer Focus has concerns that prior to the development of the Data Communications Company (DCC) (expected at the earliest 2014) up to 1 million customers could incur barriers to switching. It is an open secret within industry that some suppliers, despite their duty to offer terms and supply customers, are rejecting customers who have smart meters and this is starting to be reflected in calls to Consumer Direct. Failure to address this issue could result in: increased customer inconvenience; higher costs to the consumer; loss of income if people have to take time off work for an installation visit where smart meters have to be replaced with standard meters; increased environmental waste; as well barriers to competition. Government has made a number of proposals on interoperability which we support but these have not yet resolved problems and do not go far enough.

TARIFF COMPLEXITY

Consumer Focus believes that smart metering risks causing greater tariff complexity. New technology will facilitate the introduction of a range of new tariffs including multiple rate time of use tariffs, critical peak pricing, energy efficiency packages, remote control of appliances, more localised pricing and single energy tariffs amongst them. The recent Retail Market Review proposals fail to address this issue. It is also likely there will be an increase in long-term smart-related contracts which lock-in consumers as new deals which combine energy displays, appliances and supply appear on the market.

ENCOURAGING ENERGY SAVING—CONSUMER SUPPORT, ADVICE AND ENGAGEMENT

To encourage energy savings customers will need support and advice on how to use their smart meter to save money on their bills. Minimum standards for the in-home display will need to be set and kept under review to ensure that the technology shows customers the information they need and want. Technology must also be well designed so it is easy to use—the energy sector does not have a great track record in this area. Consumer Focus is currently working with the Energy Retail Association, British Gas, E.ON and Ofgem on developing guidance around inclusivity by design. This will help ensure that maximum numbers of consumers can use the technology including those with common impairments such as dexterity problems and sight issues. We are pushing for the Smart Metering Installation Code of Practice to require suppliers to set up the IHD (not send it through the post), and demonstrate to the customer how to use it. Using smart metering equipment may be intuitive to some; others will need more handholding in the process. Installers should be qualified to provide basic energy efficiency advice and should sign-post customers to *independent* advice on how to save money on their bills. This is particularly important given the low trust in energy companies.

We also think that Government needs to develop a consumer engagement strategy and suppliers need to segment their customer base to recognise that it's not a one size fits all approach—delivering behaviour change is challenging and messaging will need to be tailored to different types of consumer groups. In particular, more work is needed on the help and support that low income and vulnerable consumers will need to help them engage with new technology.

If you require further information or clarification on any points please do not hesitate to get in touch.

10 November 2011

Written evidence from Ross Anderson

Smart metering—the biggest ever IT project failure?

A NOTE FOR THE PUBLIC ACCOUNTS COMMITTEE

I would like to contribute the following remarks to the committee's inquiry.

1. Smart metering is the largest engineering project ever undertaken in Europe. Britain alone plans to spend £11 billion, and as I discuss in what follows, I do not believe the costs or timescales to be realistic. Nonetheless £11 billion is almost exactly what the Channel Tunnel cost in today's money. Other Member States also plan substantial expenditures; France's budget (€1 billion for gas and €4 billion for electricity) is less than half ours but still a lot. Overall smart metering is likely to cost households in Europe over €100 billion.

2. My team has had a research interest in smart grids and smart meters for several years; we've published a number of peer-reviewed papers and have given input to a number of public consultations by DECC, Ofgem and CEER. This work has involved not just lab colleagues but also colleagues at the Foundation for Information Policy Research (www.fipr.org), the UK's leading technology policy think tank.

3. Our first consultation response, in January 2010, pointed out the lack of evidence that smart meters would save energy, and the lack of any clear specification of what Ofgem was trying to build.¹⁰

4. We went into this in much more detail in a further consultation response to Ofgem in September 2010¹¹ which contains the main substance of our concern with the project. Ofgem were at the time making all the classic mistakes which have been known for years to lead to public-sector IT project failures, and which have been documented extensively in (for example) the case of the London Ambulance Service in the 1990s. As we put it there: "A major procurement is being rushed through for political reasons, with no clear specification, an unrealistic timetable, inadequate financial control, and seriously defective governance; advice on costs and timescales is being ignored; and the proposed architecture ensured continued dominance of metering by energy industry incumbents whose financial interests are in selling more energy rather than less. Pilot projects have failed to show significant energy savings, so even if the systems can be made to work it is quite unclear that they will achieve anything significant, beyond perhaps a rerun of the Bakersfield fiasco. Finally, the proposed industry architecture stifles innovation and thus guarantees that most of the new, high-value green jobs will go elsewhere".

5. I commend that paper to the committee and particularly draw your attention to the fact that Ofgem proposed that the DCC should be created in six months—that its contractor could start designing the system in April 2013 and yet by the end of September 2013 have not only designed, developed, tested and fielded a back-end system capable of supporting rich and complex functionality but also implemented and rolled out national communications systems able to support 100 million devices in the field. This is wildly unrealistic; the previous government CIO, John Suffolk, had huge experience with large public-sector projects and took the view that building and deploying any national-scale system takes seven years.

6. Yet the only material change to the plan since DECC took over the project is that the DCC part is now supposed to take eighteen months, from April 2013 until the end of September 2014. The words "snowflake" and "hell" spring to mind.

7. The costs currently given are unrealistic. For example, the cost of DCC is not capitalised, but just a notional annual amount for a contract that has not yet been awarded. There are also serious issues about whether it's feasible to fit that many meters by 2019; we don't have enough trained fitters, and the logistics of hiring and training staff, organising meter manufacture and so on are formidable.

8. We still do not have a stable specification for the meters, or even a workable broad-brush picture. The specification is being worked on by about 20 groups who don't talk to each other and from which experts are often excluded. There is very little technical or project management expertise at DECC. The most critical part of the project—how smart meters will talk to domestic appliances so as to facilitate demand response—is essentially ignored.

9. There are many issues with the behavioural economics of energy users,¹² the protection of national infrastructure,¹³ and the architectures necessary both to protect privacy and promote innovation,¹⁴ about which we're written and in which the committee might be interested.

10. For present purposes, I predict merely that by the time the next election falls due in 2015, it will be apparent that the smart metering project is just as much a fiasco and a waste of public money as the NHS National Programme for IT was under the previous government.

¹⁰ Consultation response on Smart Meters, Jan 10 2010, at www.fipr.org/100110smartmeters.pdf

¹¹ Consultation response on Smart Metering, Sep 28 2010, at www.cl.cam.ac.uk/~rja14/Papers/fipr-smartmeters2010.pdf

¹² On the security economics of electricity metering, at www.cl.cam.ac.uk/~rja14/Papers/meters-weis.pdf

¹³ Who controls the off switch? at www.cl.cam.ac.uk/~rja14/Papers/meters-offswitch.pdf

¹⁴ Smart meter security: a survey, at www.cl.cam.ac.uk/~rja14/Papers/JSAC-draft.pdf

11. I therefore urge the committee to call on ministers to either cancel it outright and start again from scratch, or else set clear milestones that are capable of independent verification and which, by advance agreement of Parliament, will lead to the automatic cancellation of the project if and when they are not met.

11 November 2011

Written Evidence from Which?

WILL THE SMART METER ROLLOUT SAVE CONSUMERS MONEY?

Briefing for the Committee for Public Accounts

October 2011

By 2019, the Government wants every home in Great Britain (England, Scotland and Wales) to have a smart meter. The cost of the rollout is estimated to be at least £11 billion,¹⁵ and consumers are expected to foot the bill.

Which? surveyed industry and the public to find out the current progress of the rollout and to identify potential issues which will affect consumers. Which? has already addressed the risk of gaps in consumer protection regulations and industry plans which could leave people vulnerable to mis-selling. We are in the process of looking into whether this billion-pound rollout will deliver for consumers.

SMART METERS—WHAT'S HAPPENING?

Smart meters are “smart” because they will send information about the energy used in homes to the supplier without someone having to read the meter. Which? believes smart meters can deliver many benefits for consumers, such as an end to estimated energy bills and the opportunity for people to better understand their energy use, which could help lower bills and cut carbon. But these benefits will only be seen if consumers are at the heart of the smart meter rollout.

The GB smart meter rollout is potentially the largest in the world, involving the installation of over 50 million meters in 27 million homes. The official rollout is planned to start in 2014,¹⁶ some energy suppliers—“early movers”—are already installing smart meters in people’s homes. In April 2011, Which? contacted energy suppliers about their smart meter work. Eleven companies replied, including all of the “Big Six” energy suppliers.

Energy suppliers told Which? they had already installed over 270,000 smart meters, with British Gas leading the way with 170,000. Suppliers also told Which? they were planning to install a further 2.1 million by 2012. However since our survey E.ON announced plans to install one million smart meters by March 2014 so they are “ready and able” to rollout 8 million smart meters by 2019¹⁷.

First Utility and Spark Energy are currently the only companies to start a nationwide rollout of smart meters to “anyone who wants one”. British Gas and Scottish Power are upgrading customers who need their old “dumb” meter replaced and EDF, E.ON, npower, Ovo, Scottish Power and Scottish and Southern (SSE) are running trials. Of the smaller energy companies, Good Energy plan to start a trial at the end of 2011/early 2012 and Ovo told us that they plan to make smart meters available by the end of 2011.

WHAT DO PEOPLE THINK ABOUT SMART METERS?

Six in 10 energy-bill paying consumers were aware of the introduction of smart meters, but there was low awareness of what having one would actually mean¹⁸. A mere 10% spontaneously mentioned smart meters would help them save money. Other research findings found that:

- Only a quarter of UK adults consider energy suppliers to be trustworthy;
- Half of the public feel that they are constantly being hassled by energy companies to switch tariff or provider, and 59% of those approached by an energy company in the last year felt under pressure to switch tariff or change supplier;
- 15% of people, who had been approached by representatives of energy companies at their door step were offered energy efficiency advice, and 13% said they were trying to sell them energy efficiency measures. Those who were approached at their doorstep about energy efficiency were more likely than average to feel under pressure (70%);

¹⁵ Response to Prospectus Consultation, DECC, 30th March 2011. Available at: <http://www.decc.gov.uk/assets/decc/Consultations/smart-meter-imp-prospectus/1475-smart-metering-imp-response-overview.pdf>

¹⁶ Response to Prospectus Consultation, DECC.

¹⁷ E.ON press release, 9 May 2011. Available at: <http://pressreleases.eon-uk.com/blogs/eonukpressreleases/archive/2011/05/09/1691.aspx>

¹⁸ Which? spoke to 2,003 energy bill paying UK adults in April—May 2011.

- Which? has also asked people about who they prefer to install energy “products” in their homes. When asked about energy efficiency measures and who they would prefer to install them in their home, the most popular choice was a plumber, gas engineer or other professional tradesperson (30%) compared to an energy company (17%), which was the second most preferred.

People have contacted Which? about smart meters via our website, Which? Conversation. While there have been some positive comments, we also received negative comments about the rollout, particularly on the cost:

“Smart meters have been under development for over 20 years and now that the technology is mature and affordable it should be deployed. I see benefits is better billing service, more real time monitoring of usage to help prevent excessive bills or potential faults. We should not be paranoid about new technology and just get on with it.”

“I don’t want a smart meter. I am intelligent enough to work out what appliances I need to have on, and to turn them off when they are not needed. I also look at the energy consumption ratings of appliances before buying them. I have no wish to pay for a smart meter, or be charged for it even if I don’t have one.”

“Like many others I see no real harm in the concept of a smart meter, it’s this use for that £11 billion I’m not keen on, especially as times are currently tough. It would buy an awful lot of insulation?”

In September 2011, Which? interviewed 10 Which? members who have had a smart meter installed in their homes, in depth via telephone. They were recruited via the Which? Connect online panel (our research community).

Experience of the installation and smart meter

All were generally positive about their experience of having a smart meter and the rollout of smart meters in UK homes. Two of them even changed company to have a smart meter installed. In terms of the installation, these were mostly successful. A few members reported several attempts at arranging the appointment and contractors not turning up at the agreed times, and one reported problems with the contractor’s systems. When the installation actually took place, all were informed the process would take up to two hours, and the length of time recalled by people ranged from 25 minutes to two hours. No one reported being particularly inconvenienced, with power only being briefly disrupted.

Benefits and concerns

The main benefit expressed was having more accurate bills and being able to know what they are paying for. Members also recognised that it should save energy companies money as they would not have to employ a team of meter readers.

However, most of the members we spoke to did not seem to be motivated to cut back on energy consumption per se and were generally uninterested in using their smart meter for energy efficiency. No-one reported any changes in behaviour in terms of using appliances or energy differently as a result of having a smart meter. It is important to note, however, that eight out of the 10 members we spoke to did not have an IHD unit, although they had online access to their consumption information via the suppliers’ websites.

When members were prompted for any concerns, the main areas were around the effectiveness of smart meters bringing an end to inaccurate/estimated bills. One member said despite his smart meter providing automatic readings he had been mischarged. As he records everything himself daily he was able to correct his supplier and he emails his own meter readings to his supplier on a monthly basis, negating the benefit of accurate billing smart meters are intended to bring. A minority also felt that smart meters may mean bills would be more expensive during the winter as it may mean bills are not evenly distributed as before, indicating a lack of clarity around the billing process and/or payment methods when smart meters are introduced. Only one member echoed some of the points raised by Which? Conversation commentators with regards to security/privacy risks, particularly in relation to the information available with online management systems.

CHALLENGES FOR THE ROLLOUT

Industry has told Which? that installing smart meters should take between 45 minutes and one hour and 25 minutes, if there are no problems. The installation will include fitting the gas and the electricity meters, fitting a communications system and setting up an in-home display monitor (if provided), as well as testing the equipment and showing the customer how it works.

Earlier this year, Which? asked suppliers about their smart meter fail rates, i.e. when installations could not be completed.

- One supplier said theirs was 2%, compared to 11% for normal meters.
- One supplier said theirs was 7.5%, although as pre-selection had taken place to maximise the install rate this figure may not be fully representative of what will happen during the mass rollout.
- One supplier said theirs was between 16% and 24%. The lowest abort rate of 16% occurred on an electricity-only trial. The abort rate increased across all dual fuel trials, principally because of gas meter position issues.

- One supplier said theirs was 17%.
- One supplier said theirs was less than 4%, but as their installations were during trials this may not be fully representative of what will happen during the mass rollout.

These same five energy suppliers also gave Which? their top three reasons for failures (all five gave the top reason for an abort as not being able to gain access to the property):

- No access to the property.
- Health and safety issues.
- No or limited signal strength to the Wireless Area Network, which allows the energy company to communicate with the meter.
- Meter position and accessibility.
- Other technical issues eg “unable to pull the DNO [Distribution Network Operator] fuse”.

In conversations with companies, Which? has also learned that specific reasons for not being able to install smart meters have included finding kitchens built around meters, making them inaccessible, and meters being fixed to asbestos boards. One company told us they had discovered a meter with a shower built around it.

Early experience of the trials demonstrates that suppliers are experiencing some challenges with fitting smart meters into people’s homes. These are likely to add to the cost of the rollout in general and also to individual consumers in terms of losing time, money and hassle.

SMART METER ROLLOUT—A MIS-SELLING OPPORTUNITY?

Earlier this year, Which? asked suppliers about their plans for the actual installation visit and if installers would have targets as well installing the smart meter. We were concerned that some suppliers were using the visit to fit the meter as an opportunity to sell to customers items such as in-home displays (energy monitors), insulation, energy and home service contracts, central heating installations and fuse board upgrades. Which? was also concerned that smart meter installers may be on sales-related commission.

Which? does not support smart meter installers being on any sales-related commission, particularly as the cost of the rollout is likely to be paid for by consumers. Earlier this year, DECC published its views on the strategy for the rollout.¹⁹ One of their conclusions was that the industry should “police” itself, and develop a code of practice for the installation process. Which? has concerns that the industry code of practice for smart meter installers may not be sufficiently robust to ensure that consumers are protected from mis-selling.

During the Digital Switchover, an undercover investigation by Which? in 2009²⁰, found that one in ten aerial installers were misleading consumers by trying to up-sell new aerials which were not necessarily needed.

As a result of our concerns, in July 2011, Which? decided to challenge all energy companies to pledge not to sell during smart meter installations by setting up the “No selling, just installing” smart meter promise. By agreeing to sign up to the Which? promise, companies make the pledge not to sell products or services when fitting smart meters in people’s homes. The promise also states that suppliers’ installers must not be paid via any sales-related commission linked to installations. So far eight companies have signed up. npower is the only major supplier to have made the “No selling, just installing” smart meter promise so far.

CONCLUSION

Which? believes there are considerable challenges to rolling out smart meters in every home. Early experience demonstrates that fitting a smart meter in people’s homes may not always be straightforward and our concern is that the Government has not factored in these challenges and the cost of the rollout could exceed £11.7 billion.

Also the Government is publicly saying that the benefits of the rollout will result in a £7.3 billion²¹ saving for consumers. However, this figure is reliant on consumers changing their energy use and our snapshot research of some of our members who have smart meters, suggests that this is a considerable challenge.

A lot rests on the smart meter rollout: it is simply “too big to fail”. With customers having to foot the £11 billion bill for the rollout, the industry and government faces massive challenges in making sure that it delivers real benefits to consumers.

¹⁹ Smart meter national project information, DECC website: http://www.decc.gov.uk/en/content/cms/tackling/smart_meters/smart_meters.aspx

²⁰ “Don’t fall for the digital switchover con”, *Which?*, April 2009.

²¹ DECC Lays Foundations for Smart meters Roll out, 30 March 2011, Press release www.decc.gov.uk/en/content/cms/news/pn11_032/pn11_032.aspx

ISBN 978-0-215-04048-0

