Public Accounts Committee

Oral evidence: Smart Meters follow-up, HC 103-i

Monday 9 June 2014

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Members present: Margaret Hodge (Chair), Mr Richard Bacon, Guto Bebb, Meg Hillier, Mr Stewart Jackson, Mrs Anne McGuire, Austin Mitchell, Nick Smith, Justin Tomlinson

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

Witnesses: Stephen Lovegrove, Permanent Secretary, Department of Energy and Climate Change, Daron Walker, Senior Responsible Officer, DECC, and Dermot Nolan, Chief Executive, Ofgem, gave evidence.

Q1 Chair: Welcome. This is a return to an issue that we looked at two years ago—or was it three?

Jill Goldsmith: Three.

Chair: Three years ago. We said we would come back to it, and this is a good time to do so. I don't think you were in the job at that point, were you?

Stephen Lovegrove: I wasn't.

Q2 Chair: I am going to start on the consumer. I am right, aren't I, that the consumer will pick up the tab for this £12 billion investment?

Stephen Lovegrove: Yes, that is correct.

Chair: Entirely.

Stephen Lovegrove: The consumer is picking up the tab in the most part, although, of course, the savings that we expect the energy companies to make will ultimately flow through to consumers.

Q3 Chair: We will ask how and whether we can track that. You have not put a cap on the costs, have you?

Stephen Lovegrove: No, we haven't. We have different types of enforcement mechanism, apart from the cap.

Q4 Chair: So you are relying on something you call "commercial incentives" between the suppliers to keep costs down. I am right about that?

Stephen Lovegrove: That and regulation.

Q5 Chair: Let's just deal with the commercial incentives. We will come to the regulation. Am I right in saying that Ofgem has just referred the industry to the Competition and Markets Authority?

Dermot Nolan: Actually, Chair, we have proposed a reference. The consultation period has finished, and we anticipate making a final decision later this month.

Q6 Chair: So you referred it when?

Dermot Nolan: We proposed a reference at the end of March.

Q7 Chair: So, in that context, Ofgem has some concerns about competitive incentives in the market. What comfort can the Department give consumers that the way this is rolled out will include competitive incentives to ensure that costs are minimised and the benefit to the consumer in terms of price is maximised?

Stephen Lovegrove: We have devised this system within the framework we have for the supply of energy in the UK, which is private sector companies competing with each other in a regulated framework. We believe that the combination of regulation, through the obligations we have put on the energy companies, and the competitive environment will mean that the costs are passed through to the—

Q8 Chair: I am delighted you have beliefs, Mr Lovegrove, but I am interested in how they translate into reality. The real question I asked was about Ofgem questioning the competitive nature of this market. Ofgem, along with others, believes that this is not a very good competitive market, but I am interested in why you—I accept you have some regulation, and I have told you we will come to it—have confidence in a competitive nature

that will drive down the cost to the consumer of this £12 billion proposal. Apart from saying, "This is our framework. This is how the world works," have you got any evidence you can use to give us, and therefore consumers, comfort that there really will be competition, because I cannot see it?

Stephen Lovegrove: If you are asking me whether there are problems with competition in the energy market, the potential for a market investigation reference clearly tells you that there are issues that we want to be able to deal with and that, through the CMA and Ofgem, we will be able to deal with. At a high level, though, we do believe in competition and its ability—

Q9 Chair: I don't want the policy—I really don't. You can give us the policy, but we are not here to question that. What I am interested in is that you have built this structure on the basis that you believe that competition will contain costs and drive the savings into lower prices. That's how you have built this structure.

Stephen Lovegrove: Correct.

Q10 Chair: And I want you to tell me whether there is anything at present that gives consumers comfort that that will happen. You haven't put a cap on costs. You have chosen not to do that, which might have been one of the ways you could have protected the consumer. You have chosen not to do that. You have accepted, in what you have just said, that there are problems with the competition in the market, so what are you doing that will give comfort to the consumer?

Stephen Lovegrove: Smart meters are one of the key competitive tools through which we will be able to drive competition and better deals for the consumer. Our aim is to bring into existence a group of lower-cost suppliers that, through the agency of the market, will pass those lower costs on to the consumer. If they don't do that or if one individual company doesn't do it, inevitably what will happen is that another company—there are more every day—will pass those costs on, and the competitive dynamic, which is what this industry is based on or at least this framework is based on—

Q11 Chair: I don't think you have really answered the question. Mr Walker, you look as though you might.

Daron Walker: I think it is worth breaking down the costs and then seeing whether the benefits could be passed through. First of all, these are commercial organisations that have shareholders, who are challenging them all the time to be as efficient as possible, so they have all the right incentives, as companies, to do and deliver this programme in the most cost-effective way.

Q12 Chair: Not if they're cartelled and the competition is not working.

Daron Walker: I would say it's not a cartel, but let me carry on with my response. First of all, you have cost pressure already. A chunk of the costs are actually price-regulated; the comms and data services are price-regulated by the DCC.

Q13 Nick Smith: Say that again a bit more slowly.

Daron Walker: Okay. The market is divided into the meters and the installation of meters, and the suppliers are doing that. We have set up in the framework a licence body—the DCC—that will be overseeing the design, build and test of the comms and data services that will operate to support the roll-out of the smart metering programme. Those costs have been competed and have now become contracts in the market that belong to this private company, the DCC, and Ofgem is responsible for overseeing and price-regulating that part of the market. That's probably worth about £2.4 billion of the costs in this system.

At the other end, the consumer obviously is not without benefit in this market, because one of the things we are doing—smart meters will see the end of estimated billing. They will give them, through the IHD, better information about how much energy they are using and what it costs. In due course, they will be able to make much more informed decisions. Obviously, if you don't know how much you are using and how much it is costing, it is much harder to make informed decisions. All of that will start creating pressure at the consumer end for them to expect more of their companies. If not, they will switch to other companies. There is going to be consumer power as a result of this programme. The combination, with further interventions that may or may not come about through the process that my colleagues have described, will ensure that costs are kept to a minimum and that, in due course, some of the savings are passed on through more effective competition.

Q14 Chair: Just out of interest, Mr Nolan, are you satisfied that the competition on the communications infrastructure did bring the price down, given your concerns with competition in the market?

Dermot Nolan: Are you referring to the DCC—

Chair: Or have you not looked at that? I am not sure whether it is in your remit.

Dermot Nolan: The DCC, as Daron has described it, will be in our remit, and we will look very closely at price regulation in that, but I think that's for the future. The company that Daron described that has been set up will be directly price-regulated by Ofgem in that regard.

Q15 Mr Bacon: The contract for the DCC has been let, hasn't it?

Dermot Nolan: It has, yes.

Q16 Mr Bacon: Can you just remind us of its value?

Dermot Nolan: The value is roughly £2.4 billion. The vast majority of that will be the contracts that the DCC itself will have with the various providers, and a portion will be the DCC's costs, so our regulation of the DCC will be composed, I suppose, of two main elements, in the sense that we will examine the contracts, which will have been competitively tendered. We will absolutely make sure that those competitively tendered contracts are giving value for money. We have the ability to question and, potentially, disqualify them.

Q17 Mr Bacon: Who let the contract? Was it you, Mr Lovegrove?

Stephen Lovegrove: The Department did; yes, that's correct.

Q18 Mr Bacon: Mr Nolan said it will have been competitively tendered. How many people tendered for it?

Daron Walker: There was a process. As a Department, we ran the competition on behalf of the industry. There were various stages, at which point companies were effectively got rid of out of the competition. There were three main stages. The overall contract value came out at several hundred million below what was estimated in the original impact assessment.

This Committee looked at the impact assessment two and half years ago; about £300 million lower costs came out of these competitively tendered contracts. For each competition there were three competitors for the DCC licensee at the start. There were at least five for each of the other two competitions: one for the communications-service provider that was in three lots, and one for the data-service provider.

Q19 Mr Bacon: So who won?

Daron Walker: CGI has won the data-service contract. In the north a company called Arqiva won the communications contract; in the middle of Britain and the south, a company called Telefónica.

Q20 Chair: You said five competitors.

Daron Walker: For each of these individual elements at least five. With the DCC licensee there were three competitors.

Mr Bacon: Can you send us a note summarising all that, please?

Q21 Meg Hillier: I am interested in the whole tendering approach. Although it was carved up, these are quite big businesses that won. Was there any thought in the Department about tapping the technological revolution that is overtaking this country and the world and going for smaller suppliers, basically setting a specification that allowed others to bid?

Daron Walker: There will be small companies involved, subcontracting for these major suppliers.

Q22 Meg Hillier: Is it part of the contract agreement that they have to subcontract to smaller companies?

Daron Walker: As part of the competition they had to make clear who their subcontractors were and the other parties.

Q23 Meg Hillier: So they have already named them and there is no prospect of anyone else.

Daron Walker: There may be opportunities for them to look further. As part of the competition, they had to make clear who their partners were. We did break down the contracts. At the beginning of the process back in March we considered having one single supplier doing the data and the comms. Through the development of our procurement strategy we split them up. You are balancing the ability of these companies to operate on a national scale against the fact that the smaller you make the contracts, the more competition you have. We struck that balance after careful consideration and consulting with interested parties.

Chair: I am anxious to bring Justin in, but let's have Nick and then go to Justin.

Q24 Nick Smith: Mr Walker, I think the extra information will help consumers, though I am not sure how. One of the things you said was that consumer power will reduce costs. How do think consumers will do that? How much do you think the cost will be reduced by?

Daron Walker: If I may, I will break that down into two elements. Having this information will allow consumers to make much more sensible choices about how they use energy in their home. There is quite a lot of good evidence to show that if you give real-time data to consumers, they can make changes to how and when they use energy. In the impact assessment we have assumed a 2% reduction in gas usage because of that, and a 2.8% reduction in electricity use. Those are very much at the prudent end of international trial information. In fact, it is set out in the NAO Report that actually some of the international trials have seen 6% or up to 9% reductions when you combine energy efficiency advice in IHD, so quite a large amount of saving is directly in the control of the consumer.

The second part is actually about making sure that the cost savings are driven by having smart metering in the system because you are effectively making the cost to serve lower. The consumers will have information about how much they are using.

Q25 Mr Bacon: So you are effectively making what?

Daron Walker: The cost of serving consumers lower. At the moment, you have metering forces out there, but you will be able to do these meter reads remotely. A lot of the call centre traffic that comes to these companies is based on people not knowing what their bill is—estimated bills lead to people complaining or being confused about their bills. Again, that issue will disappear because you will have real-time information and accurate bills. All of those things lead to your business case for the savings that get delivered by the energy suppliers.

Q26 Nick Smith: What is your estimate on that then, on those people who walk around their houses looking at information on walls or ringing up to say, "What is my bill?"

Daron Walker: In the impact assessment, we have made an assessment based on all of the costs that are going to be rolled out from the smart metering process and the comms and the data services. By the time the roll-out is complete in 2020, we estimate that the average dual-fuel consumer will be saving £26 on their bill as a result of this programme; by 2030 around £43.

Chair: How are you going to acknowledge that? How is the consumer going to know?

Q27 Mr Bacon: Is that £26 per year on an average bill?

Daron Walker: Yes.

Q28 Mr Bacon: Can you remind us what an average bill is?

Daron Walker: About £1,400 or £1,500.

Mr Bacon: It is £26 on £1,400.

Daron Walker: Yes.

Mr Bacon: That is quite a small saving, well within any margin of error, isn't it?

Daron Walker: It is a prudent, small saving. As I said, there is scope and there is evidence to show that the savings could be larger, if the consumer makes use of this. This is the average saving. When you scale that up to what we are saving over all bills, this is £700 million you are taking out of consumer bills in 2020.

Q29 Mr Bacon: You said it would make it cheaper for the companies to supply the consumer. At the moment, how often do they get data from the consumer that they then process?

Daron Walker: The companies?

Mr Bacon: How often do companies get data—information—from the consumer that they then process to work out how much to charge them?

Daron Walker: There is a requirement for them to read meters at least once every two years, I think, but—

Q30 Mr Bacon: How often under this system are they going to receive information from the—it will more or less be in real time. Am I right in thinking that they will basically be getting it steadily?

Daron Walker: The consumer will be getting real-time information.

Mr Bacon: No, I am talking about the company.

Daron Walker: Once a month. That is without consumer consent. If they achieve consumer consent—that is, to have the data more regularly—they can get daily data with an opt-out. If the consumer does not opt out—

Q31 Mr Bacon: If they had daily data, they would be getting it 365 times a year, which is 720, or whatever it is, times more often than they do at the moment.

Daron Walker: Yes.

Q32 Mr Bacon: That would have a systems implication for the company, would it not?

Daron Walker: So, what the—

Mr Bacon: Sorry, is that a yes or a no?

Daron Walker: All the system costs to build and support this roll-out are built into our impact assessment costs—built into the assessments we are making in the bills that—

Q33 Mr Bacon: Having looked at your impact assessments, I am just wondering whether you can explain, because I cannot begin to understand how this happens. The impact assessment that was originally done by the Department for business and enterprise had a net present value of about minus £4.5 billion. The one that was done four years later had a positive net present value of about £4.9 billion. There was about a £9 billion difference. How do you account for that enormous swing, from a considerable net present value negative number to substantial positive number? It is a huge variation.

Daron Walker: I can account for that. Under the Treasury Green Book, to make option appraisal and assessments you have to include optimism bias about anything that is uncertain about costs until you get better evidence. So some of the cost data that we had in that impact assessment had cost optimism bias of 200% or 300%, because you were very

much at the end of not yet knowing what the cost is. That is best practice, because the danger within these kinds of projects is that you become optimistic about the costs and—

Q34 Mr Bacon: So you basically got rid of the optimism bias by getting more detailed facts.

Daron Walker: Yes, and as we went through the process we have refined and updated this impact assessment five times since that date. At the same time we have got much better data about understanding what benefits might be achieved and being able to quantify and monetise those. Those two effects—

Q35 Mr Bacon: Yes, I understand that.

At the time that you dialled down the optimism from several hundred per cent—100% or 200%—what did you dial it down to? For the central comms system, what did you dial it down to? From what to what?

Daron Walker: I cannot give a specific figure on the central comms system, but I can tell you—

Mr Bacon: The numbers I have are from 150% to 10%. I am wondering if that sounds fair to you.

Daron Walker: It does sound fair, because as it turned out the numbers we had in the impact assessment turned out to be several hundred million higher than the contract that we were actually awarded, so that came down in a sensible and logical fashion. It started high, before we knew exactly what the system design was; it got improved and iterated down to a lower level as we understood the evidence and the costs; and then, as it turned out, the costs that were delivered through those contracts were lower than even than 10% optimism bias.

Q36 Mr Bacon: So the central comms system has been fully specified now, has it?

Daron Walker: It has been fully specified and it is now in the design, build and test phase, which is what is happening between—effectively—last September and the end of next year.

Q37 Mr Bacon: When was it fully specified?

Daron Walker: It was part of the procurement process. It was specified in more detail as we went through that process, so that each time it went through part of the procurement there was more detail against which the bidders bid against.

Mr Bacon: When was it fully specified?

Daron Walker: The comms and data side of things, in the contracts, was fully specified by the time we asked for final tenders, back in May 2013.

Chair: Let's go to Justin, and then there are lots of people who want to come back in.

Q38 Justin Tomlinson: On the theme of consumers, I would actually welcome a £26 reduction. It might not be a huge amount, but certainly to some people—it is not often Governments of any political party actually deliver cheaper things, so I think that is a welcome step. I just want to drill down a bit further on this. I get the point that, at the moment, someone has to come along every two years and manually take the figures. In my case, every time my energy supplier e-mails me to remind me to do my own reading, it is always raining and so I invariably end up relying on that. I get the point about providing the information on a monthly basis. How proactive will the suppliers be able to be with the data they receive?

Daron Walker: This is where, with all of these things, you have to balance different interests. We have said that, for regulatory purposes, they do not have to get consent from the consumer—so, to bill for the product they are selling. We have said that a monthly read for that is perfectly adequate for their needs. If they want to do more with the data or if they want to start offering more tailored advice and energy efficiency off the back of it, they have to explicitly seek the consent of the consumer.

Q39 Justin Tomlinson: Brilliant. So if I, as a consumer who wants to drive my bill down, tick all of the boxes and say, "Help yourself to as much data as you want, as often as you like. Save me money," in what ways can they do that? How much information will they get other than, "You have used 8 or 10 units today"? Are they able to say, "You are using a lot of a washing machine. You are using a lot of a fridge-freezer"?

Daron Walker: This market is developing now, and there are actually other companies that are likely to join the system that are not interested in selling you energy; they are actually interested in selling you services to reduce your energy consumption. In that world, you have actually got the energy suppliers competing with these companies, so a yet more competitive dynamic. The kind of things they can do—

Q40 Chair: You are talking about the market but is anyone in the market? Have you actually got people supplying smart meters?

Daron Walker: Yes.

Q41 Chair: How many? Tell us.

Daron Walker: There are two companies that are now actively rolling out; two of the major six. There is at least one small supplier that is rolling out smart meters.

Q42 Chair: So, one small supplier is your example of new entrants.

Daron Walker: No; you asked specifically about smart meters.

Chair: About new entrants.

Daron Walker: There are several new entrants. Not all of them are yet operating smart meters.

Q43 Chair: Who is operating in the market?

Daron Walker: There are lots of questions at play now. Shall I take yours and then go back? British Gas have been rolling out smart meters for quite a few years. They are now rolling out smart meters that meet our specification. Before, they took a commercial decision as part of their offering to roll out—

Q44 Chair: But they are not new in the market.

Daron Walker: They are not new in the market.

Q45 Justin Tomlinson: Hold on; why have they gone so quickly?

Daron Walker: This is what is quite interesting. This is massively exciting as a programme. It is going to be transformational. They see commercial value in actually providing a better service to their consumer, so the consumer can know how much energy they are using. There is lots of really good data to say that a consumer who has a smart meter is much happier and much more likely to promote you as a company to their colleagues and friends. So they have taken a decision to roll these out. There is another company, E.ON, that is rolling out—

Q46 Justin Tomlinson: Just to be absolutely clear—I would need to be a British Gas customer to be able to get that from British Gas now?

Daron Walker: No, you could switch to them.

Q47 Justin Tomlinson: Yes. So, in effect, they have made a commercial decision that as a marketing initiative, it is a very attractive thing.

Daron Walker: Marketing and the ability to, off the back of that, effectively offer other energy services to that customer.

Stephen Lovegrove: On the timing—as you know, we are in the foundation stage at the moment, where effectively the roll-out of smart meters is, to a certain degree, kind of

optional. The actual roll-out phase is due to start in quarter 4 of 2015, and that is when we would see the majority of the activities taking place, between then and the end of 2020.

Q48 Chair: We will come back to those dates, because I am sceptical you will meet them. What I am interested in is, where are these new entrants that are not energy suppliers? British Gas is a big, big energy supplier.

Daron Walker: Since 2010, there have been 12 new companies entering this market; 12 new energy suppliers. We now have 19 independent suppliers in the domestic market, and all of that has taken place since 2010. There are companies like Opower—this is not smart, this is energy supply.

Q49 Chair: So how are they using the smart meter stuff?

Daron Walker: Smart is at the foothills of becoming the future. Companies such as Utilita are rolling out smart PPM meters.

Chair: PPM?

Daron Walker: Pre-payment meters. A company called First Utility originally based its model on smart meters—it is a small supplier that has grown rapidly over the past few years. We expect to see more new entrants off the back of smart. Once it is all in place at the end of 2020, we expect people will compete to be new suppliers because the cost to serve will be lower for the new entrants and there will be fewer barriers to entry.

There are also suppliers that are interested in using your data, subject to your consent, to offer you other services and advice. A company called Opower, for example, does peer comparisons. It says, "Your neighbour has an equivalent house that looks broadly the same, and they are saving 20% relative to you on their energy use. We can help you work out how to do that. It might be offering advice about insulation, thermostat controls or your pattern of use—turning down your thermostat by just a degree can make a big difference." All those things will come off the back of having a much richer source of data for the consumer and sharing it with the people they want to share it with.

Q50 Justin Tomlinson: I will keep on this theme—that was part three of my question, but I will link the two together. Fast-forward to 2020, when it is going to be much easier for challenger brands to come into the market because the consumer has the data. Now I have to phone up somebody, and, if I am not a particularly savvy customer who has braved the rain to get my meter reading, they have to send somebody out, so the barriers to entry have been removed.

Daron Walker: Yes, absolutely.

Q51 Justin Tomlinson: So there is a plus side to that. Going back to the data, I have ticked all the boxes. I know that one of the reasons why some companies are holding off is

that they are waiting for the technology to catch up to the aspiration. As it stands at the moment with the technology that will be available, proactive-wise they will not be able to tell whether I am using a washing machine rather than a television; they will still only be able to get my daily usage and compare it to a like-to-like house.

Daron Walker: I think that is right. If you would like more information, I can find out and write on that.

Q52 Justin Tomlinson: In your factoring—we know technology advances very quickly—how easy will it be to upgrade things further down the line?

Daron Walker: That is one of the things this Committee challenged the programme about when we came in in 2011. We have done several things. First, we have worked with a range of experts on what kind of functionality you want built into the meter. There are several things built in—smarter grid-type things—such as the ability to have time-of-use tariffs, so you can encourage people to switch use by giving them different prices at different times of the day, and voltage alerts and voltage quality information that can go back to the network to allow it to understand where reinforcement is needed. There are several future-proofing elements that we have built into the meter.

In addition, we are going to allow people to bridge securely between the metering system and the data to allow it to start talking to other devices in the home. Our basic system will allow you to send pricing signals to smart appliances in the home, so those appliances can turn on when prices are low and turn off when prices are high. That is all built in.

For the comms and data services, we have effectively worked with the energy companies, the network companies, IET and other experts to work out the likely demand forecast scenarios for different potential futures. We have worked out all the different use cases for different types of things you might want to do. We have procured several times the capacity beyond those most likely scenarios, so the system is flexible. A big part of this is building it once and having flexibility. Once you have built it, the costs to change the amount you are using it are marginal. Again, we have done all that to future-proof the system. If you imagine that the basic data and the basic flows will be there, what you can do in the home with lots of technology that makes use of that data is limitless.

Q53 Justin Tomlinson: You talked about the evidence from the international studies that shows there will be a 2% fall in the usage of gas and 2.8% in electricity. Have you been using any of the data from the British Gas and E.ON roll-out to see what is happening? I am going to base this purely on one person I know who got their smart meter and thought they had turned everything off, but, in blind panic, realised their television was on standby, etc., and a huge amount of power was being used. They then turned everything off and had a 10% reduction. But it is about what happens further down the line when people get out of that habit. Do we have any information yet from what British Gas and E.ON have been doing?

Daron Walker: It is too early to have any robust data, partly because you haven't got the full range of services in some of the meters they rolled out early. You have obviously got to take account of what the average customer does when you are doing a prudent impact

assessment, but, as I was saying, the international trials are showing 8% or 9% reductions. We did our own trials in GB before 2011, and 18,000 homes were looked at through those trials. Over the period of the trials, the savings that people were finding were sustained. What we do not yet know is whether they would be sustained over 15 years, but for the period of those trials, over the time they operated, the savings were sustained. They were in the ballpark of, and slightly above, what we had assumed in our impact assessment.

Q54 Justin Tomlinson: You just talked about the fact that one of the advantages of the data is getting more tariffs that reflect time of use. The problem is that we can produce enough energy in this country, but at half time in the World cup match on Saturday and during the advert break of "Coronation Street" it is a particular problem. Presumably, the data will allow for those tariffs, and people will put their washing machines on overnight and we can spread out our supply and demand problems.

Daron Walker: All of this is possible with the system. Time-of-use tariffs, in and of themselves—I think you need consumers to be informed and educated ahead. At the moment, most people do not have a clue how much they are using day to day. Where time-of-use tariffs have been mandated in other member states or other countries, because they were mandated before people really understood their use, there was quite a lot of consumer push-back. That capacity is built into the equipment and the specifications we have made, but at this point we are not requiring time-of-use tariffs.

Stephen Lovegrove: You are quite right to say that smart meters are the first step towards a much smarter network, and we have been talking to National Grid extensively through this process to make sure that they have their input. Clearly, one of the challenges that we will want to try to address is, as you say, the imbalance of supply and demand. The extent to which we can smooth those out is going to mean that our overall energy use and the cost of overall energy use in the UK is lower.

Q55 Justin Tomlinson: Presumably, when you are balancing value for money, obviously any reduction in the use of electricity and gas—whether that is 2% or 8%—is a reduction in CO_2, so that is ticking your green box. I get that. The fact that you are empowering consumers with more data allows them to be more savvy, informed consumers. The market, with the help of people like moneysavingexpert.com and all the comparison websites, will be able to help residents drive down their bills. I get that.

But have you been factoring that in to your value for money? It strikes me that if further down the line, you are getting more people to use their washing machine at night through price incentives, you are not going to need to commission and subsidise quite so many power stations in the future. As power stations are decommissioned, we will not have to run around in a blind panic with huge bucket-loads of taxpayers' subsidy, which is ultimately funded by the consumers. Has that been factored into your calculations of the cost? To me, that is probably the most exciting bit from the taxpayer's perspective.

Stephen Lovegrove: It will certainly be the case that, as a result, in a purely stable system we would expect to see lower electricity generation required for the reasons that you state. However, as we seek to move heating, in particular, and also transport away from fossil

fuel reliance, we will need a lot more electricity within the system full stop because we will be heating our electric heaters and possibly driving our electric cars. The system-wide impact of trying to build all of that in is very complicated, but you are absolutely right to say that it is definitely a step in the right direction and a very helpful development.

Q56 Mr Bacon: Just to follow up on Justin's point, are you saying that you expect electricity consumption to be lower, because of the savings from this in the future, than it is now? That may have an impact, as Mr Tomlinson was saying, on the amount of generation capacity that you need.

Stephen Lovegrove: Taken purely in isolation, that would be the case. However, at the same time, we are seeking to electrify, as much as we can, our domestic heating systems and we will be wanting to electrify our transport systems. This is slow burn, obviously, but it will mean that there will have to be more generating capacity in the UK than there is today.

Q57 Mr Bacon: So you are expecting it to go up, not down.

Stephen Lovegrove: Over a period of time, I would expect the average house in the UK to use more electricity. I would expect it to use much less gas, because that is how we heat our homes at the moment, and we want to get away from gas and to heat our homes through electricity.

Q58 Mr Bacon: I understood Mr Tomlinson's point to be about needing less generation capacity, and I thought I heard you say, "You are absolutely right," but you are actually saying—

Stephen Lovegrove: No, no.

Justin Tomlinson: If all things were equal, that is the case, but as a nation, we are consuming more power anyway, so compared to if we did nothing, it will help reduce the number of power stations.

Stephen Lovegrove: Correct.

Chair: If consumers change their behaviour.

Daron Walker: Going to the point you made earlier, even more powerfully, if you imagine you are generating more electricity, and if you can switch more of that load away from peak moments, you can smooth the usage across time and you will need less electricity capacity relative to what you would have needed without smart metering and peak load shifting.

Q59 Justin Tomlinson: My last question on the consumer bit. It is just a comment, but I have to say that of any possible initiative that any Government can do to try and reduce CO_2, empower the consumer and reduce the need for power stations, I cannot think of

anything more effective. I think the principle of the scheme is absolutely spot on. There are obviously other questions, but this is the best way for us as a nation to be able to manage our problems with energy supplies.

Finally, I have a query about switching. It is 2020 and my energy supplier has installed a brand-new smart meter in my house. I am now empowered with loads of information and realise that my energy supplier is not the most cost-effective one. Am I then free to switch, even though I have got that supplier's equipment in my house?

Daron Walker: A big part of why the Government are setting out the frameworks is to ensure that all the equipment is interoperable, so that when you switch through the DCC, all the DCC has to do is route the data to a different supplier. If you left the market to do its own thing, you might find a new supplier has to install new kit or that it cannot speak to that kit when it takes over that home, so you will be free to switch.

Q60 Chair: Who owns the kit in my home?

Daron Walker: Just like today, it is the energy supplier. They either own them directly or they rent them from other companies.

Chair: So if I change—

Daron Walker: If you change, the new supplier will have to take over. They will have commercial arrangements, as they do now. When you switch at the moment, the new inheriting supplier—

Q61 Mr Bacon: Anyone who has had a Sky or a Virgin package will be familiar with the fact that when you switch, some engineer comes along with a yellow van and unscrews one from the wall and screws another one on to the wall. Are you saying that not only will that not be the case, but that energy suppliers will be required to offer a service whereby they can use the box that was there before?

Daron Walker: All of the system will allow them to use the meter.

Q62 Mr Bacon: That wasn't my question. I am not asking whether they are will be allowed to. What I am really asking is, will they be in a position where, if they were to say to the consumer, "I'm sorry, love, your box doesn't work; I'm gonna have to put a new box on," the consumer will say, "Oh no you're not; you're gonna make that box work"? Will that be the position?

Daron Walker: They will definitely use the kit that is in there once the DCC is in place. All the incentives will be aligned.

Q63 Mr Bacon: I'm really asking about what they are required to do, not what the incentives are. Will they be required to use the previous box and to make sure that the previous box works? Yes or no?

Daron Walker: I will need to check on whether they are actually required, but in practice—

Mr Bacon: So that is a no.

Daron Walker: No, I am not saying no. I am saying I need to check.

Mr Bacon: Did you say in principle or in practice?

Daron Walker: If they switch the kit out, they will have to install £200-worth of kit to go and visit that home, or they can get free access to that without spending any more money. All the commercial incentives are aligned for them to carry on using that kit when they take over that customer.

Q64 Justin Tomlinson: Last point: am I right in thinking that one of the reasons the energy market might not be as competitive as we would all like is because we as consumers either cannot be bothered or are simply not informed enough to be able to shop around, and that this in theory is going to really open the door up not only to the challenger one, but even to the existing big six? All consumers will instantly know whether they are getting good deals, and this should further drive prices down.

Stephen Lovegrove: Yes, that is exactly right. For the competitive market to work properly, you have to have informed consumers and you have to have a system where the consumer can exercise choice. At the moment, we do not have well-informed consumers. I would say we have got incredibly badly informed consumers, and the ability to exercise choice is very constrained, because switching is complicated and slow. Both of those two things are designed to be addressed by the smart meters.

Q65 Chair: Yes, I know. This is one of the crazy things about the whole system. I am not as optimistic as Justin is, as is becoming clear. The organisation that is going to inform consumers to enable them to exercise this stunning choice is funded and run by the very suppliers who will benefit out of our carrying on using more of the stuff, isn't it?

Stephen Lovegrove: The CDB? The—

Q66 Chair: No. You have got so many acronyms in this world. The organisation that is established to inform consumers so that they can exercise choice is being funded and run by the energy suppliers, is it not? How on earth is that—isn't that right? I want to bring in Mr Nolan on this one. In Ofgem, you are supposed to be protecting the consumer. Are you happy with that sort of settlement? It seems plain daft to me.

Dermot Nolan: I think the set-up will only work in so much as the regulator is enforcing—

Chair: You're not very effective so far, Mr Nolan.

Dermot Nolan: We will have to do our best in future, and I promise you that we will do our best. On the nature of the situation, enforcement will obviously be an absolute part of the regulatory framework going forward. As Mr Bacon referred to, the suppliers will be required to have the compatibility mechanism spoken about—

Q67 Chair: We are not talking about compatibility. Everyone is saying that we are going to save a little bit of energy here, if consumers are informed and exercise choice. We set up an organisation, funded and run by the very suppliers that make the most money if we use a lot of energy, to help support consumer information. What you are telling me is, "We will regulate them." Is it not a design absurdity to allow those who benefit from maximum consumption to fund an organisation that is supposed to help educate and inform consumers, Mr Nolan?

Dermot Nolan: I don't think that it is a design absurdity, Chair. I can only come back and give you the direct answer that we will enforce. The central delivery board—the body itself—will be tasked with the idea of persuading and informing consumers that smart meters are a good thing, that they should use them and that they are to be trusted and welcomed. I take the point about suppliers having incentives, and I absolutely accept that, but in that sense, rigorous enforcement by the regulatory body will be in place, and will be—

Chair: But the record is not very good. What we are doing in the new world is establishing a situation where we depend on you regulating, and you have not got a very good record on that.

Q68 Mr Bacon: Mr Nolan, I was not very comforted by Mr Walker's answer to my previous question about the meters. It is one thing to say that compatibility will be required, but what I am really interested in—you, as the regulator, should be able to insist on this, I would have thought—is that once a smart meter has been installed by the energy supplier, if the consumer then switches, the same equipment, the same meter and the same plastic, electronics and chips should be capable of carrying on with the new competitive energy supplier to whom the consumer has switched. You should require that to be the case.

Dermot Nolan: I agree, Mr Bacon.

Mr Bacon: Mr Walker's answer was going on about commercial incentives for the suppliers, which is not really my point.

Dermot Nolan: The main point would be that incentives should be in place.

Q69 Mr Bacon: No, no. With respect, you did not listen to my question. It might be Mr Walker's main point that the commercial incentives would be to do something that costs

less money, rather than something that costs more money, but that is not—I repeat, not—my main point; my main point is on what will happen. Will a supplier be required to take on the previous meter, or will they be able to turn around and say, "I am sorry, we cannot make that one work", and then put in a new one at further, higher cost?

Dermot Nolan: I do not think that they will be able to put any further cost on the consumer.

Q70 Mr Bacon: Of course there will be further cost to the consumer at some point. Whether they are billed directly or billed indirectly later is not the point. When a consumer switches from one energy supplier to another, will they be able to use the previous meter in all circumstances?

Dermot Nolan: Yes, they will, is my belief.

Q71 Mr Bacon: So it will always be interoperable in all places at all times.

Dermot Nolan: That is certainly my belief. If I am incorrect—

Mr Bacon: Mr Morse has a question about that.

Amyas Morse: Just to check, if I switch, who then owns the meter? If I take a new supplier, they become the owner of the meter, right?

Daron Walker: I understand what Mr Bacon is saying. The issue is that these are assets that belong to these commercial organisations. In effect, they will have to have arrangements, as they do now. When there is a dumb meter in, that is not ripped out when someone switches, because it is not in the company's interests. But we are not going to intervene in what is a commercial set-up for all of the arrangements that they have for these meters. I can't see an issue where someone would go and spend an extra £70 when all of the standards and regulations that we are putting in place will ensure that they can operate this new meter. But, as I understand it—I need to double-check—we are not—

Q72 Mr Bacon: Can you say that again? All the regulations that you are putting in place will ensure what?

Daron Walker: Will ensure that they are able to operate that meter without having to visit the home. They will be able to talk to it, send messages to it and get data back. So there will be no reason for them to go and install an alternative—

Mr Bacon: You are talking about ability, but I am talking about requirement.

Stephen Lovegrove: If I may, there is an absolute standard that all of the meters are going to be interoperable and operable by all suppliers, so all suppliers will be able to talk to the meter because they are all specified against the same specification. My understanding is

that when a switch in energy supplier takes place, the new energy supplier will then own the meter for the period of the contract that they have with the customer, however long that is.

Q73 Mr Bacon: And then the ownership would switch yet again.

Stephen Lovegrove: And then the ownership would switch yet again. There is no scenario in which a new supplier would say, "I am sorry, we can't work with that one." They have to be able to work with them all, because it is all one big system. I do not know, but we will happily go and check and get back to you on whether there is a requirement that they do not come in and switch the meter out. I do not know why they would, but—

Mr Bacon: It was 9 June at 4.11 pm when you said that there is no scenario where they will say, "I am sorry, we can't work with that one." We will hold you to that, because it will be interesting to see how long it is before someone gives that answer to a consumer.

Justin Tomlinson: I think that that is almost irrelevant. The point, which was the whole point of my question, is that you do not want a barrier to stop people switching, where companies say, "I'm ever so sorry, it is not worth us coming to change your meter." By law, they will have to work with it. It may be that they then say, "Actually, we have an even more modern version that can give you even more data that you can sign up for and we will not charge you." Then, it is a case of "be my guest."

Mr Bacon: There is no such thing as a free lunch. They will have to get the money to pay for it from somewhere.

Q74 Austin Mitchell: The basic principle is: I, the consumer, pay for the bloody thing in the first place. It is my meter, so I'm going to keep it. Would that be the principle?

Stephen Lovegrove: No, that won't be the principle. You, the consumer, will pay for the meter. The reason why that is a sensible economic decision to make is because you will save money on your electricity bills by doing so. The gas and electricity meters at the moment are owned by the gas and electricity suppliers.

Q75 Austin Mitchell: So you can, as a company, in certain circumstances, tell me, "You can't use that meter—you've got to buy another meter," if you think it is not suitable or if there are certain problems, and I will have to buy another meter. That can happen.

Stephen Lovegrove: No. The new sets of meters are all designed to be on common standards, and—

Q76 Austin Mitchell: So you can guarantee that I will not be forced to have a new meter if I change suppliers.

Stephen Lovegrove: If you change to a smart meter, you will not be forced to have another smart meter subsequently, no.

Q77 Austin Mitchell: Okay, that is what I wanted.

That leads me to another principle. Mr Walker was insistent in saying that there will be savings to the consumer, but £26 a year on a bill of £1,400 is frankly peanuts compared with the savings that the utilities will make. What are the savings for the utilities? They will not have to send anyone to read the meter, and they will not have to take part in a long, acrimonious and expensive correspondence with my wife over their estimates of the amount of electricity or gas or whatever that we have used. There is an enormous saving for them. In that case, since the company is making big savings but the consumer only small savings, why shouldn't the company pay for the meter?

Daron Walker: The company pays for the meter, and it is part of all of the things that are paid for—

Austin Mitchell: But they put it on the bill.

Daron Walker: Just like they do today. It is part of delivering and billing you for a service for energy.

Q78 Austin Mitchell: So the consumer is paying for the company to be able to make bigger profits because it does not have to do the readings.

Daron Walker: This is where we go back to the discussion that we were having earlier with the Chair. Ultimately, as the costs get driven down to serve consumers—because the smart meter will allow them to make efficiencies—you are relying on the consumer being savvy and switching to other suppliers that are offering better value and, broadly, competition to ensure that these savings that the supplier is seeing are being passed through. That is just like if the suppliers make other efficiency savings, they would look to pass those on in a competitive market. That is what we are relying on, as part and parcel of—

Q79 Austin Mitchell: I am glad you trust the companies. Just let me ask one other question. Where are the meters made? Are they made in this country, or do we import this equipment at enormous expense to the benefit of some foreign manufacturers?

Daron Walker: Most of the components are actually made overseas, but—

Austin Mitchell: We are putting an enormous bill on imports to increase the profits of the electricity utilities.

Daron Walker: If you bear with me, I just want to finish off. The components are often made overseas, but many of the meters are assembled and put together—

Austin Mitchell: But the profits still go overseas.

Daron Walker: Not for the costs of assembly. For example, if I talk about the deal that British Gas recently made with Landis+Gyr for £600 million—

Chair: So the profits do go abroad, but never mind—go on.

Daron Walker: 1,200 people are employed by Landis+Gyr as a result of working on smart metering, in the UK.

Austin Mitchell: So the profits will go overseas.

Daron Walker: I can say that employment happens in the UK, because of the smart metering.

Q80 Austin Mitchell: We have a balance of payments deficit already, so if you want to add to it, good for you.

There is a submission here from EDF, which suggests that there should be a central purchasing authority to buy the meters and to get the price down—to get them more cheaply. What is wrong with that?

Daron Walker: These are private sector companies, and this is a core part of their business. Meters are basically how they measure how much of their product that you are using. It is absolutely right that the suppliers are responsible for purchasing these assets. What we are seeing is—and the whole concept in the '90s of introducing metering into the competitive part of the market is that we wanted to see—innovation in metering. We have seen some of that. We wanted to make sure that there is an incentive for them to try and—

Austin Mitchell: You do not want diversity—you want innovation, but you do not want diversity.

Daron Walker: We want common functionality, but we also want companies to innovate to find cheaper ways of doing it.

Q81 Chair: We want to save the consumer cost. EDF has said, as the other energy companies have, that you can save £1.24 billion by having national procurement of smart meters.

Stephen Lovegrove: Have the other energy companies said that? I think it is just EDF that has that particular view?

Chair: According to press cuttings, they have, but it doesn't matter—let us just say that EDF is the only one. Why not do it?

Daron Walker: Because what you are effectively doing is, first, to ask Government to procure a key asset for a private sector company.

Chair: If it saves £1.24 billion to customers—

Mr Bacon: That is what they have done with broadband.

Daron Walker: I am not convinced that it would save £1.2 billion—

Stephen Lovegrove: We would have to look at whether or not EDF's analysis actually—

Q82 Chair: You must know about it. Don't tell me that this is a surprise to you. I cannot believe that they have not been talking to you. The press cuttings suggested to me that it was a consortium.

Stephen Lovegrove: I am almost certain that it is only EDF—

Chair: It doesn't matter if it is only EDF. If it is true, it is £1.24 billion and you should be protecting consumer interests.

Daron Walker: There is nothing to stop these companies doing it together—creating a consortium, but doing it in the private sector. There are two companies that have said that they can—

Q83 Chair: Is it true, Mr Walker? Could they save £1.24 billion?

Daron Walker: We cannot make an assessment—

Q84 Austin Mitchell: Have you investigated the possibility of saving £1.2 billion by central purchasing?

Daron Walker: We have looked into EDF's idea. I think it would be for others to challenge whether those £1.2 billion savings are legitimate and realistic. What we are—

Q85 Mr Bacon: Why would it be for others to challenge?

Daron Walker: Fundamentally, these are the companies' assets—these are meters that they buy to run their business. It would be quite a strange world for us to start buying their meters on their behalf.

Chair: You would have this company buying them. You are setting up endless new organisations; the organisation that is putting in for DCC, or whatever it is called, could buy the meters. If there is £1.24 billion, that is a lot of dosh.

Q86 Guto Bebb: We're in danger of doing what we have condemned another Department for doing in relation to BT. I think we should be very careful before we go down that route.

Stephen Lovegrove: Typically. I am certain that it is only EDF that has made this suggestion. As a matter of principle—

Q87 Chair: I don't care about principles—

Mr Bacon: Says Margaret Hodge!

Chair: I do care about principles in Barking, but the principle here is to minimise the cost to the consumer. That ought to be your interest, and it is certainly our interest.

Stephen Lovegrove: It is absolutely our interest. All historical evidence has shown that the private sector is better at procuring things than the public sector.

Q88 Austin Mitchell: There is a possible further saving. SSE—I suppose that that is Scottish and Southern—suggests that it is not necessary in every case to have an in-home display, and that people can read it from their personal computer or their tablet or their telephone. Is that correct?

Stephen Lovegrove: It is correct.

Q89 Austin Mitchell: Would that be a saving?

Stephen Lovegrove: If you were to roll that out completely, there would be a saving. I think the in-home display itself costs some £15 a home. However, all the evidence that we have at the moment shows that the existence of an in-home display means that the cost savings to the consumer go up quite substantially. If you have a clock on the wall in a room and a clock on your smartphone, you are much more likely if you want to tell the time to glance at the clock. Indeed, the fact that there is a clock in your room might mean that you check the time more often. All the evidence has shown that there is an extra 2% to 4% of saving that is available to consumers if they have an IHD. Overall, therefore, not rolling out IHDs would actually lose the consumers money.

Q90 Austin Mitchell: Just one further question. We talked about savings to consumers, which do not seem all that great to me.

Stephen Lovegrove: It's £43 by 2030.

Austin Mitchell: My father used to go around the house shouting, "Put wood in t'oil," and, "Switch that bloody light off!" Now, are the savings that I get from having a smart meter going to be any greater than those my father gave us from his big mouth?

Stephen Lovegrove: I think the smart meter is going to take the place of your late father. That is going to be the motive force for you to turn the lights out and close the windows and to ensure that the—

Q91 Austin Mitchell: But those are the obvious things.

Stephen Lovegrove: It is common sense, but unfortunately consumer behaviour does not typically mean that we are necessarily putting our washing machines at the most economically sensible time of the day or night. The smart meter will enable you as an informed customer to be able to make those choices, which otherwise your father might have imposed upon you.

Q92 Justin Tomlinson: It's also the stand-by bit. You are right about the lights and we all go around turning the lights off, but it is the fact that you don't realise that stand-by modes use about 70% anyway. You will soon realise that when your thing is whirring around and you have turned all the lights off.

Stephen Lovegrove: Especially when the devices are smart as well.

Q93 Mrs McGuire: Except all the information about stand-by, such as how many power stations it takes to generate the power for the stand-by modes that we do not switch off, has been out there in the public domain for many years. The way that this conversation is going, I have this horror that I will tweet to my electricity bill.

May I bring you back to coverage? The NAO Report indicates in paragraph 14 that some 30% of homes are not able to be included in the roll-out programme because they either have thick walls or are high-rise flats. I don't know how high-rise you have to be to be considered out of the system, but given that a great many buildings, in particular older buildings, do not have modern, cavity walls that you can stick things in between and all the rest of it, are you comfortable at this point in the process with the fact that around 30% of homes may not yet be able to be covered because the technology is not there?

Stephen Lovegrove: I would be very unhappy if it were the case that we could only cover 70% of homes.

Q94 Mrs McGuire: So the NAO Report is not quite accurate.

Stephen Lovegrove: It is accurate. I think what I would say is as follows: 70% of properties are capable of being covered with the 2.4 GHz technology that we have operative at the moment. We are working hard with the industry to use another frequency—868 MHz—which should by mid-2016 be able to cover 25% of that missing 30%. That still leaves the 5%, which we have to be able to fix by the end of 2020. We are working very hard on that at the moment and there will be a range of different technical solutions, some of them possibly wired. But it is very important that the technology is capable of being rolled out to 100%. We have 70% now that will be covered, 25% will be covered by 2016, and 5% yet to work on for 2020.

Daron Walker: This is to do with the technology for the home area network so that the devices in the home can talk to each other. The ability to talk to the meter and get meter readings to the electricity meter will be much higher from day one. This is so that your in-home display is getting the relevant information from the different meters. If your gas meter, for example, is quite a long way from the kitchen and there are thick walls, you need to have

other frequencies to allow that to communicate with the IHD. The wide-area network will be hitting high levels of 90% from early 2016. This is to make sure that the equipment in the home can talk to each other. We have a solution for 70%.

Q95 Mrs McGuire: Could I take us from buildings to people? Again the NAO Report indicated that not all energy suppliers have developed a viable system for pre-payment meter users. Could you update us on where we are with that? I would have assumed that that should be one of the priority areas, given that we are all interested in tackling fuel poverty. Although we can disparage £23 or £46 in terms of those with larger incomes, for those with real pressures on their incomes it may not be a significant saving, but it will make a difference.

Stephen Lovegrove: That is an area we are working on absolutely intensively. It is very important that pre-payment customers are capable of benefiting from the smart meter programme.

Q96 Mrs McGuire: Can I ask you, what percentage of the pre-payment customers are part of the whole? Are they included in your 30% of homes that are not going to be covered, or are they a separate category?

Stephen Lovegrove: Daron will have a better sense of this, but just as an overview, probably of the 30% who typically tend to live in flats, the preponderance of fuel poor households in flats is actually less prevalent than it is the rest of the population, so it is likely, in fact, that it wouldn't quite work like that. It is absolutely imperative that the energy suppliers are in a position to be able to offer pre-payment customers the smart meter service. They must do that for the beginning of roll-out.

Chair: So, you're making it a requirement that pre-payment meters will be offered to every customer in time for roll-out.

Q97 Mrs McGuire: We have talked about the buildings, and the fact that 30% of the buildings may or may not be covered, depending on whether or not you're an optimist, but what I am trying to dig into is how many customers, real households, are not going to be covered by the roll-out if they haven't yet got the technology to deal with pre-payment meters?

Daron Walker: You're asking about two things at the same time.

Mrs McGuire: Well spotted.

Daron Walker: First, the pre-payment thing. We have agreed with all the parties expectations that they need to be ready by the end of next year.

Q98 Chair: We've agreed or we're required?

Daron Walker: It's not a regulatory obligation, but we could regulate if they are not making sufficient progress. By the end of next year, the major suppliers will be able to offer credit customers and pre-payment customers a smart-metering service.

The second part of your question is to do with the 30% that we're talking about that won't have a hand technology from day one. Stephen Lovegrove is absolutely right; the preponderance of fuel poverty is actually lower in multi-dwelling units, as they are called. It is actually more likely that it will be the non-fuel poor who won't have this hand solution from day one. It will be ready by the end of 2016, so the full 95% plus will be ready from the end of 2016. That will mean that all customers can benefit from that.

Mrs McGuire: You're saying today that although the NAO has said that there is not a viable pre-payment technological solution in place at the moment, by the second quarter, or the third quarter of 2015—I can't quite remember—

Daron Walker: Q4 2015. All the suppliers have committed to that.

Q99 Mrs McGuire: By Q4 2015, all customers, including those relying on pre-payment meters, are going to have the technology to benefit from the savings—is that a firm promise?

Daron Walker: All suppliers have committed to being able to—*[Interruption.]* Because it is going to take five years to roll these smart meters out, so by the end of the next year, the energy suppliers have committed to being able to provide pre-payment services and credit services on smart metering.

Stephen Lovegrove: If I may pick up the Chair's point, it is not a specific requirement at the moment, but the way in which we have set this up is with our colleagues in Ofgem, and they will be looking very regularly at the business plans and roll-out plans of the various energy suppliers. Obviously, pre-payment customers are part of the broader universe of energy customers and if they believe that the plans are not capable of covering the entire universe of energy customers, they will be capable of taking enforcement action.

Q100 Mrs McGuire: Given that pre-payment customers are already the most disadvantaged in the market, and those who pay by standing orders and debits and all the rest of it get the advantages—I do not know who wants to answer this—should it not have been a greater priority that those with pre-payment meters are at the front of the roll-out, rather than saying, "It might be, and we might have to look at it in the fourth quarter of 2015."? They are also the ones who, in terms of the percentage of their income, will have the greatest savings.

Daron Walker: I think it is absolutely right—my own Secretary of State and I, as the director of fuel poverty, care a lot about pre-payment customers.

Q101 Mrs McGuire: We all care about pre-payment customers. You have your hands on the levers of something that can make a difference.

Daron Walker: What we're seeing is that, for instance, British Gas and at least one other supplier can see massive commercial benefits, because the cost of serving these customers, at the moment with dumb systems, is very much higher than it will be once the smart PPM solution is available. So, commercially, we expect all of them to start providing the service as early as possible, because it will allow them to reduce their own costs. In addition, in terms of what we expect to the service to become, one of the things that the Fuel Poverty Advisory Group talks about is destigmatising PPM, and the hope is—some of the suppliers are talking about this—to make it a bit like mobile pay-as-you-go, so it becomes a much more universal product. All these smart meters will be able to do pre-payment, so you could have it becoming a mass-market product, rather than a minority-market product. I am confident that the commercial incentives on this particular issue are very well aligned between Government and the energy suppliers.

Q102 Mrs McGuire: Since you raised the issue that you are also senior in the fuel poverty side of the Department, how will you ensure that those who are in fuel poverty benefit? One of the things that has changed over the years is that you could identify, via the energy companies, who we are disconnecting, because the energy companies disconnect, but we are now into a hidden environment of self-disconnection. I am wondering how you are going to monitor it. Whether it is Ofgem or the Department, how will you monitor the impact of this fancy new technology, which we all think is wonderful, because we sit with tablets and all the rest of it? How is that going to impact on those who are seriously facing fuel poverty, and how are you going to monitor it?

Dermot Nolan: I think we're going to monitor it relatively constantly.

Q103 Mrs McGuire: And then do something about it.

Dermot Nolan: Absolutely. The number of disconnections is relatively low—I think it is about 450 of electricity and 160 gas per year in GB. The potential risk—I think this may have been what you were referring to—is that there is at least the theoretical possibility that a company could disconnect someone remotely. That is something that Ofgem are extremely mindful of. We have already put protocols in place to make sure that the same protections that customers currently have in terms of not being disconnected will be put in place, and therefore someone cannot be remotely disconnected. Before anyone can even contemplate disconnection, they will have to go through a whole series of steps that will make it extremely difficult, including absolutely checking, and being required to check whether the customer was vulnerable, and that the customer had been offered every other possibility to avoid disconnection. In general, I think I could hope to give you the assurance that because of smart metering, the risk of disconnection will not have risen in any sense and may actually have fallen.

Mrs McGuire: Is that going to be a regulatory requirement?

Dermot Nolan: That is a regulatory requirement.

Mrs McGuire: That there will be no remote disconnection.

Dermot Nolan: I cannot say there will be no remote disconnection, because there are disconnections.

Mrs McGuire: Before checking.

Dermot Nolan: Before checking, absolutely a regulatory requirement.

Amyas Morse: Can I just supplement Anne's line of questioning? Forgive me, Mr Walker, but in your answer about the availability of these pre-payment meters, is there not a bit of a step in between? Do I understand rightly that some companies have this technology at the moment and are trying to get a market advantage out of it? How are you going to resolve that?

Daron Walker: I don't quite understand what you are asking.

Amyas Morse: Don't some companies have the technology now? They have already developed it, and they are trying to get value out of that respective to other companies. Have you resolved that?

Daron Walker: In a competitive market, if companies want to come forward and offer lower-cost pre-payment services to low-income pre-payment customers, I think that is a good thing.

Amyas Morse: What I am concerned about is whether, in the end, you will have to allow people to stay in the market who do not offer pre-payment services.

Daron Walker: I do not quite understand the question. Sorry.

Amyas Morse: I understood that the technology that allows you to do prepayment in high-rise buildings, and so on, has already been developed by some companies but is not available from others. Is that not right?

Daron Walker: I have now understood the question. All meters will be able to do prepayment, so the functionality allows it to happen. The issue is whether the companies themselves have the systems in place to allow them to operate a pre-payment meter, because all the pre-payment functionality will be back in the companies themselves.

Amyas Morse: Do all of them have it at the moment?

Daron Walker: They don't have it, but they have all committed to getting it ready for the mass installation phase.

Stephen Lovegrove: If you want to be a pre-payment customer and you have a smart meter installed, if your existing supplier does not have a pre-payment offer you would switch to one who does.

Q104 Mrs McGuire: Are you indicating that not all suppliers will necessarily offer a pre-payment option under the smart meter?

Daron Walker: They will all offer it.

Q105 Mr Bacon: Can you be clear on what you have just said? You said that they will all offer it as if you were rather hopeful that that will be the case. Will they have to offer it?

Daron Walker: The meter will be capable of doing it.

Q106 Mr Bacon: That's not the question. I wish you would listen to the question, Mr Walker. That would save us an awful lot of time. We are not interested in what you hope; I am interested in what is required. You said that they will all offer it, but I am asking whether that is because they have to offer it. Is the answer yes or no?

Stephen Lovegrove: Mr Bacon, may I answer? The answer is no.

Mr Bacon: I was hoping Mr Walker would answer, because I asked him the question. Is the answer yes or no?

Daron Walker: At the moment they are not required by regulation to have prepayment available by the end of next year, but they have all committed to doing so. If they do not provide a service, we have the power to regulate to force them to do so.

Q107 Meg Hillier: Anne McGuire has gone into quite a lot of depth on my point about prepaid keys. The NAO Report talks about your having considered how smart metering will affect different sectors of society. Paragraph 16, for example, talks about the customers Anne McGuire was talking about, but it has not been able to quantify the impacts because of the lack of robust evidence. We heard a little of that in the last exchange. There are other customers of whom you will probably need to have a wider understanding, such as high energy users and so on. Stephen Lovegrove, perhaps you could tell me what more you are doing as a Department to understand better the impacts of the programme as a whole across different types of energy users.

Stephen Lovegrove: You are absolutely right. The Green Book does ask us to check on the distributive aspects of the policy, and it is a regret to us that at the moment we are not in a position to be able to do that. We simply do not have enough evidence from international or national trials to be able to do that analysis. We have a couple of bits of work that give us reasonable confidence that smart meters will be welcomed by less wealthy consumers. There was an energy demand research project in 2011 that indicated that houses with a higher propensity to being fuel-poor valued the technology as much as those who were better off. We also did some research with National Energy Action in 2012 on vulnerable consumers and smart metering, and that confirmed that they all liked it. What we want to be able to do as we go through the roll-out—we will obviously be working very closely with Ofgem, who will be helping us with the analysis—is to make sure that, as the data builds up, we are in a position to answer the kind of questions you are asking more closely.

Q108 Meg Hillier: Sorry to interrupt. I am interrupting because you talk about studies in 2012 and previously. What are you doing now to ensure that you will understand the needs of those customers? I mentioned high energy users. That is quite important. If we are trying to reduce the carbon footprint—the big mission of your Department, the Government and the country—it is not just the fuel-poor, although that is an important group to understand, but across the different types of user. There are families, high users—

Stephen Lovegrove: I will ask Daron to comment in a moment. Certainly we will be working with suppliers to identify vulnerable consumers, which will be easier to do as a result of the smart meter roll-out, and to update their priority services register, which is where vulnerable consumers typically sit. We should be in a position to go to pre-payment meters again. Smart metering data should allow us to identify situations where a pre-payment meter is not being topped up. We are working on these technical solutions at the moment. It is a big part of what we want to be able to do—to have a much richer database.

Q109 Meg Hillier: I'm concerned about this, because this project has been around for a while, across Governments. It is a great opportunity to reduce energy consumption, lower the carbon footprint of the UK and be a potential benefit to consumers. We have heard all the potential benefits, but if the Department does not at the beginning—in fact, at this point we are quite well down the track—know what the impact is going to be on different types of consumers, there is a rather big bit of work missing. A lot of it is a bit finger-in-the-wind, isn't it?

Daron Walker: I wouldn't say it was finger-in-the-wind.

Meg Hillier: Sorry, that was a bit mean of me. I am sure it is your life's work, but it feels a bit like that from this side.

Daron Walker: The reality is that this is going to be rolled out at scale from the beginning of 2016. At the moment we are doing quite a bit of research on consumer behaviour—interventions that we are testing through various research projects that will come to fruition at the end of this summer.

Q110 Meg Hillier: So they'll be published at the end of the summer?

Daron Walker: Yes. There is also the work individual suppliers are doing to test for getting consumer access—what kind of techniques work to encourage success in getting into someone's home to install these things. We are extracting data through our powers to, effectively, build a methodology. We published our evaluation plan in 2012. We have a wide range of powers to require the companies to give us information. We have an expectation that we will be able, in the mass roll-out phase, to investigate distributional impacts on different types of consumer groups and track that year by year. If some of the data say that PPM customers are being left behind or certain interventions are working less well for certain types of consumer, we have the time to respond to that. At the moment, we are trying to build that methodology so that we have all of the data to monitor properly and to check, validate and make sure that we are delivering the business case that we have set out. You will not really know the full scale of impacts until you have mass level roll-out, which happens in 2016. The

key thing is to prepare all of your methodologies to be able to track, measure and evaluate during that stage.

Q111 Meg Hillier: It is great to be front-loading that, but in a way, it is midway through the programme. Let us say, for example, that young 23-year-old men living together are paying bills as part of their rent, so they don't actually reduce their outgoing. How would you know what type of consumer you are talking about, and how would you define that by age, background or size of family? Do you see it as a role—maybe this question is to Ofgem—to encourage consumers to reduce their use of electricity?

Daron Walker: The smart meter roll-out and the data we are getting will allow us to assess which different groups are responding in different ways. The broader capability to make consumer behaviour change is partly captured by—as well as other activities the Government might do—what the CDB is there to do. The Chair questioned the independence of that organisation. It is independently chaired by Baroness McDonagh, and I imagine that if you spoke to her she would be very clear about her independence as the runner of that organisation. It has objectives to raise consumer awareness around smart metering, but also to drive behaviour change and to ensure that its campaigns, advice and data are really driving the maximising of benefits to all types of consumer, particularly low-income and vulnerable consumers. So there are a range of things in the system that we will be driving to try to maximise the benefits from the programme.

Q112 Meg Hillier: Finally, obviously anyone who is paying the bill will notice it more. I am sure we have all not been the bill payer, when we were kids or whatever, and someone has told us to turn the heating down. Let us take an example. I mentioned young men, but let's take students in a student hall of residence who are paying a round amount of money. That is a lot of people, and these days they will probably have a lot of technology. I cannot see what behaviour change or incentive there is for someone in that situation—we could look at lots of other communal living situations as examples—to reduce their energy use. I do not yet see the connection between this programme and reducing energy use in the groups that do not have direct accountability or responsibility for the bill.

Daron Walker: That is a fair challenge for lots of different interventions where the consumer isn't seeing the price of the product they are buying and does not benefit from switching. The landlord in that situation could potentially save their own costs by switching to a more competitive deal, but that is a fair challenge.

Q113 Meg Hillier: Who will get the data in that case—will it be the landlord or the individuals?

Daron Walker: That's one that I will have to write on, I think.

Meg Hillier: Perhaps you could write to us then, because it would be interesting to know.

Q114 Guto Bebb: I want to take you back quickly to the first question that Anne asked, in relation to the extent of the roll-outs. Obviously you have made some very positives noises about hitting a 100% roll-out, but that is clearly not going to be the case from the outset. This is an issue that is of concern to me, and I have asked questions about it previously. What surprised me slightly is that in the written answers I have had, the statement has been made very clearly that there will be regulatory obligations to make sure that all households have access to smart meters that work, but none of your answers actually said that there would be a regulatory framework in place. Can we just clarify that—will there be a regulatory requirement or are we just hoping for the best?

Stephen Lovegrove: The regulatory framework is certainly in place. The requirement on the suppliers by the end of 2020 is that they have taken all reasonable steps to cover 100% of the market. The impact assessment actually assumes that 99% of the market is covered. It will ultimately be for Ofgem to take a view as to whether or not all reasonable steps have been taken to try to cover 100%.

It would be fair to say that some of the suppliers have asked us to reduce the coverage from 100% with all reasonable steps to, say, 80%, because that last 20% or so is more difficult to get to—they don't answer the letters and they are generally more expensive to hook up to a smart meter and in-home display. We have resisted that request very strongly and very clearly, because we do not want to have smart meters being rolled out at the suppliers' convenience. It might be a reasonable assumption to make that the last 20% fall disproportionately among the more vulnerable consumers, so we are very keen that we keep as much of a universal roll-out as we possibly can.

Q115 Guto Bebb: The only concern I have is that that slightly contradicts the two written answers I had, which talked about regulatory obligations. That implies to me that there would be an obligation on the industry to deliver, whereas you are now saying, "As long as we are confident that they have done everything possible, we'll be satisfied."

Stephen Lovegrove: It will ultimately be for Ofgem, but I think we will expect an extremely strict interpretation of the phrase "all reasonable steps".

Q116 Chair: Why don't you publish your guidance on that now?

Dermot Nolan: We haven't ruled that out, Chair. In fact, I think it is very probable we will, at some point, publish guidance, but we have not chosen to do so yet. As the roll-out occurs, I think it is very likely that we will do so.

Q117 Chair: Okay. I am going to ask some quick questions that we have not answered. You said you are going to start the roll-out not in 2015 but in 2016. Is that right? So it has slipped again.

Daron Walker: No, from the end of—

Chair: You said 2016 twice, Mr Walker.

Daron Walker: The mass roll-out will start from the end of 2015, so in Q4 2015.

Q118 Chair: You mean 31 December.

Daron Walker: It has not slipped. It is still Q4 2015.

Chair: You did say, twice, 2016.

Daron Walker: I expect there will not be much of an opportunity to roll out loads of meters in 2016, because it is towards the end, but it does start formally in Q4 2015.

Q119 Chair: I am just trying to establish whether it is slipping.

Daron Walker: No, it has not slipped.

Q120 Chair: Can I just ask about confidence in the costs, which is raised in the Report a number of times? There has not really been a proper pilot, whatever you are calling it, but the evidence is that people are having to make more phone calls than they thought they would, and they are getting more aborted visits than they thought they were going to, which for this Committee sounds very much like the PIPs system, where we heard similar. So what confidence have you got that the costs of implementation are accurate, and will be contained?

Stephen Lovegrove: Just on that point about having more telephone calls to get to it, this is exactly the point that I was responding on to Mr Bebb. I think it is probably the case—and I suspect that this is one of the things that the market investigation reference is going to tackle—that the energy suppliers do not have a good relationship, on the whole, with many of their customers, and we have absolutely no evidence whatsoever to suggest that it is more difficult to install a smart meter than it would be to do a dumb meter. We do not want to give suppliers the opportunity to wriggle off the hook of getting into people's homes and installing these meters and these in-home displays.

Q121 Chair: But if they argue, because you have not got a cap on costs, that they are having to do more phone calls and more visits, which page 30 of the Report suggests is the case, costs will rise.

Daron Walker: I think it also states that there is no evidence to suggest that they are having to make more calls for smart meters than they would have to do for legacy meters; so I think this is one of the things—

Q122 Chair: Are you telling this Committee that although you have not put a cap on costs, you are confident that costs will be contained within the envelope that you have set?

Stephen Lovegrove: The mechanism through which we will do this is through the enforcement mechanisms of checking these plans. When we have, with Ofgem, looked at the

plans and assessed whether or not they are on track or sufficiently ambitious, we will, if we are not satisfied that that is the case, and they are saying that it is costing too much but there is not proper evidence for it, be in a position to either tighten the nature of the licence obligations or, in certain cases, fine the companies for doing so. So there are a lot of enforcement actions that we can take.

Q123 Chair: Okay, I hear all that. Are you confident—can you tell this Committee—that the costs of roll-out will be contained within the envelope you have set?

Daron Walker: So—

Chair: "No" or "so"?

Daron Walker: We have tested this impact assessment robustly and widely. We have got some information—

Q124 Chair: Just answer the question. Are you confident? Three times I asked it.

Daron Walker: Yes, I am confident.

Q125 Chair: And are you confident, Mr Lovegrove?

Stephen Lovegrove: I am reasonably confident.

Q126 Mr Bacon: You are less confident than Mr Walker.

Stephen Lovegrove: I have confidence in the enforcement mechanisms that we have, and that we will be able to make sure that the energy suppliers deliver on their obligations if there is a problem.

Q127 Chair: Are you confident, Mr Nolan?

Dermot Nolan: I am confident. I think there is no perfect guarantee, and I would be lying if I said to you otherwise, but I am confident that the mechanism chosen will be the best way to try and contain costs.

Q128 Mr Bacon: May I ask a question about the extra costs of insulation versus the savings? Paragraph 2.9 talks about an extra cost of £6. This may be one for the NAO. Jill Goldsmith, your report says the extra "short-term transitional energy bill increase that is expected to peak in 2015" is "at an average of around £6 a year for each household." Now £6 is not very much, but I have read in various different places of meter prices going up to about £135. That would suggest you are paying the extra £6 for 20 to 25 years. For how long is this

extra £6 being added? Let us park for a minute the question of the savings. I will come on to that. For how long is this transitional extra £6 being added to your bill?

Jill Goldsmith: The figures on savings come from the Department's—

Q129 Mr Bacon: I am not asking about the savings. I am asking about this extra cost of £6.

Jill Goldsmith: Sorry, the costs and savings come from the modelling of the costs and savings over time. In the early years, there will be net costs on consumers' bills, but as the suppliers are expected to achieve savings from the smart metering, those will net off, and so it will become net savings—

Q130 Mr Bacon: Yes, but what I am trying to get at is that reading paragraph 2.9, I cannot see what the total extra costs are versus the total extra savings.

Stephen Lovegrove: It is a net cost. In 2015, it will be an average of £6 per bill. In 2016, it will be £3. In 2017, there will be the first £1 of savings.

Q131 Mr Bacon: This really is not helping me. If I am a typical consumer in 2015 I have got an extra £6 on my bill, because I have now got this smart meter.

Stephen Lovegrove: Correct.

Mr Bacon: Are you saying that the following year I, as a typical consumer on the same smart meter, will have a further additional cost of £3, making a total of £9?

Stephen Lovegrove: Yes.

Q132 Mr Bacon: And that that will deplete and go down and down until it gets to zero.

Stephen Lovegrove: No, the next year it will be minus 1, so you will make a £1 saving. The year after that it will be a £9 saving.

Q133 Mr Bacon: Is that taking into account the average savings of £26 a year, going up to £43 a year, that are also mentioned in paragraph 2.9?

Stephen Lovegrove: No. The net saving to you in 2020—directly comparable with that £6 in 2015, which is a net cost to you—is £26. The net saving to you in 2025 is £33, and the net saving to you in 2030 is £43.

Q134 Mr Bacon: This still isn't helping me. I am trying to understand the total additional cost and the total additional saving. I will then work out for myself the net once I have got those two numbers, but nobody seems to be able to give me the numbers.

Stephen Lovegrove: I am very happy to send you this table that I have in front of me, but it depends over which period. For the first four years of the programme there will be an additional cost, which, added up, will come to £14 over those four years.

Q135 Mr Bacon: Just so that I am clear, you are saying that after that there will be net savings.

Stephen Lovegrove: You will be saving, yes.

Q136 Mr Bacon: And those will be because of what you assume—I am not trying to say this tendentiously—will be, in the model, the savings that arise from my behaviour having changed because of the meter and so on.

Stephen Lovegrove: Correct.

Q137 Mr Bacon: Right. I am still not where I need to be, which is the total costs—not savings, costs—and the total savings. They are separate things. It is by adding them up that you get the net. I want to know: if my meter is costing £135 to install, who is paying for it? My suspicion is that I and my constituents will be paying for it through our bills. If we are then diligent enough and we meet the expectations of this policy as firmly as the state and the electricity companies hope that we will, by our rigour and our virtue, we will make substantial savings that will net out the cost. I will get to the virtue stuff later, but I just want to understand these costs.

Stephen Lovegrove: I do not have those numbers in front of me—

Q138 Mr Bacon: You don't know how much a meter costs?

Stephen Lovegrove: We do know how much a meter costs.

Q139 Mr Bacon: How much does a meter cost? I was told £135. I have read that number in several places.

Chair: At 2009 prices.

Stephen Lovegrove: The electricity meter at the point of installation costs £43.60. The gas meter costs £57.20.

Mr Bacon: At point of installation.

Stephen Lovegrove: To the consumer, yes.

Q140 Mr Bacon: That is including the cost of installation?

Stephen Lovegrove: The in-home display costs £15, the communications equipment costs £31 and the installation process costs £68.

Q141 Mr Bacon: Right. So add it all up, and what do I get?

Stephen Lovegrove: £214.80.

Q142 Mr Bacon: That is the cost of installing the meter for electricity.

Stephen Lovegrove: That is the capital cost of the equipment and the installation. That will obviously be spread over a long period of time and offset by the savings that you will make. I would just like to reiterate that the assumed savings that we have put into the model for changes in consumer behaviour are below the lowest end of any trials that we have been able to identify.

Q143 Mr Bacon: I am not saying that the assumption is wrong. I am not saying that at all. The assumptions for the M25 made it hardly viable, and yet we could not imagine doing without it. The business case for this may be much more robust—for all I know, neighbours will start to compete over how little electricity they can use, and there will be clubs and raffles. I don't. I can't predict the future.

Stephen Lovegrove: I would hope so.

Mr Bacon: Yes, indeed. I am just trying to understand the costs. You are basically saying it is £214.80 to get one of these things. Somebody has to pay for that. It is going to be the company, although a little bit of it will go on to my bill and the company, too, is hoping that they will get it back. Apart from anything else, according to the model, it makes £8 billion, which as Mr Mitchell was saying means they make more savings out of it than the consumer does. And that that will somehow or other come out in the wash and will pay for most of the £214 cost, with relatively little extra net cash going on to the consumer's bill. That is basically what you are saying.

Stephen Lovegrove: That is broadly correct, yes.

Q144 Mr Bacon: Can you send us the detail broken down, with a debit and a credit, so that a simple person can understand it? Breaking it down into much more detail than in paragraph 2.9?

Stephen Lovegrove: Certainly, we are happy to do that.

Q145 Chair: I have some very quick questions. First, you are switching to a system of industry governance. You are running it. Is that right? Is that driven by you having to cut your costs in the Department?

Stephen Lovegrove: No, it is not at all. Absolutely not.

Q146 Chair: It is a policy issue. What has been raised with me is that, once you go to the industry governance system, with whom does the buck stop? Who is accounting? At the moment we can come to you guys.

Stephen Lovegrove: It is me, yes, at the moment.

Q147 Chair: But when you have industry governance, with 20 or however many different suppliers, with whom will the buck stop?

Stephen Lovegrove: First of all I should say that there is not going to be any change in the accountability framework until we in the Department believe that the thing is sufficiently de-risked—that it is kind of business as usual.

Q148 Chair: But it will be a couple of years down the line.

Stephen Lovegrove: It is not going to be any time very soon. This is a big programme, transforming the energy market. We know where the buck stops: it stops with the Department and it stops with me as the accounting officer at the Department. There is no question about that.

Q149 Chair: But when you switch to industry governance—

Stephen Lovegrove: There is a diagram—figure 2 on page four of the NAO Report—which effectively encapsulates the planned enduring governance arrangements. You will see at the top of that—

Chair: I think we have different pages to you.

Dermot Nolan: It might be page 8, Chair.

Stephen Lovegrove: My apologies, Chair. It is a relatively complicated governance arrangement, but at the top of it is going to be Ofgem.

Q150 Chair: So the buck will stop at Ofgem.

Mr Bacon: DECC happily not connected by any lines to anyone.

Stephen Lovegrove: We of course are responsible for Ofgem, but we would—

Q151 Mr Bacon: So why is there not a line? I know you did not draw this—

Daron Walker: We did not draw it.

Stephen Lovegrove: We did not draw it, but there should be a line there. This will be a responsibility—at the right time and not before—that we will devolve to Ofgem.

Q152 Chair: So individual complaints, for example, will go to Ofgem, will they? Somebody who complains to their company but does not like what they are told goes to Ofgem.

Dermot Nolan: It will go to Ofgem and potentially the energy ombudsperson, who will continue to exist under this framework, but yes, ultimately Ofgem will ultimately be dealing with these issues. I hesitate—well, perhaps I should not hesitate to take on this role. I think, Chair, the buck will stop with me.

Q153 Chair: The buck will stop with you. Thank you for that.

What are the current costs to you, the Department, of managing this programme?

Stephen Lovegrove: Significant. We spent £19.3 million in 2013-14 and for 2014-15 we spent £43.8 million.

Chair: That is a huge jump.

Daron Walker: We have spent around £56 million since we took over direct responsibility in April 2011. It was £19 million last year. This year it is going to fall to around £12 million, because—

Q154 Chair: Where does the £43 million come from?

Daron Walker: I think that is DCC costs.

Stephen Lovegrove: My apologies. I was reading the wrong number.

Q155 Chair: It is difficult to ask you, but how much of the £19 million went on consultants?

Daron Walker: We spent around £14 million on external experts that are working inside the programme in 2013-14.

Chair: Massive.

Q156 Mr Bacon: The project management office was run by consultants, was it not?

Daron Walker: The project management office is actually run by civil servants. There was a period when we were starting up that there were external experts—

Q157 Chair: Hang on. Can it get this clear? Out of the £19 million, £14 million went on consultants.

Daron Walker: If you imagine, during that period we were running four major procurement exercises, facing off against companies such as Arqiva, BT and Telefonica, so it was absolutely crucial we had technical expertise and commercial expertise; and we delivered a several hundred million pounds reduction relative to the impact assessment. It is about stewarding and guarding the consumer and taxpayers' funding by having the right expertise in this programme.

Q158 Chair: Why have you not got them in-house? This year, you have spent—what did you say? £12 million. How much of that has been on consultants?

Daron Walker: It will be a much smaller number, obviously, because—

Q159 Chair: What? 60%? 50%? 80%?

Daron Walker: Probably around 50%, but I would have to write to you on that.

Stephen Lovegrove: It is important that the Department is properly resourced to be able to discharge its duties in this area and it would not be practical to carry that level of technical expertise in the Department or useful to carry that level of—

Q160 Chair: To be honest, Mr Lovegrove, yours is one of the Departments I worry about the most, because you have this massive capital programme, of which we are looking at just a tiny element today. If you had the commercial expertise that you need in this programme, it could then be used across the Department, so I really don't buy that. When we talk to the Ministry of Justice, it is building its in-house commercial capacity.

Stephen Lovegrove: We are building a lot of in-house commercial capacity; at the same time, this particular project, this particular programme, is very, very extensive, and there is a lot of external expertise that we need to have on relatively short time frames.

Q161 Chair: I just don't buy that argument. You are doing a tendering project. You need the commercial and business expertise to be able to run it.

Stephen Lovegrove: I would be happy to reread the NAO's assessment of the programme and project leadership, where there is an acknowledgement of the "strong culture of commercial leadership and programme control". Part of that is because we have been able to access the right level of expertise at the right time and at the right price in order to be able to drive this programme forward.

Q162 Mr Bacon: Do you think there is scope to do in DECC what the Ministry of Defence has recently done, which is set up new arrangements that allow for civil servants—permanent staff—to be brought in and paid outside the traditional structures and therefore outside the traditional pay structures, to get people with the right kinds of expertise in-house in DECC permanently, because your portfolio going forward is a couple of hundred million pounds?

Stephen Lovegrove: It certainly is.

Q163 Mr Bacon: Have you studied the MOD example?

Stephen Lovegrove: I have not studied the MOD example, although the eight years previous to the time I have spent in Government—I came from a banking background—I spent running the Shareholder Executive, so I am quite alive to the difficulties of securing commercial expertise within Government. I do think that a degree of pay flexibility—not a huge amount but a degree of pay flexibility—is something that we need to consider as we try to bring in commercial expertise, because the disadvantage of not doing it like that is that the civil service will then go and get too many consultants, who will charge more, and we won't be able to embed the knowledge at the end of the process. It is a very complex subject. I am confident and satisfied that in this programme, it has been dealt with properly, but the question you ask is a broader one and one that I am very interested in.

Q164 Chair: Obviously, there is the issue of security, which we talked about a lot when you came in 2011. We have had representations about the nightmare of potential hackers into the system who could disable hundreds—well, millions, presumably—of smart meters and therefore access to energy. How confident are you that you are taking steps to deal with that?

Daron Walker: Again, I am confident because we have worked with industry experts and with the security services to build a very robust security model, based on international best practice and on quite a lot of work over several years. There are lots of safeguards. Very few people can actually access the system: it is the energy suppliers and the energy networks and the DCC. They have to meet international standards of security. We have separated roles so that critical messages that affect supply or tariffs have to be counter-signed by two different bodies, reducing the risk of any collusion. There is anomaly detection for the person sending the message and also a checking within the centre of DCC. There is a requirement for these organisations to face independent audit on an annual basis, so there are a whole load of safeguards and protections.

Q165 Mr Bacon: What about the meter manufacturers? What security are you applying there? That is the obvious place to get at. You get one rogue programmer doing a little bit of malware to kick off in 2018 or 2019 on 25 December or whatever—

Daron Walker: You are absolutely right, which is why we have worked with the security agencies and we are using something called the commercial product assurance process. To be an equipment manufacturer in this market, you have to get certified through that scheme, and the equipment itself also has to meet a whole load of security requirements and has to go through testing laboratories that, again, are certified by the security services. At all steps, any party that has access to either the equipment or the system has to go through robust checks and tests.

Q166 Chair: My final question is: why have you not put the major projects review of your programme into the public domain?

Daron Walker: I understand that this may well have been brought up to an extent—not this specific case—when the MPA came before you last week. The reality is that these reports, the MPA assessment reports, are there to advise programmes, to be a free and frank discussion about how the programme is getting on, and to advise me as the SRO and any other SRO. The whole process is that people are able to contribute freely, openly and on a confidential basis. If there is a sense that this will be published instantly, as soon as it becomes available, then that will change the nature of—

Q167 Chair: It is not a question of "as soon as it's available". We know about iterative processes with the NAO's Reports; they go back and forth to the Department. I stress again, and this is the interest we have, that what you are doing here impacts on consumers. It does not impact on anything other than consumers, and I think consumers therefore have a very legitimate interest in ensuring that the way you implement this policy brings best value to them. My understanding is that the MPA wanted to stop you going for a centralised communication system. Is that true?

Daron Walker: The MPA reviewed, as they do on an annual basis, our programme. They effectively look across the board at various options. They check that our programme management stuff is in good order and that we have proper processes. They did a piece of work in 2011, 2012 and in 2013.

Q168 Chair: You are avoiding answering the question. Is it true that the MPA suggested that your plan for a centralised communication system was not a good idea?

Daron Walker: I am not at liberty to say what was in that report. I do not have the authority to do that. We made the report available to the NAO, as part of this work.

Q169 Chair: This is for the public. If there is a better way of implementing a programme, the public should know, and if there is a controversy about what the best way is, the public should know.

Daron Walker: If there is a better way of running this programme, I would also be interested in that.

Q170 Chair: So would we, Mr Walker. I know you are really committed and you have given us that impression this afternoon, but we are the consumers, not you. You are one, but there is a general public out there.

Stephen Lovegrove: In a sense, this question is possibly best directed towards the Cabinet Office—

Chair: No, because we had them here and they said they are stuck. We had a very good session with them last week.

Stephen Lovegrove: —who establish the rules as to what we can do with the MPA or not.

Chair: It's not them; it's you.

Stephen Lovegrove: The MPA, in a sense, is best looked at in a commercial context, rather like an aspect of the internal audit.

Q171 Chair: I want to say two things. The MPA would publish everything; they would publish as much as they possibly could. We are fantastic supporters in this Committee of the work the MPA is doing, and they are constrained all the time by Departments. If there is a debate about how to get best value for money when implementing a policy, I think it is jolly sensible to allow that debate to go into the public domain, so that the consumers can have a say in it, and that it is not behind closed doors. That always raises suspicion.

Stephen Lovegrove: There is no question that it is behind closed doors. As the NAO knows, it was made fully available to them, so I would imagine that any meaningful—

Q172 Chair: I am sorry, but making it available to the NAO does not put it in the public domain, as we have learned down the years. They are not allowed to; if you do not let them, they cannot tell us.

Stephen Lovegrove: At the moment we are looking upon those reports, which are, as I say, effectively a version of internal audit, which is then made available to the auditors who are the NAO. We are constrained by the Cabinet Office rules as to what will happen—

Chair: Mr Lovegrove, that is just not true.

Q173 Mr Bacon: I must say, Mr Lovegrove, if you are going to end on a high note, that wasn't it. The idea that it is the Cabinet Office that is slowing this down is beyond rich. It is ludicrous. The rules are, you are quite right, promulgated by the Cabinet Office, but they are promulgated as the result of a discussion between the Cabinet Office and Departments, and as you very well know, the Cabinet Office would prefer a higher degree of transparency than the Departments are prepared to tolerate.

Stephen Lovegrove: We have discussed this particular case with the Cabinet Office and we are following their advice in this case.

Q174 Mr Bacon: I have two quick questions. One is probably for Mr Nolan although others may wish to comment. In relation to the meters, there might be some small suppliers of meters who will rent the meters from a meter supplier. If a consumer then switches, the bigger supplier might not want to take on the pre-existing rental agreement. What would then happen?

Dermot Nolan: I may have to revert to you but I will give you the general principle which I hope will be sufficient to answer your question. There will be requirements on all suppliers that customers must be allowed to switch in a costless fashion. So the requirement will be put by licence conditions on any supplier who has a licence.

Q175 Mr Bacon: And the ownership of the meter and the arrangements that happen to be in place, whether it is leased, owned or whatever, will not alter that?

Dermot Nolan: They should not alter that in any way. If I am incorrect in any fashion I will immediately revert to you. It should not.

Q176 Mr Bacon: Thank you. Does anyone wish to add to that? Okay, no.

Mr Walker, this may not necessarily be for you but I am going to give it a go because you were the one talking about the ability of the in-house display to talk to the main meter and that being inhibited in certain houses with thick walls and in blocks of flats and so on. I think Mr Lovegrove also mentioned—it is referred to at paragraph 1.19—the development of an 868 MHz system that might alleviate that problem to a considerable extent, so that you get 25 percentage points of the 30 that are not already going to be covered. I should know this already, but could you explain it to me? The in-house display and any other devices around the house will talk to the main meter that is measuring the use of the electricity so that suppliers don't have to go in and do any manual measuring. How is that device talking to the supplier as a whole?

Daron Walker: That is where the DCC and its services come into play.

Q177 Mr Bacon: Is that bit wired or wireless?

Daron Walker: It is a range of different technologies, but it is all wireless.

Q178 Mr Bacon: It is all wireless. Okay. That is what I thought. So this leads me to my next question. Irrespective of whether you have thick walls, if you are in an area with a poor mobile phone signal you can have the thinnest walls in the world and it still would not make any difference.

Daron Walker: This is going to be a bespoke system for smart metering that we have procured through those competitions we were talking about earlier.

Q179 Mr Bacon: Who will own it?

Daron Walker: It will be owned by the private sector and run by the private sector and paid for by energy suppliers and other users.

Q180 Mr Bacon: You said "we have procured".

Daron Walker: As I was mentioning earlier, we ran the competition on behalf of the DCC. The DCC is a private company licensed by us and regulated by Ofgem. They have signed contracts with the service providers. We ran the competition and there are various reasons why that was the case, which I could talk about but we probably don't have much time. The service providers have requirements to reach 99.25% of meters in homes under their contract agreement. So this whole system will need to be better than mobile phones in terms of coverage.

Q181 Mr Bacon: You bring me to my next question. I have sort of given up on BT. The last time the man came in front of us he started shouting at us and wagging his finger, which made me think he was on thin ground.

Daron Walker: I won't do that.

Mr Bacon: I wouldn't dream of imaging that you would do such a thing, Mr Walker. What interests me is that now you will have this kit that is much better than the mobile phone kit, can you tweak it so that it can also be used so that houses in my constituency, including my own—I declare an interest—can get as good a mobile phone signal as I can already get in the remote parts of Kyrgyzstan and the poorest parts of Tanzania?

Daron Walker: Unfortunately no.

Q182 Mr Bacon: Why not?

Daron Walker: We are sending tiny amounts of data across the system, so the bandwidth is very low. It is suitable for this system and for all the different demand scenarios, but it would not be suitable for speaking on the phone or sending large amounts of data.

Q183 Austin Mitchell: But according to paragraph 14, that 868 MHz system does not work in 5% of premises.

Daron Walker: Just to make the distinction, the way I think about this is that you have the home and you have the ability to receive data from that home all the way back to the suppliers, and vice versa. That will be high, 99% coverage from early in 2016.

Q184 Austin Mitchell: But the 5% will be expensive.

Daron Walker: What you are talking about with 868 MHz is the home area network. Once the signal gets to the comms hub in the home—

Stephen Lovegrove: It is similar to a wi-fi network.

Austin Mitchell: That wasn't my question. I was surprised when you said that, in surveys, the poor welcomed smart meters. Why should the poor welcome paying £14 more on a bill, with a reward in heaven in 2020 and a slight reduction in a Bill they might not be able to pay at all? What happens to the systems for making life easier for the poor—prepayment and all the other systems—under this system?

Chair: I am going to cut it off there, because we had all that answered. Anne asked a lot of questions on that. Honestly, if you look at the transcript, we really did cover it. I know people anxious to get on—we have other work to do. I am really sorry, Austin, but Anne did about five minutes on that.

Okay, thanks very much indeed to our witnesses. I ask Members please to stay behind.