



**Cynulliad Cenedlaethol Cymru
The National Assembly for Wales**

**Y Pwyllgor Cynaliadwyedd
The Sustainability Committee**

Dydd Iau, 18 Hydref 2007

Thursday, 18 October 2007

Cynnwys
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Cofnodir y trafodion hyn yn yr iaith y llefarwyd hwy ynndi yn y pwyllgor. Yn ogystal,
cynhwysir cyfieithiad Saesneg o gyfraniadau yn y Gymraeg.

These proceedings are reported in the language in which they were spoken in the committee.
In addition, an English translation of Welsh speeches is included.

Aelodau'r pwyllgor yn bresennol
Committee members in attendance

Lorraine Barrett	Llafur Labour
Mick Bates	Democratiaid Rhyddfrydol Cymru (Cadeirydd y Pwyllgor) Welsh Liberal Democrats (Committee Chair)
Alun Davies	Llafur Labour
Lesley Griffiths	Llafur Labour
Alun Ffred Jones	Plaid Cymru The Party of Wales
Darren Millar	Ceidwadwyr Cymreig Welsh Conservatives
Karen Sinclair	Llafur Labour
Brynle Williams	Ceidwadwyr Cymreig Welsh Conservatives
Leanne Wood	Plaid Cymru The Party of Wales

Eraill yn bresennol
Others in attendance

Steve Cardis	Arweinydd Tîm Polisi, Bwrdeistref Merton yn Llundain Policy Team Leader, London Borough of Merton
Russell Hamblin-Boone	Cyfarwyddwr Materion Corfforaethol, Cymdeithas Adwerthu Ynni Director of Corporate Affairs, Energy Retail Association
Dr Alain Lusardi	Cydgysylltydd Prosiect SHE yr UE, Prosiect Tai Cynaliadwy yn Ewrop (SHE) yr UE EU SHE Project Co-ordinator, EU Sustainability Housing in Europe (SHE) project
Stephen Millward	Rheolwr Effeithlonrwydd Ynni, SWALEC a Scottish and Southern Energy, Cymdeithas Adwerthu Ynni Energy Efficiency Manager, SWALEC and Scottish and Southern Energy, Energy Retail Association
Sean Rendall	Prif Swyddog Polisi, Cyngor Bwrdeistref Woking Principal Policy Officer, Woking Borough Council

Swyddogion Gwasanaeth Seneddol y Cynulliad yn bresennol
Assembly Parliamentary Service officials in attendance

Joanne Clinton	Dirprwy Glerc Deputy Clerk
Dr Virginia Hawkins	Clerc Clerk

Dechreuodd y cyfarfod am 9.32 a.m.
The meeting began at 9.32 a.m.

**Cyflwyniad, Ymddiheuriadau, Dirprwyon a Datgan Buddiannau
Introduction, Apologies, Substitutions and Declarations of Interest**

[1] **Mick Bates:** Good morning. Thank you all for your attendance. I have not received any apologies, so I assume that Darren will be here. Oh, here he is. Welcome, Darren.

[2] **Darren Millar:** Bore da.

[3] **Mick Bates:** Were your ears burning? You have been the topic of conversation. We have allocated you some questions. Brynle, kindly inform Darren of those.

9.32 a.m.

**Ymchwiliad i Leihau Gollyngiadau Carbon yng Nghymru
Inquiry into Carbon Reduction in Wales**

[4] **Mick Bates:** As you are all aware, this is the second evidence-gathering session to assist in our scrutiny of the Government's policies on carbon reduction. Last week, we heard from quite a few witnesses from the voluntary sector. This week, we have the Energy Retail Association with us, a video link with Italy, the London Borough of Merton and Woking Borough Council. Everyone has the papers, and questions have been allocated, so we can call our first witnesses.

[5] Good morning to you. It is a great pleasure to welcome Russell Hamblin-Boone from the Energy Retail Association, and Stephen Millward, who represents SWALEC, Scottish and Southern Energy and the Energy Retail Association. As you are aware, the committee is gathering evidence to help in its scrutiny of carbon reduction by the Welsh Assembly Government. Thank you for the information that you have already provided. I understand that you have a PowerPoint presentation. Please keep your opening remarks fairly succinct, so that we can move to questions from Members.

[6] **Mr Hamblin-Boone:** Thank you for the opportunity to talk to you about smart meters. We consider this to be a very important part of the energy industry's remit at the moment. To put this in context, the Government has proposed that, by 2011, energy companies should be commercially viable by producing less energy. So, it is about energy reduction as opposed to energy production. That is the challenge that we face. The energy White Paper has a vision that smart meters will be rolled out within 10 years, and there are now carbon targets for the UK. So, that is the context of all of this.

[7] Smart meters provide an opportunity to revolutionise how we use energy. For simplicity, a smart meter is just a two-way communication device—it communicates to the householder, and to the energy supplier, which means that it offers accurate, real-time information on gas and electricity use. The smart meter communicates between the supplier and the consumer so that bills are accurate, and there is then no need for the estimated bills that we currently have. Consumers can see their energy use and costs, and can take control of their energy efficiency. Smart meters support microgeneration; they are able to provide tailored tariffs based on individual household profiles, and there is a range of display options available to consumers—and perhaps we will come on to talk about that. So, we need to roll out smart meters within 10 years, at little or no cost to the consumer. We need to resolve the problem of stranded assets, where customers are unable to change supplier because an investment has been made in the equipment. We also need to ensure that they are beneficial to all customers, so that competition continues to flourish.

[8] To invest in this, we need a mandate from Government. In other words, energy

companies need certainty that this is how the Government wants to go forward. That is because there are some obstacles to the proposed roll-out. All smart meters need to meet a minimum specification, so that customers can switch suppliers, and the energy companies can talk to all different kinds of meters. You should not need to have the meter taken off the wall when you change energy supplier.

[9] We need to decide upon the communication platform, and currently competition law prevents us having conversations that would allow us to reach that decision. We need a decision on the roll-out option. We favour a regional roll-out on a systematic basis, and we have proposed a way forward. Finally, we need to address competition in metering.

[10] These steps will enable us to roll out smart metering in the way that we want to, with smart meters in every home—so that will be 1 million homes in Wales—within the next 10 years. We also need to reconsider Government policy on meeting the European energy services directive of having display devices in every home, at cost to the industry, which are standalone and have no relation to the meter and therefore no relation to the bill.

[11] This is an opportunity to lead the world. We have the most competitive energy market in the world, and we have the potential to be the most technologically advanced energy market in the world.

[12] I will now introduce Stephen Millward, the energy efficiency manager at SWALEC, and he will give you a presentation on some of his work.

[13] **Mr Millward:** Thank you. As energy efficiency manager for SWALEC, my main responsibility is achieving the energy efficiency targets set by the Government. This is the energy efficiency commitment, which is mainly about delivering actual physical measures in people's homes—home insulation, low-energy lighting, and energy-efficient appliances. Working towards the current target, we have delivered about 30,000 home insulation measures in Wales. However, it has become apparent over time that, although we have been working on physical measures, we have not been encouraging a change in customers' behaviour by informing them about the energy that they are using. So, we have embarked on a trial called the energy demand reduction programme, which is partly funded by the Government.

9.40 a.m.

[14] In the case of Scottish and Southern Energy, we are doing 79 trials involving 29,000 customers. This will look at various ways of informing our customers about their energy use, and it will include smart meters, clip-on displays, information about bills, and tariff incentives. There will also be three community trials. The aim is to look at the various ways of informing customers and at the different combinations of measures that we can provide to customers to see what works best and to measure what will result in a reduction in energy consumption.

[15] We will also hold three community trials in our three main areas, namely northern Scotland, southern England and south Wales. So, we expect about a third of the customers involved in these trials to be in Wales. We will provide smart meters—and you can see a picture of one on the left-hand side of the slide—and also in-house displays. On the screen is an example of an in-house display, showing the current consumption, how much it is costing, and energy consumption over the past week.

[16] We will also be trialling information on bills, and on the screen is an example of the sort of information that we can provide using existing metering. It is fairly basic: we can show the consumption for the last quarter and this quarter in the previous year with a simple bar

graph. We are also trialling benchmark comparisons, where we compare a customer's consumption with the typical consumption of customers in the same area. If we were to move to smart metering, this information would become a lot more sophisticated, as we could get better information from smart meters.

[17] We are also running three community trials, and their aims are slightly different. We picked three village communities to take part, and we want to incentivise the whole community to save energy. We will measure the demand of the whole community at the sub-stations and we will work with the community by providing physical measures, as in home insulation or appliances, and better information about the energy being used. We will challenge each community to reduce consumption by 10 per cent. That seems to be a modest target, but we feel that it will be challenging to achieve that across a whole community. If the community achieves that target, we will pay it £20,000 to use on a community project of its choice.

[18] The three communities that we have chosen are in Scotland, southern England and Wales. The one in Wales will, we hope, be St Athan. At the moment, we are writing to community leaders asking them to be involved and to get a community group up and running. So, that is just a brief overview.

[19] **Mick Bates:** Thank you both very much for your synopses and for the information. That presentation will be available to Members afterwards. Even with my glasses on, I could not quite pick up some of the information on the bar charts. So, that information will be available. I note that there was no mention in your paper and presentation of the amount of carbon reduced by these activities. Russell, is it possible to give me an indication of how much carbon reduction you could achieve by installing smart meters?

[20] **Mr Hamblin-Boone:** There have been various examples around the world. The difficulty that we have in Britain is that we are doing this for a different reason from the reasons why smart meters have been introduced in other countries. For example, in countries with a warmer climate, there have been problems with what is called load demand, where people using air-conditioning units put pressure on the energy systems. In Italy, for example, there were issues with revenue loss, so smart meters were introduced there for that reason. I understand that you will be taking evidence from Enel, the Italian energy company. In Britain, the issue is very much about improving customer service and getting rid of the problems that we have with estimated bills and people having to visit to read meters and so on. So, it is very difficult to say how people are going to respond and what the driver is. Potentially, the figures are 3 to 5 per cent in energy reduction, but, if we do this properly, we could do much more. It is down to consumers.

[21] **Mick Bates:** Alun, you wanted to pursue this issue.

[22] **Alun Ffred Jones:** Just as an aside, if you have any spare home display units, I will take them home to my children. [*Laughter.*]

[23] In your evidence, you said that there is an overlap between reducing carbon emissions and improving domestic energy efficiency, and you say that we should not mix the two up. Could you explain the fundamental difference between the two objectives?

[24] **Mr Hamblin-Boone:** What we mean by that is that if we are to achieve this position of using less energy by 2011—what we want to do is reduce the amount of carbon—we have two options. We could decarbonise our energy production, so, for example, going down a more renewables option and then, presumably, people could use as much energy as they wanted to, or we can continue to have a mix of energy—both fossil fuels and renewables—and then we would need to use less energy and make people more energy efficient. The smart

meters offer us an opportunity to do either because, by communicating back to the energy companies, it allows them to have much more control over load management and meeting demand. At the moment, lots of people are employed to look at weather forecasts, television schedules and things like that, to try to plan how much energy we are going to need on a daily basis, at any one time. So, we need to address that issue. There is a difference between energy efficiency and carbon reduction.

[25] The other point to make, which we make in our written evidence, is that energy efficiency is important to tackling fuel poverty, but that is not the only way to do it. We need to look at other things too.

[26] **Alun Ffred Jones:** What other things?

[27] **Mr Hamblin-Boone:** Income, for example. While we can make people's homes as energy efficient as possible, we also need to ensure that they have the welfare support from their income to be able to manage not just their energy bills but a range of other financial pressures.

[28] **Alun Ffred Jones:** My second question has been answered, Chair.

[29] **Mick Bates:** Karen, do you have a question?

[30] **Karen Sinclair:** At the moment, 30 to 48 per cent—that seems to be quite a wide band—of poor households are not classified as part of the priority group, and the majority of the priority group are not fuel poor. How is the priority group defined?

[31] **Mr Hamblin-Boone:** I will answer first, and Stephen then might want to add something.

[32] The priority group is defined on the number of benefits. So, you can be receiving certain benefits and be spending less than 10 per cent of your income on fuel. We need to ensure that we are much more targeted in defining the people who need help because of fuel poverty. Stephen, do you want to say something about the cost implications?

[33] **Mr Millward:** As part of our energy efficiency commitment targets, we have a priority group target, which is currently 50 per cent and is expected to be 40 per cent for the next target period. It increases costs, because we are finding that every job we do has to include work for a priority customer, and that is restricting the energy efficiency industry, as we are going to insulation installers and saying, 'We have these grants but every job that you do has to include work for someone in the priority group.' That is restricting the speed at which they can work, so, although we are able to offer the grants, there are still insulation companies that are not working at full capacity.

9.50 a.m.

[34] **Lesley Griffiths:** It seems that a large percentage is not in that group. What can the Welsh Assembly Government do to ensure that all fuel-poor households are in that priority group?

[35] **Mr Hamblin-Boone:** The important thing is to help energy companies to target those people who are in fuel poverty. There are a lot of houses in Wales that are classed as hard to treat, for example, because they are off the gas mains. One problem that energy companies have in communicating with fuel-poor customers in those types of properties is that, for one reason or another, they are not comfortable or confident about talking to an energy supplier. Providing a trusted intermediary is helpful, such as an Assembly Member or a voluntary or a

consumer group representative—people who go into people’s homes, have a relationship with customers and are trusted intermediaries—and that is what we are increasingly trying to do. So, any help that you can give us in promoting the benefits of energy efficiency measures to people would be helpful, as would be putting pressure on Whitehall to ensure that the Department for Environment, Food and Rural Affairs, which has the policy, is ensuring that its policy is tailored to tackle fuel poverty and is not as wide as it currently is.

[36] **Mick Bates:** Fuel poverty was one of the issues in the White Paper in Westminster, so there is a focus there. The Welsh Assembly Government has a programme called the home energy efficiency scheme.

[37] **Alun Davies:** Thank you for the evidence that you have given this morning. I would like to go back to the DEFRA targets, which you have already mentioned. At the moment, the target is set at savings of 42 tonnes of carbon between 2008 and 2011. In your evidence, you say that you do not believe that it is possible to achieve this target through cost-effective measures. Why do you believe that?

[38] **Mr Hamblin-Boone:** It is actually 42 million tonnes of carbon, and it is difficult for two reasons. Two types of customers are expected: 40 per cent, which we have talked about, are vulnerable customers, and the other 60 per cent are able to pay, and so would not receive direct subsidies, but, in order to meet their targets, energy companies offer discounted rates for energy efficiency measures—primarily insulation. This programme has already been running for six years and the pool of customers who are receptive to these products is getting smaller. So it is becoming harder to market to them. That requires energy companies to look at other measures, for example microgeneration, rooftop wind turbines, solar panels, heat pumps, boilers, and so on. These products are more expensive for energy suppliers than insulation. Also, the commercial arrangements and the market development for them do not exist in the same way that they do for insulation. So, there is an additional cost for energy companies to install these products. That could potentially mean, if we continue to put pressure on energy companies to put more money into this, that the cost is going to be transferred onto consumers, which means the bills go up and then, perversely, we end up having higher bills and putting more people into fuel poverty—that is, having more people spending more than 10 per cent of their income on heat and light—than we are helping.

[39] **Alun Davies:** Do you have any experience of the Welsh Assembly Government’s home energy efficiency scheme?

[40] **Mr Millward:** My understanding is that it has been successful. We have worked with the Assembly scheme, in that we have been able to fund home insulation measures that are being done at the same time as home heating measures.

[41] **Alun Davies:** You said that costs would be transferred to household bill payers if we continue down this route. I am interested by that. You said that it will lead to higher bills, and I accept what you said, but have you done any work to develop models to understand that process, so that we understand its cost implications and how that cost is transferred to bill payers? Have you made any financial models of how that process would operate and its impact?

[42] **Mr Hamblin-Boone:** We have done some modelling on the availability of properties—basically, what the market looks like and how many properties are left that could benefit from cavity wall and loft insulation and some of the less expensive measures. We have done some work on how many hard-to-treat properties there are and the types of solid wall insulation, ground-source heat pumps and boiler systems and so on that they would need, particularly when we are looking at those in Wales that are off the gas mains. Energy companies have already budgeted for these targets, and these are not the only environmental

levies: a range of other levies are placed on them as well. Energy companies can budget for those, but they cannot take on some of the wider social initiatives that are also placed at their door and continue to address some of these environmental concerns. It would not be right in a competitive market for us to look at companies sharing costs. However, Stephen will have some idea of how much the 2008 to 2011 targets will cost his business, and that will have to be built into all of the other things that the company is supposed to do, like providing a range of services and, potentially, investing in smart meters and so on.

[43] **Mick Bates:** Is the information that was referred to—the modelling that Alun asked you about—confidential information?

[44] **Mr Hamblin-Boone:** No, we are happy to provide you with that. It has been produced by the Energy Retail Association in partnership with the National Insulation Association.

[45] **Mick Bates:** Thank you. If you could forward that, it would be very useful. I know that Brynle is interested in this, but, Darren, you indicated that you wanted to speak.

[46] **Darren Millar:** I wanted to come in on the fuel poverty side of things, because is not one of the most significant drivers of fuel poverty the installation by your members of pre-payment meters, against people's wishes, with what are usually much higher tariffs for electricity? Are not your members forcing the cost up and increasing the number of people who end up in fuel poverty?

[47] **Mr Hamblin-Boone:** Pre-payment meters are used by around 3 million customers. Less than 20 per cent of those customers are in fuel poverty—the majority of those meters are in weekend homes, holiday lets and rented properties. Pre-payment meters also consistently achieve high levels of satisfaction from customers, who like the pay-as-you-go option and the fact that they can budget their weekly or monthly expenditure. You are right to say that they are slightly more expensive. Customers know that, but they also like the idea that they can go to the local shop or wherever—which costs the energy companies and is one reason why they are more expensive—to a terminal and get their card topped up. It is generally a more expensive technology, and one of the things that we are promoting with regard to smart meters is that they will be able to switch between credit and debit, so there will be no additional cost and we will equalise the tariffs between credit customers and those who prefer to pay beforehand. So, we will be able to meet the consumer demand for choice, because not everyone wants to use direct debit, but not everyone wants credit. As I said, it has 98 per cent satisfaction levels.

[48] **Darren Millar:** You say that there are 98 per cent satisfaction levels, but the fact of the matter is that, often, these meters are installed against the wishes of individual householders, and the tariffs are higher, as you have acknowledged. Twenty per cent of 3 million is 600,000 people who are in fuel poverty and whose situation is made worse by the installation of pre-payment meters. I accept that there is a greater cost in collecting payment with pre-payment meters, but there is still an element of compulsion and people are being forced into having pre-payment meters against their will, are they not?

10.00 a.m.

[49] **Mr Hamblin-Boone:** People who have pre-payment meters to recover a debt have them as an alternative to, for example, disconnection. Three or four years ago, there were concerns about the number of disconnections. The Energy Retail Association developed a standard that is used by all of its members—the large energy companies. There is a commitment not to disconnect vulnerable customers; they look at alternatives. One of those alternatives is a pre-payment meter to help them to pay back any debt that they have accrued,

along with other financial help and advice from the voluntary sector on energy efficiency measures and a number of other things. So, they get a package, part of which is a pre-payment meter. Those payments can be very low. The minimum is set at £2.85 per week. So, the amounts being recovered are not vast. However, it allows people to continue to be in control rather than being financially excluded.

[50] **Mick Bates:** Thank you. I think that we drifted a little there. I would like to bring in Leanne and then Brynle.

[51] **Leanne Wood:** Following on from the point that Darren made, you say in your evidence that you want to roll-out 45 million of these smart meters. There will clearly be a significant cost in doing that, which will be passed on to the customers; that will have a disproportionate effect on people in fuel poverty. So, could the rolling out of all of these smart meters have the unintended consequence of pushing people further into fuel poverty or increasing the numbers of people in fuel poverty?

[52] **Mr Hamblin-Boone:** In the same way that the Government has an ambition to roll these out in 10 years, and we support that, we have an ambition that this will be done at no cost. The starting position will be that there will be no additional cost to consumers. That is how we are working up our model. The reason that you can do that is that the cost savings come from smart meters through the reduction in the cost of estimated bills, meter reading, and, most importantly, the high cost of dealing with confused customers, and customers who are querying estimated bills. That is a vast current cost to energy companies; it is called the cost to serve. The proposal is that smart meters will take away all of that additional cost. They will be rolled out and will have a life of around 20 years. So, as well as savings costs in the back office, you will also be able to recover the cost of those meters over a 20-year period. The proposal is that, if there is a cost to consumers, it will be a minimal cost and will certainly not put people in fuel poverty. In fact, it will help people in fuel poverty, because we will know more about their energy use, and we will be able to make sure that people are not, for example, self-disconnecting—worrying about using energy and, therefore, not using any at all. We will be able to offer tailored tariffs, which will allow us to know something about those individuals. One of the difficulties that we talked about earlier is targeting people in fuel poverty. So, we will be able to have tariffs that meet the needs of individuals. If those individuals are in financial difficulty, are vulnerable, or are having difficulty understanding their energy bills, we will be able to offer tailored advice. We can work alongside the Government and the social welfare system to help.

[53] **Mick Bates:** On that point, do you have any figures to give us an estimate of the cost benefit of installing smart meters and the associated carbon reduction?

[54] **Mr Hamblin-Boone:** The key thing about smart meters, which is the variable, or the unknown, is that they have to have a communication platform. That might be wi-fi, broadband, or mobile technology. We do not yet know what that platform will be. It is a bit like the decision between going for VHS or the Beta option. Until we get a mandate from Government that will allow energy companies to sit around the table to discuss issues that they are currently prevented from discussing due to competition law, we cannot come to any conclusions about the right communication platform. Once we understand that communication platform, we can understand more about exactly what the cost implications would be.

[55] **Brynle Williams:** My interest is in microgeneration and smart meters. To encourage the use of microgeneration, will smart meters be able to physically switch back and forth into the grid? I understand that there is a problem with the safety aspects of changeover switches and so on. Would smart meters address this issue? Installing switch gear and so on would mean additional costs and simply looking at the initial cost could put people off from going in

to microgeneration.

[56] **Mr Hamblin-Boone:** Stephen, you might want to add something.

[57] **Mr Millward:** My understanding is that smart metering makes it easier to do the metering when you have microgeneration, but you still need to have the switch gear. That is partly a safety requirement to make sure that the microgenerated power is not back-feeding into the grid. That issue would still be there.

[58] **Brynle Williams:** I am changing tack now. To what degree is the retail price of electricity and gas affected by European and global supply issues? To what degree is it affected by energy suppliers' requirements to contribute to energy efficiency?

[59] **Mr Hamblin-Boone:** That is a key point. One of the reasons why we are promoting smart meters at this time is that Britain can no longer rely on having gas on its doorstep from the North sea. The reserves are depleting and we are now competing in a global market with other EU members to ensure that we have enough gas, primarily, in this country, as two thirds of homes are gas heated.

[60] We have, as you know, an infrastructure, with pipelines coming in from places like Norway and Belgium. We are competing on the liquid natural gas market where natural gas is being brought into ports in Wales and around the country. It comes in tankers from the far east and will end up in the port of the highest bidder as the tanker is on its way. The owner of that gas changes hands a number of times during its journey from its origin to the terminal. All of those things contribute to the instability that we currently have in the gas market.

[61] If we start to invest in things like smart meters, it will allow us to have more day-to-day control of our energy, effectively smoothing the peaks and troughs, with peak-time use in the mornings and evenings. It will give us much more security, which will give us much more buying power. At the moment, our retail costs are influenced by wholesale costs, and wholesale costs in gas are influenced by wholesale oil costs. Certain political and socio-economic issues all have an impact on the wholesale price of gas and, at the moment, British energy companies do not have a great deal of bargaining power. If we start to move towards taking more control of our energy market, that will allow us to have more control of wholesale markets and to pass on some of those benefits through the retail price.

[62] **Brynle Williams:** Going on from that, what would be the likely increase in electricity and gas prices as a result of reaching the 40 per cent target?

[63] **Mr Hamblin-Boone:** I am not in a position to be able to predict electricity and gas prices, I am afraid—that would be a matter for individual energy companies. I would not want to put my name to any predictions.

[64] **Mick Bates:** Darren, would you like to ask about the export of energy?

[65] **Darren Millar:** I think that you have already answered the question about smart metering and the way that it makes it easier for microgenerators to input into the grid, so that people see exactly what they are saving as a result of the microgeneration. One of the big problems with microgenerators is that people are never too sure what the actual saving might be; we need to get some decent projections on that, so that people could see that, all things being the same, if they used the same amount of electricity, they would save x, y or z as a result of installing a wind turbine. That would be helpful.

10.10 a.m.

[66] You mentioned the cost of the switch into the grid, for safety purposes. What is the cost of the switch, generally, for wind turbines for example?

[67] **Mr Millward:** I am sorry, I do not know.

[68] **Darren Millar:** On home energy efficiency measures, you mentioned that 30,000 households, with SWALEC, had benefited from your assistance. What proportion of your customer base does that represent?

[69] **Mr Millward:** It is about 13 per cent of the work that has been done by Scottish and Southern Energy.

[70] **Darren Millar:** Are you seeing an increasing trend on that front?

[71] **Mr Millward:** With regard to the amount of work that is being done in Wales?

[72] **Darren Millar:** Yes.

[73] **Mr Millward:** It is an increase on the amount of work that we did for our previous target, which was energy efficiency commitment 1.

[74] **Darren Millar:** You operate in England, Scotland and Wales, so how do they compare? Is there greater take-up in certain parts of the United Kingdom?

[75] **Mr Millward:** Because of the priority target, we are looking for areas where there is a high proportion of priority customers, so we tend to do a great deal of work in northern England. We will offer grants wherever people need the work to be done. Effectively, we are operating in a competitive market. We offer grants in competition with other energy suppliers, so it could be that other energy suppliers are doing a lot of work in Wales, in competition with us.

[76] **Mr Hamblin-Boone:** I wish to give a fuller answer to the microgeneration question. At the moment, there is some microgeneration, and people are selling their unused electricity, but it is a complicated process, tied up with red tape. As you said, it is very costly. With smart meters, that process becomes much simpler, because energy companies have a direct relationship with the consumer through the meter. Potentially, costs could start to be driven down, if we can get some market transformation. If people do this on a wider scale, we will obviously achieve economies of scale and costs will start to come down. Therefore, we can start to look at some properties that are off the gas mains and make microgeneration a viable proposition.

[77] **Mick Bates:** Returning to the theme of carbon reduction, I believe that smart meters were installed throughout Italy. Is there any evidence from there on the reduction in energy use and, therefore, the reduction in carbon emissions?

[78] **Mr Hamblin-Boone:** I am sure that there is evidence, but I do not know what the exact figures are. As I said earlier, Italy introduced smart meters on a pre-pay basis to reduce revenue losses from things such as theft and insecurity of supply, as opposed to addressing carbon emissions.

[79] **Mick Bates:** I see. So, it was a security issue, rather than an energy efficiency issue?

[80] **Mr Hamblin-Boone:** Yes. That is something that Italy will be able to tell you about.

[81] **Mick Bates:** That is not one of your hidden agendas is it? Is this a security issue? Are

you losing a lot of money in that way?

[82] **Mr Hamblin-Boone:** Securing the country's supply is very important. There is a degree of tampering, with people stealing energy. Fitting tamper-proof systems or alarms to smart meters is something additional that benefits us all, because we all subsidise the theft of energy so to speak. However, that is not the primary reason for introducing smart meters.

[83] **Mr Millward:** The main evidence for the savings from smart metering comes from a trial in Ontario, where savings of about 8 per cent in electricity consumption have been achieved, across their customers.

[84] **Mr Hamblin-Boone:** Air-conditioning is very prevalent in Ontario, so there see seasonal differences compared with us.

[85] **Mr Millward:** They also have results for customers who use electricity for space heating, where the overall reduction was about 6.5 per cent.

[86] **Mr Hamblin-Boone:** Again, space heating is important. They use electricity and we use gas, primarily, so I hesitate to be vague, but we do not have direct comparisons in this country. We also have a competitive gas and electricity market, and we want to have smart meters in gas and electricity. Currently, the Netherlands is the only other country that is looking to try to do that.

[87] **Darren Millar:** If the Ontario trial is the only evidence that we have that smart meters actually reduce the demand for electricity, or for energy, and, therefore, reduce carbon, is it a pretty risky thing to install them?

[88] **Mr Millward:** It is not the only evidence, but it is probably the best evidence at the moment from the biggest trial.

[89] **Darren Millar:** Over what period was that trial held?

[90] **Mr Millward:** The trial has been over a number of years. So, we have an understanding now of what the short-term and the medium-term effects are, but what is not known is what the long-term effect is on consumption. So, we need better feedback, and that is why we now have this two-year trial in the UK, which will involve about 40,000 customers.

[91] **Mr Hamblin-Boone:** The important thing is that it is the right thing to do. We have an opportunity and we have energy companies and their competitors in agreement, and, from the Energy Retail Association's position, I know that they do not often agree. So, it can be very difficult to get consensus on these things, but we have agreement. We now have the technological advancement that we did not have before, and we are currently trying to bolt new technology onto what is effectively Victorian infrastructure. It is time for us to start to recognise that we no longer have our own gas supplies, so we do not have control. We are in a global market and we need the technology that allows us to compete in a global market. We have, as I said earlier, the most competitive energy market and we now need the technology that supports that.

[92] **Lorraine Barrett:** Why do you think that the electricity display devices would be a distraction?

[93] **Mr Hamblin-Boone:** The energy services directive, which is a European directive, says that Britain must show that it has real-time display information for its consumers. Whitehall officials have decided that if energy companies were to pay for an electricity display device to be provided in every home, it would tick the box in that part of the directive.

What those electricity display devices do not do is provide particularly accurate information in the way that a display device associated with a smart meter would. They are stand-alone products, so they have no relation to people's bills. So, our view is that consumers will continue to get a bill and they will get something on their display device, but there will be no correlation between the two, which will add to more confusion for customers. They are a short-term solution. Energy companies do not have any information from them, so they are not able to tailor any tariffs in the way that they can with smart meters.

[94] We do not oppose display devices, but we think that smart meters—and the energy companies have agreed this collectively—will have some form of display. That might be the little white boxes that you can get with various bits of information on, or, if you are a consumer who uses a computer a lot, you could get that information to pop up on your computer screen or on one of your digital channels or your mobile phone. The technology options are there and that is for energy companies to compete on and provide what consumers want. We are not against display devices per se, but we are against them as something that clips on to your meter and stands alone in your kitchen, because the evidence shows that people are interested in them for a while, but lose interest when the bill comes and they realise that it does not make any difference to the relationship that they have with their energy company. It is a wasted cost and a cost that is effectively regressive and prevents energy companies putting the vast investment that is needed into smart meters.

[95] **Lorraine Barrett:** Thank you; I think that you have convinced me. [*Laughter.*]

10.20 a.m.

[96] **Mick Bates:** Following on from that point, we will be making recommendations and scrutinising the Minister in a few weeks' time. Therefore, the display device is not of a great deal of use to reduce energy consumption? It seems that you are telling us that you need a two-way communication process, and a smart meter reading in real time, so that the customer can see usage and the cost.

[97] **Mr Hamblin-Boone:** Yes, we are doing the trials to find out how people respond to these display devices. The evidence is that it is a bit of a one-minute wonder, because it does not relate to energy suppliers. The energy efficiency and the carbon reductions that we are looking at are on a much bigger scale—it is about energy companies producing less of the stuff. They can do that through smart meters because there is a direct relationship between the consumer and the energy supplier, and together they can start to work towards achieving these targets. Leaving it down to the consumer who happens to take an interest in some lights flashing on a display device is not the right way of doing it.

[98] **Mick Bates:** There is certainly a lot of interest in that.

[99] **Alun Ffred Jones:** Why would the energy companies want to sell less energy?

[100] **Mr Hamblin-Boone:** Energy companies have to meet a Government ambition. The Government has statutory targets for carbon emissions, and energy companies have a responsibility to help the Government to achieve that. What they want to do is to sell a range of other services that link to the smart meter—a range of energy services, as they are called. Therefore, they become commercially viable by offering a range of other services, rather than according to how much energy they can sell; it is about how many other products they have, and what kind of relationship you can have with your energy company—perhaps you can have a longer-term relationship with your energy company.

[101] **Alun Ffred Jones:** I do not want a relationship with my energy company. [*Laughter.*]

[102] **Mick Bates:** It is nothing to do with shareholders.

[103] **Mr Millward:** We also recognise that a business model based on continuing to sell more energy is doomed, and that we need to move to business models that are based on providing our customers with the services that they want—heating and lighting, and actually selling less energy.

[104] **Mick Bates:** On that interesting note, I thank you both for your presentations. I remind the committee that, at lunchtime today, there will be a further presentation about smart meters. It is important to realise the difference between these display devices and smart meters.

[105] **Mr Hamblin-Boone:** We will have some available.

[106] **Karen Sinclair:** May I ask what you mean by other products, other than energy?

[107] **Alun Ffred Jones:** Holidays. [*Laughter.*]

[108] **Karen Sinclair:** Yes, or Lesley suggested Tesco shopping vouchers.

[109] **Mr Millward:** At present, we sell units of energy, whereas what the customer actually wants is lighting or heating, for instance. Therefore, in the future, we may provide those services—the heating or the lighting—which is what they ultimately want, not a unit of energy.

[110] **Mr Hamblin-Boone:** We were talking about microgeneration, for example. Heating your water through solar panels is currently expensive. However, you could enter into a relationship with your energy supplier where they will perhaps say, ‘Right, we will put the solar panels on, and we will recover the cost over a longer-term contract with you, and we will offer you some discounted insulation so that when you are getting this additional warmth, your house is insulated’, and there are several other things that might go along with that.

[111] **Mick Bates:** Thank you both very much. I look forward to the lunchtime seminar. The transcript of this evidence-taking session will be available to you.

[112] We will break now until 10.35 a.m., when we will have the video link with Italy.

*Gohiriwyd y cyfarfod rhwng 10.24 a.m. a 10.40 a.m.
The meeting adjourned between 10.24 a.m. and 10.40 a.m.*

[113] **Mick Bates:** I remind Members that they cannot speak in Welsh during the video-conference; I am sorry for that. For those who are watching this, there will be reference to the EU sustainability housing in Europe project by Alain Lusardi in Rome, and information about that has been posted to the website.

[114] It is a great pleasure to welcome Alain Lusardi from the EU sustainability housing in Europe project. As you can see, Alain is here and will make a presentation to us in which he will talk about the pack that you have in front of you. After Alain’s presentation, there will be an opportunity for questions from the committee.

[115] As I said, it is a great pleasure to welcome you to give evidence to our committee, Alain. We are undertaking an investigation into how we can reduce carbon emissions in Wales, and this is the first part of that, where we scrutinise witnesses. We have certain powers in Wales, and, obviously, we look to Europe for guidance on this. We are all looking forward to hearing what you have to tell us this morning about the sustainable housing project in

Europe, so, it is over to you, Alain.

[116] **Dr Lusardi:** First, thank you for inviting me. It is a pleasure to exchange experiences with people who are interested in these topics. Currently, we do not live in a utopia, speaking of sustainability and the housing sector. I want to highlight something about the exchange of experiences. We are part of a European network of housing organisations—and in the near future, we should organise another video link with your committee—and the name of this European network is the European Liaison Committee for Social Housing, or CECODHAS, and we have just created the energy experts network. So, it could be interesting to collaborate in the future and to have some exchange in our meeting about energy in our social housing sectors.

[117] The SHE project is a European Union-funded project. It is important to say that it is a demonstration project, not a research project, so we have to construct buildings. One of the interesting things about it is that it is the first time that an EU project has been funded and led by a social housing co-operative. In the other project, we have only scientific parties and sometimes the practitioners and people involved on the ground. This social housing project first wants to change daily practice. That is one of the main objectives of the project—to boost social housing and to change daily practice, and, obviously, to change and to boost local and national decision makers, and to change and to integrate sustainability in the local and national agendas.

[118] The project is clearly organised. We have phases like those in a building process. At the beginning, there is what is known as the state of the art, which is very clear, and it is required to understand the barriers in each country. We have constructed nearly 600 dwellings in four countries: Italy, Denmark, Portugal and France. So, you then decide to involve local social housing organisations and, given that the main partners are social housing, you decide to get the support and participation of scientific experts on issues to do with water, energy, and so on. Our project is not only to rid us of carbon emissions; it is also to take a very integrated approach to preserving energy as well as other natural resources. Overall, it is to involve from the beginning, from the briefing phase, all the actors in the building process. It is important to emphasise that we pay special attention, as we are a co-operative, to end users, because, as the European ministry recently said, if you want to change the energy landscape in Europe, you have to boost from the bottom, that is, from the end users.

[119] The main barriers are not technical, and we are sure of that. You will see this in the project. The main barriers are cultural, and we have to increase responsibility and the engagement of all actors from the beginning to the end users. This is one of the key success points of this project. The project's objective is mainly to have a clear and practical roadmap with recommendations for environmental targets, to explain how to achieve sustainable building. That means a target for energy and for water, and having a specific participation process throughout the building process, and so on.

[120] I spoke with the commission recently, and the second main objective for the project, which is a key result, is to achieve a SET SHE model—a sustainable economic tool for the sustainable housing in Europe model—for shared global cost. In this model, you can highlight the benefit and externalities of each sustainable project. So, the benefit for the end user is saving energy and water, and so on, but there is also a collective benefit. This is an important tool in negotiating incentives with local authorities—and why not?

[121] The last tools that we would prepare require the clear commitment and engagement of each actor during the building process. One of the main barriers is having a clear framework in place of the responsibilities of each actor, from the developers to the building company, and so on.

10.50 a.m.

[122] The last objective is to increase the awareness of end users. So, the dwelling manual will explain how you use the building. That is very important to prepare the end user to use the building within the framework—and not only the end user, but also the long-term user—for maintenance. This is our work. It is not very easy because the policy framework has grown just in the last year, and you have the involvement of different local authorities. At the beginning of the SHE project in 2003, the framework was very poor, and the initiative from local authorities was fragmented. Now, with dialogue, we have this integrated approach with local authorities, and the framework is also changing at national level. For example, the European directive for energy certification has been a very important step in boosting levels of energy conservation. We are working at a local level to integrate energy and sustainability targets. Different local authorities change the building regulations, and have integrated the SHE approach. There is also the participation from the briefing phases. We are now taking a different approach in the co-operative, not only in Italy, but also in Portugal, Denmark and France. So, now that the border is open, we see a new awareness in social housing organisation, a new long-term vision.

[123] Do you have any questions at this point? It is difficult to set aside each experience at national level, because each project has its own life. For example, in Denmark, there are different problems with the valuation of the minimum cost for social housing. We have spoken to the national Parliament to explain the benefit to the community, and to increase the minimum framework cost to the Danish country.

[124] **Mick Bates:** Thank you, Alain. We have lost your live picture, but we still have sound. Do you have a live picture link with us at the moment?

[125] **Dr Lusardi:** Hello?

[126] **Mick Bates:** It seems that we have lost the picture and he has lost the sound. I understand that the technician is working on it now. It is always very tricky when we have video links.

[127] Alun wants to ask a question, but I would like to lead by asking whether the Government has a target for carbon reduction. Are there any other questions?

[128] **Alun Davies:** What he said was very impressive.

[129] **Mick Bates:** Yes, it was brilliant. They are much more concerned about cross-border projects on mainland Europe than we are.

[130] **Alun Ffred Jones:** What do you mean?

[131] **Mick Bates:** For example, I have been involved in several projects that have exemplars in other European countries. You all work together and report back through a network.

[132] **Alun Davies:** There is far more co-operation between member states on the mainland than there is here.

[133] **Mick Bates:** Janet Saunders was our mid Wales co-ordinator, and it was all done by travel then. There are more video links now, but there was a lot of travelling involved at that time.

[134] **Alun Davies:** They have a railway system that can sustain that in mainland Europe.

[135] **Mick Bates:** Yes, absolutely.

[136] **Lorraine Barrett:** Is this discussion all on the Record?

[137] **Mick Bates:** Yes, this is on the Record.

[138] **Lorraine Barrett:** Okay. I was interested in the part that says, 'Is sustainable housing too expensive?'. He said that it probably is, but it is a problem of choices, and whether or not you want a jacuzzi and designer handles. However, if this is social housing, you would not necessarily want them.

[139] What is a majolica? Does anyone know what a majolica is?

[140] **Mick Bates:** I do not, sorry.

[141] **Alun Davies:** They are all the rage in the Rhondda. [*Laughter.*]

[142] **Mick Bates:** Are there any more questions or comments?

[143] **Brynle Williams:** Looking at some of these plans for social housing and so on, it is evident that, although Denmark particularly has a similar climate to ours, this design, and this type of building would never be allowed in this country. If we are to take carbon and energy savings seriously, we must look at the thinking behind the design and structure of buildings.

[144] **Mick Bates:** That would come under planning, of course. Are we now able to restore the video link?

[145] **Alun Davies:** One of the things that Karen said about the planning process, and the way in which the process works with building regulations—

[146] **Mick Bates:** Excuse me, Alun, but I think that we can now restore the video link to Rome. We will move straight to questions if we do get the link back. I can see that we are on camera. I will go straight into questions, Alun. Brynle, you can comment on planning and design.

[147] Things can only get better, as they say. I will give this one more minute. Do we have the video link back? Et voilà. Alain, can you hear me?

[148] **Dr Lusardi:** Yes.

[149] **Mick Bates:** Thank you. Initially, we lost the live picture but we still had the sound. Then we lost you altogether, but now we have the sound and picture restored at both ends. We have a further five minutes or so for questions. Thank you very much for the outline. We have just had an informal discussion about some of the issues. Members will now raise points with you, or make comments. I turn first to Alun Ffred Jones.

[150] **Alun Ffred Jones:** I have two questions. You said in your presentation that the challenges were not technical. Could you elaborate on that? Also, apart from building energy-efficient housing, do you look at the wider aspects of location, transport and so on in these projects?

[151] **Dr Lusardi:** On the first question, the challenges are not too technical because the technology is available. If you know the scientific framework of the EU project, you will know that we have a lot of documents about the abilities and feasibility of renewable energy

and its integration in the housing sector. The problem is getting acceptance, both on the ground and in the building codes and regulations. In this project, the challenge is not to set up energy-efficient housing, nor to reach high levels of efficiency for each building; it is clearly to change the behaviour of all actors in the building process.

[152] The first stage is to discuss and have a dialogue with the co-operative, with designers, decision-makers and the end users. We think that the main challenge is around the social aspects, rather than the energy approach only. In the past, you could see in different cities—Paris, for example—that the big problem was the social cohesion of districts. That kind of design and approach is antiquated. Now, with clear and extensive involvement from the beginning, we can also change the quality of life and possibly reduce some fuel poverty. That is an important issue for Europe. I think that you have a clear experience of what acute poverty is. In Italy, it is not currently a big problem, but with the increased price of fuel and so on, it will become a big social problem.

11.00 a.m.

[153] Can you repeat your second question, because I did not understand everything?

[154] **Mick Bates:** I think that we will move on to Brynle Williams, who wanted to ask about planning.

[155] **Brynle Williams:** Thank you, Alain. I take great interest in your written presentation, as well as in hearing your verbal presentation. Looking at these plans, it is clear that they would not be accepted here in the UK because of planning regulations. What problems do you envisage, if any, and how could we progress this here? Modern technology and materials and better use of energy must be considered and yet one of our major problems is trying to get that across to the planners. Can you give us some advice on how we can get around that?

[156] **Dr Lusardi:** Overcoming planning barriers is crucial, because you have to start with planning. You have to speak about not only sustainable building, but sustainable planning and land. You must first clearly inform, and one of the main barriers is the lack of awareness of local technicians. One of the main barriers in our project was having to explain to local technicians the meaning of sustainable design and how to change things, for example, in different projects. Once a project was financed by the commission, we had previous planning to deal with. We explained to the technicians why we wanted to change the orientation of the building to ensure reduced acoustic pollution and why we placed the building in a way that considered the available light at the building level. Obviously, the planning changed. Therefore, the first thing that you need is skilled technicians. I saw the presentation from Woking Borough Council. Interestingly, it reflected on what I have been thinking, in saying that the success factor was in communicating expectations to developers. We face a different problem. In our case, the developers of property have a clear idea of sustainability and the local technicians do not. So, it is important to provide this kind of explanation. It is also important to have new planning tools. For example, we advise local authorities to integrate solar maps in order to define the building site in accordance with solar availability. If you have a high-rise building with continuous, permanent shading in some sites, you can consider having a new housing development there. So, this is a new approach and new way to plan. Also, you may now want to link with some local authorities in terms of energy certification. The new trend in Europe is to have building classification from A to J. You need a very clear energy consumption framework, and you could link this kind of labelling to an incentive. We are talking to Pesaro and surrounding municipalities about linking class A, for example, to some degree of the building cost, or to local tax to some degree. It should be a reward. These are some ideas that we are thinking through with local authorities.

[157] **Mick Bates:** On that last response, we, too, are looking at how we can incentivise not

just councils and individuals, but Governments. Do you have carbon reduction targets that are published by the Government, or is that done on a regional basis?

[158] **Dr Lusardi:** That is an interesting question. At the beginning of the SHE project, we did not have a very clear framework for energy consumption limits but, during the project, in 2006, in Italy, for example, but also in France with the acceptance of the EU directive for energy, each country had a new limit for energy consumption. At the beginning, the idea was to have a reduction of the average consumption. In Italy, for example, a study of average energy consumption showed that it was nearly 130 kWh per square metre. In Italy, the idea was to reduce average building consumption by 30 per cent, and it was the same in each country. In Denmark, the framework is very clear. We anticipate that we can reach that 30 per cent in reduction in energy consumption without very technological design. For example, we have new regulations in Italy, and two deadlines: 2009 and 2012. The building is at not much extra cost; the extra cost for sustainability is nearly 5 per cent. In the Italian case, the deadlines are a 30 per cent, and a 40 per cent reduction.

[159] **Mick Bates:** Are there any final questions from anyone on the committee? That was extremely interesting.

[160] **Darren Millar:** I have a question. All the schemes that you have talked about today, Dr Lusardi, have been done in conjunction with social housing projects, and a large part of the success is getting the people who are going to occupy the properties to be involved in the design process, for want of a better word. How can that be achieved in the private sector, where the eventual occupiers or owners of the properties are not involved in the process upfront? I note the example that you give in the report that you kindly sent to us of a community heating system that reduced gas consumption by 60 per cent, but which required the consent of all of the people who were going to occupy the properties. How can you do that in the private sector? How can the private sector engage in the same way?

11.10 a.m.

[161] **Dr Lusardi:** We have an interesting example in the SHE project. We do not just have co-operatives, but two kinds of social housing organisation. In Italy and Portugal, we have co-operatives, so we know from the beginning who the end users will be. In France and Denmark, we have public social housing organisations, called HLM—habitation à loyer modéré—in France, and by another name in Denmark. Obviously, we did not know the exact needs of the end users from the beginning of the designer's brief, and it was difficult to involve them in the design, but we spoke first with some associations of end users, national associations of consumers, and, to have acceptance of each building site, we also involved citizen associations. It is hugely difficult for the design brief, so, in that case, we have to have a strong involvement during the use phases and, indeed, in the construction phase, when it may be possible to know who the end user will be. In such cases, we have to implement this kind of awareness during the use phase.

[162] **Mick Bates:** Thank you, Alain. On behalf of the committee, I thank you for your evidence and for your report, and for answering our questions. I also thank you for your presentation this morning. I look forward to further videolinks, during which, hopefully, we will not experience a technical breakdown. Once again, I thank you for your evidence and we wish you every success with the sustainable housing project in Europe.

[163] **Dr Lusardi:** Thank you for your invitation. I invite any Member who is interested in visiting. We had a visit from Australian planners, as well as planners from China and Poland. We invite you to visit our building sites and to discuss with the designers, the builders and so on on the ground. You will be welcome in Italy or, if you want to visit the Danish project, you would find that very interesting because, as you know from my evidence, the architect of that

project is Thomas Herzog, who is one of the most famous architects in the field of sustainability in Europe. It is very interesting; you have the prefabrication method of construction and so on. So, if you are interested in visiting, do not hesitate to contact me.

[164] **Mick Bates:** That is a wonderful invitation. Thank you very much. You have certainly made the members of this committee very happy by extending that invitation. However, I remind the committee members, we will undertake our own carbon footprinting exercise. So, if we could get on our bikes, how long would it take us to get to Italy? It is a very sustainable way of travelling. I look forward to accepting your invitation, and we will discuss the matter further at a convenient time. Equally, I extend an invitation to you to come and to look at some of the work that we are doing in Wales. [*Interruption.*] I have just been told that we will go by train. Anyway, thank you very much, Alain.

[165] Everybody certainly looked very happy at Alain Lusardi's invitation to look at that project. There were some very interesting points.

[166] **Brynle Williams:** Virginia has just gone to organise it now.

[167] **Mick Bates:** I see. Thank you. Are there any comments?

[168] **Alun Ffred Jones:** Does Alain work for the EU, or is this part of a project that has been funded by the EU.

[169] **Mick Bates:** As I understand it, it is a European-funded project that involves looking at sustainable housing in the four countries. I am sure that national Governments are also putting money into it. Virginia could, perhaps, clarify the position on the funding streams for the project.

[170] The other thing that interested me was national and regional targets. I read in the paper that there is a public-private partnership, but it would be interesting to clarify their targets.

[171] **Karen Sinclair:** He talked about the good skills of the technicians. I assume that he was talking about architects and developers. I am sure that this is really exciting, will roll out good practice, and provide evidence that good practice gives returns, but the reality is that, unless we are doing it on a project basis, builders will do only the minimum that is required of them to maximise the financial return of what they are building. A good example—and this is not a party-political point—was Mark Isherwood's massive defence of builders when we talked about putting sprinklers into every new home. Building regulations and planning are the way to do it. This will be the only way that you can roll it out for more than small projects.

[172] **Mick Bates:** You made an interesting point in your note, which was part of the evidence that we received from the London Borough of Merton, that the skills agenda is highly placed. Surprisingly, there seemed to be little resistance in the end from sectors that we would normally associate with resistance to doing new things. Your question will be partly answered by the evidence that we are to receive next.

[173] It is with great pleasure that I invite Steve Cardis and Sean Rendell to give evidence on behalf of the London Borough of Merton and Woking Borough Council. I hope that you have had a nice journey—I assume that it was by train.

[174] **Mr Cardis:** Yes.

[175] **Mick Bates:** Of course. We look forward to your presentation. Thank you for your

report, which I found interesting, because it contained some figures. One problem with our inquiry into carbon reduction in Wales has been the lack of hard evidence and data showing the potential to reduce carbon emissions in the residential sector. So, your evidence is particularly welcome today.

[176] Lorraine, do you want the lights down for this presentation?

[177] **Lorraine Barrett:** I am just thinking about saving energy, Chair.

[178] **Mick Bates:** This building has been designed to do that. I have been told that the light affects the broadcast. However, we are wasting precious time, because we want to hear from these witnesses first. I invite you to give a presentation of approximately 10 minutes, which will be followed by questions from the committee members.

[179] **Mr Cardis:** Thank you for inviting me. My name is Steve Cardis. I am the team leader in the planning and policy team at Merton in London. I have been there for a long time—too long in some ways. I have been there long enough to take the process right the way through. So, I am talking from experience in Merton mainly. I worked briefly for the London Development Agency, so I have quite good links with the mayor and with the Greater London Authority's work on climate change. It is fair to say that, while Merton has been leading, in some respects, at the borough level, we have also worked closely with the mayor and the GLA, who are also leading in terms of regional government. We are keen to work with the mayor in taking forward the initiatives that I will talk about today.

[180] That interrelationship between the regional level and local level is very important, because local communities need support from the regions for a number of reasons. You referred to the skills agenda, which is crucial. The local community has limited capacity, so it is about building capacity as well as building skills.

[181] I will briefly go through my presentation and then, as you said, if you have questions on my paper and the information included within it, we can cover that afterwards.

11.20 a.m.

[182] Climate change is the context for the work that we have been undertaking in Merton. However, I think that it is broader than climate change, in the sense that the issues are not just about carbon reduction. My paper also talks about the issue of energy supply, security of energy supply and how we can develop the energy infrastructure in our communities. So, it is not just a policy about renewables, which is how people often see the issue; it is also about infrastructure and energy.

[183] Climate change in London has a very high profile at the moment and I know that the same is true at Government level. My paper touches on some of the issues that are going on in England at the moment, with the Government about to bring out new guidance on climate change. The mayor has also recently had approval from the panel that is reviewing the London plan. The GLA will be bringing forward new policies on climate change early in 2008. The panel has basically endorsed all the mayor's proposals for climate change, so there is a very positive agenda in London. That will help us, in Merton, to take forward our local initiatives.

[184] I will focus on the policy in Merton in a bit more detail. What was innovative about the policy was that, for the first time, it introduced a requirement on the development industry to provide on-site renewable equipment in new developments. When a planning application is submitted, as a part of that application, the developers must carry out an energy assessment, including how they can minimise energy use through the design of the building and, once

energy use has been minimised through the design, they must include how they can then provide a proportion of the energy needed from renewables. The wording of the Merton policy is 'at least 10 per cent'. It is setting a baseline; it is not saying, '10 per cent only'. Some people have been critical of Merton, saying, 'That is not very adventurous', but when we negotiate with developers, we try to exceed 10 per cent; my paper talks about some examples where we are achieving 40, 50 and 60 per cent carbon reduction. It is a baseline. It is important to set a baseline, because that sends a message to developers that you are serious, without being unduly prescriptive.

[185] On energy efficiency, another misinformation that has developed around renewable energy concerns whether energy efficiency and renewable energy are separate or linked. Some people disconnect the two. However, I think that it is important to emphasise that the Merton approach is very much energy efficiency first, renewable energy second. That is the approach of the mayor in his hierarchy of energy and we are following that principle. From a financial point of view, if you have to provide 10 per cent renewables, that is an incentive for developers to be energy efficient, because it reduces the cost of the renewable energy equipment that they have to provide. So, the policy has a driver within it towards energy efficiency, which we think is very valuable and has proved to be very effective. When we talk to developers, they identify the carbon dioxide footprint of a building and then they look at what 10 per cent of that would be. As I said, the smaller the carbon dioxide footprint, the smaller the renewable energy component of that. This shows the thinking behind that.

[186] We have been working very closely with the renewable energy industry over recent years. Cross-sector working is very important. It is not planning working in isolation; it is about planning working with other sectors to maximise the benefits. One of the key benefits of renewable energy is in terms of the industry that produces the equipment, the buildings. What we have started to look at is how much new industry and new economic development will flow from applying renewable energy policies. This page gives a very basic estimate of the quantum of development that is happening and how that translates. The second column has 450 local authorities in England, each providing equipment along the lines that are set out here. That shows, in a year, how many installations might be required in the future and what the value of those could be. What it is trying to look at, nationally, is a picture of rolling out a new industry—a green industry. There are economic benefits for our country, and we need to capture those new industries. In working with the renewable energy industry, we have tried to advise the direction of travel in policy terms so that the industry can build on the capacity. At the moment, there is a real risk that the policy will be ahead of the capacity, and that all sorts of problems will materialise. It is very important that the sectors work together to overcome the challenges.

[187] In London, we are finding lots of innovation in industry; there are lots of new products coming onto the market. I compare it to the mobile phone technology change. If you look at television programmes from the 1970s and 1980s, people needed a carrier bag to carry their mobile phones; and look at the mobile phone now. In a sense, we are at that stage with renewable energy. What you are looking at now, in terms of technology, is just the start of a new industry. In 20 or 30 years' time, the technology will look very different. Equally, building products will look very different. Huge innovation is needed in the building industry to bring forward new products. Cross-sector working is really important to ensure that planners, developers and builders are all looking at the built environment in an integrated way.

[188] To an extent, what I am talking about is knowledge transfer. Sean and I will both tell you that we spend a great deal of the time talking to different groups, trying to spread the message, but also trying to develop common thinking and common understanding. Local initiatives drive innovation, and innovation is essential for these industries to develop. The target of zero-carbon development is very ambitious, and a process of gradual change is

required to move to that aspiration; it cannot be achieved overnight. We recognise the need for cross-sector working in order to deliver that target.

[189] I will give you examples of some of the courses we have been involved with. One is an example of training for the building industry. The London Development Agency is very involved in training initiatives with the building and construction industry. Over the past year or two, I have been involved in an interesting example of knowledge transfer with a company called Mitsubishi Electric. Mitsubishi makes cars, but it also makes, it would say, energy-efficient air-conditioning, heating and cooling plants. It has organised a series of seminars over the past 12 months for the building industry, mainly, its suppliers and its customers. It has provided this training for free, because it is in its interest to do so. I and a colleague from the GLA have given presentations on the planning system and the way in which it is driving change.

[190] It has been a very interesting example of knowledge transfer, because there is a recognition within Mitsubishi that its products will sell only if the information is out there and there is an awareness of the new products coming onto the market. For example, it is developing new ground-sourced heat pumps and air-sourced heat pumps. It is trying to develop systems that will work in much smaller buildings. Traditionally, buildings of a certain size have certain types of equipment. Now, it is looking at small-scale heat pumps that can go into domestic scale properties. These are only just coming onto the market, which is why I say that where we are now is not where we are going to be in 10 years. We have also been working with the Chartered Institute of Building Services Engineers. This is an example of spreading the message; people come to a seminar and then, I hope, take it back to the office.

[191] I wish to say a few words about the technologies. There is a choice of technologies in terms of renewables, and those will differ from site to site. What works on one site will not work on another, and getting the balance right on any particular site is quite challenging. There is a whole industry working to advise planning officers on what would be suitable for a particular development.

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[192] It is also important to understand that the technologies are still emerging, and lessons are still being learned. Some of the technologies have more risks associated with them than others, and our experience in Merton has been that the wind technologies are the most risky for urban areas. There is a lot of interest in wind turbines in urban areas, because they look interesting, but we must be cautious about their effectiveness and efficiency. There is still a lot of learning to be done, and a lot of product development—the wind turbines that are currently being installed are quite different to the wind turbines that we will have in the future.

[193] Obviously, we apply a range of technologies in Merton, depending on the site and the kind of development. We are also building up some case studies, in order to communicate better. You mentioned facts and figures—we now have schemes being built on site, so that we can start to compare the practice and the theory, and look at whether they deliver the outcomes that developers claim. So, increasingly in this area, there is a need to work with developers on case studies to follow through from implementation to occupation, looking at the real world. We are working on that with the London Borough of Croydon, and we hope to get some more investment into case study work. We intend to publish the case studies on our website, because there is a lot of interest in this at the moment—not just in the policy, but in the practice—so we hope to use the case study as a way of communicating and sharing. I think that case studies could be used in other areas, too—the more we develop case studies, the better.

[194] We are working closely with Croydon, a neighbouring borough, which has applied the renewables policy to many housing schemes. For example, the Fairview Homes scheme built 350 homes in Croydon with various technologies—thermal, solar thermal, photovoltaic, and microturbines—and that has helped carbon reduction. The point about the additional build cost is important. A lot of work has been done in London looking at the costs of these technologies, and the headline figure is broadly 1.5 per cent to 3.5 per cent, to broadly meet the 10 per cent renewables quota. It varies from site to site. In London, that figure is quite low, and it is probably slightly higher in other parts of the country, as it depends on the value of the land and the development. There is general recognition that the costs are relatively small in terms of total build costs, despite the claims of some of the developers. So, those are some examples from Croydon.

[195] A particularly interesting example that is shortly coming on stream in Merton is an English Partnerships housing scheme, on the site of a former school, with 250 houses, a doctor's surgery and a community centre. There was a competition to select the best developer. This is one of the £60,000 home schemes—I do not know if you have that running in Wales. It is called the £60k programme, which designs houses to be built using modern construction techniques, with offsite assembly and onsite construction, which means that they claim that it takes just three to four days to build a house. This is an example of one of those schemes, where the developer, Crest Nicholson, was selected on the basis of delivering a £60,000 home with lots of renewable technology and low-carbon infrastructure. It is a good example of the viability of high-quality, low-cost housing, and it will become an interesting case study in our borough. It has a combined heat and power system on the site, and it is estimated to be 80 per cent below building regulations in terms of carbon. English Partnerships is involved in lots of good schemes like this, and it would be a useful contact for you, if you have not been in touch with it already.

[196] I will briefly mention the current controversy in England about Government policy. The Government is reviewing its guidance on climate change, planning policy statement 1. This has received a lot of media coverage in recent weeks because the Government is being lobbied by the house building industry to weaken or soften the policy, and make it more flexible. We have been working with other organisations to try to ensure that, as far as possible, the policy is maintained. Therefore, this is just some background on that. There has been a lot of discussion, and the Government is due to publish its final guidance in December. We hope that it will be clear and positive, but there is still a question mark over that guidance.

[197] This slide summarises some of that discussion. The British Property Federation has been particularly forceful in trying to 'scrap', as it says on the slide, or weaken, the policy approach. Recently, following a great deal of lobbying from local government and the renewables industry, Yvette Cooper issued a fairly positive letter, which I believe has been circulated with my report. That gives a fair degree of support for the sort of policy approaches that we are taking in Merton. This slide highlights some of the positive paragraphs in her letter. She says that councils will be able to continue with similar policies in the future, and that, as we move towards 2016, there is recognition of a need to amend policies. However, 2016 is a long way away, and there is a need to make progress sooner rather than later.

[198] That ends my presentation. In my paper, there are one or two points that I have not covered in detail, but I assume that you can pick those up during questions.

[199] **Mick Bates:** Yes. Thank you very much for the presentation, and for the paper, as I said earlier. Members will now have a series of questions for you. I will start the questioning.

[200] On developers, to what extent is developer acceptance of the 10 per cent requirement—your base minimum requirement—a consequence of high land prices in

Merton?

[201] **Mr Cardis:** It is partly a consequence of that, because land prices are high in Merton. However, the work that has been done in London has demonstrated that the costs are a small proportion of the build cost. If you take out the land value and just look at the building cost, even with the building cost the proportion is small. Some of you may want to look at the report that was produced for the Mayor of London by ARUP in April 2007, entitled 'Evidence Base: Climate Change in the Further Alterations to the London Plan', which looks in more detail at that point. It looks at the build cost in London and the capital cost for renewable energy in London. That would be a useful piece of research for you to look at in more detail.

[202] **Mick Bates:** We will have a look at that. You quoted an additional cost of 1.5 per cent to 3.5 per cent. Is that a real figure that you can see in comparable boroughs?

[203] **Mr Cardis:** Yes.

[204] **Mick Bates:** Where property has accepted the baseline of 10 per cent, properties are 1.5 per cent to 3.5 per cent dearer? Is that the case?

[205] **Mr Cardis:** It does not work quite like that. What it is saying is that those costs are factored into the development, so the build cost might be slightly higher. There is a difference then between whether that is reflected in the sale price or not. There is some evidence in London that higher values are being attributed to the higher standards. Therefore, that is an argument for saying that build costs add value rather than add cost.

[206] **Leanne Wood:** I wish to look at this from the developers' perspective, because it is always in their interests to maximise profits. In Merton's experience, do developers look first to avoid the requirement and only implement it if they have to? How much use do developers make of the viability clauses?

[207] **Mr Cardis:** I will talk from my experience of working with the Greater London Assembly on this, as well as with Merton. The GLA has been negotiating with some of the large developers in London on these similar sorts of policy issues. Therefore, it has experience of fairly major developments and how this policy has been approached. I have been involved in some of those negotiations. I think that it is fair to say that, when the Mayor of London, and when Merton, first introduced the policy, it was a shock to the development industry, because it had not come across this before. However, it does not take long for the development industry to change and to understand the way in which the planning system is changing. In London, there have been many meetings with developers—that is a good way of communicating. The GLA has hosted quite a few discussions and seminars, in which there have been opportunities for interaction between developers and local authorities, leading to better understanding of what the requirements involve. There might be an initial barrier or problem, but, through discussion and greater understanding, such barriers can be overcome.

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[208] In terms of the point on viability, the mayor does not have the power to approve schemes, as he can only advise the local boroughs not to approve a scheme but to amend it. In every case where the mayor has had to insist on renewable energy in schemes, the developers always came back and complied with that. There was never a case where they said, 'It is not viable' or 'It is not possible'. They were able to adapt their schemes.

[209] One of the problems in London has been that when a policy is introduced initially, developments are part of the way through being designed in a long development process, and

it is sometimes not possible to introduce new policy requirements at the end of, or halfway through, a project. Some of the difficulties that we have experienced in London have been to do with that problem—when a policy bites, some of the schemes that we discussed will have already been designed, and it is not possible to change them. You need to design a scheme from first principles, so that you minimise the energy use of a building—like you have done in this building—and, in that way, you can bring renewable energy into the design in an efficient way. You cannot design a building and then bolt on solar panels at the end. So, there is a timescale issue that you must understand. In London, and in Merton, we have been flexible, because we have had to be. So, when we introduce a policy, we must have a dialogue with the developers and be flexible to some extent.

[210] **Alun Ffred Jones:** Before I ask my question, I congratulate Merton's officers and council members on their foresight and the way that they have tackled this. We have talked about developers and builders; they obviously need to acquire new skills. You mentioned developing skills and that you had worked with some training authority or other to achieve this. Was that with further education colleges or through individual training bodies?

[211] **Mr Cardis:** Our main involvement in Merton has been with professional institutes, namely the architectural and building construction professions. We have given talks to those professions and they have then set up in-house training schemes. We have not worked with schools or students, although, one initiative that the GLA has recently completed is a project to develop new training for colleges and universities, so that graduates that are trained in planning, building services and architecture are trained in these new skills. One of the problems at the moment is that, in most of the professions, people have not been trained in a lot of these new skills. So, there is a need, through ongoing training, to train the professions, and to introduce new training into the related courses. London also has the London Development Agency, which is the mayor's agency for the economic delivery of his strategy, and it has a large commitment to training the workforce of London, and it is putting some funding into training the construction industry and planners. I have recently been trained by the agency. So, quite a lot of work is going on to train different sectors.

[212] **Alun Ffred Jones:** You seemed to cast doubt on the efficiency of small wind turbines, or you mentioned that there are at least difficulties. Can you elaborate on that?

[213] **Mr Cardis:** In urban areas, the siting of these turbines is important, because wind varies from place to place, so there is an issue about where a turbine is located. There are also problems with the design of some of the equipment—is it suitable for the location in terms of its strength and security? There are concerns about safety, such as whether the blades will fall off. There are natural public concerns about wind turbines in urban areas.

[214] There are other, more reliable technologies, such as ground-source heat pumps or biomass boilers, which are tried and tested technologies. Some of the technologies are what you might call 'fully developed', while others are, to some extent, still emerging. As far as urban areas are concerned, wind turbines should still be viewed as emerging technologies.

[215] **Mick Bates:** Thank you. I have Brynle next, then Karen and then Alun.

[216] **Brynle Williams:** Good morning, gentlemen. In practice, has the biggest impact on energy use been through the development of renewables, or the improvement of energy efficiency beyond current building regulations? In your paper, I was interested to see that you have a combined heat and power plant at Rowan road that uses biogas and pyrolysis. Is biogas the medium that you are using in your promotion of gas? What has been the public response to having a pyrolysis plant in the vicinity of a housing development?

[217] **Mr Cardis:** On the Rowan scheme, it has recently had planning permission granted.

There have not been any significant local concerns about the technology, although it is fair to say that there is generally a concern about pyrolysis technology, because it is so new. However, in that particular case, the real issue, locally, was to do with the traffic generated by the scheme. The actual energy aspect of the scheme has not been particularly controversial. That is just one scheme. You may find a different local perception with other schemes.

[218] On your other point on the balance between energy efficiency and the proportion of renewable energy savings, it is fair to say that our experience is that it varies very much from site to site and from scheme to scheme. Increasingly, we are finding that the potential for carbon reduction through the larger combined heat and power schemes is very effective, and will generate far greater carbon savings than wholly renewable energy.

[219] The emerging approach that we, in Merton, are taking, as well as in London generally—and probably in Woking as well—is to balance the renewable technologies and the low-carbon technologies to come up with a solution on a particular site that delivers the carbon target that you are aiming for as well as a proportion of renewable energy. There is a need for flexibility to take account of the requirements of individual schemes.

[220] **Karen Sinclair:** In my experience, I think it fair to say that builders respond positively only when they have to. You said that the more people use this technology, the cheaper it will become, and the more innovation that goes on, the more things will come onto the market. There are all sorts of obvious advantages to this, so why are developers not unilaterally implementing the measures outside Merton? I got really excited about the idea of ‘Rhodri’s rule’; that would be really good, would it not, Wales-wise? *[Interruption.]* Well, Merton is a person, I presume.

[221] **Mr Cardis:** In our experience and our knowledge, we are finding increasingly that—

[222] **Karen Sinclair:** Sorry, Merton is a town and not a person. I was thinking of the mayor. *[Laughter.]*

[223] **Mr Cardis:** I work with the mayor—obviously, in London, we have to, as he is a very important person. The experience in London may be slightly different to that outside London, because the mayor is taking such a strong, positive lead. As I said earlier, having that strong regional lead is important, because it gives the planning authorities the confidence to take on the developers and the builders, some of whom are very powerful, especially the large-volume housebuilders. It is also important to have cross-party political support for what you are doing, which exists in London.

11.50 a.m.

[224] If developers can see that they cannot get away with something because the mayor and the borough are supporting it and there is cross-party support for it, there is nowhere for them to go. If the developers cannot see a way through that process, they will comply, and the experience in London has been very positive because the developers are compliant with the policy. It is not true to say that there is resistance. There is some opposition at national level and that is reflected in the debate around ‘Planning Policy Statement 1: Delivering Sustainable Development’ at the moment, where the Government is trying to negotiate with the volume housebuilders at a national level. The volume housebuilders’ line is that they would rather just go through the building regulations approach and say, ‘Change the building regulations and leave planning out of it’. There are a number of problems with that. First, it takes it out of the local democratic process completely. It also takes it out of the public arena in general.

[225] What is important about planning is that it is an educational process. It allows people

to understand how these technologies can work, and how people's homes and places of work can change. My concern is that building regulations allow deals to be done behind closed doors. Therefore, progress will be quite slow through the building regulations, and there will always be opportunities for deals to be done, which are technical fixes that do not necessarily result in the best outcome.

[226] **Karen Sinclair:** It is more than a lead by the mayor, and so on, because, other than applying for a waiver over the size of a building, they must comply. You say that building regulations would take the democracy out of this, but once this Merton rule has been decided on, it is not just a lead but a requirement, other than when you can prove positively that it will be a huge disadvantage not to do it.

[227] **Mr Cardis:** That is true, to an extent, but the policy also has flexibility in it. As I mentioned, it is a minimum of 10 per cent, so that means that there is flexibility to negotiate up to 50 or 80 per cent. In the building regulations, it would just be a minimum standard that would apply across the whole country. The benefit of the planning system is that it allows local communities to decide what is appropriate for their community, and to be as creative and positive as they can be. That is where innovation and local democracy comes in. If you apply building regulations, you have a national standard, which will inevitably be the standard of the lowest.

[228] **Karen Sinclair:** In the planning system in that way, it can end up rolling out highly successfully in your area, but in a quite ad hoc manner across the country. Building regulations would mean that there was a fixed requirement across areas. If we were to do something in Wales on building regulations, it would mean that there was a consistent approach to it.

[229] **Mr Cardis:** I am not saying that building regulations should not be improved, as I agree that building regulations should be improved to raise minimum standards. What we are saying is that the planning system also has a role to play in influencing what developers do. We can go beyond what the building regulations are setting, which are only minimum standards. The planning system allows flexibility to go beyond the building regulations and also to look at design issues, which building regulations do not address. The planning system allows a number of different issues to be looked at in the round; building regulations just set minimum construction standards. The two aspects need to work together very closely. I am not saying that building regulations are not important, because they are, but some of the volume housebuilders are saying that the planning system should not be leading, and that it should be the building control system that leads.

[230] **Alun Davies:** Thank you for your presentation this morning. I will not touch on the debate that you are having with the UK Government about planning policy in England. I will not go there for now. However, in your written submission, you outline the successes of the policy approach that you have taken in this, and it appears to have been a very successful policy initiative. I am curious as to why so few other local authorities followed your lead. Is it partly, as you mentioned in the answer to the first question, because high land prices in London enable you to do so, or is there something about the London situation that is different from that in other parts of the United Kingdom?

[231] **Mr Cardis:** There is no evidence that it is to do with viability; the main point is to do with skills and knowledge. It takes time for the new policies that are being outlined here to be taken forward, because of the skills shortage and the knowledge problem that a lot of local authorities have. In London, we are quite fortunate, because the mayor has some resources that he can bring to the table, so that each borough does not have to have huge resources. It is important that that regional level of leadership is there. You will then find that the local communities have the confidence to follow suit, and that is happening. Gradually, regional

guidance is being rolled out across England, and when that regional guidance is adopted, that gives local authorities the confidence to start to implement the policy. It is rolling out across the country and there are some good examples across the UK—and it is not just within London, so it is unfair to say that it is a London-focused policy. Quite a few authorities have now adopted similar policies. However, what we have found to be the main barrier relates to capacity, skills and knowledge.

[232] **Alun Davies:** I am interested in that because, normally, if there is a political imperative and a political drive to change the framework in which development takes place within any given locality, working with further education or with builders or whoever, the skills base can normally expand to meet the new requirements. You are creating a new market and a new playing field, in that sense. So, I am interested that that does not seem to have happened, except in a relatively small proportion of local authority areas. Do you think that there has been a lack of political leadership?

[233] **Mr Cardis:** I think that leadership has come recently, and it has been a learning curve. There has been a huge change in the past five years. Merton's policy was adopted only in 2003. Prior to that, there was nothing—no national or regional policy. So, in 2003, Merton's policy came through and then, in 2004, 'The London Plan' started to apply. So, if that plan started to apply in 2004, the developments did not start to come through the system until 2005-06. So, part of the problem is that we are talking about a very recent phenomenon here. There is a time lag in catching up, both within local government and the construction industry. That is why these targets for achieving zero carbon emissions in 2011 in Wales and 2016 in England are very challenging; it is because of these time lags in the industry's capacity to change. That is why it is important that a programme of training, learning and development be put in place, so that there is a gradual move over time towards these higher targets. They cannot be achieved overnight, and that has been our experience in London.

[234] **Mick Bates:** I now bring this discussion to a close, but, Darren, do you want to come in finally?

[235] **Darren Millar:** Yes, please. You touched on a few things there. It is important to recognise that there is this target of achieving carbon-neutral new developments by 2011 in Wales, and your evidence seems to suggest that perhaps Wales has not had the leadership that is necessary. It certainly looks as though we are going to miss that target, from the evidence that has been given to us by all sorts of people who have presented to us over the past few weeks and months. Clearly, the Merton-style planning policy is one way for local authorities to help to deliver that on their own, within their own leadership structures, rather than having to wait for instruction from above. I assume that you think that local leadership at the local level is crucial. Why do you think that local authorities in Wales have not picked up on the Merton policy and sought to drive it forward?

12.00 p.m.

[236] **Mr Cardis:** They probably have other priorities. In some communities, climate change is much more of a priority than it is in others. I happen to live in Woking, which is an interesting coincidence. As a resident in Woking, I have contributed to the work there, so there is an overlap between the two of us today, which is quite fortuitous. You can also ask Sean Rendall why Woking is taking such a leadership role. It is hard to answer exactly why, but I think that it relates to what I said about London itself, which is very much affected by climate change and, therefore, the local communities are aware of the threat of flooding and of the heat effect in London, which will be huge. So, there is a great awareness there. Perhaps there is not yet that awareness of the impact of climate change in communities in Wales, therefore, it is not at the top of the agenda. However, in Merton and in London, climate change is moving up the agenda politically and, through consultation with local communities,

we are finding more concern about and more interest in climate change issues. So, it is becoming very much a priority.

[237] **Darren Millar:** Do you think that it is more about political leaders responding to individuals or do you think that the political leaders are setting the pace?

[238] **Mr Cardis:** In Merton, it is a bit of both, but my experience has been that through consulting communities and finding how concerned they are about these issues, politicians have been given the confidence to be more affirmative and strident. Politicians have to have support and the planning system is important because it has consultation built into it, so there is a way of testing that what you propose as politicians is supported by the community, which is why building regulations are not necessarily the way forward. That is a technical phase, but it does not allow that political debate to develop. So, planning has an important role to play.

[239] **Mick Bates:** I am conscious that Sean is here and we only have another 20 minutes left before the end of this meeting. Karen would like to ask a brief question before we go to Sean.

[240] **Karen Sinclair:** I will try to be as brief as possible. We were talking about planning being the way to tackle this. However, over the last 10 years in Wales, and it has accelerated, we have seen planning being used to get planning gain for local communities, which has had nothing to do with carbon reduction. That clearly was not as high on the agenda when this started to happen. Have you managed to change focus from planning gain, which means that builders are contributing to the community, to a much wider agenda, and from a local issue relating to a school or a GP surgery, to a global one in terms of carbon reduction? As much as planning gain is important, has your area seen a move from that sort of focus on to a focus on carbon reduction, and are other local authorities also starting to look at planning in that way? Sorry, it is a bit of a long question.

[241] **Mick Bates:** Can we have a short answer, please?

[242] **Mr Cardis:** I think that the short answer is 'yes'.

[243] **Mick Bates:** Thank you. Sean Rendall, who has sat here patiently throughout those questions, now has his opportunity to speak. I will introduce him by quoting paragraph 3.3 of his report, which is that:

[244] 'Woking believes that statements of intent are worthless if they are not backed up by credible evidence of action.'

[245] I think that we have set the scene well. Welcome to the committee and over to you. Please keep your presentation brief so that we have time to ask questions.

[246] **Mr Rendall:** I will endeavour to do so. I am Sean Rendall and I have worked for Woking Borough Council for around 20 years. I am also seconded on a part-time basis to a consultancy called ECSC, which is part of the Thameswey Ltd group of companies, wholly owned by Woking Borough Council. I will touch on that a little more later.

[247] I will just put Woking on the map for you. It is around 30 miles south-west of London. Its population is around 90,000 people. It is a relatively young town. It grew up largely around the railway. It is a small borough; we have about 25 sq m. On that 25 sq m, we have compact settlements and urban areas around the town centre, as you can see, and relatively recent and extensive housing schemes around it and, as the slide shows, countryside around that. Much of the countryside is very highly protected. There is lowland heath land—you can see highland cattle there; I do not know what they are doing there—and it has a very

high protection in terms of biodiversity. It is internationally protected. Much of it is also registered common land. We also have river floodplains and so on. So, the picture that I am trying to present is of a relatively young settlement that is dense and quite small and which has a highly protected green belt around it.

[248] One issue that has come up a few times this morning is land values. Woking has established a reputation as a borough where environmental sustainability is extremely important. Our No. 1, primary corporate priority is affordable housing. That is an important point, because you need to understand that we, as an authority, seek to secure the highest levels of environmental sustainability in housing development, but it has to be affordable too. Woking has one of the lowest affordability indexes for housing in the UK; it is ranked two hundred and fortieth out of 354 districts, and I speak from bitter experience of knowing how expensive it is to live in Woking and to try to move up the property ladder. The authority has come to the attention of other UK, English and international organisations and Governments for some of the work that it has done on energy, climate change and, more recently, planning.

[249] The paper that I prepared for this committee has tried to look at the authority's activities in four areas. I describe them as opportunities, with duties and responsibilities alongside. First is our role of community leadership. Picking up on one of the questions asked earlier, there is no doubt that, in Woking, we take very seriously that, in a small community of 90,000 people, the local authority is a highly influential player in setting the priorities for the community, in consultation, of course, with the community. It is because of that that we were one of the first local authorities to adopt a climate change strategy. It will be fairly familiar to you if you have read other local authority climate change strategies. It sets out some high-level objectives and it is in line with the targets for carbon reduction that were set originally by the Royal Commission on Environmental Pollution. Importantly, it is a long-term issue and, for a local authority within a local political context, setting long-term strategies and action plans can be quite a brave thing to do, so it is about balancing those long-term initiatives with sufficient short and medium-term actions so that we can demonstrate that we are making progress and that it is not, as you picked up in your opening comment, just about good words. Importantly also, there is regular reporting to a cross-party group, which I attend as an officer, and which the council's chief executive and leader also attend. So, it is operating at that sort of level.

[250] As a local authority, we take the role of community leadership seriously in several ways. One of the things that we do is invest in some fairly bold, physical manifestations of our commitment to reducing carbon emissions in the borough. The slide shows a recently completed canopy at the entrance to our station. Originally it was just going to be a glazed canopy but the opportunity arose to put photovoltaic cells in it, and it is now a power station, if you like, as well as a feature in the street.

[251] We are equally interested in our community leadership role of engaging with the local community at a much more grass-roots level. This slide refers to an initiative called Woking solar frontier. Some of this is not rocket science; it is about enabling people to talk to other people in the local community about their experiences. One of the aspects of Woking solar frontier is to provide an opportunity for people who are thinking of buying solar panels and putting them on their roofs to talk to other residents in the borough who have done it, and get information from the horse's mouth in terms of their experience. Residents have open days and invite people to come to their houses to look at the panels and to hear their experience first hand, away from the hard sell and some of the messages that come across from national Government and local government.

12.10 p.m.

[252] We have also worked with Local Agenda 21, which is a local voluntary organisation.

We have a very strong and fruitful relationship with the organisation; it is an extremely powerful advocate in the local community and we share many of the same objectives. We do not always see eye to eye on everything, but in broad terms we share exactly the same objectives in terms of looking for local solutions to sustainability issues. We have an example here of a publication that the Local Agenda 21 group prepared, which we part-funded. It is very much targeted and written for the local community by the local community, but it avoids local government language and jargon. It aims to help people to get a better understanding about how they can take simple measures and steps in their day to day lives, in terms of how they look after their properties, DIY, and those types of activities, to try to ensure that they do what they can to reduce their environmental footprint. It also provides signposts to other sources of information.

[253] In terms of the local authority's activities as an asset manager in terms of building stock that we own, we have made considerable progress towards reducing the council's own carbon footprint. This has taken some years to achieve and it has required expenditure and investment in our capital programmes. We have looked at a whole range of measures that we can bring into play—technology such as photovoltaic cells and combined heat and power, which we heard about earlier, and so on. The example that we see on the screen is Brockhill, which is a small sheltered housing scheme with photovoltaic cells on the roof and a combined heat and power plant on the site, which effectively makes the development self-sufficient in energy. It is a net exporter of energy to the grid.

[254] Woking town centre CHP is one of the features for which Woking has been widely recognised. The centre of the slide shows a rather unattractive 1960s multi-storey car park in the centre of the town, and we built the energy station, which is the palest covered structure, on the side of the car park. That contains a combined heat and power plant. It receives natural gas, so it is not renewable energy but it is a highly carbon-efficient use of fossil energy. It receives natural gas, it burns it in an engine, the engine turns a generator to generate electricity and we distribute the electricity through our own private wire system to buildings around the town centre. The important thing is that the heat that is produced during that mechanical process of turning the generator, and the combustion process of the engine, is largely recovered and reused through a heat main for space heating and hot water heating. During the summer months, when we do not need the hot water, it is converted to cooling for air conditioning and space cooling. All of those operations are carried out in the structure in the centre of the slide, and it feeds the civic offices, a 150-bed hotel, an entertainment complex, a conference centre and, as of early next year, it will also supply a new residential development that is being built close to the CHP unit.

[255] Another project that the council has had considerable interest in is our hydrogen fuel cell. That is the structure with the painted façade on the top slide. It supplies energy to our leisure centre—you can see the flumes from the leisure pool. It uses a process that takes natural gas and denatures it—I do not understand the physics behind it—using technology that was first invented by a Welshman, Sir William Groves, in about 1880. This is not new technology; what is new is its application in the twenty-first century.

[256] I will give a health warning on this. The project was almost entirely funded by parties other than Woking Borough Council. We are extremely pleased about that, because it is an expensive way of generating electricity. It is a demonstration project. It is about proving the technology and seeing how it can be applied in a real-life scenario.

[257] The smallest slide shows photovoltaic shading. It is an example of where we had a problem with heat build-up due to sunlight coming in through the windows of our competition swimming pool. Rather than putting blinds in there, which would have been the obvious solution, we re-glazed that with photovoltaic cells embedded in the glass. So, we are capturing that energy and using it to generate electricity.

[258] We have some land assets of our own. Unfortunately, in some cases—you can see an example on this slide—they present us with more challenges or opportunities than we may otherwise wish. This is a contaminated site. It was used as a landfill site in the early part of the last century. It is on a river flood plain, and has had problems with flooding. It has a number of community-use buildings on it—the local scouts, sea cadets, boxing club, and so on operate out of some very shabbily built buildings on that site. After many years of endeavour, we have finally put together a package to redevelop the site, to restore the flood plain, to remediate the contaminated land, to relocate those community buildings into new purpose-built structures and to provide some new houses on the site. It is a costly undertaking, not least because we are investing very heavily in new flood defences. Despite appeals, we are not receiving a great deal of funding for that from the Government.

[259] Faced with those difficulties and with the cost, the council has taken the hard choice to press ahead with this scheme, which will provide an exemplar in terms of energy efficiency. It will connect through to combined heat and power and will generate a lot of its own electricity on site. It will also use rainwater harvesting techniques, sustainable drainage, and so on. Again, we have taken the position that, if we cannot demonstrate a willingness to do these things ourselves, we should not expect others in the borough to do it.

[260] This moves me on to regulatory powers. I will not say too much, because I suspect that I have covered most of it in the paper, and I do not want to repeat some of the points that Steve has already covered. One of the questions that arose earlier was why so few local authorities are taking up a Merton-type policy. One additional answer is that, in some senses, we have a position in planning at the moment in England where it is proving to be difficult and long-winded to get new planning policies in place through the local development framework process. There is a huge ambition among many local authorities to put these policies in place, but there are huge obstacles in terms of the timescale and the complexity of getting them into place through the new LDF process.

[261] We were faced with exactly that dilemma in 2004. Rather than just accepting that we were some years away from having a policy in place, we decided to put together some guidance, which is on a voluntary basis, to bring our expectations and ambitions for sustainable development to developers' attention. However, in 2004 and early 2005, the structure plan, which forms part of Woking's development plan—the higher level local plan—took the Merton policy and moved it on in a number of significant areas. Most significantly, it removed any thresholds in terms of the type of development or floor space, and it starts to talk about all development. Since 2005, we have been applying that policy with considerable vigour. The first scheme we applied it on was a 150-house development, again on contaminated land. We were also looking for 40 per cent of the development to be affordable housing.

12.20 p.m.

[262] To cut across to the earlier question about the willingness of developers to go further, on that example, the developer voluntarily exceeded the requirements that were put in place through the planning process. Having almost finished the scheme, the developer rang me up and said, 'Actually, we are going to put some ground-source heating in as well; is that okay?'. I said, 'Of course it is okay, you do not have to ask me. Why are you doing it?'. The answer was, 'We want to see how this works; we recognise that this is the sort of thing that is becoming important and we want to try it out for ourselves'.

[263] The policy is scaleable, and we are taking it down to single-house developments; many housing development schemes that have come forward in Woking are on the three, four or five-house scale—they are not all 150-house units. There are also community-use buildings

and, at the other end of the scale, a planning application is due to go before the planning committee next month for 0.25 million sq ft of office space in a 24-storey tower in the town centre. We have been spending a lot of time with the developer, looking at how it can connect to CHP, the town centre network, how it can achieve the highest levels possible of energy efficiency and how it can bring the carbon footprint of the building right down.

[264] Finally, on council enterprises, the council has, as I said earlier, set up a number of businesses. Thameswey Group is a holding company, entirely owned by the council, and it has a number of businesses within it, some of which are wholly owned by Thameswey, some of which are joint venture companies. On our structure, the images that I am showing you now will be available to you later in terms of understanding the relationships. One of the things that Thameswey allows us to do is to invest in emerging technologies, without risking the council tax. This investment is insulated from the council tax by virtue of the fact that the profits coming back out of the companies are reinvested in environmental initiatives and projects. An example is the hydro light, which was developed in Cardiff. They were looking for somewhere to trial it and we got together, through Thameswey, with the developer. We are trialling it at a number of sites around the borough. We can also invest the profits from our commercial activities in any number of ways, as long as they contribute to the sustainability of the borough.

[265] One comment that came out, loud and clear, from Steve's presentation was the need to rapidly improve skills and knowledge in the planning community about how we take forward these Merton-type policies. C-plan is a web-based product, the investment for which was funded by Thameswey. It provides an interactive web tool that allows developers and planning case officers to share information in a common format, using common standards. One problem that the house building lobby has articulated very strongly is its concern about a plethora of different standards and having to try to understand what is going on locally. If every local authority is asking for different information, presented in a different way, they need to get around that. C-plan creates a common vocabulary and a common set of standards that allows those issues to start to be resolved.

[266] **Mick Bates:** That was an excellent presentation, and as inspirational as Steve's. Thank you. Next week, the Welsh Local Government Association and the National Federation of Builders Cymru are coming in and it will be interesting to compare notes with them after hearing about all the magnificent work that you are doing. The challenge of having credible actions seems to have been met in your presentation. Thank you for that. Karen will start the questioning.

[267] **Karen Sinclair:** Does the council consider that short-term goals could be useful in driving improved performance?

[268] **Mr Rendall:** Short-term goals? Are you thinking in terms of carbon reduction?

[269] **Karen Sinclair:** Yes.

[270] **Mr Rendall:** What we recognise is that, as a local authority, we cannot always focus on the bigger picture. We need to have people engaged and contributing, and the way to do that is to make it shorter term and more immediate, but also to make it more local in scale. One of the difficulties is that, when we talk about climate change, we do not really sense that it is affecting us in any harmful way, apart from the fact that we can turn our heating down in winter. When we talk about our children's and our grandchildren's generations, okay, there is an emotive argument there, but again it starts to sound like somebody else's problem.

[271] Therefore, we need to have short, medium and long-term goals, to make it relevant to people so that they feel able to take some action now, that they have those opportunities and

that they can participate, and so that we can start to track progress and feel that we are starting to make progress against some very tough and challenging issues.

[272] **Lorraine Barrett:** What were the principal means used by Woking council to reduce its energy consumption and carbon emissions so substantially, as set out in your paper?

[273] **Mr Rendall:** We followed the conventional thinking on this—the energy hierarchy. You start with efficiency, and always try to find efficiencies in what you are doing. One of the questions that is often asked is why Woking council is doing any of this. The answer is that we started out thinking that we needed to save money and ended up thinking that we needed to save carbon. How we went from one to the other is an interesting story in its own way, but we were originally motivated by looking to save money, reducing our energy bills, looking in the long term at where energy costs were likely to be headed—and I think we all know now where they are going—and taking the view that we needed to drive down those costs.

[274] So, we did the easy things first, such as using low-energy light bulbs, installing sensors in the buildings and so on. However, you then have to make step changes, because you can only go on replacing light bulbs with low-energy ones until the last light bulb is a low-energy light bulb. Where do you go from there? One of the reasons why Woking council has achieved what it has is that it was brave enough to make those step changes. It realised that it could not go on thinking and acting in a conventional way if it wanted to start to make big changes. That meant looking at such things as decentralised networks. In practical terms, it means digging up the streets of a busy town centre and laying big pipes and cables; it is disruptive and costly. However, we knew that, unless we started to make some of these changes we would always be at the level of looking to get possibly diminishing returns on more and more energy efficiency measures.

[275] Once you have taken the brave decision to start thinking about energy consumption in terms of where the energy comes from and what its emissions are, and about whether you can take any ownership of it and do something about it, the other bits and pieces start to fall into place. You start to move on to renewable energy, investing in photovoltaic cells and so on.

[276] **Lorraine Barrett:** I have some responsibility for sustainability in the buildings on our estate. Is there any information that you could give to our green team? We are all working on reducing carbon emissions and perhaps we could use some of your ideas.

[277] **Mr Rendall:** We have published just about all of this on our website.

[278] **Mick Bates:** It is all published. I think you will find that there is brilliant stuff from Merton and Woking. We are very pressed for time. Alun is next and then Darren.

[279] **Alun Ffred Jones:** On CHP, you described a very large scheme, but you also spoke about a smaller scheme for some sheltered housing. Is this efficient even on a much smaller scale? Are there any examples in Woking of private CHP schemes, and, if so, in what context do they operate?

[280] **Mr Rendall:** On the first question about bringing CHP down to a smaller scale, it works provided that you can start to balance your load. With the example that I gave you of the sheltered housing scheme, the reason for having so many photovoltaic cells on the roof is that we can reduce the electrical demand from the CHP, and if you can reduce that you can scale down your CHP. Therefore, the heat demand—you get about one and a half units of heat for every unit of electricity—can be scaled to the demand in the building. I hope that that is clear. This is about trying to get the balance right with what comes out of the engine.

[281] **Alun Ffred Jones:** Otherwise, it would produce too much heat?

[282] **Mr Rendall:** You would produce too much heat, in which case you would dump the heat and you would not be saving anything; the whole reason for doing it would fall apart. Therefore, finding a way of balancing the demands is very important. That is why, on a larger scale, it is much easier, conventionally, to make it work. Two factors are starting to come into play: first, the efficiency of CHP engines is improving, and smaller units are now coming onto the market, which are more commercially viable.

[283] **Alun Ffred Jones:** Are these manufactured in Germany?

[284] **Mr Rendall:** The example that I am thinking of is Japanese. These are two-litre Toyota, natural-gas-powered engines. The second factor is about finding whatever opportunities you can to look beyond the plan for the site itself. This is the tough, but potentially rewarding, goal for town planning in this area. We must stop thinking about individual planning applications, which everybody is geared towards, and start thinking about the way that a planning application or development proposal fits in with its community, and start thinking about balancing energy across that community. That is what planning should do, and then we would get to the point where, theoretically, in a typical community, there would be no scale at which CHP would not be appropriate. It would just fit in as part of a jigsaw.

12.30 p.m.

[285] In answer to your other question, we have one scheme that I have not been able to show to you this afternoon because I do not have the graphics available. It is a planning application, which is on my desk at the moment, where we are talking to a private developer about building 50 flats and 10 houses with CHP. It is the first scheme of its kind in the borough, and the developer is quite willing to do it.

[286] **Darren Millar:** It is interesting that there seems to be a lot more use of photovoltaic technology in terms of renewables, much more so than micro wind turbines, for example. Is that because of its reliability, in its ability to offset and balance out with CHP, or is it because some councils do not like turbines?

[287] **Mr Rendall:** It is not because there is a particular dislike of turbines. It balances well with CHP—you get a pretty much constant generation from PV on a decent day. There are small peaks and troughs, but it is close to constant. The point that Steve made earlier about small-scale wind turbines is that the wind will eddy and buffer around in the urban area, and you see wind turbines kicking in, and then, for no apparent reason, they suddenly stop, even though it still feels windy. That is because what goes on up there at roof level is a bit more complex. I just think that with PV, the technology is well proven. It is expensive, but we have been successful in sourcing grants, and the costs are coming down with the greater volume coming on to the market.

[288] **Darren Millar:** I was interested to hear you say that the council's No. 1 priority is affordable housing, and that, if there is significant additional cost because of a CHP or a photovoltaic cell requirement, that brings the property price up. How do you balance those competing demands?

[289] **Mr Rendall:** Just before I answer that, a really important point that I would like to bring to the committee's attention is that there is a potential risk of concluding that, in the south-east, these things happen, and can be made to happen, because land values are high, and developers are waiting to build. It cuts both ways—we have a highly protected green belt in Woking, and all of our development has to go to the brown land in the borough. To assemble a development site within Woking effectively means buying houses on the open market to

demolish them and redevelop, when even a small, four-bedroomed house would be over £500,000 in the town centre. So, the site assembly costs are incredibly high. You may conclude that there is more value in the development, but if we are to meet this affordability target, the cost cannot be passed on. It is important to understand that this is not something that simply happens in the south-east because land values allow it to happen—it is a big challenge to do all of this while ensuring that we have affordable housing coming through.

[290] The simple answer is that we must see some deflation of land values. We have to see developers starting to drive down land values in recognition that their build costs will be higher. Developers cannot afford to pass all of this on in increased cost to the house owner, because they will not be able to achieve the 40 per cent affordable housing target. So, it is a question of how much land values can afford to be driven down. As I have said, the problem is that if you drive them down too far, you will find that sites do not come onto the market, the land supply will dry up, and we will stop seeing housing development in the town. I suppose there is no magic answer, I am afraid—it is a question of taking this approach of pushing it and recognising that the more volume that is constructed on this basis, the more the costs will come down.

[291] **Mick Bates:** We seem to have drifted from carbon reduction into land prices, but I know that they are significant as regards your main aim of affordable housing. However, I will bring this session to a conclusion by offering our thanks to both of you for what has proved to be a pertinent piece of information. It is all related to carbon reduction, from your experiences of two local authorities that have taken massive steps forward, and have taken a step beyond putting in a few low-energy light bulbs, as you said, because it requires that scale of forward thinking. An important feature of both your presentations is that the cumulative impact of that will help regional and national targets on carbon reduction. That is our main concern during this inquiry—to find out what contribution can be made from the residential sector, and your evidence demonstrates that it is possible.

[292] I congratulate both your local authorities on the work that you have done. It has provided us with plenty of food for thought and inspiration. I am certain that Members will regularly look at the three website addresses on the last slide of your presentation, to gain more and more information to help us here in Wales to make full use of our potential. Thank you very much.

[293] **Lorraine Barrett:** Could we visit Merton or Woking?

[294] **Mick Bates:** Yes, we could.

[295] **Lorraine Barrett:** On the way to Italy. [*Laughter.*]

[296] **Mr Rendall:** I extend an invitation for you to come to Woking any time you like—you would be very welcome.

[297] **Mick Bates:** I have been to Southampton to see the work there.

[298] **Mr Rendall:** It is worth a look.

[299] **Mick Bates:** They have been going a long time with theirs, and it is good.

[300] Thank you for attending. At next week's meeting, we will have representatives from the National Federation of Builders, Cymru, the Welsh Local Government Association, Energywatch, and Community Housing Cymru.

Daeth y cyfarfod i ben am 12.36 p.m.

The meeting ended at 12.36 p.m.