

# Cofnod y Trafodion The Record of Proceedings

[Y Pwyllgor Amgylchedd a Chynaliadwyedd](#)

[The Environment and Sustainability Committee](#)

12/11/2015

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Cynulliad  
Cenedlaethol  
Cymru

National  
Assembly for  
Wales

## Cynnwys Contents

- 4 Cyflwyniad, Ymddiheuriadau a Dirprwyon  
Introductions, Apologies and Substitutions
- 5 Cynnig o dan Reol Sefydlog 17.42 i Benderfynu Gwahardd y Cyhoedd  
o'r Cyfarfod ar gyfer Eitemau 4, 7 a 10  
Motion under Standing Order 17.42 to Resolve to Exclude the Public  
from the Meeting for Items 4, 7 and 10
- 6 Ymchwiliad i 'Dyfodol Ynni Craffach i Gymru?'  
Inquiry into 'A Smarter Energy Future for Wales?'
- 32 Ymchwiliad i 'Dyfodol Ynni Craffach i Gymru?'  
Inquiry into 'A Smarter Energy Future for Wales?'
- 50 Ymchwiliad i 'Dyfodol Ynni Craffach i Gymru?'  
Inquiry into 'A Smarter Energy Future for Wales?'
- 67 Ymchwiliad i 'Dyfodol Ynni Craffach i Gymru?'  
Inquiry into 'A Smarter Energy Future for Wales?'
- 88 Papurau i'w Nodi  
Papers to Note

Cofnodir y trafodion yn yr iaith y llefarwyd hwy ynnddi yn y pwyllgor. Yn  
ogystal, cynhwysir trawsgrifiad o'r cyfieithu ar y pryd.

The proceedings are recorded in the language in which they were spoken in  
the committee. In addition, a transcription of the simultaneous interpretation  
is included.

**Aelodau'r pwyllgor yn bresennol**  
**Committee members in attendance**

Mick Antoniw	Llafur Labour
Russell George	Ceidwadwyr Cymreig Welsh Conservatives
Llyr Gruffydd	Plaid Cymru The Party of Wales
Janet Haworth	Ceidwadwyr Cymreig Welsh Conservatives
Alun Ffred Jones	Plaid Cymru (Cadeirydd y Pwyllgor) The Party of Wales (Committee Chair)
Julie Morgan	Llafur Labour
William Powell	Democratiaid Rhyddfrydol Cymru Welsh Liberal Democrats
Jenny Rathbone	Llafur Labour
Joyce Watson	Llafur Labour

**Eraill yn bresennol**  
**Others in attendance**

Mark Bodger	Cyfarwyddwr Partneriaethau Strategol, Bwrdd Hyfforddi'r Diwydiant Adeiladu Strategic Partnerships Director, Construction Industry Training Board
Duncan McCombie	Cyfarwyddwr Gweithrediadau Cymru ac Iwerddon, yr Ymddiriedolaeth Arbed Ynni Director of Operations for Wales and Ireland, Energy Saving Trust
Jessica McQuade	Cronfa Bywyd Gwyllt y Byd World Wildlife Fund
Jane Forshaw	Partneriaethau Lleol Local Partnerships
Richard Sagar	Uwch Swyddog Polisi a Phrosiectau, ResPublica Senior Policy and Projects Officer, ResPublica
Mike Thompson	Pennaeth Cyllidebau Carbon, Pwyllgor y DU ar Newid yn yr Hinsawdd

Head of Carbon Budgets, UK Committee on Climate  
Change

**Swyddogion Cynulliad Cenedlaethol Cymru yn bresennol**  
**National Assembly for Wales officials in attendance**

Chloe Corbyn	Y Gwasanaeth Ymchwil Research Service
Martha da Gama Howells	Clerc Clerk
Alan Simpson	Cynghorydd Arbenigol Expert Adviser
Adam Vaughan	Dirprwy Clerc Deputy Clerk

*Dechreuodd y cyfarfod am 09:30.*  
*The meeting began at 09:30.*

**Cyflwyniad, Ymddiheuriadau a Dirprwyon**  
**Introductions, Apologies and Substitutions**

[1] **Alun Ffred Jones:** Fe Alun Ffred Jones: We'll open the  
gychwynnwn ni'r pwyllgor. Diolch yn meeting. Thank you very much. I  
fawr. Rwy'n croesawu'r tystion. Rŷch welcome the witnesses. You know the  
chi'n gwybod y rheolau ynglŷn â'r rules about the fire alarm—to follow  
larwm tân—i ddilyn yr hysbyswr the ushers out if it should sound.  
allan. Ffonau symudol i fod ar 'tawel', Please switch mobile phones to  
os gwelwch yn dda. Rŷm ni'n 'silent'. We operate bilingually here,  
gweithredu'n ddwyieithog yma, felly so if you wish to answer questions in  
gallwch chi ofyn cwestiynau yn Welsh or English then please do so.  
Gymraeg neu'n Saesneg

[2] Is the translation working for you?

[3] A ydy'r cyfieithu'n gweithio? Is the interpretation working? Yes, I  
Ydy. Diolch yn fawr. Peidiwch â see that it is. Thank you very much.  
chyffwrdd y botymau ar y Please don't touch the buttons on the  
meicroffonau; mi ddawn nhw ymlaen microphones; they will come on  
yn awtomatig. A oes yna unrhyw un automatically. Do any Members wish  
o'r Aelodau eisiau datgan buddiant o to declare an interest under the  
dan y Rheolau Sefydlog? Na. O ran Standing Orders? I see that you do  
ymddiheuriadau, mae Jeff Cuthbert not. In terms of apologies, Jeff

yn ymddiheuro. Diolch yn fawr.

Cuthbert apologises. Thank you very much.

09:31

**Cynnig o dan Reol Sefydlog 17.42 i Benderfynu Gwahardd y Cyhoedd  
o'r Cyfarfod ar gyfer Eitemau 4, 7 a 10**  
**Motion under Standing Order 17.42 to Resolve to Exclude the Public  
from the Meeting for Items 4, 7 and 10**

*Cynnig:*

*Motion:*

*bod y pwyllgor yn penderfynu gwahardd y cyhoedd o'r cyfarfod ar gyfer eitemau 4, 7 a 10 yn unol â Rheol Sefydlog 17.42(vi).*

*that the committee resolves to exclude the public from the meeting for items 4, 7 and 10 in accordance with Standing Order 17.42(vi).*

*Cynigiwyd y cynnig.*

*Motion moved.*

[4] **Alun Ffred Jones:** Eitem 2—a gaf i gynnig o dan Reol Sefydlog 17.42 i wahardd y cyhoedd o eitemau 4 a 7 i drafod y dystiolaeth, ac eitem 10, i drafod Bil drafft Cymru? Efallai y byddaf i'n dod at yr eitem honno cyn cinio, os gallwn ni gael amser.

**Alun Ffred Jones:** The second item— may I move under Standing Order 17.42 to resolve to exclude the public from the meeting for items 4 and 7 to discuss the evidence, and 10 to discuss the draft Wales Bill? Perhaps I will come to that item before lunch, if we find the time to do so.

[5] **Llyr Gruffydd:** Cynnig.

**Llyr Gruffydd:** Move.

[6] **Alun Ffred Jones:** Cynnig. Diolch yn fawr.

**Alun Ffred Jones:** I see that that is moved. Thank you very much.

*Derbyniwyd y cynnig.*

*Motion agreed.*

## Ymchwiliad i 'Dyfodol Ynni Craffach i Gymru?' Inquiry into 'A Smarter Energy Future for Wales?'

[7] **Alun Ffred Jones:** Dyma ni felly yn dod at eitem 3, sef ymchwiliad 'Dyfodol Ynni Craffach i Gymru?' Dyma'r drydedd sesiwn dystiolaeth. Mae'r papurau briffio gennych chi. Rŷm ni'n croesawu tri thyst atom ni y bore yma. A gaf i ofyn i'r tystion ddweud eu henwau a'r sefydliadau y maen nhw'n eu cynrychioli? Wedyn, mi awn ni ymlaen i holi cwestiynau. Ddechreuwn ni yn y canol.

**Alun Ffred Jones:** We now turn to item 3, which is the inquiry into 'A Smarter Energy Future for Wales?' This is the third evidence session and you have the briefing papers. We welcome three witnesses to us this morning. May I ask the witnesses to state their names and the institutions they represent? Then, we'll turn to ask our questions. We'll start in the middle.

[8] **Ms McQuade:** Thank you. Jessica McQuade, policy and advocacy officer at WWF Cymru. I'm also a member of the Climate Change Commission for Wales. Back in 2012, we produced a report, 'Cutting Carbon Emissions in Welsh Homes', which I think many members of the committee have seen. We recently produced, and in July this year published, 'Progress towards Residential Energy Reduction Targets in Wales', which we commissioned the Energy Saving Trust to look at for us, so we'll be covering that mainly in our evidence today.

[9] **Alun Ffred Jones:** Diolch yn fawr.

**Alun Ffred Jones:** Thank you very much.

[10] **Mr Bodger:** Mark Bodger, I'm representing the Construction Industry Training Board, which is the industry training board for the construction sector. It's also a sector skills council and a charity, and we've been around for 50 years looking at skills and training, and that's our focus, particularly around this area as well in the construction sector.

[11] **Alun Ffred Jones:** Diolch yn fawr.

**Alun Ffred Jones:** Thank you very much.

[12] **Mr McCombie:** Duncan McCombie, director of operations for the Energy Saving Trust, for Wales and Ireland. I also sit as a member of the Climate Change Commission for Wales. The Energy Saving Trust has supported WWF Cymru in the data provision and the hard analytics of some of the information that we presented in the report for WWF Cymru.

[13] **Alun Ffred Jones:** The questions will be addressed by the members of the committee here. I should introduce Alan Simpson—he's our special adviser. If he gets very frustrated he may even ask questions during the session later on. We'll kick off the questioning. Russell George.

[14] **Russell George:** Thank you, Chair. Good morning, all. What do you see as the overall vision for a smarter energy future for Wales?

[15] **Ms McQuade:** I'll start. I think there needs to be a recognition, certainly, by Welsh Government of the scale of the challenge ahead, really, to deliver on emission reduction and fuel poverty. I know the committee's heard quite a bit recently about the difficulties around fuel poverty in Wales, and I think recognition of the scale of the challenge by the Government is really important. I think, then, policies and programmes that need to be developed through robust data and assessment of the evidence base—. At the moment, that doesn't really seem to be happening. Also, considerable budget really needs to be given to retrofitting energy-efficiency measures, so it can play the substantial part in delivering Welsh climate change targets, or budgets as they will be under the Environment (Wales) Bill. So, for us, that will lead to a commitment—we'd like to see a commitment to retrofitting energy-efficiency measures so that all homes in Wales are on energy performance certificate band C by 2035. We think that's sufficiently robust and challenging, and also will deliver on tackling fuel poverty in Wales and also the emission reduction targets that we need in Wales. Also, to help that to happen, energy efficiency needs to be seen as a long-term priority infrastructure project, which will then help deliver the financing and joint working to meet this big challenge ahead.

[16] **Russell George:** If I could then ask the other panel members to just widen out the question as well—if you could perhaps address the first question, but also if you could perhaps single out one particular issue, the most important issue, energy efficient measure issue, that you think would help Wales meet its climate change and carbon reduction goals.

[17] **Mr McCombie:** From my perspective, at the Energy Saving Trust, data are a massive issue. There is a huge amount of data that need to be turned into information. The databases are not always available publicly, so there is information that is held in different organisations in different sectors, in different Government departments, that, if it could be brought together, would give us a far better picture of the housing stock in Wales, the fuel

poverty in Wales and, therefore, what action needs to be taken to address the shortcomings. Whether that's behavioural change or whether that's physical measures, the data would help us understand that.

[18] **Russell George:** How could that be done, would you suggest?

[19] **Mr McCombie:** I think it's just an agreement that, actually, people want to share it. Some of the data are commercially sensitive; some of the data are commercial product. But, actually, having a broad discussion to say, 'So, where are the data? Where are the data sources? How do we bring them together?'—I think we need to have that conversation, but we just steer away from it. Welsh Government has a fundamental well of information, which, actually, sometimes can't be accessed by other people.

[20] **Russell George:** But it's commercially sensitive as those are the companies—. You're suggesting it's commercially sensitive information that they can share, is that what you're saying?

[21] **Mr McCombie:** I think there's commercially sensitive information—. For example, the energy companies would say, actually, their information on their customers is commercially sensitive. Now, there's a data protection issue within that, because they are customer data, but you can anonymise that to make sure you can still get the benefit of the information out without breaching data protection and without breaching some of the commerciality concerns as well.

[22] **Russell George:** Can I ask the question as well to the CITB?

[23] **Mr Bodger:** Yes, certainly. One of the key things from my perspective is to make sure there's a long-term plan. We've had a lot of stop-start initiatives and things associated with that, and when it comes to skills and training to allow employers in the industry to prepare and plan for the long term, there are things that come for five minutes and then are gone. So, gearing up for things and getting the workforce skilled and trained to implement them is something that needs to be done over the long term so that they can invest and get that sustainability within their workforce.

[24] **Russell George:** Perhaps I can ask you also about the relative importance of new building standards as well and retrofitting existing housing stock.



[25] **Mr Bodger:** Both of those are key. If there are standards—. The industry responds to legislation. Obviously, it has to. And those are some of the things that drive the behaviours within the sector—if there's legislation in place that that's required. When you've got an existing workforce that has had skills based on the standards that were in place when they did their training, there needs to be a way of upskilling them as regulations change, and that's one of the key things to make sure that we've that got feeding in at the bottom end so that skills and training are there for new entrants into the sector but also as they progress through. That will make them fit both the work on new build and also the retrofit market.

[26] **Russell George:** Does the industry have the correct skills? Can you expand a bit on that point?

[27] **Mr Bodger:** At the moment, no. There's evidence out there that that's not the case, and there's been obviously evidence of people entering this market who see that there is a range of opportunities. We do tend to see in initiatives like this that there's opportunistic—. People will take advantage of funding schemes and those sorts of things that are available and come in and then disappear back out of that arena. The key things are consistency and sustainability in this area for the long term.

[28] **Alun Ffred Jones:** A number of people want come in on this. Is it on this issue, Llyr?

[29] **Llyr Gruffydd:** I just wanted to ask a question of Jessica McQuade, if I may. You mentioned the aspiration, or the need maybe, to get the energy performance of our housing stock up to band C, let's say. Now, the Institute of Welsh Affairs have put a price tag on that of around £3 billion. So, how do you propose that that would be paid for?

[30] **Ms McQuade:** I think recognising it as an infrastructure priority will be one of the key ways to shift energy efficiency up into that kind of band of capital spending. So, Arbed was recognised in the infrastructure plan, but it was on a small scale. So, that's one of the key recommendations that we'd have around that. Then also, I think, that would allow public, UK and private investment then to go towards energy efficiency.

[31] **Alun Ffred Jones:** Okay. Julie, and then Joyce.

[32] **Julie Morgan:** I'd like to go back to the data issue that was raised by

Duncan McCombie. Is that okay?

[33] **Alun Ffred Jones:** Okay. That's fine, and then Joyce can come in.

[34] **Julie Morgan:** It just seems to me that this is a really important point—the data—because how can we move forward unless we've got the adequate data? You raise the data from the energy companies, which, they say, is sensitive presumably. And you've said that the Welsh Government holds a lot of data that it doesn't release or doesn't make easily available. Is that what you said?

[35] **Mr McCombie:** Yes.

[36] **Julie Morgan:** So, what is that actually on? What are the data that the Welsh Government holds?

[37] **Mr McCombie:** The Welsh Government, for a number of years, have delivered programmes through grant-offer letter to both the Carbon Trust and the Energy Saving Trust, for example. Data have been captured by those schemes that have been delivered from contact centres, from loans that have been given out to businesses, and from working with domestic customers in their homes. If those data could be brought together and used in such a way they could give us a better picture, along with better housing survey information—because the last housing survey for Wales, the Living in Wales survey, was in 2008, so, we're well out of date on what we actually have in Wales. So, it's bringing that together, but there needs to be a will to bring it together, and people need to understand that data are very, very valuable to bring together, but data are just ones and zeros. It's not until you squeeze those data and get the information out that you can actually do something with them.

[38] **Julie Morgan:** You said that the last housing survey was in 2008. So, at the moment there is no overall view of the housing stock that is up to date.

[39] **Mr McCombie:** There is not an up-to-date view. There is a 2008 view. England, for example, does a housing stock view every year. Ireland and Scotland do it less frequently, but they still do it. So, they keep a continuous picture of what their housing stock is like. We frequently hear that we have the worst housing stock in Europe. Well, actually, how do we know that if the data are almost eight years out of date?

[40] **Julie Morgan:** Right. So, that is one of the things—why a housing survey is very important.

[41] **Mr McCombie:** Absolutely. A detailed housing survey.

[42] **Julie Morgan:** Thank you.

[43] **Ms McQuade:** Without that it makes it very difficult for us to do analysis that we'd like to do as well. So, in the UK and Scotland they've recently done reports that can put costs in to bringing up the houses in Scotland and the UK to EPC grade C, but without the housing conditions survey in Wales we can't actually do that. So, the figure that you mentioned, Llyr, was actually disaggregated from that UK study down to Wales. So, it's only an estimate of how much it would cost. We explored costs in the research that EST did. It had to come at it in a different way; so, it had to look at all the different individual installations and then cost all those up to get to our emission reduction targets. So, there are different ways of costing the policies and programmes that you want to do. So, I guess, however you come at the problem, it gives you different figures. So, that was one way that that £3 million—. That was disaggregated from the UK data—research based on the UK housing surveys, not Welsh data from 2008.

[44] **Julie Morgan:** Thank you.

[45] **Alun Ffred Jones:** Joyce, I fancy you want to go on a different tangent.

[46] **Joyce Watson:** Yes. I want to come back to the skills agenda. We know that you can't deliver anything unless you've got the skills to deliver it, and the construction industry will have to play a key part. If we are going to move forward to big projects, as well as small projects, how well placed do you think those skills are now, and how many of the existing skills are easily transferable, probably at minimal cost in terms of training?

09:45

[47] **Mr Bodger:** The current position as far as skills are concerned for a large project is: probably not there. We see that with other infrastructure projects and other infrastructure investments. As far as getting things geared up, it does take time. That's one of the things that we could potentially do with this, which is to start training in advance. If there were things coming down the track, then training could be put in place to get people ready for a

project of that nature. As far as the ability to transfer existing skills, I think that's absolutely attainable. To be able to take existing skills and to reskill people in the new requirements for the energy efficiency measures that may well be required—that's something that can be done.

[48] The construction sector is very innovative and willing to adapt, and constantly does that. These are some of the things that we need to do, but it's the underpinning knowledge that people need to have to make sure that those skills are manifested in the right way, so that, when work takes place in the workplace, then those are there at the fore, so they know why they're doing things; that they're sealing up in the right ways, that they're doing other things in the right ways, to make sure that the benefits are maximised. It's easy for these sorts of things to become a bolt-on, and people think that they know how to do it, because it's similar to things that they've done previously, but some of the skills that are required are specific and will require specific training.

[49] **Joyce Watson:** Are you having—just so that we're clear—conversations with industry at the moment in readiness for gearing up for some of the projects that are coming, or, we hope they're coming, very soon?

[50] **Mr Bodger:** Some of the things—. It's certainty. The construction sector likes to work on certainty, and likes to have a timescale and a clear plan, and that's something that's not always the case. The infrastructure plan that we've got in Wales is not time bound, it's not costed, and those are some of the things that the industry are feeding back to us to say, 'We need some certainty to be able to invest for the long term'. That's what the requirement is. So, we are talking, but, as far as investment in readiness—it's not something that's necessarily happening right now.

[51] **Alun Ffred Jones:** Are energy-saving skills being passed on to trainees at the moment, or is it something that's still peripheral?

[52] **Mr Bodger:** It is a peripheral thing, and I think that's something that we've certainly been speaking to Welsh Government around recently. They asked us last week to look at reviewing the apprenticeship frameworks. Again, that's something that we've got the ability to do in Wales—to look at things differently to make sure that we have frameworks that are appropriate for the skills for here and for the future. So, that's something that we're certainly going to take some time to do with the industry: to look at the whole apprenticeship frameworks right across the board, because I think it's

something that should be mainstreamed. These sorts of skills are something that should be fundamental and, as we've seen, apprenticeships have reduced in length over the years, ranging from, previously, it would have been a time-served seven-year apprenticeship, so we're down to a two-year level 2 apprenticeship. It's key that the skills that are contained in those apprenticeships are there and stand people in good stead and give them a breadth of knowledge and experience to be able to fulfil these sorts of requirements in the workplace.

[53] **Alun Ffred Jones:** So, at the moment, those skills are not being taught.

[54] **Mr Bodger:** They're not part of mainstream trades. I think your phrase was that they're 'peripheral', and I think that's probably what we would say they would be. They would be part of a module towards something, so they're not mainstreamed. People will get elements of it and pick it up as they go.

[55] **Alun Ffred Jones:** William Powell, on this.

[56] **William Powell:** Thank you, Chair. Do you think, in the context of the paucity of training on this particular area that you referred to, there is any scope for learning from our European Union partners via, potentially, the Erasmus programme, or other similar programmes that enable short periods of placement in other countries? I know Germany and Holland are quite well advanced in this regard. Is that something that you would advocate?

[57] **Mr Bodger:** There are always opportunities to learn from others. Certainly, in other countries where they're more advanced, that's something that we'd certainly welcome. There have been projects and that's something that has happened in the past. We've had specific European projects, where we've focused on skills and training, but it's like anything, unless there's that constant work there, those skills will come and they'll go and people will do them for a while and then they'll disappear back into the mainstream. So, it's making sure that there is a consistent plan and a consistent way of being able to demonstrate those skills and people have that as a career. So, we talk about the volume of work that's required: if people can see that, going forward, then they will invest in it, but it has to be there and the workforce will gear up for the work that's in front of them.

[58] **Alun Ffred Jones:** Jenny Rathbone.

[59] **Jenny Rathbone:** Now that the technology is there to build passive housing within the envelope of council housing budgets, if, in the review of Part L next year, the Welsh Government bites the bullet and actually adopts these nearly zero carbon regulations, which would have needed to be brought in anyway next year, until George Osborne tore them up—. If that happens, what's the lead-in time that your industry would need to ensure that people were building it to the specification?

[60] **Mr Bodger:** Again, it depends on the volume, the anticipated throughput and how fast the switch from where we currently are to those new requirements takes place. I think we would require a lead-in period to upskill people. There would have to be a wide-scale programme of upskilling, as well as, coming back to the previous comments, about the apprenticeships and the feed-in at the bottom end as far as trainees are concerned. So, it's something that would require a consolidated effort, but, again, the industry have been keen to adopt and adapt to whatever requirements are put in front of them.

[61] **Alun Ffred Jones:** Give us a timescale on this. How long would you need—six months?

[62] **Mr Bodger:** We could certainly get a programme together. There are things in place already and there are programmes happening. I know, in Scotland, we've got training schemes around passive house. However, they're not being taken up, because there's not a requirement there for them to be. So, the courses and training are available; it's having that desire and that demand driven to get people to take those courses.

[63] **Jenny Rathbone:** So, if George Osborne hadn't torn up the Part L requirements that were supposed to come in from next year, why was it the industry weren't already preparing for it?

[64] **Alun Ffred Jones:** Can I remind you all this is within the gift of the Assembly, so leave George Osborne out of it for a minute?

[65] **Jenny Rathbone:** I absolutely acknowledge that, but the point is that I'm just trying to elucidate exactly why the industry hasn't already, you know, got ready for something they thought was going to happen anyway.

[66] **Mr Bodger:** I think the construction sector is one of those sectors that will do it at the last minute, and they will seek to utilise the existing skills

that they've got and to use their workforce and put those who have the skills upfront, while they train the back end who don't necessarily have those skills. So, they will adapt and utilise what they currently have, with top up to make them ready to get going, whilst they seek to train the remainder.

[67] **Jenny Rathbone:** So, if we did introduce nearly zero carbon regulations for all new buildings, then six months are sufficient, are they, to get the workforce—?

[68] **Alun Ffred Jones:** I said six months. [*Laughter.*]

[69] **Jenny Rathbone:** All right, so—

[70] **Mr Bodger:** Six months is a timescale in which to get a training programme ready and available and to start people heading down that track, but, again, until the regulations are there and until we know what the requirements are, so that we can do an analysis of what the current skills are and what the skills gap is between what the current knowledge is and what the requirements would be, depending on what you, as Welsh Government, put in place as requirements—.

[71] **Jenny Rathbone:** But you said that the training programmes were there, it's just there's not the take-up, because it's not required.

[72] **Mr Bodger:** Absolutely.

[73] **Alun Ffred Jones:** Llyr Gruffydd on this.

[74] **Llyr Gruffydd:** I'm just wondering whether you thought there was merit in the first-mover advantage, because, very often, we see that if we adopt new and more innovative approaches early on, then we can reap an economic benefit in actually exporting that skill as well.

[75] **Mr Bodger:** I'm not quite sure—

[76] **Llyr Gruffydd:** For example, if Wales moved more decisively towards near zero carbon standards early on, then clearly others would look to us, maybe, to do some work for them by the time they got around to adopting it.

[77] **Mr Bodger:** Absolutely. Exporting skills, training and knowledge is something that we're more than happy to do, and there are examples of

where things have been developed in Wales because we are able to be fleet of foot and adapt and adopt. Our sector is certainly a sector that is able to adopt and adapt very quickly to things that we put in place.

[78] **Llyr Gruffydd:** So, waiting until the last minute isn't always the best approach.

[79] **Mr Bodger:** It's not always the best approach.

[80] **Llyr Gruffydd:** No, but you would argue that it's not just for the construction sector to grasp the nettle; you need to be incentivised by the Government, or even the carrot-and-stick approach.

[81] **Mr Bodger:** Absolutely. There has to be a plan in place for them to see the investment is worth putting in.

[82] **Alun Ffred Jones:** Joyce on this.

[83] **Joyce Watson:** Just to highlight, if we're talking about the construction industry in Wales and we're talking particularly about housing, how significant is it that most companies are very small, when we're talking about investment in skills? Is it a barrier or could it be at an advantage? That's what, I suppose, we need to know.

[84] **Mr Bodger:** There is a range of elements to that question, Joyce, and, as far as the sector is concerned, you're absolutely right that there are a lot of small companies. They are living hand to mouth in many circumstances, so they will do what is required to be done to make sure they're meeting the requirements. However, it's getting that knowledge of what the latest requirements are down to the sector that can sometimes be a barrier. So, how do we make sure that everyone understands what those requirements are and then, once they understand what the requirements are, they themselves identify what their own skills gaps are and how they then access that training? That's something that could, potentially, be a barrier. However, it could also be an opportunity, because if their livelihoods are being threatened in that way, they will invest in the training and get themselves upskilled to make sure they can take advantage of those opportunities that are there for them.

[85] **Mr McCombie:** Can I add a practical example to that? The Energy Saving Trust is currently a contractor to Welsh Government, delivering supply



chain development. So, we engage with some of the 220,000 micro-SMEs that are in Wales, on the installer side, on renewable energy. If they are not working, they are not earning money, and when they're not working, that's when they have to do the training. So, we need to look at innovative ways to deliver that training to them, which gives them the skills, but, as Mark said earlier, it's the case that they need certainty. They will invest time and effort in doing something, in training themselves up and giving themselves the skills if there is a certainty of something coming down the line. We've seen the recent consultation from the UK Government on the feed-in tariffs, and we've seen so many businesses going out of operation now because they know there's no point in progressing on this. It's maybe not going to be as far down as is said in the consultation, but they know there's no point in progressing. So, they need certainty, and that's why a large, visible commitment from Government, going forward, which can give commitment to those SMEs, which are the backbone of Wales, will allow those businesses to continue, and to continue investing in the right training to make Wales stand out, ahead of the rest of the world.

[86] **Alun Ffred Jones:** Diolch yn fawr. Julie, do you want to take up a slightly different point about behavioural change?

[87] **Julie Morgan:** Yes, I think one of you has already mentioned the importance of behavioural change. I wondered if you could say what measures could be taken to encourage the behavioural change that will deliver energy efficiency improvements?

[88] **Mr McCombie:** Energy's one of these funny things. It used to be very visible—you used to get sacks of coal delivered and you knew exactly how much you were using, how much you were putting on the fire. It's completely invisible now. You can't see gas, you can't see electricity. So, one of the key things going forward is actually making sure that people understand what they are doing. It's not just about saving money, it's about actually making habits. We talk about behaviour change, but actually it's habit change. It's the way you live your life, it's the way your house works with you. Houses don't use energy, people do. So, when you put fleshy organic people inside an envelope, that's when the energy starts to be used. So, they need visibility of it, and they need visibility of the kettle, the fridge, the air conditioning unit that they may have, because we're going to get warmer summers in the future with climate change. They need information on where their energy is going to heat their house, where it's going to heat their water. Without that, it's completely invisible. One of the biggest things about behaviour change—

and smart meters are coming across GB—will be that that will be the precursor, providing energy as a visible source so that people can start making conscious decisions. I am nervous that we're going to have a little in-house display that is going to tell us stuff and it won't be taught or it won't engage the customer, in which case it'll be a case of, 'That's very interesting, I'll put it in the kitchen drawer'. So, behaviour change with visible energy is what is going to make the biggest difference.

[89] **Julie Morgan:** What about the others? Have you got anything to add to that?

[90] **Mr Bodger:** On behavioural change, I think, again, the impact—. Coming back to the skills elements and the impact on the workforce, obviously there are a large number of individuals employed in the construction sector, and they themselves will be paying their own energy bills. So, once they see, start operating and are fitting things into other people's houses, they can themselves become messengers of the good news around the country and not only help generate their own business, but impart that message elsewhere. So, it could be self-sustaining.

[91] **Julie Morgan:** We saw the smart meters here earlier in the week and saw that, as soon as you put something on, it shows up on the smart meter. Do you think there's a danger that some of the people who are struggling on their incomes will be alarmed by the amount of energy that is being used, and that there is a danger that people will be cold because they're going to be alarmed by the amount of energy that's being used?

10:00

[92] **Ms McQuade:** That's your area.

[93] **Mr McCombie:** We've done some behavioural research. We do a UK pulse every couple of years. The last full one we did was in 2014. People are very nervous about that. They're very nervous that they don't heat their homes already, and when they have visibility of it, it's very easy to tackle the biggest thing, which is always space heating in a house and going, 'If we sort that out, that will sort everything out'. Actually, it's about the smaller things and using your property in a different way—having thermostatic radiator valves on your radiators, closing the door to a room you don't use so that room may be cold but the rest of the room is warm—those subtle things we don't normally consider. A challenge to all the AMs around the room: do you

know exactly how much you pay for your energy every day, because you are more aware than anybody else? How do we get everybody to be more aware about their energy and their energy use, and know where they can find that trusted, impartial support? So, 'I'm not sure what to do about this—I don't know how to use my heating controls; can somebody tell me what to do, please?' And it's very individualistic—it is not a case of you can go to a big advice centre and they'll just give you the standard remit; it has to be individual to that property and that individual, and it needs to cover things like, 'Are you on the right benefits if you're in fuel poverty?' as well.

[94] **Julie Morgan:** So, where do you think that advice should come from?

[95] **Mr McCombie:** That's a Welsh Government decision. It needs to be impartial, it needs to be trusted, it needs to be recognised and all stakeholders in Wales need to know it exists and points to that central point. But, where that has to come from, that is either a Welsh Government decision—

[96] **Julie Morgan:** You think it should be the Welsh Government.

[97] **Ms McQuade:** When I used to work for the Welsh Council for Voluntary Action in the third sector, we used to promote the connectivity of the third sector or community groups to people and homes, and it was much more of a trusted intermediary than actually the larger scale kind of companies, for example. So, the closer you can get to that community through the third sector or community groups, that tends to help that trusted intermediary aspect that helps people have confidence.

[98] **Julie Morgan:** Just one last thing, one thing I'm very interested in is the links between health and housing—whether you've got a warm home or not—and how you can make those links between the health service, for example, the primary care service, and what's actually happening in someone's home so that we can work in a more holistic way. I don't know whether you've got any views on that.

[99] **Ms McQuade:** There've been some really interesting pilot projects done in England, which have been funded by the Department of Health. So, when people go to their GP with respiratory conditions, the funding from the health budget then goes to improving the energy efficiency measures in their home, which then has benefits to their health and wellbeing. So, I think we can share that evidence with the committee; I haven't got the detail to hand

at the moment. I think that then opens up other innovative options for financing the scale of energy efficiency measures that will need to be done. We can maybe look at having funding or budget leveraged in from the health department, because, along with it being a preventative measure, it would then sit very well with the principles that are outlined in the Well-being of Future Generations (Wales) Act 2015 of collaboration, cross-Government working, and also preventative measures. So, I think that's something that really should be explored in Wales.

[100] **Alun Ffred Jones:** But is that realistic? Health boards are struggling already just to meet the demands of—

[101] **Ms McQuade:** It's the concept of being preventative, so if you buy into the idea of prevention and invest in preventative measures, then I think that's something to explore.

[102] **Mr McCombie:** Chair, there's already information on health held in Swansea University under the Secure Anonymised Information Linkage project. This comes back to the data issue. If we've got the data on not necessarily who's ill but what symptoms are being presented and we can track that back to what type of house are they in, you can actually join the two together and say 'Well, actually, if that house was more energy efficient, it was warmer, it was less damp'—respiratory disease, cardiovascular, thrombosis and all that kind of stuff—you then have the decision of where the money comes from to address that property? Is it preventative for a recurring health issue, or is that an energy efficiency and a fabric measure that needs to be done? So, really, it comes back to the data and sharing that data, but it is very sensitive data as we get down into health things.

[103] **Julie Morgan:** Sorry, what was the project called?

[104] **Mr McCombie:** SAIL—S-A-I-L.

[105] **Alun Ffred Jones:** Jenny Rathbone.

[106] **Jenny Rathbone:** I just wanted to pick up on the role of Resource Efficient Wales, which has got a very clear website, and it looks like you can request a call, as well as making a call, so, even if you're poor, as long as you've got access to the website, you could request a call. Why could that not be made into a tailored individual service for, you know, Mrs Jones, who needs some advice about her particular house?

[107] **Mr McCombie:** I think the Resource Efficient Wales contact centre at the moment has a small number of staff, who signpost out to other providers to deliver that activity. It is a good central point, but then everybody needs to know that it exists. You know it exists, and some other people know it exists, but then, if you're going to create a demand, you need to make sure you resource it appropriately. Is it Welsh Government's job to run contact centres? I'm not quite sure. Is it somebody else's job to run contact centres that can deliver that community benefit, as Jess says, and engage with all the stakeholders? Quite possibly. But it does exist already, and the data that we've got from that needs to be looked at to say, 'Actually, is this working or is this not working?'

[108] **Jenny Rathbone:** Okay. But the problem is, as you've described, that we're no longer dealing in bags of coal, and it is very complicated; all these numbers and kilowatts and things that people don't understand. So, I think that the attraction of that is that they're not linked to any commercial organisation.

[109] **Mr McCombie:** Indeed.

[110] **Jenny Rathbone:** And that's why people haven't taken up innovative technologies, because they don't understand them and they're anxious about whether it will work, or just, 'Some builder tells me it'll work, but they may be wanting to sell me something.'

[111] **Mr McCombie:** Or 'Some energy company tells me it's going to work, but they're providing the technology.' Yes.

[112] **Jenny Rathbone:** So, obviously linked to people on the ground, isn't that a model that we need to push forward?

[113] **Mr McCombie:** It is indeed a model that should be looked at, and see where there are gaps and say how do you cover those gaps off.

[114] **Jenny Rathbone:** Okay. So, have you been asked to identify where those gaps are?

[115] **Mr McCombie:** No, we haven't.

[116] **Jenny Rathbone:** Okay.

[117] **Alun Ffred Jones:** Llyr.

[118] **Llyr Gruffydd:** I wanted to ask about Arbed and Nest and maybe hear some of your reflections on those particular projects, and maybe what your thoughts were around potential changes or improvements to them.

[119] **Ms McQuade:** When EST did the research, we asked to look at the UK and the Welsh installations to get a sense of how much was coming from Welsh Government, and also what was UK, because UK have a role in installing in Wales as well through the energy company obligation, Green Deal, et cetera. What was quite a surprising figure to come out of that was that, Arbed and Nest, between 2007 and 2014, were only 8 per cent of the overall energy efficiency installations; it was only 8 per cent from Nest and Arbed. So, I think that really demonstrates how much we rely in Wales for energy installation on UK programmes.

[120] **Alun Ffred Jones:** Where did the rest come from?

[121] **Ms McQuade:** UK programmes; UK Government programmes.

[122] **Alun Ffred Jones:** Such as?

[123] **Ms McQuade:** Such as the carbon emission reduction target, feed-in tariffs—

[124] **William Powell:** Green Deal.

[125] **Ms McQuade:** Green Deal, but Green Deal was very minimal in terms of its impact. Mainly, I think it was—I'm just getting the figures—something like 70 per cent of installation was from CERT, but that only delivered 39 per cent of emission reduction, and then also, say, for example, the feed-in tariff contributed to almost a third of the emission reduction, despite only counting for a fifth of the total install. So, I think the research we've got really highlights the different programmes and their impact, both in terms of the energy efficiency impact, the emission reduction impact, but also the numbers as well, and the proportion of that in Wales. So, I think, when you bear that in mind—there's also renewable heat within that—with the scale back proposed by UK Government, possibly, especially on FITs, does the Welsh Government need to scale up its input and its investment in Wales? So, I think that certainly demonstrated to us that we'd want to see a massive

scaling up of—. They're very good programmes, Arbed and Nest, but they need to be massively scaled up to meet our emission reduction targets, but also to fill the gap that's likely to happen from the withdrawal of UK programmes in Wales.

[126] **Llyr Gruffydd:** So, you wouldn't necessarily change them; it's a case of introducing them at a scale that will actually make a bigger impact.

[127] **Ms McQuade:** I haven't looked in detail at the implications of installation. I know there have been positives, and some concerns, which can be improved, but I'd leave that to colleagues to discuss. We've looked at the scale of the impact.

[128] **Llyr Gruffydd:** What about from the industry's point of view?

[129] **Mr Bodger:** As far as Arbed and Nest are concerned, they've both given opportunities for a focus for training and skills and, for us, that's a positive thing. I come back to the same message: it's about longevity; it's about making something that will have some life so that people will be able to invest and see a future in it. It's fine for the programme to be for two or three years, but to get somebody trained and working and experienced and going through, and then what happens? The programme ends and then there's sometimes a gap between that and the next one starting. I appreciate all the cycles that go on—the political cycles and everything and the financial cycles—but that consistency is what the industry is crying out for to make sure that they can keep that investment and keep that pipeline of skills being maintained.

[130] **Llyr Gruffydd:** You touched on the adequacy and the suitability of some of the work and the installation that's happened. There have been concerns as well as the positives, of course.

[131] **Mr McCombie:** There have been significant concerns, and I think we're just getting to the tip of the iceberg. Part of my remit, as I mentioned earlier, is Ireland, and the Northern Ireland Housing Executive is already looking at taking out some cavity insulations that have been put in incorrectly. One hole drilled in the wall ran water for six minutes before the water dried out, so understandably that's why that house had to be abandoned before they undertook remedial action. That comes down to having the right skills of the contractor in the first place, also having the right certification scheme, but also making sure that that certification scheme is followed up with audits.

Otherwise, you will get people who jump on the bandwagon to deliver some activity and then, by the time it comes around to two or three years later, with Government money being spent, they're not around anymore.

[132] **Llyr Gruffydd:** Do we have any idea as to what scale of issues there are in Wales?

[133] **Mr McCombie:** There is some research under way just now, UK-wide. I don't think there's anything that has been commissioned specifically for Wales, but the UK will help inform, potentially—because it was done roughly at the same time—what the Wales issue might be. But Wales does have driving rain, exposed surfaces and all that kind of stuff, so it may be worse.

[134] **Llyr Gruffydd:** Or free hydro fuel, as some of us call it. [*Laughter.*] So, you would say that it's basically a training issue—it's not a reflection so much on the programmes and what they're trying to achieve, it's just the fact that we don't have the skills to deliver them in the way that we would wish.

[135] **Mr McCombie:** I wouldn't say that. I would say that it's not necessarily training, it's making sure that we've got the right certification, with training in place, and making sure that we're doing the right auditing.

[136] With the schemes in place, we look at doing things, for example, cavity wall insulation and loft insulation: very easy to do and very low skills are required—very low-hanging fruit. But if you go back to that property now and say, 'How do you get it another band up the EPC rating?', you might have done a completely different measure in the first place rather than do that. So, incremental improvement gets more expensive than doing wholesale improvement.

[137] We are part of Energiesprong UK, which is a product that is Dutch-based—it's very expensive, but it takes a property from zero straight up to zero carbon; so, from G-rated all the way up to zero carbon. So, there is potential out there to do things and wouldn't it be great if we could manufacture those products in Wales?

[138] **Alun Ffred Jones:** Mick Antoniw.

[139] **Mick Antoniw:** There is obviously a report and there are things waiting to go to Welsh Government, but all the indicators seem to be that, whereas we've been taking all the statistics provided in respect of the benefits of, for



example, cavity wall insulation, in actual fact, they may well be incredibly unreliable because of the scale of, I suppose, abuse of the system. Do you have any comments about the way in which—. It's not the concept that seems to be the problem; it's just, it seems, the way in which it's managed. You referred to audits. Do you think that this is something that should be, for example, within ownership of Welsh Government rather than, effectively, almost run by the energy companies?

[140] **Mr McCombie:** I don't think it really matters how it's done; it just needs to be held to account. So, if you've got a contract that says that, once you've done the work, you're liable for it for 10 years, for example—. That doesn't need to be Welsh Government and it doesn't need to be the energy companies; it's just making sure that the work that is done is suitable and that someone is held to account to make sure that it's suitable for that property in the longer term.

[141] **Mick Antoniw:** The problem there is that all the indicators seem to be now, that CIGA, which is the main body that backs this, doesn't actually have now enough reserves now to cover all of the potential claims and so on. I think that what I'm probably suggesting is that we're over-relying on the contribution that has been made, that there's a grave error, potentially, in terms of the statistics that are provided, and what we've effectively had is a significant scam that has developed out of this whole project—a good concept, but a project that has really gone completely awry in many areas because of the way in which it has operated.

[142] **Mr McCombie:** It is, potentially, yes. Until we've seen some data, I'm—.

10:15

[143] **Mick Antoniw:** Okay, I'll leave it there.

[144] **Alun Ffred Jones:** Llyr.

[145] **Llyr Gruffydd:** Just picking up on this, of course, very often, it is not intentional either, is it? Because it was raised by the Home Builders Federation that this is such a quickly evolving sector, in terms of energy efficient measures and techniques, that keeping ahead of the game, or on top of the game, is very, very difficult, and you could get people coming in and handling new technology that they don't really understand. So, it's always going to be a problem, isn't it?

[146] **Mr McCombie:** It's always going to be problem if you—. We've got certification, for example.

[147] **Llyr Gruffydd:** Or a challenge.

[148] **Mr McCombie:** Yes, a challenge—an opportunity.

[149] For example, we've got PAS 2030, which is certification for people doing renewable energy installations. With that, they have to go through the training, they have to demonstrate they can do it, they get followed up, they get checked, et cetera. So, that certification scheme should weed out some of the poor behaviours, or identify the poor behaviours, and you can take remedial action before the installation is done or before too many installations are done. From any contract, if you have a very strong contract, which makes sure that somebody who's going to undertake the remedial action—not going to CIGA or somebody else to do it—has to own that, that might be a massive impact on some of the small and medium-sized enterprises in Wales. But how do you do that in such a way that, actually, there is a back-up if it goes wrong? Because Mrs Miggins living in the high street in Aberdare wants to make sure that what she's had done to her property is going to last her throughout the rest of her life.

[150] **Alun Ffred Jones:** Jenny, on this point?

[151] **Jenny Rathbone:** No, I wanted to move on to renewable heat provision, if we—. So, moving on from quality assurance, I wanted to look at what you think we could do now, in the current environment, to improve renewable heat provision in Wales. We've already discussed objective information and converting plumbers and electricians into ambassadors, but, given that the whole feed-in tariff environment is up in the air, I notice one particular issue, which is that, for individuals, they can get some contribution to pumps and biomass boilers et cetera for seven years, but non-domestic renewable heat incentives are for 20 years. I just wondered what the opportunity then was for community solutions, which could benefit from the 20 years rather than the seven years. Secondly, I wondered whether you could tell us how Wales has benefitted from the £500 million low-carbon network fund.

[152] **Mr McCombie:** I can't answer your second question, I'm afraid; I don't have the data or the information to be able to answer that. Certainly, using heat as the future, energy is one of these strange things—you can store gas,

you can't store electricity, you can store coal and all that kind of stuff. But combined heat and power is, probably, a very scalable solution. So, you can have a CHP plant for your property, you can have it for a terrace of properties, you can have it for a village or you can have it for a whole estate, as Duffryn is a perfect example of in Newport.

[153] Technology and the fuel stock will be the key drivers of the progress for this; the technology of how it works and the public appetite to take it on board—it's seen as a new technology—but also actually having the raw material to power those CHP plants. Can we turn over agricultural land to grow trees, or whatever it needs to be, to power them, or do we have to import that? So, there's a debate just now on the size—the scale—and some scenario-planning that's been going on just now. I'm not sure where that's got to, but it is a case that Wales needs to be taking a strong step to say, if heat is where it needs to be going, then we need to capture the data and say, 'Right, okay, what data have we got? What does that give us from an information perspective to say, yes, it is possible or not possible at scale, locally or down to an individual property perspective?'

[154] **Jenny Rathbone:** On the other technologies—wind and solar—what do you think should be done to keep going on those technologies so that we don't simply lose all of the skills that we've already developed?

[155] **Mr McCombie:** Feed-in tariff—32 per cent of the emission reduction is attributable to the feed-in tariff. So, that is people getting an incentive from the Government to do something to their properties, be that their residential or commercial properties. So, it's actually making sure that that support is still there, but also, maybe, the Welsh Government could look at the fact that it could be giving loans, zero-interest loans, as the Scottish Government gives out, to encourage any gap that does get created from the lack of FIT, to people who, actually, are not in fuel poverty; they're not very affluent, but they're covering off their incomings and outgoings. Actually, a £5,000 bill to put in solar panels—'I'll leave that for the new car.' But if they could have an interest-free loan dedicated to that for repayment over a five or six-year period, then you might see a complete turnaround on that.

[156] **Alun Ffred Jones:** Okay. I'm—. Sorry, did you want to respond?

[157] **Ms McQuade:** I was just going to also expand to say that the research we did identified that renewable heat was a key component in reducing our emissions in this area and that there is no strategy at the moment from

Welsh Government. So, I think one of the key findings should be really that any energy efficiency strategy needs to be dovetailed with a renewable heat strategy for Wales. This is particularly important not just for cities and towns, but also, I think, it would really benefit those in rural poverty, the fuel-poor in rural areas. So, I think that's a way of helping those homes. On the renewable heat incentive, there's only 1 per cent take-up in Wales for that in proportion to the total reduction. So, the UK scheme wasn't particularly effective in Wales, although it could have had lots of benefits for rural Wales particularly. So, I think getting a strategy in Wales that targets the rural poor as well as the larger city infrastructure would be really important.

[158] **Alun Ffred Jones:** Excuse my ignorance, but the report you referred to—has that been presented to us or is it available publicly?

[159] **Ms McQuade:** Yes, I'll circulate it to the researcher who can send it round to everyone.

[160] **Alun Ffred Jones:** Diolch yn fawr. Thank you.

[161] **Mr McCombie:** Just on the data on that, to get to the 40 per cent reduction target by 2020, 25 per cent of homes in Wales would have to have renewable heat. So, that's the scale of the challenge that needs to be done, and that's evidenced in the report. So, renewable heat is coming up the agenda and it's coming up the agenda very quickly.

[162] **Alun Ffred Jones:** Alan.

[163] **Mr Simpson:** I'd just challenge the point about the advantage of being a first-mover, if you could do it on schedule—. Sorry, I just wanted to challenge some of the points that have been made really about the extent to which we're part of the problem by the paucity of our own demands, really. This is a separate point I wanted to—. Duncan, at the end there, you got on to the significance of zero-interest loans in Scotland, which have been the norm in Germany for quite a number of years—2006 onwards. What worries me is the extent to which the proposals aren't specific in terms of targets that have to be met and aren't changing the rules of the game.

[164] So, for you, my question is that, when you made the point that we used to be able to see coal, but you can't see electricity, actually, if you talk to communities in Germany, their answer is, 'Actually, no, you can't see electricity, but we can recognise a cheque when it drops through the

letterbox'. And part of that is that none of you have even mentioned the significance of local markets where people can buy back the clean energy that they generate at lower prices. So, none of this is transformative thinking by transforming the markets.

[165] Even in the mention of smart meters, there was no mention there about whether we're actually complicit in a more informed form of fuel poverty if we don't insist on smart meters that are two-way meters, half-hourly meters, and that are connected to the capacity of households or communities to store the energy that they generate and use it at a lower price. So, how far have you got to up the game as far as moving the whole goalposts of the energy sphere is concerned?

[166] For Jessica, my question follows on from that. We talk about the scale of property improvements that need to take place in Wales to meet the 40 per cent savings goal. No-one talks about setting this as a requirement for licensing. When the Clean Air Acts were introduced, the incentives were prison and fines. I can't see why we're saying band C is a reasonable expectation when Germany now has a current approach to saying—it's a 20-year programme—all its properties have to be near zero energy by 2026. So—

[167] **Ms McQuade:** How are they funding that?

[168] **Mr Simpson:** That's being funded through the banks, and they cut out the energy companies, because they say, 'The energy companies just want to sell your consumption'.

[169] **Ms McQuade:** So, they're offering loans to people—zero loans offset by the banks to enable that to happen.

[170] **Mr Simpson:** Yes. And in the States they're doing it by giving localities, whether it's at Welsh Government level or a citywide level, the power to set conditions on the distribution network operators that require annual reductions in total energy consumption so that they become investment partners. So, why are we not moving—? Why are you not calling for a moving of those goalposts?

[171] **Ms McQuade:** Well, I—

[172] **Mr Simpson:** My final one, and then I'll shut up: Mark, you are

disarmingly honest about the construction industry being its own worst enemy in many respects. The Mark Group, although it's collapsed, is a sad example of that. How far do you think it would make a difference if the Welsh Government were to say, 'Okay, in 2018 the EU energy efficiency directive comes in for all public sector properties to be near to the zero energy consumption standards, and, in 2020, it'll be all properties'? How far would it help the construction industry to be told at this stage, 'This is the standard Wales is now going to work to; so, get prepared'?

[173] **Alun Ffred Jones:** Right. We've got three challenges there, and we'll go back to Duncan, so you've got time to think about it while the rest of you come up with ideas. This is your last shot at telling us what needs to be done in response to Alan's challenge, I suppose. So, Duncan.

[174] **Mr McCombie:** I think Alan's challenge is very valid. The Energy Saving Trust's role—its mission—is to help people to save energy every day. It is not to influence the energy sector to fundamentally change the way it is built or constructed. One of the challenges that we've had is talking to DNOs, for example. We talk to Western Power Distribution, who provide the majority of the DNO service to the south of Wales, and they are interesting and saying that the renewable technology sector in the south-west of England has now got the main feed to Bristol at capacity. No more renewable technology can be put onto the network for six years until the new connections are put into Hinkley C. So, we're starting to say, 'Right, what's that going to mean for Wales when we get to capacity in Wales? The infrastructure is not there to support something different'. If we're going to fundamentally change the way the infrastructure works, and do it from a distributed generation perspective back out, that needs to be political, financial, economic and have the political will to move that in a different direction. So, I agree that the Germans are doing it, and I think that we need to look at how the Germans are doing it and where the money's coming from it and then say, 'Actually, would that work in Wales?' We have a different population; we've got different drivers, but would it work in Wales? If it would, let's not reinvent the wheel.

[175] **Alun Ffred Jones:** Diolch yn fawr. Thank you. Jessica,

[176] **Ms McQuade:** I think we've touched on, today, the cost of energy efficiency as one of the big challenges that we have to work through. Certainly one of the things that we have recommended, or kind of do recommend, is the use of low-interest loans for those who can afford it. One of the problems with the Green Deal, as a finance mechanism, was that the

interest was too high. As you said, similar schemes in France and Germany have been much more successful, with interest rates of around 2 per cent rather than the 7 per cent to 10 per cent of the Green Deal. I'm not sure about how the German banks do it, but I think there's a debate to be had in Wales about whether it's public or private financing. I think there's a bit of work that's been done by the UK GBC retrofit policy proposals, which explore whether it's public or private financing to support those loans. So, I think they will have a big role to play for those who can afford it. When we look at the people in poverty in Wales, how many of those people can afford it versus Germany? I don't know; I'd want to look at that before I give an answer. So, I think, grants for those with low incomes will continue to have a role in Wales. There are many other incentives as well that we can explore. So, stamp duty discount and the borrowing powers that we will be getting in Wales, can they be used to provide sustainable capital investment programmes such as energy efficiency? So, I think low-interest loans are just part of the different options for financing this.

[177] **Alun Ffred Jones:** Diolch yn fawr. Mark.

[178] **Mr Bodger:** Yes. It was a simple question, and it's a simple answer. The industry is desperate for decisions to be made, for communication and for clarity. Once they've got that clarity, once it's stated, they'll stick to it, and we can put programmes in place, we can put packages there, and training.

10:30

[179] We've got already a great initiative, Construction Futures Wales, that's able to be adapted and adopted to pick up training needs across the whole sector, from majors through to the supply chain. We've got a provider strategy being put in place that will help link FE and HE provision as well as links into private provision. So, once the announcements are there, once the clarity is there, we're more than happy and ready and willing to gear up and get the sector ready to mobilise.

[180] **Alun Ffred Jones:** Great. Well, diolch yn fawr iawn. Thank you very much for your evidence this morning. I'm sure it will be very useful in helping us to formulate our report eventually. Diolch yn fawr iawn. Thank you, the three of you. Now we go to private session.

*Daeth rhan gyhoeddus y cyfarfod i ben am 10:30.*

*The public part of the meeting ended at 10:30.*

*Ailymgynullodd y pwyllgor yn gyhoeddus am 10:52.*

*The committee reconvened in public at 10:52.*

### **Ymchwiliad i ‘Dyfodol Ynni Craffach i Gymru?’ Inquiry into ‘A Smarter Energy Future for Wales?’**

[181] **Alun Ffred Jones:** We’ll start the second part of this morning’s session. We’re very happy to welcome our next witness, Mr Richard Sagar. Did I pronounce it correctly?

[182] **Mr Sagar:** That’s correct, yes, which is unusual, but a good thing, certainly.

[183] **Alun Ffred Jones:** It’s unusual for me, as well. [*Laughter.*] Can I just introduce you to committee members, but also Alan Simpson, who is our special adviser and he may ask questions later on? For the record, could you just introduce yourself and the body you represent?

[184] **Mr Sagar:** Sure. My name’s Richard Sagar. I’m a research associate at the think tank, ResPublica, which is a non-partisan think tank based in Westminster.

[185] **Alun Ffred Jones:** Could you just say something about ResPublica?

[186] **Mr Sagar:** Sure.

[187] **Alun Ffred Jones:** Very briefly.

[188] **Mr Sagar:** Yes. So, again, we’re a non-partisan think tank based in Westminster. I focus on their energy and environment work, and I authored a report after the Green Deal, which, unsurprisingly, focused on where next after the Green Deal.

[189] **Alun Ffred Jones:** Grêt, diolch **Alun Ffred Jones:** Great, thank you. yn fawr. Felly, fe ddechreuwn ni efo We’ll start with Llyr Gruffydd. Llyr Gruffydd.

[190] **Llyr Gruffydd:** Diolch yn fawr. I’d be very interested in your views, to kick off, on what the single most important thing that we could do in Wales



is around energy efficiency and meeting our climate change targets.

[191] **Mr Sagar:** Sure. So, I'm going to answer this a bit cheekily, perhaps, and say that the fundamental thing that you can do is drive demand amongst energy efficiency amongst able-to-pay consumers. That's not a single measure, necessarily, but there needs to be a demand for this product and that's the single thing that Wales, and the UK as a whole, can do.

[192] **Llyr Gruffydd:** Why the focus on the able-to-pay, then? Obviously, fuel poverty is a strategic priority of ours and you'd imagine that we'd want to tick more than one box as we use our public funds.

[193] **Mr Sagar:** Oh no, fundamentally I agree that fuel poverty needs to be challenged, but in terms of climate change and reducing carbon, the able-to-pay sector is much larger, so that's partly why I focus on that, but I fully support tackling fuel poverty as well. I produced a paper prior to this one called 'Out of the Cold: An Agenda for Warm Homes', which addressed that, as well.

[194] **Llyr Gruffydd:** So, able-to-pay would also suggest that they would be contributing more and, therefore, there'd be a bigger bang for the public buck.

[195] **Mr Sagar:** Potentially, but I just think more of the overall housing stock is owner-occupied, than those in fuel poverty, so that's partly why I'd focus on that as a single thing.

[196] **Llyr Gruffydd:** Yes, okay, thank you for that. So, what would you, conversely then, suggest is the biggest barrier and actually the biggest challenge that we face in terms of achieving our goal?

[197] **Mr Sagar:** I think there's a fundamental lack of demand drivers—either behaviourally or financially—in this space and I think that needs to be addressed. We proposed a number that would address that in the paper, and I have a few thoughts on that as well, personally. But yes, that's the fundamental issue.

[198] **Llyr Gruffydd:** Do you want to highlight the main ones for us then?

[199] **Mr Sagar:** Sure. So, I think there's a need to be a combination of carrot and stick. In terms of the carrot, I think there should be a reduction of stamp

duty as you improve the energy performance of a property. That can be made revenue neutral, so if you penalise those who don't improve it at the point of sale—. It's important, because it focuses on a key trigger point, which is in the buying and selling of a property and also, as I mentioned, it can be revenue neutral, which, in the current economic climate, is valuable. So, that's the fundamental demand driver I'd put in place.

[200] In terms of the stick, and in terms of regulation, I think there should be an overall minimum efficiency target amongst the housing stock as a whole. Now, that already exists in the private rented sector, and I think that should apply to all properties in their entirety. How would I determine that? It should be based on modelling by the committee on climate change, depending on, you know, the current carbon reduction targets the UK has. So, I wouldn't want to just arbitrarily come out with some sort of target now, but it should be based, in the long term, on what's best and what's cheapest to reduce carbon.

[201] **Llyr Gruffydd:** You see that Welsh Government should be driving that.

[202] **Mr Sagar:** Alongside the UK Government. So, yes, a combination of things.

[203] **Llyr Gruffydd:** Stamp duty is being devolved.

[204] **Mr Sagar:** Yes, it's becoming, as I understand, the land and buildings transaction tax in 2018. So, I think, yes, it can be done by that as well.

[205] **Llyr Gruffydd:** Thank you.

[206] **Alun Ffred Jones:** On this point, Janet?

[207] **Janet Haworth:** Yes, I think we've got to be careful, to be fair, to say to people, 'You are going to have to take out a five-year low interest or no-interest loan.' It seems a little bit oppressive to me. The other thing is, I think, what about exemptions? A lot of our housing stock is old, some of it is listed and there may, you know, be a heavier imposition on those properties to come up to standard. Of course, that would also involve work with conservationists. We had a major battle in Llandudno over double glazing with a conservation officer, which is an energy-saving innovation—

[208] **Alun Ffred Jones:** And the question is?

[209] **Janet Haworth:** Well, my question is around fairness and exemptions.

[210] **Mr Sagar:** I think that's completely fair. So, you mentioned listed buildings, I'd say that targets should be reduced for them, certainly, as should people off the gas grid as well, because it's harder, often, to improve those properties. If they have solid walls, it's more expensive to improve them, so I think that's only fair. When you say, 'You have to get this thing', you don't have to do it. If you want a reduction in stamp duty, by all means do, and, overall, to meet this target, you might need to, but I don't think it's forcing anyone to get a loan, and I certainly wouldn't support that.

[211] **Janet Haworth:** Thank you.

[212] **Alun Ffred Jones:** Have you finished?

[213] **Janet Haworth:** Yes, thank you, Chairman.

[214] **Alun Ffred Jones:** Thank you. Joyce.

[215] **Joyce Watson:** Maybe it's my confusion, but you're focusing on stamp duty, and as far as I'm aware, you only pay stamp duty if you're selling—buying a house. Why is it that you're focusing on stamp duty? I can't get underneath this in my mind.

[216] **Mr Sagar:** So, it's a key trigger point when people might improve their properties, when selling or purchasing a home. They're already taking out large amounts of finance for mortgage, so to get additional finance to improve a property isn't so much of an imposition. On top of that, when selling a home, we think there should be a 12-month rebate—if you improve it, then you can, in 12 months, claim that money back. So, I think that's why we focus on stamp duty particularly, and, furthermore, it can be revenue neutral and won't have undesirable social consequences. So, a number of people have proposed amendments around council tax. Now, there are some concerns there that people who improve their properties and have money to do so would then be paying less council tax, whereas those people who are quite poor and can't afford to do so will be paying more. So, there are some concerns there. So, we focus on stamp duty for that reason.

[217] **Alun Ffred Jones:** In terms of the stamp duty, who's paying? The stamp duty is on the seller—is paid by the seller. So, if he's selling a house that has

not been improved—

[218] **Mr Sagar:** Partly, I mean, the buyer can also improve the property and then, within 12 months, claim a rebate on the stamp duty they paid.

[219] **Alun Ffred Jones:** Right, I think I got that.

[220] **Janet Haworth:** Chair, I just want to take exception to what the witness said about people negotiating a mortgage and then taking out additional funds to carry out these improvements and that it is not an imposition. There are many, many young people still living with parents. There are many young people—and you should know this, you're this generation—who are trying to get on the housing ladder. To come out with a comment like 'This is not an imposition', to take out additional finance—they can't even take out the basic finance.

[221] **Mr Sagar:** I mean, no, I completely agree, and if it came across in that way, I, you know, apologise, but what I meant is, when people are making a really large financial decision, like taking out a mortgage of hundreds of thousands of pounds, potentially, an extra £8,000 on top of that at a low interest rate isn't going to be a fundamental barrier in taking out a loan of £8,000 without that additional financial—

11:00

[222] **Janet Haworth:** I completely disagree. We have vets graduating who are no longer buying into practices because they have a massive student loan. We have GPs no longer buying into practices because they don't want anymore loans, either zero-interest or low interest.

[223] **Mr Sagar:** I fundamentally agree that there's a problem with the lack of housing supply and it's an issue that I can't really address. I fundamentally agree that housing should be affordable and that there should be steps taken to address that. I'm merely saying that if you're going to add an additional incentive, adding it on top of a mortgage is not as much of an imposition as it would be without that. Certainly, if it's very low-interest as well, you're not taking out any additional interest, so you don't have to pay it back at the time; you only pay it back as you save money. So, I don't think it's as much of an imposition—

[224] **Janet Haworth:** I think you're living on a different planet to most

people who are trying to buy a house and thinking about taking on an additional £8,000.

[225] **Alun Ffred Jones:** We're not here to argue with the witness; we're trying to find out exactly what—.

[226] **Mr Sagar:** I think that you misunderstand my comment as well—I didn't intend to say that people are happy to take on additional finances.

[227] **Alun Ffred Jones:** Jenny, on this issue?

[228] **Jenny Rathbone:** Yes, on this issue. Moving back to the stamp duty land tax, are you suggesting that in order to avoid the problems that we've just rehearsed, as the stamp duty land tax is for the seller—. They're not taking out a mortgage as such, but are selling a property for which they're going to get resources. So, how do you incentivise the seller to upgrade their property and then get that reflected in reduced stamp duty, for example?

[229] **Mr Sagar:** As I mentioned, I think it can also be for the buyer, if they get a rebate on the improvements that they make. Certainly, one would think that if you could reduce the stamp duty on a property, it would be more likely to sell as well. So, I think there are incentives there also.

[230] **Alun Ffred Jones:** So, basically, the seller improves their property and because he's achieved a certain rate, he gets a rebate, so he doesn't pay as much stamp duty.

[231] **Mr Sagar:** Yes, so, we mention that we use SAP scores, so energy storage enabling technology is something that would be revenue-neutral, setting targets—it might, for the sake of argument, be 50 SAP points. If it's below that, you'd pay an additional top-up; if you improve it beyond that, you then get a reduction. It could be, for example, a percentage—1 per cent of stamp duty for every SAP point improved. We use that as an example, but it can be tailored, depending on what outcome you like.

[232] **Jenny Rathbone:** How would you avoid people just doing cosmetic jobs? How would you police that?

[233] **Mr Sagar:** So, enforcement? I think that's partly why we chose the point of sale, because it's much more likely to be enforced than otherwise. But I think there's a fundamental question around enforcement

and checking building permits. We do mention that we don't think that the current metrics are up to scratch and so there are concerns there. If we changed them to something more robust, I think we could partly address that problem.

[234] **Alun Ffred Jones:** Okay, diolch yn fawr. William Powell.

[235] **William Powell:** Diolch, Gadeirydd, and good morning. Turning the focus to international examples of good practice, the Netherlands have won considerable plaudits from the Energiesprong initiative. Could you tell us a little bit more about that and what you think its potential applicability is both to Wales and the wider UK?

[236] **Mr Sagar:** Sure. Energiesprong—I imagine your pronunciation was better—translates to energy. Broadly speaking, it's where you have whole-house, single-intervention retrofits. They're done within 10 days, which means minimal disruption to the consumer, to make it zero carbon. Furthermore, they improve the attractiveness of the property. I could go into more detail about the scheme itself, but I think those are the key things that we should discern for the UK and for Wales. There is an Energiesprong UK being set up, as we speak, by the National Energy Foundation, amongst a number of housing associations and building companies. It'll be subtly different and it's yet to be rolled out—there are still lessons to learn from that—but I think that the key messages that we can learn from it are: it's whole-house rather than single, bespoke interventions; it's area-based, so it does a whole area at once; there is minimum disruption; it's done at scale and it improves the attractiveness of the property, which is often what consumers care about as well.

[237] **William Powell:** So, what is the financial model around that initiative? Is it being done in the public housing sector or—.

[238] **Mr Sagar:** Yes, so, amongst social housing to begin with and then it can be rolled out more broadly, because, obviously, if you want to improve fuel poverty, we know that the social housing sector has a high proportion of that, and it's far easier to improve those measures there.

[239] **William Powell:** So, you'd advocate that being done in partnership with registered social landlords who are minded to—

[240] **Mr Sagar:** Absolutely. Amongst a range of developers, housing

associations and people in the insulation industry—as broad a coalition as possible, I think, yes.

[241] **William Powell:** How long-standing is the scheme in terms of the amount of trust and recognition that it's developed in Holland?

[242] **Mr Sagar:** I'm not certain of the full history of Energiesprong, but I know it's certainly well trusted and it's been shown as a model for the future.

[243] **William Powell:** Okay. Are there any other examples of good practice on the mainland of Europe or further afield you could draw to our attention?

[244] **Mr Sagar:** Sure. One particularly I'd point to is France. They have an energy transition plan there. I've mentioned minimum targets amongst the housing stock. They've got a scheme—it's relatively recent as well—to improve the performance of a property to 330 kWh per square metre by 2025. It will need to be retrofitted if it doesn't meet that standard. By 2030, it won't be able to be sold if it doesn't improve to that standard. So, I think that's an example of a minimum standard across the housing stock we could learn from. Germany, we can learn a lot of things from, both the Energiewende and more broadly. There's the low-interest loan through KfW, which is a bank there. They offer really-low-interest loans to consumers for energy efficiency, and they've done so very effectively for billions of pounds.

[245] **William Powell:** Yes, we had the opportunity to visit them when we were in Freiburg and to learn some of that. Thank you very much indeed.

[246] **Alun Ffred Jones:** The scheme in Holland—is that publicly funded, do you know?

[247] **Mr Sagar:** I believe so, yes. I'd have to—. I can provide more evidence if necessary on that.

[248] **Alun Ffred Jones:** Okay. Lovely. Julie Morgan.

[249] **Julie Morgan:** You've spoken about doing things in zones and in a wider area. What do you think are the opportunities with the regional developments and the City Deals, for example? I mean, in this area, we're in a process, moving, we hope, towards a City Deal, which will involve Cardiff and surrounding local authorities. What opportunities do you see there?

[250] **Mr Sagar:** Many. In the paper, we propose something called ‘warm home zones’. We believe EPC data should be free for local authorities—at the moment, it’s often spread around and isn’t free—so they can better target certain areas and roll out area-based approaches. They can also offer bespoke incentives, depending on the consumers and on the housing stock. So, that’s one approach. We’d also call for a devolution of funds to cities as well. We mention stamp duty, which should be devolved to the city region, we think, to develop bespoke schemes.

[251] We also think, and this is a broader point, that energy efficiency should be a national infrastructure priority, and the fund should be opened up in that way. But we also think that that should be done through City Deals as well. We’ve seen examples of that, not for energy efficiency, but for road building and house building in, I think, Preston and South Ribble, where infrastructure funds have been devolved. So, we think there’s a whole range of measures. You know, fiscal opportunities can be given to cities and city regions. On top of that, we also call for the devolution of stamp duty, so then they can really use that money—

[252] **Julie Morgan:** Devolved to Wales—

[253] **Mr Sagar:** No, to the city region itself. Perhaps to Wales as well, but to the city region itself as well.

[254] **Julie Morgan:** But you’re saying it should go to the city region in Wales, for example, rather than the whole of Wales?

[255] **Mr Sagar:** Where appropriate, depending on—you would have to look at a number of factors but, yes, absolutely. There should be no reason why that shouldn’t happen.

[256] **Alun Ffred Jones:** Russell—. Sorry, Julie. Carry on.

[257] **Julie Morgan:** You would see, then, the whole of the city region having a strategic plan about introducing energy efficiency measures.

[258] **Mr Sagar:** Absolutely, because I think one thing to note is that housing stocks differ wildly among different cities and city regions. So, some areas might be much better. You’ll have some regions where many more are off the gas grid, there are more listed buildings et cetera, and so they need to design bespoke schemes that tailor to their housing stock. On top of that, it



also depends on the marketing as well. So, if we're in Machynlleth, for example, I'm sure the environmental message would be quite strong. Whereas, in other regions, it might be energy-saving, it might be comfort, it might be control. So, cities are better placed to really know what would appeal to their consumers as well.

[259] **Alun Ffred Jones:** Russell.

[260] **Russell George:** On warm home zones, your recommendation is that local authorities should be introducing additional incentives for homeowners, but are local authorities best placed, particularly from a Welsh context, to take that forward?

[261] **Mr Sagar:** Again, ResPublica strongly supports the idea of subsidiarity, which is devolving to the lowest appropriate level. In some authorities, it may not be the most appropriate level. Others may have the capacity and capability to install such programmes, so I think we have to take it on a case-by-case basis.

[262] **Russell George:** Okay. Also, you talked about additional incentives for home owners. What, specifically, would they be?

[263] **Mr Sagar:** There could be further incentives around stamp duty, for example. If a city wished to do so, it could unlock a number of tax breaks et cetera, depending on what—. Again, this is looking to the future, when cities have far greater control, hopefully, of fiscal levers. We wouldn't want to be too instructive of what cities should do. They know best how to target people within their areas. So, we'd leave it open to them. We'd just give them that opportunity and the funds to do so.

[264] **Russell George:** You also talked about stricter regulations on landlords as well, but how would you stop the landlords then effectively putting the rent up to accommodate the extra regulation burden?

[265] **Mr Sagar:** This actually refers to a paper that we wrote previously as well. Something called the landlord's energy saving allowance, which was scrapped by the UK Government—we think that was a mistake. It offered a tax break for landlords who improve their properties. We think that should have been increased. So, landlords would have that additional initial amount of money to make the improvements, and then they wouldn't pass it on to bill payers.

[266] **Russell George:** Okay. Thank you.

[267] **Joyce Watson:** Chair, on that—

[268] **Alun Ffred Jones:** Yes, Joyce.

[269] **Joyce Watson:** That's great. Give the money to landlords, absolutely, to invest and improve the—

[270] **Mr Sagar:** Yes, it has to be on energy efficiency tax breaks.

[271] **Joyce Watson:** But I don't think you answered Russell's question about how you prevent them taking that and saying, 'Thank you very much. That's great, but I also get some more rent as well'?

[272] **Mr Sagar:** Well, I think that's a broader point for what landlords should do. I mean, they could increase rents tomorrow without improving energy efficiency measures, and I don't think that the scope of that paper suggests—

[273] **Joyce Watson:** That's okay. Thank you.

[274] **Alun Ffred Jones:** What about the issue of standards, then, in improvements? How would you ensure that you don't have cowboys doing botched jobs just in order to get a rebate or whatever?

[275] **Mr Sagar:** What do you mean, particularly?

[276] **Alun Ffred Jones:** Well, in terms of improvements in energy efficiency and people just doing a bad job of it, but in order to claim any—.

[277] **Mr Sagar:** That's partly why we mention purchasing a property as a key trigger point, because I think that's when you can really check that the work's been done properly. So, I think it is a problem that needs to be addressed. We didn't really address it in the paper in terms of enforcing standards, but it's one that needs to be considered, certainly.

[278] **Alun Ffred Jones:** Mick Antoniw.

[279] **Mick Antoniw:** Why not just say to landlords that, by a certain time,

your property has to be of a certain standard or you can't let it?

[280] **Mr Sagar:** I think that's true as well. Yes, we strongly support that, alongside that. But we also offer an incentive to landlords to take up that work because the danger is, if you just put a target in place without any additional finances, it can be quite a burden upon them. They could just remove it from the sector entirely. So, yes. I fully support the idea of having—. There already are minimum targets for the private rented sector. We think they should be beefed up even more. So, yes, I fully support that.

[281] **Russell George:** What about inspecting after the work's been done? If there is a prevention and you can't let until you've got to a certain standard, would that be undertaken by local authorities?

[282] **Mr Sagar:** Yes, certainly. It's not an issue. We haven't been focusing on the enforcement per se. We think it's a really important issue but we haven't focused on it in the paper.

[283] **Janet Haworth:** Chair, I think it really is an important issue—

[284] **Mr Sagar:** I agree.

[285] **Janet Haworth:** —because we know that there are a lot of rogue landlords out there, and very substandard properties. I'm aware, from my own local authority, that it is often the most vulnerable people who end up housed in these properties, where I wouldn't keep a dog, quite frankly. Now, we do have licensing committees at local level. We do have some new licensing enforcement powers coming in, but the local authorities need to be, I think, incentivised to use those powers to expand the role that the licensing authority could take, because there's a body that's already there that could take up these issues. I'm aware, from my own local authority, that they haven't even got the staff to go out and check that the electricity is safe.

[286] **Mr Sagar:** So, yes, certainly, there should be increased capacity amongst these organisations to enforce this. I fully agree.

[287] **Alun Ffred Jones:** Did you want ask a question on the Green Deal, Janet?

[288] **Janet Haworth:** Yes, I did. I was interested in your thoughts on why it failed.

[289] **Mr Sagar:** I'd say that's a big question, but I think, broadly speaking, any able-to-pay offer needs to have three things. Firstly, it needs to have messaging that engages consumers. Secondly, it needs to have something to drive demand. You know, people aren't going to purchase a product that they don't want and don't feel that they need. Thirdly, you need to enable them to do that. Now, the Green Deal didn't have any of those things. It was merely a loan with an uncompetitive interest rate, rather than additional incentives and marketing that appealed to a broad number of consumers. So, on the marketing side of things, we know that the Department of Energy and Climate Change has its own segmentation data and survey data on what messaging appeals to people. The idea of energy saving and reducing bills was only a minimal part of the overall population, and you had things like the golden rule that prohibited that as well.

11:15

[290] In terms of demand drivers, I've already focused on two: the reduction of stamp duty would be one, alongside minimum requirements amongst the housing stock, as a whole. In terms of enabling people, we should follow the lesson from KfW and get really-low-interest loans. We call it a help-to-improve scheme, so alongside a mortgage, you have an additional bit of finance on top of that with really low interest rates and that can be guaranteed in two ways. First, you could get the Government just to buy the interest rate down to 2 or 3 per cent, which we know is attractive to consumers, or secondly you could have the Government guarantee it, which would also achieve the same result in the same way as Help to Buy does. So, broadly speaking, those are the problems, but there are many others.

[291] **Janet Haworth:** I think there was an issue on the ground, which I picked up from people, and that's a complete lack of trust. The message wasn't clear enough and strong enough and they just lacked trust in what was being sold to them.

[292] **Mr Sagar:** I agree. Absolutely. I think there was, as you say, a lack of trust around that and that was, ultimately, engagement, so we wouldn't propose there'd be a universal top-down scheme to replace the Green Deal. We have discussed with industry, and I think many agree with us on that. There should be a range of measures, and so we've proposed several, but it should depend on the city region, as well. So, yes, I fully agree that there was a lack of trust there.

[293] **Alun Ffred Jones:** Thank you. Joyce, did you want to come in on this?

[294] **Joyce Watson:** Yes. Thanks for your paper and ideas and thinking. In order to deliver it all, we will need people and those people will have to have skills and they will have to have been trained to have those skills, and there will be implications. Have you got any thoughts about how any of that might be done?

[295] **Mr Sagar:** We didn't focus on the skills and training within the paper. We understand it's a fundamental issue. I'll make one point. I think the lack of trust in the sector and the stop-start approach has actually meant that many jobs have been lost in the sector and it means you have to retrain people again. So, I think whatever happens, we shouldn't lose that already existing skill base, but within the paper, we deliberately chose not to focus on the skills and training required. We fully understand it exists and there are a number of bodies that look at that, but we didn't within this paper.

[296] **Joyce Watson:** Okay. Can I just go back to your previous answer, with your indulgence, Chair? On the improvement of housing at the point of buying that you've just mentioned, with an almost Help-to-Buy-type programme, if you've got anything further to add to that—I was more grabbed by that than penalising people through their stamp duty—I would certainly be interested more in that.

[297] **Mr Sagar:** It's not necessarily penalising people through their stamp duty, it also incentivises them as well, so that's just to make it revenue neutral. So, that's a brief point on that. But yes, as I mentioned, on the help-to-improve scheme, one thing, again, we really learnt from Germany is that it needs to be amongst high-street banks, building societies, peer-to-peer lenders and a range of institutions, because they have visibility on the ground and also they're trusted financially, and I think that comes back to the lack of trust amongst, you know—. People within the energy saving industry don't know how to sell financial products—why should they? Whereas banks have a long experience of that and we're already seeing some starting to enter this market, but we think further incentives could be given. As we mentioned, buying down the interest rate of loans would be one way, and also Government guaranteeing the loans would be another. Part of the reason the interest rate was too high was that it was regardless of people's Experian credit rating, so it was roughly 7 to 8 per cent, and people could get cheaper personal loans. So, if the Government buys that down or reduces

it, it becomes a much more attractive proposition on top of the mortgage, because, again, people are making the largest financial decision of their lives, most likely. So, an additional bit of finance on that, in some instances, might prohibit. But overall, we don't think it would.

[298] **Jenny Rathbone:** We've spoken about stamp duty land tax, what about the Part L building regulations, which we already have powers over?

[299] **Mr Sagar:** No, absolutely—

[300] **Jenny Rathbone:** What role do they play, obviously, for future buildings?

[301] **Mr Sagar:** Absolutely. I think improving building regulations has been crucial. So, one of the biggest energy saving measures that has taken place is the so-called Whitty rule—

[302] **Jenny Rathbone:** The so-called—?

[303] **Mr Sagar:** The Whitty rule, which was Lord Whitty, a Labour peer who made condensing boilers mandatory. That is the single biggest thing that has improved the energy performance of properties. So, I think there is a role for improving building regulation. We don't focus on it in the paper because it's quite a technical thing that you need to do in partnership with builders and house builders, but I think there's certainly a role for it.

[304] **Jenny Rathbone:** Okay. So, you don't think that it's particularly significant that that zero-energy requirement that was due to come in next year—

[305] **Mr Sagar:** Oh, that's very significant. No, sorry, that's probably one of the worst decisions the Government's made around energy saving. That should not have been scrapped. I couldn't be more unequivocal about that. Yes, it will mean you'll have to retrofit properties in the future, which is just silly, so I fully support the idea of zero carbon homes, and think it shouldn't have been scrapped.

[306] **Jenny Rathbone:** Thank you.

[307] **Alun Ffred Jones:** You have answered the questions so far with great clarity and brevity, which means we're ahead of the game. Alan, would you

like to—

[308] **Mr Simpson:** Richard, just tell me: would your proposals about stamp duty be undermined at all if that was an additional interest rate levy on the seller so that that provided a fund that was available locally to do the lending, so that the finance wasn't going to be falling on the prospective purchasers? The reason I ask that is because KfW are able to structure their zero-interest loans with a combination of a discount of up to 17.5 per cent if you improve your property to near zero or passive house standards. So, that would offer the prospect of a pot of money that was a combination of a loan and a grant, but it would come at the price paid by the seller, not the buyer. Does that undermine what you're proposing?

[309] **Mr Sagar:** Not fundamentally. It sounds a very interesting proposal. I'd have to think about it more, but, certainly, it doesn't sound like it would undermine it. It sounds very interesting, yes.

[310] **Mr Simpson:** Okay. Can I ask one other thing—

[311] **Alun Ffred Jones:** When you think about it more and come to a decision, let us know whether it's practical or not.

[312] **Mr Sagar:** Yes. I think that's something I'd have to consult on very widely amongst people within the industry and academics and so on, but my initial thoughts are that it wouldn't.

[313] **Mr Simpson:** Can I ask one other one, then, on that?

[314] **Mr Sagar:** Sure.

[315] **Mr Simpson:** Have you looked at all at the approach in some parts of the USA where localities have the powers to set energy performance standards on distribution network operators?

[316] **Mr Sagar:** That sounds quite interesting.

[317] **Mr Simpson:** So, instead of looking to the energy companies with an interest in selling consumption, the partners for localities become the network operators whose interests are in security and become investment partners. Have you worked—

[318] **Mr Sagar:** I've not looked at that, but, again, it sounds like a really interesting idea. I'd again want to look at the practicality of that in the UK particularly, and in Wales, but it sounds like an interesting approach, certainly.

[319] **Mr Simpson:** The final part was on your warm home zones. Has that also drawn on the experience of some of the warm zone pilot schemes about the delivery of collective security about standards of work being done and the reliability of that skills infrastructure to deliver—

[320] **Mr Sagar:** Absolutely, yes, that's fine. So, on top of the additional incentives, there could be things around local training and skills as well. I don't see a reason why not.

[321] **Alun Ffred Jones:** This idea around stamp duty—is that basically because, if you depend on public expenditure to try and retrofit all homes, there's simply not enough money available and nothing will happen, therefore? Is that the—? Or are you approaching it from a slightly different—?

[322] **Mr Sagar:** I think it's partly that, but also it's a kind of clear demand driver as well. It's just a slight reduction at a clear trigger point to improve their property, so I think that's partly why we focused on it. In terms of public money, we strongly support claims by the Energy Bill Revolution amongst others to have national infrastructure spending devoted towards this as well.

[323] **Alun Ffred Jones:** And what is the percentage of housing stock that's bought and sold every year? Do you know?

[324] **Mr Sagar:** I'm not sure, but, as I understand it, pre-crisis, the housing stock rotated roughly every 25 years.

[325] **Alun Ffred Jones:** Okay. lawn? Are there any other questions?

[326] **Mr Simpson:** Can I throw one other one in?

[327] **Alun Ffred Jones:** Yes.

[328] **Mr Simpson:** The committee have been told that, to meet the 40 per cent energy efficiency targets in Wales, 25 per cent of the housing stock is in need of pretty substantial energy efficiency upgrading. In the work that



you've done looking at Energiesprong, is that a—? I mean, the attraction is that it's enveloping, it's whole-area and minimally intrusive. Could you just tell the committee a bit more about exactly what is able to be done in the 10-day process? What are the leading edges of thinking that Wales itself could incorporate if it wanted to push that boat even further?

[329] **Mr Sagar:** If you wanted to push it even further—I think that's a good question. But it's really whole-house, so it includes microgeneration alongside that—they produce external cladding, as you mentioned, which is also very attractive, for the entirety of the property—and everything from replacing boilers to including insulation. So, it's a whole-house approach—every measure you can imagine they focus on. But I think one thing to look at would be low-carbon heat as well, so having low-carbon heat sources for properties, if you want to really push the boat out. There are some interesting things around cost there, but if you really wanted Wales to lead the way, you could focus on that as well.

[330] **Janet Haworth:** Can I just ask one final question?

[331] **Alun Ffred Jones:** Yes.

[332] **Janet Haworth:** On page 12 of the paper, you're looking at smart grids and the use of digital technology and real-time communication. Do you think we have the capacity in our broadband infrastructure to accommodate that?

[333] **Mr Sagar:** I've not looked at the Welsh broadband infrastructure, you may be unsurprised to hear, but I think the roll-out of smart meters provides ample opportunity for that, where all homes will have smart meters installed. So, there can be lots of schemes, such as Nest and Hive, amongst others, for people to have direct access to their energy on a smartphone or something like that. So, I think that's a real opportunity. Even beyond that, people learning how they use appliances, and so on, and using them more efficiently in that way. So, yes, there are plenty of opportunities there.

[334] **Janet Haworth:** I would suggest that you perhaps have a look at it, because I think there's a very controversial issue here around whether people have their megabytes delivered on copper wires, which are finite as a resource, or whether they have them delivered on fibre optic cable, and it's very controversial at the moment, and, if we're going to futureproof whatever we do, we need to go fibre optic, but you can check that out.

[335] **Mr Sagar:** I will do.

[336] **Janet Haworth:** So that what you envision here can actually be delivered and sustained into the future, with the additional digital innovations that will probably come along.

[337] **Mr Sagar:** Absolutely. I'll certainly look at that.

[338] **Janet Haworth:** Thank you.

[339] **Alun Ffred Jones:** I was going to bring this to an end, but you—.

[340] **Jenny Rathbone:** On the smart meters, is this something where we need legislation to require the data that are going to be obtained from the smart meters to be shared—obviously anonymised—so that Government can see where the areas of most concern are and therefore target resources?

[341] **Mr Sagar:** Yes, I think there's a real opportunity for that. Absolutely. So, I think, as you mentioned, EPC data should be shared amongst local authorities so they can better target. I see no reason why that shouldn't be done with smart meters as well.

[342] **Alun Ffred Jones:** A gaf i **Alun Ffred Jones:** May I thank you  
ddiolch yn fawr iawn i chi? very much?

[343] Thank you very much, Mr Sagar, for coming in and offering your insight on these issues—a great help to us in trying to formulate a report. Thank you very much, it's much appreciated.

[344] **Mr Sagar:** Thank you very much.

[345] **Alun Ffred Jones:** Diolch yn fawr. Thank you.

11:28

### **Ymchwiliad i 'Dyfodol Ynni Craffach i Gymru?' Inquiry into 'A Smarter Energy Future for Wales?'**

[346] **Alun Ffred Jones:** We move swiftly on to item 6, and we welcome our new witness. A very warm welcome here this morning. Thank you for attending. I just want to introduce Alan Simpson, who is our special adviser,

and he may ask a few questions after the Members have concluded their questions. Can you just introduce yourself and the body you represent?

[347] **Ms Forshaw:** Certainly. Would you like a bit of background?

[348] **Alun Ffred Jones:** Yes, that would be very useful. Thank you.

[349] **Ms Forshaw:** Jane Forshaw, I'm now a project director with Local Partnerships. Local Partnerships is 50 per cent owned by HM Treasury and 50 per cent by the Local Government Association. So, we're there to help drive efficiencies for the public sector, and I can tell you a little more about that in a moment. My background, prior to that, was director of environment at Cardiff, where I was recruited to lead the energy work, and I'm delighted to say that, at last Friday's RenewableUK event, that work at Cardiff was recognised as best in class for renewables in the public sector. So, that's about leading projects that are both delivering energy efficiency and also energy generation projects, so deployment of generation capacity on the public sector estate that can give you an income stream. Prior to that, I was working for Stoke and led the energy work there around the ceramics sector, and prior to that, the HCA—the Homes and Communities Agency—so, leading the energy work in the millennium communities and low-carbon settlements. So, hopefully I've got, certainly from a strategic perspective, something I can contribute to your discussions today.

11:30

[350] **Alun Ffred Jones:** Diolch yn fawr iawn. Thank you very much indeed for that, and William Powell is first.

[351] **William Powell:** Diolch, Gadeirydd. Good morning. I wonder if you could tell us a little bit more about the breadth and range of projects that Local Partnerships has been involved in delivering together with local authorities across Wales and beyond.

[352] **Ms Forshaw:** Yes, certainly. I presume that you're aware of the Green Growth Wales initiative. I'd like to congratulate Welsh Government on starting that journey, because it's a really ambitious programme both to support energy and waste improvements. So, partly based on the work that I led in Cardiff, we discovered a pipeline of projects and, when that research was taken and conducted with the other authorities in Wales, there was something like 140-odd projects that were stuck. So, they were good

projects, but, for one reason or another—because of perhaps constraints in the public sector or a lack of capacity; in some cases, competency—these good ideas were stuck. So, the proposition to Welsh Government was—. Because where Local Partnerships adds value is to come in with help on the commercial, the legal and the transactional elements, so our work with the public sector is to analyse that pipeline and then either accelerate the delivery of those projects, help to de-risk them, which can sometimes mean doing work around sensitivity, helping with financial modelling, especially with the decline in the current regime of incentives, and also to grow the pipeline. So, ‘How can we work with the public sector to support their imagination in how they might use their estate?’

[353] **William Powell:** And to what extent do you think that there’s room for more progress in terms of showcasing this good practice and sharing it out there to greater benefit?

[354] **Ms Forshaw:** Indeed. So, one of the deliverables from the contract with Welsh Government is to pull out best practice, so that can range from large scale, having achieved large-scale, or perhaps working closely with community sectors to deliver projects; also, perhaps, how we’ve overcome barriers, and I guess we might get into some of the detail about how, in the face of this declining subsidy regime, we can still get delivery—profitable delivery.

[355] **William Powell:** Do you see the future generations Act and the public service boards that are envisaged within that as making a contribution?

[356] **Ms Forshaw:** Well, they should. I think that there’s some work—. From the bit that I’ve gathered so far; for instance, Cardiff is a good example, because they’re being proactive with the health board and looking at their combined estate. So, from a simple geographic analysis of where offices are, for instance, you can quickly see that, within metres of each other, you might have a hospital, a police station, a library and that there might be some sense in looking at rationalising that estate anyway, but, if you have an energy hat on, there might be a local energy centre or you could look at energy retrofit and consolidate the buildings. So, in that way, perhaps, the public service boards could look at rationalising. But I also understand at the moment that one of the complications is that there are different rules about how estate is treated, so the local authority might be able to gift something into a project, but a health board couldn’t.

[357] **William Powell:** Okay, so there's the need for some level of harmonisation, really, to make it more practical.

[358] **Ms Forshaw:** Yes.

[359] **William Powell:** How, finally from me, do you see this influencing the planning process in terms of how local development plans are constructed to bring this about in a more coherent way?

[360] **Ms Forshaw:** May I—? Sorry, just in your question before, you mentioned the future generations Act, and perhaps the piece for me that would link the future generations Act and the planning piece is carbon. So, depending on how the public service boards are going to be monitored, then if there was a carbon ingredient—because carbon equates to money as well—. So, if there was something around monitoring the performance of the public service boards, and then that ties into planning regimes too, then carbon as a measurable might help us, as an example. On the planning regime, the bit that I've understood that's holding us back a little, I'm afraid, in Wales, is the building regs. So, the Part L building regs are below the English standards, and so, when we're trying to talk house builders into being more innovative with low-carbon settlements, they just point to the building regs and say that it's difficult enough selling houses, so why should they go beyond what's required in Wales.

[361] **William Powell:** The clear message you're giving us is that we need, and Welsh Government needs, to be more ambitious in that regard.

[362] **Ms Forshaw:** Yes. You've got European legislation that's going to hit us in 2020, I think, anyway. So, yes.

[363] **William Powell:** Thank you very much.

[364] **Alun Ffred Jones:** Okay. Jenny Rathbone.

[365] **Jenny Rathbone:** It will be 2018 for public buildings, which include councils and housing associations. I think what I wanted to look at was the scope for reducing the need for grid enhancements. We've had an example from one of our earlier witnesses about a particular community scheme, which was a £100,000 scheme in mid Wales, and they were quoted £5.7 million for connecting to the grid, which is obviously killing it stone dead. So, how can we get around that by developing these local partnerships, so that

we generate the energy in the area that we then use it in?

[366] **Ms Forshaw:** Okay. Could I answer from two directions? One is—and I know that you’ve heard from the chief exec of Western Power—that part of the struggle in Wales with grid capacity is where capacity’s been locked. So, it’s been bought, but no-one’s taking it up. So, there might be some schemes that have bought that grid connection, and then, for other reasons, they’re not going to proceed, but because that’s been banked against that project, it’s not available to anybody else coming on-stream. We’re talking with Western Power, National Grid and Ofgem about where we’ve got the kind of problem that you’ve just encountered, and we’ve got others from the local authority pipeline. Could we bring a coalition of the willing? Western Power can’t release, for commercial reasons, the people who are in their pipeline, but the local authorities know the projects that are going to be delivered and not going to be delivered. So, between us, can we have a proper conversation that’s almost a sort of queue management, because at the moment schemes are getting told either they can’t connect, or it’s a ridiculous connection charge because they need a grid enhancement, whereas, in fact, that might not be the case?

[367] We’ve got a nice example from the area I deal with in the south-east, where they were quoted a similar figure. It was a 5 MW solar farm, but because that injection to the grid at that point was going to potentially cause a trip, they were being quoted a £10 million bill. But when we pushed back a bit, they’d had a letter saying, ‘No way; cannot proceed’—we pushed back and said, ‘Well, actually, as a planning authority, this authority knew that two big schemes weren’t going to proceed before this side of the end of March; can we meet?’, and actually the next letter that came back was, ‘Go ahead; connect.’

[368] **Alun Ffred Jones:** Can I just have some clarification? You said capacity had been bought. So, do these companies literally have to pay the distribution companies although they’re not producing?

[369] **Ms Forshaw:** Yes. To hold that—. To lodge your—.

[370] **Alun Ffred Jones:** The capacity.

[371] **Ms Forshaw:** Yes.

[372] **Alun Ffred Jones:** But it’s not a one-off presumably; it’s a yearly

payment, or what?

[373] **Ms Forshaw:** To be honest, sorry, I'm not quite sure how that bit of the regime works. But, from what I understand, there's something that registers your chunk of that grid, dedicated to your project, and then there might also be, with the kind of costs we were just hearing, a more physical upgrade, so a sort of switch gear or tripping stuff that has an extra capital cost. And what's unfortunate about the system about the moment is that if you're the little project that caused everyone in National Grid and Western Power to get nervous, you're suddenly clobbered with the full extent of the upgrade. There's an argument, I think, for socialising these costs. So, can we look across Wales, because if we're serious about decentralised energy, then this needs to be a social cost that we all bear the burden of?

[374] **Alun Ffred Jones:** Mick Antoniwi, do you want to come in on this?

[375] **Mick Antoniwi:** We had evidence from Western Power where they were talking about the amount of grid for renewable energy, and when you actually boiled it down, it turned out that something like 7 per cent was actually being produced, but the rest was projects that had been put in, that had been allocated, and, of course, they never knew when they were going to be delivered. So, is what you're suggesting that that system is actually obstructing—?

[376] **Ms Forshaw:** Yes.

[377] **Mick Antoniwi:** —viable projects, and many of them are actually dead projects that will never happen? We didn't explore that time, of course, how long you could have a project in the pipeline before you lost your place or your bid. Is that what we're talking about?

[378] **Ms Forshaw:** You're absolutely right. What I'm suggesting is perhaps—can we have a system of better queue management? I think it's years. I'm thinking it's like five years—I don't know. I know that, elsewhere in England, Western Power have now started to fight back and try and claw some of that back from developers. And where they've tried it, developers have taken them to court. So, it's not an easy—.

[379] **Mick Antoniwi:** Is it a contractual arrangement that they have? Are they bound? Are they tied?

[380] **Ms Forshaw:** Sorry, I'm—

[381] **Alun Ffred Jones:** I think we'll have to pursue this with the companies again.

[382] **Ms Forshaw:** Yes, I'm sure it is.

[383] **Alun Ffred Jones:** It is an area of interest and—.

[384] **Janet Howarth:** I'm aware of this operating in planning. I think the question about the LDP, because some authorities have lodged them and some haven't—they're still working on them—

[385] **Alun Ffred Jones:** No, I don't think it's relevant to LDPs.

[386] **Janet Howarth:** Well, I think, where it is relevant and where it's relevant to planning is that we also have land banking where developers have purchased land, they can hold that planning permission for five years, they can go back to the local authority, apply for a renewal and, as you've pointed out, if the authority at the moment refuses that, they will end up in court—

[387] **Alun Ffred Jones:** Yes, but planning is not the issue on this particular—. The point you make is relevant, of course, but not to this inquiry. Llyr, did you want to come on this one?

[388] **Llyr Gruffydd:** Yes. Would you therefore advocate that a certain percentage of grid capacity is actually held back for small-scale community use, let's say?

[389] **Ms Forshaw:** Or what about just renewables? We need to understand what the ambition is. If we jump slightly above the question you're asking and ask, 'Is Wales wanting to be self-sufficient in energy' and then 'Where would we like that energy to come from?' or 'Would we like to be a net exporter?', then I think there's a different capacity conversation because how much grid do we need, if we're going to be self-sufficient, and where do we need it?

[390] **Llyr Gruffydd:** Or whether we need the national grid.

[391] **Ms Forshaw:** Indeed, yes. And can we have the cleverness of private wiring and local arrangements?



[392] **Llyr Gruffydd:** Are you involved with any projects around potential smarter grids on a local level and sort of moving away from our overdependence on the national grid?

[393] **Ms Forshaw:** Yes. Shall we go into that territory? Is that all right?

[394] **Alun Ffred Jones:** That's fine, yes.

[395] **Ms Forshaw:** This is my opinion, but the smartness that I think we should be looking for isn't just the digital and the sort of grid harmonisation; I think we can be smarter in the way we approach low-carbon settlements. From the electricity side, we're looking at: can we harmonise demand management so that projects that are suffering with a decline in subsidy regime could perhaps store electricity when they're generating at their peak? So, a solar farm on a winter's day, say. Then, the peak electricity for sale is 4.30 to 6.30 at night. So, if a scheme's supported with a battery, then it could be re-selling its energy at a much higher price. So, that's one example. Western Power have got a scheme running in Glastonbury at the moment with a lithium ion battery that they're inviting us to go and look at, and so would there be, say, an appetite to support a Welsh project? The same goes for schools. So, schools with solar roofs are generating when there's nobody there to use them, and the export price is very low at that point. So, what about storage alongside Solar Schools schemes that could put the electricity back in when the children return. So, there's that kind of smartness I think we ought to look at.

[396] The other smartness is around private wire. So, can we—and I think it was your point—get cleverer about energy generation where it's needed? Because, unfortunately, we've got so much retrofit, can we be smart about where we've got energy? Could we perhaps have deliberate inward investment—heat and electricity; we've got a lot of waste heat in Wales—to deliberately attract a user that might want to be co-located with that. Then, vice versa, have we got people like data centres that are an enormous draw on energy—can we put an electricity-generating thing next to them and match it?

[397] One of the nice examples that we've got currently in Cardiff is Radyr weir. I don't know if you've seen it being in construction. It's a massive—. I'm so pleased. It'll generate enough electricity for 500 houses, but, at the moment, with the decline in feed-in tariff, financials on that project start to

wobble a bit. But, of course, Cardiff council's fully committed to finishing it now even though the costs are escalating and the income declining. So, what's interesting is that, as local partnerships, we've brokered a conversation with the neighbour which is GE Healthcare and they're very interested in exploring a private wire. So, if we can be smart about having those having those kinds of conversations, then I think we could look at, 'How do we create higher value electricity?'

11:45

[398] **Llyr Gruffydd:** So, who does that? Who facilitates it? Who would that be at municipal level, at local authority level?

[399] **Ms Forshaw:** Well, at the moment, the role that Local Partnerships is playing is that facilitator, and I think we're all at that cusp of trying to better understand private wire, sleeving arrangements, power purchase agreements, schemes—. Good Energy are running a Piclo scheme at the moment, which would offer dedicated energy. There are a number of schemes that I think we need to get our heads around. Local Partnerships can offer that competency at the moment, but ideally we'd share that competency with the public sector and they'd start to take this up as core business for themselves.

[400] **Llyr Gruffydd:** To what extent is hydrogen featuring in the off-grid mix?

[401] **Ms Forshaw:** Okay. So, again, there might be schemes in north Wales and I'm not aware of them, but for Cardiff, we've secured £1 million from Innovate UK to put hydrogen—an electrolyser—at the side of a solar farm at Lamby Way. So, that will then take excess electricity—because there were grid constraints for that project, so it's really neat, we don't need to sub-optimize that solar scheme—let's put it into storage, and then the hydrogen can be fired off in the landfill gas engines that are burning the declining amount of landfill gas. It's neat. But, again, I think if we're looking at infrastructure—we're not talking transport here either—. How serious are we about a hydrogen economy for Wales, because then we ought to structure that up as a proper proposal and commit all the public fleets into that kind of fuel—or are we more into, I don't know, battery storage? Because I don't think we can afford to do both.

[402] **Alun Ffred Jones:** Julie Morgan and then Jenny.

[403] **Julie Morgan:** I just wanted to pick up on the Radyr weir because that's in my constituency and I'm absolutely thrilled that Cardiff council has taken this forward and has, you know—. But I'm a bit alarmed to hear about this change in the finances. Are you saying that bringing in the private sector is going to be able to help that be viable?

[404] **Ms Forshaw:** Yes. Perhaps you're aware, there's a rumour this morning about how the feed-in tariff stuff might get delayed. This uncertainty about quite what's going to happen with Amber Rudd's announcement about feed-in tariff means that projects have to profile different spends. Because of the uncertainty, they were pre-registered to connect by 18 December. Well, the bad weather that we had in August and subsequently now has delayed the ability to connect the screw into the water—which would be the commissioning test that the feed-in tariff needs. So, the council are now paying, as of today, for 24-hour working to get that screw in the ground, to meet the 18 December deadline, because that's the current news. But if there's any change in Government thinking, then actually—and a delay—the council could have not spent all this money on overtime and allowed the project to proceed in the additional three months it could have had. We can't get an answer out of DECC about what that announcement's going to be.

[405] **Julie Morgan:** So, the uncertainty is causing huge expense for the council.

[406] **Ms Forshaw:** Yes. So, we'd like—. On behalf of Cardiff, and I think they deserve it to go on the record, we're going to help them with a letter to the Minister to say how this uncertainty—. It's not just Cardiff, it's loads of projects that are—

[407] **Alun Ffred Jones:** This uncertainty is obviously a broader issue than Cardiff, but obviously it's relevant. Jenny.

[408] **Jenny Rathbone:** I just wanted to come back to the role of the grid and the district neighbourhood operators. It seems to me that in the current system, those who receive the energy are blind to whether it's dirty or clean energy. We were told by the DNOs that they weren't able to discriminate in favour of clean energy, and so it favours the existing regimes of dirty energy. You know, they can't take any more renewable energy from the south-west—they're full—which seems to me completely arse over tit in terms of our climate change obligations. So, what do you think needs to be done to make

the system more focused on our climate change obligations?

[409] **Ms Forshaw:** Yes, I'm with you. Two thoughts: this Good Energy Piclo project, if you Google it, allows you, as the consumer—I think they're targeting bigger consumers, admittedly—to say you want Radyr weir's energy, or whichever green scheme you're after, so you are buying that electricity.

[410] But, again, perhaps it comes back to a Welsh ambition argument, because we're faced, at the moment, with the announcements from the UK Government that seem to push us down a nuclear route, which they consider to be giving us the low-carbon solution. I think they see unwanted complexity in trying to get a grid to co-operate with decentralised energy—'It's too much hassle; let's stick with the system we've got'—and they don't like the incentive regime because it's causing a big hole in Treasury finances and there's a lot of management needed in that regime. So, I think we've got to look at what's being pushed at us, because we've got nuclear at the moment and a desire to keep things centralised. We'd be having to fight that trend.

[411] **Jenny Rathbone:** I think nuclear might cause a big hole in Treasury finances, too. What is it, then, that the Welsh Government—or the Welsh Assembly—needs to demand should be given to us in the Wales Bill to enable us to take forward our decentralised energy scheme? Otherwise, we're going to be left with very expensive UK models of energy.

[412] **Ms Forshaw:** I do think we need to answer that question about what our ambition is. So, do we want to be 100 per cent, as a country, self-sufficient in renewable energy?

[413] **Jenny Rathbone:** Well, I think people around this table probably would say yes, but we can't answer for others. So, if we do want to do that, what are the levers that we need?

[414] **Ms Forshaw:** I'm not sure I can answer all of that question, because, as you say, it's independence and authority to make your own decisions, so we wouldn't be messing about with the wind decisions that we've had recently that have wasted a lot of private sector money.

[415] **Jenny Rathbone:** Okay, but, fundamentally, if the DNOs are not able to discriminate in favour of clean energy over dirty energy, then we're never

going to make the sea change, or could we? Is there another way in which we can make the sea change?

[416] **Ms Forshaw:** In America, the DNOs have the power to sell energy, which they don't in the UK; in fact, it might be a Europe obligation, I'm not sure. But, if the DNOs had the ability to sell, and they were having to respond to your policy agenda, I think that kind of measure would also incentivise the DNOs investing in storage so we'd get that grid harmonisation.

[417] **Jenny Rathbone:** Okay, so that's one measure that you identify, but nothing about them being colour blind to whether it's clean or dirty sources of energy.

[418] **Ms Forshaw:** If you're insisting that Wales is only powered by renewables, and you seek the powers to require that, then they'd have to co-operate, wouldn't they?

[419] **Jenny Rathbone:** Indeed.

[420] **Alun Ffred Jones:** Just to get this right, your post, or the body that you work for, is part financed by—?

[421] **Ms Forshaw:** The Treasury.

[422] **Alun Ffred Jones:** The Treasury. So, what do they think you're doing? It seems to be counterintuitive, almost, for them to actually support somebody who is arguing against policy.

[423] **Ms Forshaw:** Oh dear. I should stress that I've been voicing—. There's a lot of opinion. If you're asking me for an opinion about how Wales delivers a renewable, then I'm giving you that opinion.

[424] **Alun Ffred Jones:** Yes, yes, I fully appreciate that; I'm just trying to get my head around your position. [*Laughter.*]

[425] **Ms Forshaw:** Please don't tie my comments back.

[426] **Alun Ffred Jones:** Will you have a job when you leave this room? [*Laughter.*] Sorry, I shouldn't have said that.

[427] **Ms Forshaw:** You're now making me feel uncomfortable.

[428] **Alun Ffred Jones:** No, no. Right, sorry—Julie Morgan.

[429] **Julie Morgan:** Shall I just go on to the issue of community, local communities, and how involved they are in the sort of schemes we've been talking about? I think you said there are 140 projects that are stuck, and those projects are your main work.

[430] **Ms Forshaw:** Yes.

[431] **Julie Morgan:** So, are those projects that are beyond individual firms or individuals and that do involve the local community?

[432] **Ms Forshaw:** What we're looking at is, where a project is stuck, we want to help a local authority understand what its routes to delivery are. Sometimes, they might be stuck because there is a capacity issue within the authority and they can't take it forward. I think Natural Resources Wales have offered out, for instance, a number of hydro schemes to the communities to try to see if they can offer that as a rich resource, but into other hands so it could get delivered. But the bit of experience so far is that, while some community groups have been really successful—and there's a big appetite for community groups to get involved—I think there's a question about competency. So, many times, it seems to come down to a passionate individual who perhaps has the passion but doesn't have necessarily all the technical and financial skills to get something delivered, so a lot of those things then get a bit stuck again. So, I do think we need—it might be out there and I'm just not aware of it—better understanding of what support there is for community groups to deliver these energy projects.

[433] **Julie Morgan:** And is it part of your role to help the community group?

[434] **Ms Forshaw:** If a local authority or public sector—because I've said 'local authorities', but it's health boards as well and NRW—. If they are wanting to see their energy project—so it might be something on their estate, something that they've got an asset lock with—. If they're wanting to see the community group deliver it, then we can help, but if it's just an isolated community group approaching us then unfortunately not. But, if there's a local authority component, yes.

[435] **Julie Morgan:** And do you think it's important for local communities to be part of the ownership of these projects? How do you feel that they—. Does

that add to their success?

[436] **Ms Forshaw:** I think there are two tensions there. One is that the local authorities, as you know, are terribly constrained for finance at the minute. So, if you can get a local authority's combined head around supporting an energy project, and when you get changes in regime and you've got very anxious finance officers in the public sector thinking, 'No, I don't want this risk exposure; look what happens when we do energy projects', if there is something that's lucrative, then why would a local authority give it to a community group? That might be what's happening in the public sector at the moment because they're desperate to have that revenue for themselves. I'm a bit nervous that it's only the sort of marginal projects that might get offered to the community sector—to go and play with. I think it's worth looking at because I'm just a bit nervous that community groups might be disadvantaged by only being offered the dregs, if you like.

[437] Certainly, I think community involvement is crucial where we've got the more controversial projects. Schemes elsewhere in Europe and abroad have been shown to be successful where there is a community buy-in. I think, with the tidal lagoons, for instance, there's a big opportunity there that there might be local power for local people off the back of those initiatives, as an example.

[438] **Alun Ffred Jones:** Are you operating across the UK?

[439] **Ms Forshaw:** Across Wales. Sorry. Local Partnerships operates across England and Wales, but the Green Growth programme—the way that I'm describing that we're working—only happens in Wales.

[440] **Alun Ffred Jones:** Right, thank you. Any other questions? Sorry, Jenny.

[441] **Jenny Rathbone:** I just wanted to pick up on your point about tidal energy and local energy for local people. How do you get that to work in terms of the constraints that currently exist on generators of energy being able to sell to the local communities? I believe there is a way round it through OVO in partnership with local authorities. Why aren't all local authorities doing this?

[442] **Ms Forshaw:** I think not everybody knows about it, to be honest.

[443] **Jenny Rathbone:** Okay. So, which local authorities in Wales are you

aware of actually pursuing that model of becoming a municipal energy supplier as well as a generator?

[444] **Ms Forshaw:** I'll happily come back to you. I'm afraid I don't know anybody at the moment. Some of the local authorities are certainly interested in that, but I think, again, it's this difficulty about competency and scale. Some authorities are having trouble collecting council tax, never mind trying to get into heat and electricity. Also, with local government reorganisation, it's not clear who would necessarily lead projects like that, and they'd work better at scale, but I can happily come back to you with an answer.

[445] **Alun Ffred Jones:** Energy groups very often claim that they don't have the wherewithal and the knowledge and talk about the difficulties of getting licensing and so on. I was involved with a couple of groups—five groups—in my constituency that tried to get together with the local authority to see whether there was some way of facilitating transfer of knowledge, really, so that every scheme doesn't have to reinvent the wheel every time. Is there anything that we can suggest that would improve that?

12:00

[446] **Ms Forshaw:** Well, certainly the work that we're funded to do will pull out case studies, and we're keen to work with other—. For instance, as you said, housing associations, I think, have done a lot of good work as well. So, I think certainly showcasing good practice, pulling out the case studies. I'm not close enough to the community detail, I'm afraid, myself.

[447] **Alun Ffred Jones:** Right. Okay.

[448] **Janet Haworth:** Chair, if I could just ask on this business of advising a municipal authority, if a facilitating team were to get alongside a project, what do you see as the key skills that would need to be in that team?

[449] **Ms Forshaw:** Usually, it's the commercial, the legal, the financial and the procurement, and then the technical. So, it's that remit. From local partnerships we can bring the legal, financial, procurement and commercial ingredients. The technical element in Wales is being supplied through the REW—Resource Efficient Wales—framework. That's supporting the technical side.

[450] **Janet Haworth:** Thank you.



[451] **Alun Ffred Jones:** Right; Alan, did you want to ask something?

[452] **Mr Simpson:** I just wanted to try to follow this up. The witnesses that preceded you, really threw questions back about the level of ambition in Wales, saying, for instance, that if the Welsh Government set out its stall to say, 'We're only going to build zero carbon homes', then the industry would respond. If it did an annual survey of the energy efficiency of homes, the benchmarks would be set. If you were writing the recommendations for this committee, what would be the benchmarks about the level of ambition that you think ought to be asked for?

[453] **Ms Forshaw:** So, again, a personal opinion—

[454] **Mr Simpson:** Yes.

[455] **Ms Forshaw:** For me, having delivered zero carbon home exemplars with the Homes and Communities Agency, the piece for me is something around the relationship. We accept whatever ambition we want to. It would be great, I think, to aim for much lower carbon settlements than we've got at the moment because the trouble is that, by having poor quality—as I consider it at the moment—house build, we burden tenants and residents for a good 60 years with these poor performing homes and that's not helping anybody. So, what I'd love to see is much stronger regulation, but the trouble is that the developers aren't interested. The developers find enough reasons not to develop in Wales without having environmental burdens. The thing that's quite interesting—and, again, we're exploring with the work we're doing—is how to encourage low-carbon settlements, and Cardiff's got 40,000 new homes to build. A lot of the local authorities have now been given some Welsh Government dispensations, so they're looking at house building for themselves again. If we accept that developers do not want that enduring relationship with their house building, then instead what about an approach that picks up all the utilities that come into a house? So, it could be water, waste, digital and I'd say heat, not gas, and electric. Is there a way of providing that as a multi-utility offering, so that we have a dedicated multi-utility services company instead of just an energy services company that supplies and has an enduring relationship with that settlement? There's a company in Cardiff called Metropolitan. They're global and they're a good example, where they do provide a MUSCo approach. What's more, if there's an appetite across the community that would be served by it, it can be in community ownership, and they will just take the money that it's taken to

construct it. So, they've just finished King's Cross as a MUSCo, and they're just doing 4,000 houses in Aberdeen. So, the community infrastructure is owned. In that way, for me it brings in that relationship between the house and the resident, but also because I would suggest that we avoid gas in new settlements, then we get smarter about combined heat and power.

[456] **Mr Simpson:** With respect, that was more of an observation than a recommendation. I want to push you into the space that says, you know, if the Welsh Government were to be pushed to be more adventurous than it is in setting down benchmark requirements, what they should be. For instance, across the EU at the moment, there are 6,500 towns and cities that are committed to becoming smart towns and cities, and localising the ownership of their smart grids. My understanding is that we haven't got any of those in Wales.

[457] **Ms Forshaw:** No.

[458] **Mr Simpson:** Should the committee be saying that Wales should set a de minimis of 10 smart town and city localities to be delivered within the next decade? What are the benchmarks of ambition that need to be recommended by this committee that the Welsh Government needs at least to produce a response to?

[459] **Ms Forshaw:** I don't know if I feel comfortable, for instance, saying a number. I think we also need to look at our unique selling point as an economy. So, unless we head into that territory anyway, we jeopardise the rest of the Welsh economy, I'd suggest, because unless we are smart, as you've just said, we've got an enormous amount of global competition that could easily attract an inward investor to them and not us. So, I think there are other reasons to do it, as long as your definition of 'smart' is its broadest sense, because it's not just the digital for me, it's the integration of the holistic natural resources argument.

[460] **Mr Simpson:** I think my definition was about creating the right of local access to local energy markets. The committee has got the RobinHoodenergy company people coming from Nottingham, where the right to set local tariffs for local supply to local people actually becomes a benchmark of a different civic entitlement. Are you doing anything on that?

[461] **Ms Forshaw:** So, this comes back to Mrs Rathbone, and the point that I'm a bit anxious on behalf of the Welsh public sector that they won't have

the capacity to manage a RobinHoodenergy company, because they've got enough going on. But Welsh Government could manage an energy company.

[462] **Alun Ffred Jones:** Okay. Well, we'll take that as a recommendation. [*Laughter.*] I will conclude this session. Diolch yn fawr iawn. Thank you very much, Jane Forshaw for coming in and helping us with our inquiry, We appreciate it very much.

[463] **Jane Forshaw:** Thank you all.

[464] **Alun Ffred Jones:** Diolch yn fawr. Thank you. I propose now that we go to private session.

*Daeth rhan gyhoeddus y cyfarfod i ben am 12:07.  
The public part of the meeting ended at 12:07.*

*Ailymgynullodd y pwyllgor yn gyhoeddus am 13:33.  
The committee reconvened in public at 13:33.*

### **Ymchwiliad i 'Dyfodol Ynni Craffach i Gymru?' Inquiry into 'A Smarter Energy Future for Wales?'**

[465] **Alun Ffred Jones:** Iawn. Croeso **Alun Ffred Jones:** Okay. Welcome yn ôl. Dyma sesiwn y prynhawn ar back. This is the afternoon session gyfer ein hymchwiliad i 'Ddyfodol for our inquiry into 'A smarter energy ynni craffach i Gymru?' future for Wales?'

[466] A warm welcome back to item 8. We welcome Mike Thompson as a witness for part of our inquiry. We're very glad to have you here, Mr Thompson. Perhaps you could just give your name for the record and your position, and, if you want to make any general remarks, then you're welcome to do so.

[467] **Mr Thompson:** Thank you very much. Thank you for inviting me, and good afternoon, everybody. I'm Mike Thompson. I am the head of carbon budgets at the climate change committee. We're the independent statutory adviser to the UK and devolved Governments on climate matters.

[468] **Alun Ffred Jones:** Thank you. I should have introduced Alan Simpson as well, our special adviser, who sits here, next to me. The rest are just ordinary people. [*Laughter.*] Alan may ask a few questions later on. But to

kick off this afternoon, Mr Powell, William Powell.

[469] **William Powell:** Diolch, Gadeirydd. Good afternoon. I wonder if you could assist us by setting out the background to the scenario work and also how it will actually inform the UK Government in its setting of energy policies, and also in determining the next carbon budget.

[470] **Mr Thompson:** Yes. This report that we've published, 'Power sector scenarios for the fifth carbon budget', is an input to advice that we'll publish in two weeks' time—two weeks today—on the fifth carbon budget. That fifth carbon budget will be the cap on UK emissions for the years 2028 to 2032. Now, we've published the advice on the power sector specifically in advance of that, because the power sector is such a key part of the overall picture. So, because you need low-carbon power as a fuel for transport, as a fuel for heat and, potentially, as a fuel in industry, we thought it was worth having this as a separate piece of advice, and publishing this in a self-standing report.

[471] In terms of how the Government will use it, the key message in the report is that we don't yet have a plan, if you like, for what we do beyond 2020. We've got a lot of policies and a lot of targets in place for 2020, but 2020, in the sector we're talking about—in electricity generation—is not very far away. So, we need to say what we're going to do after 2020. The report is quite clear that the lowest cost path on the way to our statutory carbon targets will be to have investment in the 2020s that is very much focused on low-carbon generation, on renewables, nuclear and carbon capture and storage.

[472] **William Powell:** Despite some evidence to the contrary, are you still finding the UK Government in listening mode with regard to these messages that you're conveying, you and your colleagues?

[473] **Mr Thompson:** So, this would be the first, kind of, statutory advice in terms of setting a new target. We have given advice to this new Government in terms of the progress towards carbon budgets, we published that in June, and the reality is there hasn't been a lot of time to respond to that yet, you know; you need more than three months to develop new policies looking five years ahead. So, yes, the Government is in listening mode in that we've had plenty of conversations with them around the side of that, and the proof will be in the pudding in terms of what the policies are that come forward in the next year or so.

[474] **William Powell:** So, the jury's still out there—inevitably so, I suppose. To what extent are you also able to inform the Welsh Government? Is that any aspect of your work, or is that for them to buy into, as part of being one of the devolved administrations?

[475] **Mr Thompson:** Absolutely. So, the advice on the fifth carbon budget, one of the factors that we'll include in there is the differences between Scotland, Wales, Northern Ireland and England. There'll be a self-standing chapter in the report that is specific issues about the devolved administrations, and then we'll have separate advice to the Welsh Government. So, we're expecting that, in the next year or so, we will give advice to Wales on the Welsh climate targets as well. That wasn't the focus of this report on the power scenarios, which was more about the GB system, but it is absolutely a key part of our statutory remit, yes.

[476] **William Powell:** Do you anticipate doing that in terms of face-to-face meetings at ministerial level, or with officials? In what form do you see that going forward?

[477] **Mr Thompson:** So, we had a committee meeting—our committee meets roughly once a month; we had one of those meetings in Wales earlier in the year. Our chief executive officer has been before this committee, I think, in the last few months as well. We've had various meetings with the officials, as well, alongside that, so it's a process of talking to the officials, gathering the evidence and reflecting that in the advice.

[478] **Alun Ffred Jones:** If we carry on the trajectory that we have been on, in terms of carbon emissions, are we likely to meet the targets?

[479] **Mr Thompson:** Fundamentally, that is the challenge, to keep going on broadly the trajectory we've been going. Emissions in the UK are about 36 per cent below what they were in 1990. The Climate Change Act 2008 sets a target of 80 per cent by 2050, so, if we can keep doing the rates we've done previously up to 2050, that will roughly get us where we need to get to. Now, the challenge is that some of the things that we've done to date have been the low-hanging fruit, and some of that is going to run out. The challenge, as we look further ahead—in 2030, you're starting to feel this—is can you keep doing the more difficult things in order to keep that rate of reduction down? So, that means you have to get into things like low-carbon heat and low-carbon transport—areas that are a lot more challenging than just improving energy efficiency, say. Alongside that, you need to keep rolling out

low-carbon power to make sure you've got that power source for those sectors.

[480] **Alun Ffred Jones:** Llyr.

[481] **Llyr Gruffydd:** Just to pick up on the advice that you'll be giving to Welsh Government, clearly, certain areas are devolved and others aren't. So, large parts of our carbon destiny, if you like, aren't in the Welsh Government's hands. How do you strike that balance? Do you focus solely on devolved competencies or do you look at Wales as an entity and then, you know, it's up to Welsh Government to influence and effect as much as they can?

[482] **Mr Thompson:** A key part of that advice is in trying to tease out which bits do the different parts of government have control over and then, beyond that, which bits are for businesses to deal with and for consumers to respond to—local authorities as well as the devolved Governments. So, the focus is on elements of devolved power. Now, I think it would be a mistake to think that that restricts it to a certain number of areas. The power sector primarily is a central Government area. Most of the instruments are central Government but, clearly, the devolved Governments have an important role as well. Planning is the most obvious part of that. So, it's a case of, across the different sectors, looking at how strong the devolved levers are and where they are—whether they're enablers or drivers of action—and then trying to reflect that in the advice.

[483] **Llyr Gruffydd:** Thanks.

[484] **Alun Ffred Jones:** Joyce Watson.

[485] **Joyce Watson:** Good afternoon. You do say in your report that the Government, and I'm quoting,

[486] 'must urgently clarify the direction for future policy',

[487] and the importance of consistency of a policy framework for energy is clearly critical, and all our witnesses have told us that. So, what emphasis are you particularly going to place on that consistent policy framework and message, because it really has messed things up?

[488] **Mr Thompson:** I think the key thing we're emphasising as much as

consistency is lead time—so, how far in advance you set the policies. At the moment, we have policies to 2020, and we don't have them beyond that, so the emphasis for us has been about having that consistency beyond 2020 into the 2020s, and being very clear as to the level of ambition. How the Government will respond when, inevitably, uncertainties mean that the world turns out somewhat different to how we expect it, has been part of the problem that we've seen in the last few months. Policy adjustments have been needed to respond to things that hadn't been foreseen, so, different gas prices and different carbon prices, for example. What we're saying for the 2020s and which is an important part of this power report is that the Government needs to not just say, 'This is our intention in a central world', but 'This is how we'll respond when a few things that we can reasonably expect to go differently will go differently'.

[489] So, that's an important part where, for example, we've said the level of the levy control framework and the funding for low-carbon power should be set, and the Government should be very transparent—'These are the assumptions we've set it on'—and if these assumptions, such as the gas price, such as the carbon price, turn out to be different, 'Here's how we would anticipate changing the funding'. We haven't had that so far, and so that has meant that, when there have been changes in policy, those have come as surprises, I think, in a lot of cases.

[490] **Joyce Watson:** Some of those surprises have been to the industry expected to deliver some of the key skills to meet those challenges, and how we then, in terms of meeting our obligation here, have been affected by change. So, in terms of the skills agenda particularly and trying to give a clear message to business, to colleges, and also to schools, what sort of focus will you be placing on that? You can't build skills overnight. It's not going to happen. But without the consistency, particularly for construction and engineering, it isn't going to happen either, so we're not going to gain.

[491] **Mr Thompson:** Yes, that's absolutely right. We've tended to focus on the lead times for investment, and the need to give investors a signal as to what happens in the future. Beyond investors, you then have the supply chain that is supplying those investments, which needs an even longer signal, and then you have the skills base that feeds into that supply chain, which probably needs an even longer signal. So, I think the further ahead you get, the harder it is to pin down exactly what it is you want. So, we have to have a balance of something like—. You have the 2050 targets; they set a clear long-term direction, but I guess what we're asking for is that the

Government does a bit more to join up the near-term policy that says, 'This is what we're doing in the next five years or so to that long-term target', and to say, 'Right, here's a path that we can envisage to get from 2020 to 2050'. It's a key thing that the fifth carbon budget will do, and then you don't necessarily need to say how much funding there'll be for each different particular technology or what the exact policy will be 20 years ahead. But, by giving an indication of how you think things could play out in that period, you give the supply chain and you give colleges and businesses something to aim for, I think.

[492] **Alun Ffred Jones:** Llyr.

[493] **Llyr Gruffydd:** Just picking up on that then, to what extent do you look at different scenarios? Are you limited to existing infrastructure or are you looking at more creative methods of energy delivery through local generation, distribution and supply?

13:45

[494] **Mr Thompson:** We're very focused on the ends rather than the means, I guess. For us, you can look at the targets that we've got and it's clear you need a lot of low-carbon power to meet them, and it doesn't matter whether that low-carbon power comes from one delivery means or another. So, the focus for us is on getting it there. The more creative and more innovative ways of getting that are interesting insofar as they're a cheaper way of doing it, they're a more publicly acceptable way of doing it, or they can do it in a way that makes some of the challenges and some of the barriers easier to overcome. But the focus for us has tended to be on demonstrating that the targets we're recommending can be met, and generally can be met within things we know about today. Insofar as new and creative things come along, those then make it easier, but we would tend not to rely on them happening, I guess.

[495] **Llyr Gruffydd:** Okay, that's fine. Just looking at the list of the costs and potential for different generation technologies that you've looked at, did you look at hydrogen as well, or do you consider hydrogen as part of that?

[496] **Mr Thompson:** So, this report was about electricity generation, so hydrogen, I guess, in a sense, is another carrier fuel that you could end up with. Carbon capture and storage is in here. One of the carbon capture and storage technologies you could have would probably involve hydrogen as an



intermediate step, so it would take the carbon out of natural gas and leave you with hydrogen, and then store the carbon as part of the carbon capture process. So, hydrogen could be in here. The scenarios we've proposed are compatible with a hydrogen economy or with a non-hydrogen economy; we haven't specified whether it's one particular type of carbon capture or another.

[497] **Llyr Gruffydd:** Okay, thanks.

[498] **Alun Ffred Jones:** Jenny Rathbone.

[499] **Jenny Rathbone:** You mentioned earlier in your remarks that low-carbon heat and transport were more difficult; that they were not low-hanging fruit. However, is there not a role for local authorities to lead the way on this—for example, electric vehicles for public transport—as a way of ensuring that there are networks of electrical connections for private transport? And how important do you think that is, because I agree that there are three elements to this challenge, aren't there, and that's very specifically one of them? It also requires the manufacturers to produce the vehicles at a price that people are prepared to pay, but, you know, it's the chicken-and-egg scenario, really. So, how much do you think local authorities could lead the way on electric transport, and how much do you think they're already doing so, because we have examples already of that?

[500] **Mr Thompson:** I absolutely agree with the principle, but I think low-carbon heating and low-carbon transport are the two key areas where local authorities have a fundamental role. In transport specifically, I think it does have to be a partnership across quite a lot of areas. The key target, actually, is a European target. We've seen the European targets on grams of carbon dioxide per kilometre, so fuel efficiency has driven the manufacturers to improve efficiency and particularly has driven them to bring electric vehicles to market, because by bringing electric vehicles to market they then can also bring the bigger cars to market and keep their average fleet at a certain level. So, that is a hugely important part, and, again, that only runs to 2020 and will need to be extended further. The UK Government then is providing the upfront subsidy—the £5,000 per car that makes the financial proposition a bit more attractive—but people will only take this up where they can see that it still fulfils their transport needs. They will drive an electric car where it will get them where they want to go, and that means the infrastructure has to be there. And the local authorities, as you say, have a key role in providing that infrastructure.

[501] I think on the low-carbon heat side, it's also worth saying that we're talking about technologies such as heat pumps that a lot of people still haven't heard of. These are very unfamiliar, and that is one of the big barriers. Local authorities have a great role in the community because they're trusted in a way that the energy companies, for example, tend not to be. So, they have a very useful role in delivery as well as providing things like the supporting infrastructure.

[502] **Jenny Rathbone:** Given the level of development of both of these at local authority level at this stage, how likely is it that they'll be sufficiently developed to meet our obligations by 2030? Or what is it we need to do to really fast-forward the development?

[503] **Mr Thompson:** I think, certainly for electric vehicles, and I should be clear that I'm talking about plug-in hybrids as well as pure electric vehicles—a lot of these cars would have a back-up petrol tank for people who regularly do longer distances—the period to 2030 looks like it should be enough to get to the sort of levels that the committee have talked about—that's 60 per cent of new vehicles by 2030. That's a huge amount more than we have today, but it certainly appears to be achievable. The models are there now and uptake is increasing, albeit from very slow levels. Yes, there's a long way to go and there's a lot to be done in between, but it certainly looks realistic, and I think we have a sense of what is required.

[504] On low-carbon heat, we're much further behind. We've had success in getting people to put biomass boilers in, but we've struggled to get them to connect to heat networks or to put in heat pumps using renewable heat from the ground or from the air. As I say, that reflects that the technology is still very unfamiliar to people and people are suspicious. So that's the one where it looks like there's a lot further to go. So, when I said there are bigger challenges, that's the particular area that I'm thinking about, where we don't really have an answer, and I don't think there is a clear view as to what the best path would be. In the committee, we've said that what we need is an action plan that brings together what central Government, devolved Governments and local authorities will all be doing and deals with not just the financial aspects but also the non-financial barriers such as awareness and trust of installers. The reality is that I don't think we have a clear view of what the right answer will be, which is why 15 years hence is not really that far.

[505] **Jenny Rathbone:** I can understand why residents without a science background would find it difficult to understand what heat pumps do and how, but how does that explain why local authorities aren't able to buy the expertise? Why, when they're building a new school, are they not automatically putting in a heat pump underneath the playground? It seems to some people that it's a bit of a no-brainer, but it's not happening. So, what is it? Because that would then enable people to generally become more aware of that technology.

[506] **Mr Thompson:** Yes. We talked about this a little bit in a report we did in 2012 on the role of local authorities. Some of the things we flagged there were a lack of funding—at the moment, it still probably costs more in a lot of cases to do this and, unless there's funding attached to it, it's not clear why a local authority would do it. The other is a lack of expertise and incentives. A lot of local authorities don't have their own carbon targets, for example; they don't have their own carbon plans; they don't have obligations following regulatory changes in the last two years that require them to come up with carbon plans or to reduce their own emissions. So, I don't think there's any reason to expect a local authority to do this out of goodwill. There has to be either a regulatory or a financial incentive to do so.

[507] **Jenny Rathbone:** Okay. You say heat pumps cost more at the moment. The capital cost, obviously, is in addition, but surely the revenue savings—. But they still don't equate in terms of looking at it over five or 10 years?

[508] **Mr Thompson:** It will depend on the exact situation and exact policy instrument that's in place. Certainly, at the moment, on average, a heat pump without a funding instrument attached to it will cost more over its lifetime than a gas boiler, say.

[509] **Jenny Rathbone:** Okay. I didn't realise that.

[510] **Alun Ffred Jones:** Julie Morgan.

[511] **Julie Morgan:** In terms of the local authorities, presumably, there is a varied response and willingness to be engaged with local authorities at the moment. Do you know what the determining things are that make local authorities want to be proactive in this field?

[512] **Mr Thompson:** I think I probably don't have much to add beyond the previous answer in terms of the headlines from our 2012 work. It wasn't a

major feature of this new report that we published a few weeks ago. Funding and regulations that require them to look at these things are the two things that we really focused on.

[513] **Julie Morgan:** But, presumably, some local authorities do things off their own initiative.

[514] **Mr Thompson:** Absolutely right. One of the things we have seen is that there is a very wide distribution in terms of local authority action and interest in this. Some councils are doing a great deal and some councils are doing very little. I couldn't tell you the exact reasons for those differences.

[515] **Julie Morgan:** Right. And in terms of public acceptability of change, did you give any views on that and how that can be achieved?

[516] **Mr Thompson:** Do you have particular changes in mind?

[517] **Julie Morgan:** Well, changes of methods of heat, for example, you know.

[518] **Mr Thompson:** I guess we've drawn on some other research in terms of public acceptability of the different low-carbon power technologies in this recent report, but we haven't looked again at the heat technologies. Certainly the anecdotal evidence is that lack of familiarity is a problem. Lack of trust in installers is a problem, and occasionally, actually, lack of skills for the installers as well. Sometimes these technologies are not as effective as they should be because they haven't been installed to the perfect standard.

[519] **Julie Morgan:** Right.

[520] **Alun Fred Jones:** Okay. Janet Haworth.

[521] **Janet Haworth:** Yes. I'm interested in the heat pumps. I recently had a new gas boiler fitted. I take Jenny's point about lack of understanding around how these things work. Interestingly enough, the firm that put my gas boiler in was headed up by an owner who was also an engineer, although it's a sort of medium-sized plumbing firm. He had just installed heat pumps into his home to experiment, really, to try and work out and understand what it was all about. Clearly, he is the best person to then go on and explain to his guys and girls, and also potential customers. I wonder if that's maybe a way through—whether we can incentivise appropriate firms to actually start to

work with this technology of the heat pump. So, it wouldn't be our small firms; it would be our medium-sized established firms, which have good trust within the local community. This particular firm's been around for a long time. It is well known and well trusted. He put his heat pump in, obviously, at his own expense. I just wonder if that's possibly a way through to start cascading the knowledge and the skills to people who will be the ones to gain the trust and explain to people how these things work.

[522] **Mr Thompson:** I think it's definitely right that skills in the supply chain are a key part of the picture here. We need to have enough installers that are well enough trained to be able to install it properly and to be able to talk about it properly to people when they're being rung up and asked, 'Will you come and fit me a new boiler?'. They have to have the information at their fingertips to be able to set out the options. We aren't there yet. That's partly why there has to be a long lead time to this. It will take time to build up. There has to be a clear indication of a bigger market in the future to make this an interesting proposition to encourage people to get to that kind of level.

[523] It also points to trying to pick the low-hanging fruit, where there is some still. New homes are a classic example of that. It's much easier to fit this in a new home than to retrofit it, particularly if you think a lot of people replace their boiler when the old one breaks down; they don't want to wait several weeks to understand a new technology, make a decision and then wait several more weeks while it's installed. They want to put it in straight away and get on with it and heat their house, particularly in winter when these things tend to break down, of course. So, one of the options there is to make sure that new homes are genuinely putting in low-carbon heat. At the moment they don't have to. The Government's removal of the zero carbon homes legislation means that they won't have to unless we do bring in a new rule to make sure that that happens. So, that seems a fairly obvious move to make.

[524] **Alun Ffred Jones:** You said that low-hanging fruit had been picked in order to get to where we are now; so, what's the next big idea that needs to be grasped?

[525] **Mr Thompson:** I guess it hasn't all been picked. I shouldn't say that it's all been picked, but the further ahead you look the less there will be. So, the first thing is to make sure that we keep doing the things that are fairly sensible. We're still running a lot of coal on the system; so, we should move

away from coal. We've got enough gas already to take up all the difference that coal is contributing. So, the answer is not to build more gas to get rid of the coal; it's still then to keep building more low-carbon generation. So, in the last few years, new power generation has come from low-carbon sources. That should continue to be the case in future. On energy efficiency there are still quite a few unfilled cavity walls out there. We should be looking to fill those, but the further ahead we look we're going to have to start looking then at insulating solid walls as well. We're then going to have to start looking at heat pumps.

14:00

[526] In transport, we should continue to improve the efficiency of conventional cars and vans whilst also moving towards a greater penetration of ultra-low emissions, so, electric or hydrogen cars in future, as well. So, the big new challenges are those. They're about heat pumps and low-carbon heat networks, they're about low-carbon vehicles, but that doesn't mean that we stop doing the things we've been doing. Those have been a really important part of progress to date. There is still more opportunity for them and we should keep doing those as well.

[527] **Jenny Rathbone:** How are we going to make these leaps under the current regulatory structure where we've been told by the distribution network operators that they can't take anymore renewables at the moment, because the system is full, but there's no obligation to discriminate and take clean energy over dirty energy? Unless we change that, how do you envisage us being able to turn the corner?

[528] **Mike Thompson:** So, in the particular case of low-carbon power, I think the key instrument is in place now, which is the long-term contracts that are signed and offered—the contracts for difference that are offered through auctions. At the moment, the problem is that we haven't announced when the next auction will be, so people aren't developing any more projects for that. Developers of current projects are, at the moment, waiting. The longer we go on, the more question there'll be around whether they keep waiting for that auction. So, that's something we need to get on with and sign more contracts, and we need to give people an indication that, beyond that auction round, there will be more auction rounds, because there's funding available, because the direction that we envisage overall is towards low-carbon power generation and then, as you say, these things have to be connected as well.

[529] The DNO issue, I think, is about smaller scale projects being added—

[530] **Jenny Rathbone:** Well, I think there are particular issues around small-scale projects, where the National Grid is effectively killing them dead in the water. A £100,000 project that is then told, 'It's going to cost you £5.7 million to connect to the grid' is clearly not going to go ahead. That's one project, but a problem, which is around the inadequacy of the grid for that. But the other is that, for example, in the south-west, we're told that there's already 40 per cent renewable feeding into the grid, I think it is, but that no more can be tolerated because the system can't cope with it. Well, you know, the obvious answer is why not turn off some of the 60 per cent that is dirty energy?

[531] **Mr Thompson:** We haven't looked at specific examples at that level; I guess some of that will be an issue for Ofgem and for the grid rather than for us.

[532] **Jenny Rathbone:** Okay, but then what is it that needs to be done to—. I appreciate that it's Ofgem, but what is it that Ofgem needs to do turn that corner? Otherwise, we'll always be in this situation where existing providers want to go on doing the same old.

[533] **Mr Thompson:** I guess the view we've taken on this is that the transmission charging and the distribution charging, as far as possible, should reflect the marginal costs that individual suppliers are creating. I don't know about the individual examples you've said. If a supplier is being charged a much higher cost than they will impose on the system by coming on, that clearly doesn't fit with that principle. So, we wouldn't go further than to say that's the principle and then it would be over to Ofgem to make sure that—

[534] **Jenny Rathbone:** Well, we have an alternative model in Germany, which is where people can generate and then sell the electricity that they generate. They're not reliant on having to sell to this central grid.

[535] **Mr Thompson:** Yes. So, one of the things we've done in this report is to look at managing the system as a whole. What is clear when you look at the system as a whole is that you do need the different technologies to be able to integrate together; you do need them to be able to supply when the demand is there. In terms of distribution, we aren't at a place yet where, in

the UK, you can, in a household, for example, put some solar panels on your roof and have a battery and go off the grid entirely. So, you will have to keep having a distribution connection whatever you do in the near term.

[536] So, where we're bringing in distributed generation and it is increasing the need for the distribution network, there probably are costs attached to that and it's important that we do include those costs when we're making decisions about those technologies. Again, I can't talk to the specific examples, but it doesn't surprise me that there are examples where distributor generation does bring additional costs in terms of managing the system overall and in terms of strengthening the distribution network.

[537] **Jenny Rathbone:** If you're generating electricity in the middle of Wales and then it's having to go all the way back to the national grid in wherever, there's obviously a loss of energy in that process. So, how important is it that we are able to develop local networks and local storage?

[538] **Mr Thompson:** It's not a specific question that we have looked at. It is within National Grid and Ofgem's remit to think about that sort of thing and to try and manage the system as efficiently as they can. For the grid, power isn't taken from one part of the country and then stored centrally and then sent back again—they are managing things on a more localised level than that from the control room. But, what the DNOs and grid together need to do is to make sure that there are enough connections between all the different points, to ensure that, any time, all the demand that is needed at each point, or the supply that can be provided from each point, can be met and can be used.

[539] The point, I guess, in our work, is to demonstrate that you can manage that system overall while decarbonising and while increasing solar, wind, nuclear and CCS generation, and you can do that and maintain security of supply. That's the key finding from our work. So, I guess it's using detailed modelling, but it's trying to take the slightly bigger-picture view on it.

[540] **Jenny Rathbone:** So, you're doing the detailed modelling, but are Ofgem and National Grid?

[541] **Mr Thompson:** I'm sure they are, yes. We've certainly talked with the grid around some of the detailed modelling they have done. We've shared our modelling with both the grid and Ofgem.



[542] **Alun Ffred Jones:** Mick Antoniw, then—

[543] **Mick Antoniw:** Just a short question, you mentioned, obviously, the moving away from coal, although I think we're still importing about 50 million tonnes a year, but, gradually, it's going down. Were you suggesting that there should be an increased use of gas, or that the gas should be decreasing as well—we should be moving away from gas as well?

[544] **Mr Thompson:** So, the scenarios that we have have gas roughly staying at today's level, actually. So, more capacity, but the capacity running, on average, less, so that it then still produces roughly what we see today, which is around a quarter of generation on the system. Those are the sorts of scenarios we've got. I think what you often hear are people saying, 'Coal is a problem. We need to get out of coal; therefore, we need to build more gas'. The point I was trying to make earlier was we actually have enough gas on the system now that we could run the system without using coal. There's enough already to do that, so the problem is not that we haven't got enough gas stations, the problem is just that we don't have a carbon price that reflects the true cost. So, the low-carbon price we've got—coal generators are still incentivised to run at times when gas generators could run instead, so you see both of them.

[545] **Mick Antoniw:** Where does shale gas fit within that scenario?

[546] **Mr Thompson:** We tend to distinguish between the supply of the fuels and the use of the fuels. This report is very much about the use side, so where the generation comes from. In terms of where shale comes in, it would be one of the supply fuels for the gas that was being used, not just in electricity generation, but also in homes and in industry. The scenarios we've got suggest, even with the heavy decarbonisation that we include, and this is going beyond 50 per cent reductions by 2025—you'd still be burning enough gas in the UK that you'd expect to be importing at the margin, whether you expand UK shale or not.

[547] **Mick Antoniw:** So, the modelling is really just that the gas level remains fairly constant.

[548] **Mr Thompson:** In the power sector, that's right, yes, and then, falling slightly in residential and commercial sectors.

[549] **Mick Antoniw:** All right. That's fine, thank you.

[550] **Alun Ffred Jones:** Llyr.

[551] **Llyr Gruffydd:** Yo've spoken a lot about, in your budgeting process, the scenarios that you look at, and they're very much based on different technologies that we know about, but to what extent are your deliberations also informed by the likely public acceptability of various forms of low-carbon energy?

[552] **Mr Thompson:** I guess the headline from this report was that, to hit the target we've got overall, we need to have low-cost, low-carbon technologies that are acceptable to the public and investable for investors. That's the key message of the whole report. A key thing when you look at acceptability is that some of the big options are where the public acceptability is more fragile; so, nuclear—you see in DECC's tracker survey of public attitudes on energy that nuclear power is at around a 40 per cent approval rating, with only 20 per cent against. There are a lot who are undecided on nuclear, whereas the renewable technologies tend to be much higher. So, even onshore wind is 65 per cent or so, and solar has an over 80 per cent approval rating, so the key thing that we have emphasised is that you shouldn't rely purely on nuclear and carbon capture and storage coming through. You need to make sure that you've got other options available, and offshore wind is a key one we've emphasised in that case.

[553] There will almost certainly be limits to how far we can go with onshore wind and solar. They can make a big and important contribution, but they won't be able to decarbonise the whole sector. Offshore wind, though, potentially could supply all of UK electricity generation. There's enough capacity in UK waters that you could meet all of the current electricity needs offshore, and the acceptability of offshore wind is much higher. So, that's been one where we've said, 'Look, this is a technology that is very important strategically in the long run. It provides a real hedge against nuclear and CCS should public opinion go against those technologies.' So, it's more expensive at the moment, but we've set out the good reasons for supporting that technology.

[554] **Llyr Gruffydd:** And should tidal lagoons and tidal energy be in a similar bracket?

[555] **Mr Thompson:** We didn't report on the acceptability of those, but yes,

they are renewable technologies that tend to be more popular with the public.

[556] **Llyr Gruffydd:** Thanks.

[557] **Alun Ffred Jones:** Alan, would you like to—?

[558] **Mr Simpson:** Thank you, Chair. Can I just put on the table that one of the biggest criticisms of CCC is the accusation that essentially you're looking for tomorrow's solutions using yesterday's structures? And the answer to Jenny's question I think highlights that. In a system that cannot specify that clean should be taken before dirty, you're playing to the interests of the incumbents, and the owners of dirty. So, it just troubles me that all of the evidence from outside the UK about cities that are becoming their own virtual power stations, producing clean locally, distributing and storing and sharing locally—those seem to be models that are bypassing the committee's thinking, and I just think there are limits to what can be obtained from putting a go-faster stripe on a Commodore 64. It's probably not anywhere close to the mobile phone you've already got in your pocket. So, I just think that it's important to take your response to Jenny back as a litmus test of how far and how fast we can decarbonise if we can't prioritise clean.

[559] **Alun Ffred Jones:** Can we just have a response to that?

[560] **Mr Thompson:** I think it's an important criticism, and it's one that we hear. We've taken a view strategically that we would much rather be on that side of the fence than on the side of the fence that says you're too reliant on future technologies or unproven systems. So, we have deliberately put ourselves on the side of relying on current technologies and current systems and solutions. Now, I would say our scenarios still appear very challenging and there's still a lot that needs to be done to get the uptake of low-carbon vehicles and low-carbon heat that we've talked a lot about. So, we are very conscious that our scenarios are already very challenging. If something else comes along that makes them easier, great. That makes the cost lower, it makes the impact on people's lives smaller, and it makes the targets altogether more acceptable. So, I think we are deliberately, in proposing challenging targets, not trying to rely on those things. We absolutely do not intend to rule them out, and where there are opportunities to do things cheaper and better, then of course the CCC is in favour of those.

[561] On the particular DNO aspect, we haven't identified that as a key

barrier when we look at progress in decarbonising the UK electricity sector. So, in the last few years, for example, we have continued to add a lot of low-carbon generation. We've continued to connect that to the grid, and we have seen carbon emissions falling as a result. So, if we identify something like that as a specific issue that was having a material impact at the UK level, it is the sort of thing we would look to comment on in our progress report. It wasn't one of those things in the last report. That's not to say it couldn't be next time, but it wasn't in the last assessment.

14:15

[562] **Mr Simpson:** Okay. Would it be helpful if the Welsh Government were able to attach carbon accounting to its policy-making processes, and make that a duty on local authorities within Wales?

[563] **Mr Thompson:** I've not had sight of the specific proposal, if there is one. Certainly, the principle that if you measure it, you're more likely to be able to influence and affect it is one that we have talked about before. And, certainly, when we look at all of the devolved Governments, one of the challenges is in identifying how much impact the devolved policy is having, how much impact the UK policy is having, or is it the UK policy that is holding back progress in Wales. That is always a challenge, so things that make that easier would certainly be welcome from the analysts' point of view, if you like, within the committee.

[564] **Mr Simpson:** Okay. When you say that low-carbon technologies are more expensive, it wasn't long ago that the International Energy Agency came out with this report that the UK spends £26 billion on fossil fuel subsidies, and £3.5 billion on renewables. If you take all subsidies out, what is your recalculation about relative costs?

[565] **Mr Thompson:** So, the key thing in that IEA work is that where a fossil fuel was not exposed to a full price of carbon, it was classed as a subsidy to fossil fuel. So, it's important to understand that starting point. What we've said is that if fossil fuels are not exposed to a price of carbon, then that is currently a cheaper way of providing most energy needs than the lower carbon option. And then the second step we've said is: but, if you apply a proper carbon price to those fossil fuels, then you'll start to reach parity. And that's kind of a circular argument, because it depends on the view that 'Well, actually, we should be decarbonising', and therefore a proper carbon price is one, by definition, that brings high-carbon options up to the cost of low-

carbon ones. So, I absolutely agree with the point that if we reflect the proper price of carbon in technologies, then low-carbon options, by definition, become the cheaper option.

[566] **Alun Ffred Jones:** Have you costed the carbon element?

[567] **Mr Thompson:** Yes. What we did for this report is we did modelling, essentially, that says, 'Well, let's look to 2050. Let's look first of all at a global level.' We have our objective at a global level to limit global temperature rise to 2 degrees C. We have a notion of the costs of different technologies around the world. We can make assumptions around how much energy demand will be in future and how much technologies will cost, and then let's work out what price you would have to put on carbon to reduce emissions to the level that will hit that 2 degrees C objective. So, we can do that at a global level, and then at the UK level we can do a similar exercise for our 80 per cent 2050 target.

[568] If you do those two, actually, you come out with fairly similar answers, which reflects that the UK 80 per cent target is aligned to the global 2 degrees C target; they're both trying to achieve the same thing of avoiding dangerous climate change. So, if you do that, you come up with a set of carbon values that increase over time, and we think that the values that the UK Government has published reach around £78 per tonne in 2030, and then go up to over £200 per tonne in 2050. Those sorts of values are what you need to have to be consistent with tackling dangerous climate change. I should say those are a great deal higher than prices in the market today, where the EU emissions trading scheme price is around €7 per tonne. So, I said we need to be getting over £200 in the long run; currently we're around €7.

[569] **Alun Ffred Jones:** Mick, just to—

[570] **Mick Antoniw:** I just didn't quite understand how that worked. So, if you have, say, coal as a fossil fuel there will be certain levies that will raise, because that is probably the more carbon-intensive et cetera, so it's about that. And the same, presumably, with gas—at a slightly lesser level, but again would be increasing. Does it equally apply to those products when they're imported, or is it only for the domestically produced?

[571] **Mr Thompson:** Absolutely. So, it applies—. I mean, we would use the cost of gas at the UK balancing price, which is the cost of imports. It's also

the cost that we're effectively paying for our domestic production, which we could be selling overseas if we didn't use it ourselves.

[572] **Mick Antoniw:** But how does it apply to, for example, coal, because we're importing enormous amounts of coal. We've stopped producing it; I think Kellingley shuts next week—the last deep mine. And they of course had the levies that contributed to that. But would those levies still apply then, for example, to the coal that's imported that replaces that, or do they not?

[573] **Mr Thompson:** Again, we're distinguishing between the cost of burning the stuff with where it comes from—

[574] **Mick Antoniw:** With the levies on top of the production of it.

[575] **Mr Thompson:** Yes. So, we would apply the carbon price, as I talked about; we're applying those to the national balancing prices—well, it's the European price of coal, I think, that we use.

[576] **Mick Antoniw:** So, it applies across the board.

[577] **Mr Thompson:** That's right, yes. Effectively, we stack up a merit order. So, there's a relatively low cost in going from coal to gas, there's then a slightly higher cost in going from gas to wind, and a slightly higher cost in using that wind to supply a heat pump, instead of a gas boiler. So we stack all of these things up and say, 'Well, how much do you need to do', and then the cost at the margin gives us our—

[578] **Mick Antoniw:** I thought I'd understood it, but I'll leave it there.

[579] **Mr Thompson:** It is quite detailed modelling. Sorry for going into it.

[580] **Alun Ffred Jones:** Alan.

[581] **Mr Simpson:** The committee will have to come up with recommendations to the Assembly about what Wales should do at a policy level. I just want to ask you: have you looked at the experience in parts of the United States, where states themselves have the power to direct carbon reduction, or to place carbon-reduction obligations on their DNOs as a successful mechanism for driving the decarbonisation agenda? If so, it would be interesting to know your thoughts on whether that would be an appropriate way of driving Jenny's, and several other people's, agendas

about that shift in thinking—partly because it disconnects the DNO from the power stations and it makes for a much more meaningful relationship with local authorities. Have you analysed the effectiveness of those models?

[582] **Mr Thompson:** We haven't looked at that. I guess, in the power sector, again, we haven't identified at the moment a particular barrier there. Actually, for us, the low-carbon contracts being auctioned is working fairly well as the mechanism for bringing forward low-carbon generation, bringing it forward at a lower cost than was expected. I think in the advice to the Welsh Government, we are much more likely to focus on the issues where the devolved levers are stronger, so on low-carbon heat, on energy efficiency, on public transport and smarter choices, and on the infrastructure for electric vehicles and on agriculture. Those are more likely to be the areas we would focus on. This is certainly something I'll take away and suggest to colleagues working on this stuff, but it is not something we've focused on so far.

[583] **Mr Simpson:** But you are conscious that, in the capacity payment, for the contracts that have been allocated so far, the largest majority of them have taken the form of low-cost, high-carbon diesel generation, which actually works in exactly the wrong direction. So, would it be helpful if Wales actually had control of its own capacity mechanism contract allocations?

[584] **Mr Thompson:** In terms of the diesel stuff, our comment on that has been that we don't know at the moment how much that will run. The intention of the capacity mechanism, certainly the first round, is to procure stuff that won't run very much and, as long as it doesn't run, then it doesn't matter too much how polluting the diesel is. It's early days yet, so we'll monitor that. We'll also monitor whether future rounds are bringing forward more diesel, because the more that comes forward, the more likely it is that it will have to run. But, at the moment, we've said this is a watching brief for us, rather than one where we'll come in and say—

[585] **Mr Simpson:** I hear what you're saying about your watching brief; I'm asking what your thoughts are about whether, if Wales had control of that itself, it could impose a different set of criteria for the contract allocations, such as that clean generation bids will be taken before dirty.

[586] **Mr Thompson:** At the moment, we haven't identified it as a problem, so it isn't one where we would suggest that there should be a particular solution. I don't mean to avoid the question, but that's why we haven't addressed it: for us, this isn't yet a serious problem. If it gets to the point,

following our watching brief, where we think this is a problem, that will be the point when we say, 'Is one of the solutions for Wales to take control of this and to impose those sorts of rules?' But, at the moment, that isn't something that we've assessed.

[587] **Alun Ffred Jones:** Well, I'm going to wrap this session up, unless somebody's got some pressing question or challenge to the witness. No. Diolch yn fawr iawn. Thank you very much, Mr Thompson, for helping us with our inquiry. We appreciate it very much. Thank you. Diolch yn fawr.

14:24

**Papurau i'w Nodi**  
**Papers to Note**

[588] **Alun Ffred Jones:** There are papers to note—item 9. Are you happy to note them? That is the end of the meeting. The next meeting will be on Wednesday 18 November.

*Daeth y cyfarfod i ben am 14:25.*  
*The meeting ended at 14:25.*