



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

Y Pwyllgor Amgylchedd a Chynaliadwyedd **The Environment and Sustainability Committee**

Dydd Mercher, 11 Mehefin 2014
Wednesday, 11 June 2014

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cynhwysir trawsgrifiad o'r cyfieithu ar y pryd.

These proceedings are reported 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
Julie James	Llafur Labour
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
Antoinette Sandbach	Ceidwadwyr Cymreig Welsh Conservatives

**Eraill yn bresennol
Others in attendance**

James Byrne	Ymddiriedolaethau Natur Cymru Wildlife Trusts Wales
Gareth Clubb	Cyfeillion y Ddaear Cymru Friends of the Earth Cymru
Peter Davies	Cadeirydd, Comisiwn Cymru ar y Newid yn yr Hinsawdd Chair, Climate Change Commission for Wales
Lila Haines	Oxfam Cymru
Dr Sharon Hopkins	Bwrdd Iechyd Lleol Prifysgol Caerdydd a'r Fro Cardiff and Vale University Local Health Board
Jessica McQuade	WWF Cymru
Clare Sain-ley-Berry	Cyngor Gweithredu Gwirfoddol Cymru Wales Council for Voluntary Action
Dr Lorraine Whitmarsh	Prifysgol Caerdydd Cardiff University

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

Chloe Corbyn	Y Gwasanaeth Ymchwil Research Service
Alun Davidson	Clerc Clerk
Adam Vaughan	Dirprwy Glerc Deputy Clerk

*Dechreuodd y cyfarfod am 09:33.
The meeting began at 09:33.*

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

[1] **Alun Ffred Jones:** Hoffwn eich croesawu chi yma y bore yma. Croeso mawr i'r pedwar sydd wedi dod i roi tystiolaeth i ni y bore yma. Sesiwn lled anffurfiol yw hon, a bydd yr Aelodau yn gofyn nifer o gwestiynau

Alun Ffred Jones: I welcome you to this morning's meeting. Welcome to the four of you who have joined us to give evidence this morning. This is a relatively informal session, and Members will be asking you a number of

i chi. Diben y sesiwn yw rhoi cyfle i'r pwyllgor drafod y materion allweddol sy'n ymwneud â newid hinsawdd yng Nghymru gyda chi fel rhanddeiliaid.

questions. The purpose of the session is to discuss the key issues relating to climate change in Wales with you as stakeholders.

[2] Os bydd larwm tân yn canu, dilynwch gyfarwyddiadau'r staff. Cofiwch ddiffodd eich ffonau symudol. Mae croeso i bawb gyfrannu yn Gymraeg neu yn Saesneg, wrth gwrs. Peidiwch â chyffwrdd y botymau ar y meicroffonau. Mae dau ymddiheuriad, gan Mr Gwyn Price a Joyce Watson. Nid oes neb yn dirprwyo.

If a fire alarm should sound, please follow the directions from staff. Remember to switch off your mobile phones. You are welcome to contribute in Welsh or English, of course. Please do not touch the buttons on the microphones. We have two apologies, from Mr Gwyn Price and Joyce Watson. Nobody is deputising on their behalf.

09:34

Newid yn yr Hinsawdd—Grŵp Trafod Climate Change—Round Table Discussion

[3] **Alun Ffred Jones:** Hoffwn groesawu chi gyd yma. A gaf ofyn i chi gyflwyno eich hunain a'ch cyfrifoldebau? Ni ofynnaf ichi wneud cyflwyniad, achos rwy'n siŵr y bydd y cwestiynau a'r atebion yn rhoi cyfle i chi ddweud yr hyn sydd gennych i'w ddweud. A gaf ddechrau gyda chi, Lila?

Alun Ffred Jones: I welcome you all here. May I ask you to introduce yourselves and your responsibilities? I am not going to ask you to make a presentation, because I am sure that the questions and the responses will give you an opportunity to say what you want to say. May I start with you, Lila?

[4] **Ms Haines:** Lila Haines wyf i, swyddog polisi ac eiriolaeth Oxfam Cymru. Ein diddordeb mawr, wrth gwrs, yw sicrhau bod y camau rydym yn eu cymryd yng Nghymru yn fuddiol i gymunedau tlawd ledled y byd sydd mewn lleoedd lle rydym yn gyfarwydd iawn ag effaith newid hinsawdd.

Ms Haines: I am Lila Haines, policy and advocacy officer for Oxfam Cymru. Our major interest, of course, is in ensuring that the steps we take in Wales are beneficial to communities facing poverty across the globe in areas where we are very familiar with the impact of climate change.

[5] **Ms McQuade:** Hi, I am Jessica McQuade, from WWF Cymru. I am a policy and advocacy officer there, and I work primarily on climate change and energy policy.

[6] **Mr Clubb:** Gareth Clubb, cyfarwyddwr Cyfeillion y Ddaear Cymru ydw i.

Mr Clubb: I am Gareth Clubb, director of Friends of the Earth Cymru.

[7] **Mr Byrne:** I am James Byrne, living landscapes advocacy manager for Wildlife Trusts Wales.

[8] **Alun Ffred Jones:** Croeso i chi unwaith eto i'r sesiwn hon. Rydych chi i gyd, rwy'n credu, yn rhyw ragamcanu na fydd y Llywodraeth yn llwyddo i gyrraedd ei tharged o leihau allyriadau gan 40% erbyn 2020. A ydw i'n iawn yn dweud hynny a beth rydych chi'n credu y dylai'r Llywodraeth wneud wrth geisio ymateb i'r her honno? Felly, a gaf ddechrau gyda Lila, neu—?

Alun Ffred Jones: Welcome to you all once again to this session. I believe that you all forecast to some extent that the Government will not reach its target to reduce emissions by 40% by 2020. Am I correct in saying that and what do you believe that the Government should do in attempting to respond to that challenge? So, may I start with Lila, or—?

[9] **Ms McQuade:** We recently—yesterday—published the greenhouse gas inventory from the Department of Energy and Climate Change data, and that looks at where we currently are, based on the 2012 data. That has actually shown an increase in carbon emissions in Wales in that timescale, so, instead of reducing emissions, we are increasing them, which is going the wrong way. So, in answer to your question, if we continue to do that, we certainly will not be reaching our targets by 2020. That is the top headline that we would like to give.

[10] We can go into some more detail on why that might be. From our perspective in WWF, we look particularly at how we can look at a more effective governance structure to enable the delivery of the strategy. The Minister has made very supportive comments in terms of his commitment to the 40% reduction, especially after the Intergovernmental Panel on Climate Change report, but what we have yet to get is a clear sense of how it is going to deliver on those targets. So, we are looking at the refresh as an opportunity for the Minister to do that. From our perspective in WWF, there needs to be a route-map or a clear action plan of how all the different programmes or initiatives that it has done have been evaluated to see the effectiveness of those in terms of carbon emissions, which is something that we do not currently have, and also, in the future, how the policies and strategies that it is looking to carry out will take us to that 40%. So, at the moment, we do not feel that there is a clear action plan from the Government on how it is going to achieve that.

[11] **Alun Ffred Jones:** A gaf i jest eich stopio chi yn y fan honno am eiliad? A ydw i'n iawn i ddweud eich bod chi wedi dweud eich bod chi'n credu bod yna gynnydd wedi bod mewn allyriadau carbon yn ystod y cyfnod diweddar hwn? Mae'r ffigurau sydd gennym ni'n dangos gostyngiad ym mhob maes ond un.

Alun Ffred Jones: May I just stop you there for a moment? Am I correct in saying that I heard you say that you believe that there has been an increase in carbon emissions over this recent period? The figures that we have show a decrease in every area but one.

[12] **Mr Clubb:** Mae'r hyn mae Jess wedi ei ddweud yn gywir. Hynny yw, rhwng 2011 a 2012, roedd cynnydd o 5% mewn allyriadau nwyon tŷ gwydr.

Mr Clubb: What Jess said is accurate. That is, between 2011 and 2012, there was an increase of 5% in greenhouse gas emissions.

[13] I fynd yn ôl at y cwestiwn gwreiddiol, nid yw'n anochel y bydd y targed yn cael ei golli, ond, os ydym am gyrraedd y nod, mae eisiau gweithredu go radical erbyn hyn. Y gefnlen i hyn oll yw'r ffaith ers blwyddyn gyntaf y cyfnod—yn bennaf, 1990 yw honno—rydym wedi cael 22 o flynyddoedd ac rydym wedi cyrraedd llai na hanner y targed. Felly, dim ond wyth mlynedd sydd ar ôl i gyrraedd y mwy na hanner y targed sydd yn weddill. Pe byddem yn dechrau o'r pwynt hwn, byddai'n rhaid i ni weithredu mwy na thair gwaith yn gyflymach nag yr ydym ni wedi ei wneud hyd yn hyn. Gan ein bod ni bellach yn 2014 ac nid ydym ni weld gweld newid radical yn y ffordd mae Llywodraeth Cymru yn gweithredu, rydym ni hyd yn oed yn fwy ar ei hôl hi. Felly, os na chawn ni weithredu radical go iawn gan Lywodraeth Cymru,

To return to the original question, it is not inevitable that the target will be missed, but, if we are to attain the target, we do need some radical action. The background to all of this is the fact that since the first year of the period—that is, essentially, 1990—we have had 22 years and we have attained less than half of the target. So, we have only eight years left to attain the more than 50% of that target that remains. If we were starting from this point, we would have to work more than three times more quickly than we have done to date. As we are now in 2014, and we have not seen any radical change in the way that the Welsh Government acts, we have fallen even further behind. So, unless the Welsh Government takes truly radical action, it is very difficult to see any way that we can attain that target of 40%.

mae'n anodd iawn gweld unrhyw ffordd y byddwn yn cyrraedd y targed o 40%.

[14] **Alun Ffred Jones:** A gaf i, cyn fy mod i'n galw Llyr Gruffydd i mewn, ofyn un cwestiwn arall? Sut mae'r ffigurau hyn yn cymharu, yn gyffredinol, gyda ffigurau'r Deyrnas Unedig neu, yn wir, rhai o wledydd Ewrop?

Alun Ffred Jones: Before I turn to Llyr Gruffydd, may I ask one further question? How do these figures compare, in general, with the United Kingdom figures or, indeed, some of the European countries?

[15] **Mr Clubb:** Rhwng 2011 a 2012, roedd y cynnydd yn allyriadau nwyon tŷ gwydr y pen yn fwy yng Nghymru nag yn yr un rhan arall o Brydain, er bod Cymru yn waeth i ddechrau. Mae Cymru'n un o'r gwledydd drwy'r byd i gyd sydd â'r allyriadau mwyaf y pen. Felly, wrth ystyried lle yr oeddem yn ei ddechrau, rydym yn gwneud yn waeth na'r lleoedd a oedd eisoes yn gwneud yn well.

Mr Clubb: Between 2011 and 2012, the increase in greenhouse gas emissions per capita was greater in Wales than in any other part of Britain, although Wales was worse to start with. Wales is one of the nations throughout the world that has the greatest per capita emissions. So, bearing in mind our starting point, we are doing worse than areas that were already doing better.

[16] **Llyr Gruffydd:** Mae'r ffigurau yn eithaf newydd, ac felly nid wyf wedi cael cyfle i bori trwyddynt mewn manylder. Er hynny, liciwn i glywed eich dadansoddiad chi o'r hyn y mae'r ffigurau hyn yn ei ddweud am berfformiad Llywodraeth Cymru.

Llyr Gruffydd: The figures are relatively new, so I have not had an opportunity to look through them in detail. However, I would like to hear from you your interpretation of what the figures are saying about the performance of the Welsh Government.

[17] **Mr Clubb:** Gwnaf ateb yn gryno. Dyma'r canlyniadau cyntaf yr ydym wedi eu cael i ddangos y cynnydd a wnaed ar y targed i leihau allyriadau gan 3% y flwyddyn. Felly, dyma'r cyfle cyntaf yr ydym wedi ei gael. Mae'r ffigurau'n dangos, yn y sectorau sydd wedi'u datganoli—ac, wrth gwrs, nid yw'r targed o 3% y flwyddyn ond yn berthnasol i'r rhai sydd wedi'u datganoli—y sefyllfa ym mhob un maes. Ym maes amaeth, rydym wedi methu'r targed. Ym maes defnydd tir, rydym wedi methu'r targed. Mae'r sector cyhoeddus wedi methu'r targed. Mae tai preswyl wedi methu'r targed. Mae trafnidiaeth wedi methu'r targed. Yr unig faes lle yr ydym wedi llwyddo yw maes rheoli gwastraff. Yn waeth byth, yn y rhan fwyaf o'r meysydd hynny, mae allyriadau wedi mynd i fyny, ac nid yw hynny yn cynnwys ein defnydd o ynni, sef y maes lle mae'r effaith fwyaf oll o'r meysydd i gyd o safbwynt nwyon tŷ gwydr.

Mr Clubb: I will respond briefly. These are the first results that we have had to demonstrate what progress has been made against the target to reduce emissions by 3% per annum. So, this is the first opportunity that we have had. The figures show, in the devolved sectors—and, of course, that 3% target is relevant only to those devolved areas—progress in each area. In the area of agriculture, we have missed the target. In the area of land use, we have missed the target. In the public sector, the target has been missed. Residential homes has missed the target. Transport has missed the target. The only area where we have succeeded is waste management. Even worse, in most of those areas, emissions have increased, and that does not include our use of energy, which is the area of greatest impact of all of the areas with regard to greenhouse gases.

[18] **Llyr Gruffydd:** Felly, wrth ddweud bod gennym wyth mlynedd ar ôl i droi'r tancer rownd—a defnyddio un ffordd o ddisgrifio'r peth—rydych yn dweud bod yn

Llyr Gruffydd: So, in saying that we have eight years left to turn this tanker around—to use one way of describing it—you are saying that we have to work three times harder. So,

rhaid inni weithio deirgwaith yn galetach. Felly, faint yn uwch na 3% y flwyddyn bydd yn rhaid inni dorri allyriadau, yn eich barn chi?

how much higher than 3% a year do the cuts in emissions need to be, in your view?

[19] **Mr Clubb:** Pe buasem wedi dechrau yn 2012, byddai wedi bod yn rhaid inni leihau allyriadau gan fwy na 3% y flwyddyn—tua 3.5%. Fodd bynnag, o ystyried ein bod ni eisoes wedi gwastraffu dwy flynedd, siŵr o fod, rydym yn edrych ar rywbeth fel 5% y flwyddyn, ac nid yw hynny ar radar neb. Nid yw gweithrediadau Llywodraeth Cymru'n agos at hynny.

Mr Clubb: Had we taken 2012 as our starting point, we would have had to reduce emissions by more than 3% per annum—around 3.5%. However, given that we have probably already wasted two years, we are looking at something like 5% per annum, and that is not on anyone's radar. Actions by the Welsh Government are not anywhere near that.

[20] **Llyr Gruffydd:** Felly, mae'n rhaid inni fynd o fod wedi cynyddu allyriadau 5% yn y cyfnod diwethaf i'w torri nhw 5%, flwyddyn ar ôl blwyddyn.

Llyr Gruffydd: So, we have to go from having increased emissions by 5% over the last period to cutting them by 5%, year on year.

[21] **Mr Clubb:** Flwyddyn ar ôl blwyddyn.

Mr Clubb: Yes, year on year.

[22] **Russell George:** With regard to the carbon emissions and Wales having the highest rise in 2011-12, what were the figures for the rest of the UK, and is there another part of the UK that is demonstrating the lowest figure in increase? Is there a reason for that? Are they doing something better? What is the issue?

[23] **Ms McQuade:** I have not looked at the latest details. I think that Gareth would probably be the best person to answer that, because he has looked at it.

[24] **Mr Clubb:** Y rheswm pennaf am y cynnydd yw'r ffaith bod, mewn gwirionedd, lleihad ffug, fel petai, rhwng 2010 a 2011, achos bod ffwrnais ddur yn cael ei hatgyweirio, ac mae hynny wedi dod i mewn eto i'r data hyn, sy'n dangos cynnydd eithaf sylweddol. Y peth arall sydd wedi golygu bod cynnydd mawr yn yr allyriadau yw'r newid i losgi mwy o lo er mwyn cynhyrchu trydan—mae hynny wedi bod yn ffactor pwysig hefyd.

Mr Clubb: The main reason for the increase is the fact that, in reality, there was a misleading reduction, in a way, between 2010 and 2011, because a steelworks furnace was being repaired, and that has come into the data again, which shows quite a significant increase. The other thing that has led to a major increase in emissions is the change to burning more coal to produce electricity. That has been an important factor as well.

[25] Yn y blynyddoedd i ddod, gan fod pwerdy glo Uskmouth wedi cau, efallai y gwelwn rywffaint o ostyngiad. Fodd bynnag, wrth gwrs, mae Aberddawan llawer yn fwy nag Uskmouth.

In years to come, given that the Uskmouth power station has been closed, we may see some reduction. However, of course, Aberthaw is far bigger than Uskmouth.

[26] **Russell George:** Are you suggesting that the increase is partly due to the way statistics are put together, and there is not a specific reason?

[27] **Mr Clubb:** Yn y bôn, yn y meysydd lle mae gan Lywodraeth Cymru ddylanwad, nid oes dim byd wedi digwydd.

Mr Clubb: Essentially, in the areas where the Welsh Government has influence, nothing has happened. There has been no progress.

[28] **Russell George:** Okay.

[29] **Alun Ffred Jones** Antoinette is next, then Julie Morgan.

09:45

[30] **Antoinette Sandbach:** I notice, in these figures, that agricultural emissions have dropped by 21%, but they have increased by 13%, so there is obviously a net drop of 8% in the carbon emissions, or it contributes 13% towards emissions. One of the key carbon sinks is woodland, and I understand that it is changes in the management of the woodland estate that is affecting those figures. Perhaps James is best placed to answer what steps you would like to see being taken because there is clear potential for offsetting through planting.

[31] **Mr Byrne:** Yes. I have some notes from the Woodland Trust, and it has told me that the target from the Welsh Government of 5,000 ha of new planting per year is not being achieved. Obviously, utilising the Welsh Government's estate in appropriate locations—the right tree in the right location—will be useful. As trees grow, they sequester carbon into their trunks and their root system, et cetera. However, as they get older, they reduce the growth rate and therefore reduce the carbon sequestration. So, yes, increasing the input of woodland—not just through large blocks, but also small blocks such as the Pontbren scheme and working with farmers on small-scale planting—can be very useful.

[32] **Antoinette Sandbach:** Going back to what Gareth said about energy, obviously, there are plans for Wylfa B, which, presumably, once it comes on stream—and I appreciate that that might be after 2020—will potentially have a dramatic impact in terms of emissions and power generation. What is your view on that? Secondly, in terms of emissions for business and transport, high fuel prices have had a big impact on businesses and, indeed, on individual car use. As the UK economy starts to recover, and hopefully continues recovering, are you anticipating that figures for transport, for example, will increase, because there will be an increase in the use of cars, which tailed off dramatically during the recession?

[33] **Mr Clubb:** Mae rhyw fath o fyth bod y rheswm dros y gostyngiad yn nifer y ceir ar yr hewl wedi'i glymu'n gyfan gwbl â'r dirwasgiad, ond nid yw hynny'n wir. Os edrychwch ar yr ystadegau, gwelwch, ers 2007, yn gyson o flwyddyn i flwyddyn, fod nifer y ceir ar yr hewl wedi gostwng. Nid yw hynny'n gysylltiedig. Wrth gwrs, mae ffactor ychwanegol sy'n gysylltiedig—hynny yw, pe na bai'r dirwasgiad wedi digwydd, efallai na fyddai'r nifer wedi gostwng cymaint. Fodd bynnag, yn bendant, mae'r nifer o geir ar yr hewl wedi cyrraedd rhyw fath o *plateau* ac rydym yn gobeithio gweld hynny yn aros fel y mae neu, hyd yn oed, yn lleihau'n fwy.

Mr Clubb: There is some sort of myth that the reason for the reduction in the number of cars on the road is entirely related to the recession, but that is simply not true. If you look at the statistics, you will see that, since 2007, consistently year on year, the number of cars on the road has reduced. That is not related to the recession. Of course, there is an additional factor that is a related factor—that is, had the recession not hit, then the reduction may not have been as sharp. However, certainly, the number of cars on the road has definitely reached some sort of plateau and we hope to see that remaining consistent, or even reducing further.

[34] O safbwynt Wylfa, rwy'n cymryd eich pwynt, ond mae'n bwysig ystyried mai dim ond tua dwywaith maint yr Wylfa bresennol fydd yr adweithydd newydd. Nid wyf yn gwybod beth yw'r ffigurau pendant, ond tua 12% o drydan Cymru sy'n cael ei gynhyrchu gan Wylfa yn bresennol, felly tua

In terms of Wylfa B, I take your point, but it is important to bear in mind that the new reactor will only provide around twice what is currently provided by Wylfa. I do not know what the figures are precisely, but around 12% of Welsh electricity is produced by Wylfa at present, so it will be twice that

dwywaith hynny fyddai'r Wylfa newydd. Felly, er y byddai hynny'n bwysig, rydych yn gwbl gywir i ddweud y byddai hynny'n digwydd ar ôl 2020, felly nid yw'n rhan o'r targed hwn.

much that the new Wylfa will produce. So, although that would be important, you are entirely right to say that that would happen post 2020, so it does not relate to this target.

[35] **Alun Ffred Jones:** I call on Julie Morgan. Sorry, James Byrne wants to come back on this.

[36] **Mr Byrne:** I would like to make a couple of points. First, regarding woodland, it is not just the woodland estate and farmland, but the green infrastructure within our towns and cities that is also required. There is a huge amount of statistics from the Forestry Commission and elsewhere about the effect of green infrastructure in our towns and cities in terms of reducing the urban heat island effect. In fact, the Forestry Commission paper, 'Air temperature regulation by urban trees and green infrastructure', states:

[37] 'UHI abatement is of significance to those engaged in the development and delivery of climate change adaptation plans',

[38] because an estimated eight to 10 extra deaths occur each year for each degree increase in air temperature in the UK. However, with regard to trees in urban areas, the air temperature is regulated by trees and urban green infrastructure.

[39] So, there is a significant health benefit as well as all the health and wellbeing benefits that I can quote, such as that every 10% of quality green space in urban areas is associated with a reduction in diseases equivalent to an increase of five years' life expectancy. That is from the European Environment Agency. There are also social issues where the Stern review showed that climate change will impact disproportionately on the poorest people in the world. This applies to the poorest people in Wales, where the most deprived communities are 10 times less likely to live in the greenest areas. For example, in Cardiff there are huge multifunctional high-quality green spaces around Pontcanna and Roath park. Not coincidentally, you get the highest property prices and potentially the highest levels of wellbeing in those areas. You look at Splott and Adamsdown, and there is very little green infrastructure there.

[40] We were chatting yesterday and saying that if you walk in Roath park in the summer, it is really nice and you feel relatively cool; if you walk anywhere else where it is a concrete jungle, you bake. So, there is a significant health and wellbeing issue and there is a significant social justice issue as well, as well as the environmental benefits of green infrastructure. So, I would say that green infrastructure is vitally important in an urban context as well as a rural context.

[41] Regarding the transport issues, the M4 proposals could significantly increase climate change emissions. However, that has not really been looked at in the proposals put forward by the Welsh Government. For example, in the public inquiry the Secretary of State stated, in relation to the new Wiltshire bypass, that the bypass would significantly increase climate change emissions. Everywhere else in the world says that. You talk about increasing road structures; you are going to get induced traffic, and you are going to increase carbon emissions. However, when the Welsh Government put in its proposals for the M4, it said that it would benefit a reduction in climate change emissions. So, there are a couple of incidences where the Welsh Government could be proactively working for green infrastructure, but also not promoting climate-damaging proposals.

[42] **Julie Morgan:** I am going to ask about issues related to transport, in particular the M4. Are there any other policies that the Welsh Government is undertaking or could

undertake in terms of transport that would help with climate change?

[43] **Ms McQuade:** One thing that raises concerns, which is a social justice issue as well, is the reduction of funding to the bus service. There are definite concerns about the impact that that will have, not only on emission reduction, but also on access for rural communities and communities in poverty to those services. That is a big issue and concern.

[44] **Mr Clubb:** Cafodd adroddiad da iawn ei gomisiynu gan Lywodraeth Cymru o'r enw 'Towards a 2°C future'. Cafodd ei gyhoeddi yn 2009. Mae argymhellion gwych yn yr adroddiad hwnnw. Nid oes llawer ohonynt wedi cael eu mabwysiadu gan Lywodraeth Cymru, yn anffodus. Er enghraifft, mae'r adroddiad yn sôn am leihau y cyflymder uchaf i 60 mya, a byddai hynny yn lleihau allyriadau achos mae llawer mwy o allyriadau y cyflymaf mae ceir yn mynd—rhwng 60 mya a 70 mya yn bendant.

Mr Clubb: An excellent report was commissioned by Welsh Government called 'Towards a 2°C future'. It was published in 2009. There are excellent recommendations contained within that report. Not many of them have been adopted by the Welsh Government, unfortunately. For example, the report talks of reducing the maximum speed limit to 60 mph, which would reduce emissions because there are far more emissions the faster a car travels, particularly between 60 mph and 70 mph.

[45] **Alun Ffred Jones:** A gaf ofyn adroddiad gan bwy oedd hwn?

Alun Ffred Jones: By whom was that report?

[46] **Mr Clubb:** Gan y Tyndall Centre for Climate Change Research.

Mr Clubb: By the Tyndall Centre for Climate Change Research.

[47] **Alun Ffred Jones:** I Lywodraeth Cymru.

Alun Ffred Jones: On behalf of the Welsh Government.

[48] **Mr Clubb:** Ie, cafodd ei gomisiynu gan Llywodraeth Cymru.

Mr Clubb: Yes, commissioned by the Welsh Government.

[49] Gall Llywodraeth Cymru newid yn sylfaenol y swm o arian sy'n mynd tuag at hewlydd, trafniadaeth gyhoeddus a thrafnidiaeth weithredol, sef cerdded a beicio. Rwy'n credu bod rhywbeth fel 80% o gyllideb trafniadaeth Llywodraeth Cymru ar hyn o bryd yn mynd ar hewlydd. Pe byddai o ddifrif am leihau allyriadau byddai'n gwyrddroi hynny'n gyfan gwbl a gwario tua 70% neu 80% ar drafniadaeth gyhoeddus, er enghraifft, ac yn bendant nid ar draffordd newydd i'r de o Gasnewydd.

The Welsh Government could fundamentally change the amount of money going towards roads and the amount of money invested in public transport and active travel, namely cycling and walking. I think that, at present, something like 80% of the Welsh Government's transport budget is spent on roads. If it was serious about reducing carbon emissions it would turn that on its head entirely and spend 70% or 80% on public transport, for example, and certainly not on a new motorway to the south of Newport.

[50] **Julie Morgan:** I am interested in this document that you referred to. Has there been any follow-up of that document, which was commissioned, you say, by the Welsh Government?

[51] **Ms McQuade:** I think that it was originally commissioned to support the development of the original climate change strategy in 2010. It used or chose some of the recommendations in there to embed, but we think it needs to go back and look at that as part of the development of the refresh. I sit on the Climate Change Commission for Wales with Kevin Anderson, who is one of the leads in the Tyndall centre, and one of the things he has been recommending, through the commission to the Welsh Government, is that it needs to go

back to this document and look at it and reassess what the recommendations are in there. He is also recommending that we need to look again at the actual targets we have in Wales—so, do we want 40%? Is that going to be scientifically robust, bearing in mind what Gareth was saying earlier about where we are now? It is not only the policies to get to the targets that we need to look at in the refresh, it is the targets themselves as well.

[52] **Julie Morgan:** Just on this 60 mph limit, I am not sure, Chair, whether we have the power in Wales to do that. Can they change the speed limit?

[53] **Alun Ffred Jones:** I believe that we have.

[54] **Mr Clubb:** Mae'n rhan o **Mr Clubb:** It is contained within the Silk argymhellion Silk, rwy'n credu. Fe ddaw i recommendations, I believe. It will come in mew'n yn y tymor seneddol nesaf. the next parliamentary term.

[55] **Alun Ffred Jones:** Fe wnawn ni **Alun Ffred Jones:** We will look into that. ymchwiliad i hynny.

[56] **Mr Clubb:** Yn bendant, peth llesol **Mr Clubb:** Certainly, a beneficial step would fyddai argymhelliad gan y pwyllgor i be a recommendation from the committee to adnewyddu'r papur gan y Tyndall centre. reviv e this paper by the Tyndall centre. That Byddai hwnnw'n argymhelliad da iawn. would certainly be a positive recommendation.

[57] **Alun Ffred Jones:** Galwaf ar **Alun Ffred Jones:** I call on William Powell. William Powell.

[58] **William Powell:** Diolch, Gadeirydd. **William Powell:** Thank you, Chair. Good Bore da, bawb. morning, everyone.

[59] One issue that appears to be of ongoing concern to many is the silos within the Welsh Government and the difference of emphasis, particularly between certain pairs of Ministers in key portfolio positions. Will you speak to that point and whether that is an issue that you feel is currently a serious handicap to making the progress that we urgently need to make?

[60] **Ms McQuade:** Yes. There are a couple of key policies that we have seen recently that demonstrate that. For example, the new housing Bill is one; it is not upholding the original commitment to emission reduction. There is also the transport issue; it conflicts with mainstreaming climate change through transport. Also, we heard yesterday that the forthcoming food strategy does not really take into account significant emission reductions in that policy. Again, that perhaps demonstrates that climate change has not really been embedded across departments as one would expect.

[61] **Mr Clubb:** Rhaid talu clod i Alun **Mr Clubb:** We have to pay tribute to Alun Davies achos mae'n dweud llawer iawn o Davies because he says how important bethau am ba mor bwysig yw newid climate change is, especially if you compare hinsawdd, o gymharu â Gweinidogion yn San him with Ministers in Westminster. But, the Steffan. Ond, nid yw'r neges yn treiddio i message is not getting through to Carl Sargeant. Yn hynny o beth, sef beth mae Sargeant. In that regard, which is what Jess wedi cyfeirio ato yn barod, mae'n warth has referred to already, that is a disgrace for ar Lywodraeth Cymru. the Welsh Government.

[62] **Alun Ffred Jones:** I call on Mick Antoniw and then Julie.

[63] **Mick Antoniw:** Looking at the energy aspects of climate change, you mentioned

earlier our continuing dependence on coal and that it fluctuates up at particular times—the actual burning of coal. Part of the Welsh Government’s programme on renewable energy was about taking into account the barrage, which looks as though it is now deferred further in terms of consideration. Do you think that one of the failures is the failure to really get behind wind energy and to really promote and develop wind energy? We seem to have completely halted and that whole area seems to have been left to drift now.

[64] **Mr Clubb:** Ydw. Rwy’n cytuno’n llwyr. Roedd adeg o dair neu bedair blynedd pan ddywedodd Llywodraeth Cymru bron ddim byd ynghylch ynni adnewyddadwy yn gyffredinol ac ynni gwynt yn benodol. Yn ystod y cyfnod hwnnw, gwnaeth y lleiafrif a oedd eisiau mynegi barn ar ffermydd gwynt ddarganfod eu llais achos roedd gwagle. Gan nad oedd Llywodraeth Cymru yn datgan barn, roedd y grwpiau yma yn barod i ddatgan barn. Felly, rwy’n credu bod hynny yn bwysig iawn, yn enwedig os ydych yn cymharu â’r Alban, lle mae Llywodraeth yr Alban wastad wedi bod yn gryf o blaid ynni gwynt ac ynni adnewyddadwy yn gyffredinol. Rydym yn gweld cwmnïau yn gadael Cymru i sefydlu eu hunain a’u pencadlysoedd ac yn y blaen yn yr Alban, oherwydd bod Llywodraeth yr Alban yn gyfan gwbl wedi ymrwymo i ynni gwynt ac i ynni adnewyddadwy.

Mr Clubb: Yes. I agree entirely. There was a period of around three or four years when the Welsh Government said almost nothing about renewable energy in general and wind energy in particular. During that period, the minority who wished to express an opinion of windfarms found their voice because there was a vacuum. Given that the Welsh Government was not stating its opinion, these groups were willing to state their opinion. So, I believe that that is very important, especially if you compare with Scotland. The Scottish Government has always been firmly in favour of wind energy and renewable energy in general. We are seeing companies leaving Wales to establish themselves and their headquarters and so on in Scotland, because the Scottish Government is entirely committed to wind energy and renewable energy.

10:00

[65] **Mick Antoniw:** Do you think then, with a certain amount of legislation coming through, such as the planning Bill et cetera, which may change the framework, that there is still an opportunity for Welsh Government to not only look to secure green jobs and investment, but also to really push forward with the renewable energy programme from wind?

[66] **Mr Clubb:** Rwy’n credu bod Llywodraeth Cymru wedi newid rhywfaint yn y ddwy flynedd diwethaf, a bod Llywodraeth Cymru yn dechrau lleisio barn o blaid ynni gwynt. Mae hynny wedi newid; rydym wedi gweld y newid hwnnw ac mae hynny i’w groesawu. Heb amheuaeth o gwbl, mae cyfleoedd bendigedig i’r sector ynni adnewyddadwy yma yng Nghymru—llawer iawn o swyddi, hyfforddiant ac yn y blaen. Rydym yn colli mas i’r Alban ac i Loegr oherwydd y cyfnod hwnnw pan nad oedd Llywodraeth Cymru yn ddigon cadarn o blaid ynni adnewyddadwy.

Mr Clubb: I believe that the Welsh Government has changed somewhat over the past two years, and that the Welsh Government is starting to express an opinion in favour of wind energy. That has changed; we are seeing that change and that is to be welcomed. Without a doubt, there are excellent opportunities for the renewable energy sector here in Wales—a great deal of jobs, training opportunities and so on. We are losing out to Scotland and to England because of that period where the Welsh Government was not robust enough in favour of renewable energy.

[67] **Alun Ffred Jones:** Julie sydd nesaf.

Alun Ffred Jones: Julie is next.

[68] **Julie James:** I will just pursue that a little. One of the other projects that we have coming on stream, I certainly hope, is the tidal lagoon in Swansea, which is likely to generate

electricity if it goes ahead from 2021, so it will, again, be just outside the target. Do any of you want to comment on projects such as that, and whether the Welsh Government—. It is an English infrastructure project in the way that planning works at the moment, but the Welsh Government could have a more robust strategy to support such schemes. I wondered whether you wanted to comment on that. I also want to ask you something completely different after that before the Chair takes the opportunity away from me.

[69] **Ms McQuade:** I think that environmental organisations in Wales—correct me if I am wrong—have come out in support of that. This is a great opportunity for Wales, not just in generating, but also in bringing status and jobs to Wales. There are some concerns around the environmental impact, but, actually, the Swansea bay lagoon team is working well in engaging with the environmental organisations to look at that. So, we are very much in support of it, as long as the environmental concerns are dealt with in the appropriate way, which seems to be happening to date. However, there are still a few queries that we need to run through.

[70] **Mr Byrne:** To combine your question and William's question earlier regarding how climate change is looked at by the Welsh Government, the Intergovernmental Panel on Climate Change's fifth assessment report, and loads of other reports, have stated how urgent climate change is, how detrimental it will be to Wales, how detrimental it will be to everybody on the planet, from sea level rise, to the acidification of oceans, to the impact on the poorest people. There needs to be a sense of urgency, but it needs to be across governmental portfolios. Each Minister and each Government department has a significant role to play in reducing their carbon and looking at carbon sequestration as well, for example blanket bog restoration, wetland restoration or NHS forests, namely greening up the public estate et cetera. Therefore, considering that it is across every governmental department, perhaps the lead for climate change should actually be the First Minister. He should have overall control and each department should report to him on what they are doing on climate change and climate change emissions.

[71] **Julie James:** That is an interesting suggestion. I want to turn to the forestry points that we were all looking at when Antoinette asked the question. We had some very interesting evidence from the forestry industry, the Woodland Trust and so on, in the committee last week and the week before. They said some interesting things, which coincided a lot with Professor Gareth Wyn Jones's opinion about the reforestation of large sections of the Welsh hills. Some of them were emphasising more the possibilities for industrial forestry, and obviously a logging and renewable crop, if you like. Would you all like to comment on some of those? I do not know whether you heard that evidence, or whether you have had a chance to review it, but, effectively, what they were saying, I think—and forgive me if I am summarising it wrong—was that it would be a more effective use of the resource than upland sheep farming, for example, or the current use of the land. I just wondered whether you had views on that.

[72] **Mr Byrne:** Yes. Carbon sequestration is very important, and having woodlands is one of the best opportunities to do it. Unfortunately, my knowledge of the sink source with woodlands is not as good as that of the Woodland Trust. I can get to you, on paper, what my colleagues in the Woodland Trust would like to see happen.

[73] **Julie James:** He was here to give evidence in his own right, so that is fine.

[74] **Ms McQuade:** We are not the experts in that area.

[75] **Julie James:** I just wondered, from your various points of view, what you thought of suggesting, for example, that the Welsh Government should redirect subsidy towards forestry industries and away from meat-producing industries on the uplands, for example.

[76] **Mr Byrne:** Obviously, both industries are very important to Wales. There would need to be a balance. However, obviously, climate change is very important, so promoting sustainable, appropriate forestry in appropriate locations to sequester carbon is very important. Again, there would need to be more discussions about—

[77] **Julie James:** I suspect that that is not quite the forestry that the forestry people were talking about.

[78] **Mr Byrne:** No. Obviously, we would like to see more broadleaf woodlands, and, given larch disease et cetera, for there to be a consideration of the opportunities within the forestry estate—so, instead of replanting again with larch or other coniferous forests, there could be a look at broadleaf woodland or open habitat ground, such as blanket bogs. We know that blanket bogs store 30% of the world's carbon, but actually only take up 3% of the world's land surface. So, blanket bogs are vital. That is what I mean by having the right tree in the right place. So, looking at opportunities to support significant blanket bog restoration, such as the Pumlumon project, where they reckon that if they can restore 3,500 ha of special scientific interest sites, they can sequester 2.5 million tonnes of carbon. That equates to somewhere in the region of five times the annual emissions of Severn Trent Water, which is obviously quite a large multinational company in England and Wales. So, restoring blanket bogs can be vital, and also the wetlands in Wales and elsewhere.

[79] A research paper in 2008 from Tara Garnett of the Food Climate Research Network at the University of Surrey stated, in relation to Germany and the land-use sector:

[80] ‘The biggest contribution to reducing CO2 emissions, however, would be to restore German wetlands which have been dried out and used for farming. These areas account for 30% of all agricultural emissions, although they occupy only 8% of the total agricultural area.’

[81] Again, it is that rural green infrastructure, getting your blanket bogs into an appropriate condition so that they can sequester carbon appropriately within appropriate locations, and also getting your wetlands, like the Anglesey fens, as well. There are huge opportunities to sequester carbon in Wales. It is potentially a growth area. I know that the Welsh Government is looking at it in terms of a payment for ecosystem services point of view. Potentially, it could bring a new industry, new economics into Wales, and new economics for upland Wales as well.

[82] **Alun Ffred Jones:** Do you wish to come back on that, Julie?

[83] **Julie James:** No, that is fine, thank you.

[84] **Alun Ffred Jones:** Do you have anything to add, Lila?

[85] **Ms Haines:** I actually just want to return to the first point of Julie's question, if I might. Looking at the tidal lagoon project as one that is ambitious and of economic as well as environmental benefit, and to tie that into the whole question of the Welsh Government's ambition and the ability to look across the board at the impact of climate change and emissions on the life of people in Wales, I think that it is a really good example of how that could be done. There are opportunities within the devolved competence of the Government at the moment that it is not actually tackling on an adequate scale. An example that comes to mind is that of housing. Arbed is a very nice project, but it is on a tiny scale. In 2010, a report by the Cardiff Business School, commissioned by Stop Climate Chaos Coalition in Wales, showed that a third of the current housing stock—that is about 400,000 houses—would need to be refurbished to a level that cuts carbon emissions by over 60%. That could inject around

£3 billion into Welsh gross value added and create about 20,000 jobs. Those sorts of figures could make a real impact on cutting emissions, on creating jobs and on actually improving lives in the more deprived communities of Wales. I do not think that the Government has taken, shall we say, an ambitious enough approach to opportunities like that and it would require co-operation across portfolios in order to pull it off. I am sure that there are other examples, but I do recall that one.

[86] **Ms McQuade:** Just to back that up, we did a report in 2010 on cutting carbon emissions in Welsh homes, which backs up the statistics, increases them and looks at what would happen if you were to reduce greenhouse emissions in the housing sector by 40%—you would reduce the number of households in fuel poverty by 40%. That would create 6,300 direct jobs and 14,600 gross jobs. So, energy efficiency in Wales is not only about tackling carbon emissions, but fuel poverty as well. It is recognised in the IPCC report as one of the key things that we need to do to accelerate action globally. So, alongside a low carbon transition to our energy production, increasing energy efficiency through housing is the other key thing.

[87] **Alun Ffred Jones:** Mae nifer o bobl sydd am ofyn cwestiynau ar hyn. Felly, Llyr yn gyntaf ac wedyn Antoinette a Russell.

Alun Ffred Jones: A number of people want to ask questions on this. So, Llyr first, then Antoinette and Russell.

[88] **Llyr Gruffydd:** Rwy'n ddiolchgar i chi am ddyfynnu o'r adroddiad oherwydd rhoddais yr union ystadegau i'r Gweinidog y prynhawn ddoe yn dilyn ei ddatganiad ar dlodi tanwydd, felly mae'n dda gweld ein bod yn cydweld ar lawer o'r materion hyn. Byddai'r Llywodraeth yn dweud, wrth gwrs, bod llawer iawn o'r hyn sy'n gyrru allyriadau y tu hwnt i'w rheolaeth, a byddai hynny'n sylw teg, er rwy'n credu ein bod yn iawn i geryddu'r diffyg cyrhaeddiad hyd yma o safbwynt y meysydd sydd wedi eu datganoli. Wrth gwrs, mae angen datblygu naratif ehangach yng Nghymru o gwmpas yr holl faes hwn o newid hinsawdd. Byddwn yn hoffi gofyn hyn i chi: beth ydych chi'n credu sydd angen ei wneud? Rwy'n cofio y buodd Nick Pidgeon fan hyn yn rhoi tystiolaeth i ni ychydig amser yn ôl gan sôn am yr adroddiad a gynhyrchwyd o gwmpas canfyddiadau pobl ynghylch newid hinsawdd, a'r ieithwedd y dylid ei defnyddio wrth drïo datblygu'r naratif cenedlaethol hyn. Nid wyf yn teimlo fod unrhyw beth wedi digwydd. Nid wyf yn gwybod beth yw eich barn chi ynghylch beth sydd wedi digwydd ac efallai beth ddylid digwydd i ddatblygu'r naratif ehangach hwn.

Llyr Gruffydd: I am grateful to you for quoting from the report because I gave the exact statistics to the Minister yesterday afternoon following his statement on fuel poverty, so it is good to see that we agree on many of these issues. The Government would say, of course, that a great deal of what drives emissions is beyond its control, and that would be a fair comment, although I think that we can lament the lack of achievement to date in the areas that have been devolved. Of course, there is a need to develop a wider narrative in Wales around this whole area of climate change. I would like to ask this of you: what do you think needs to be done? I remember Nick Pidgeon was here giving us evidence a little while ago, talking about the findings of the report produced in relation to the perceptions of people about climate change, and the language that should be used when trying to develop this national narrative. I do not feel that anything has happened. I do not know what your opinion is of what has happened and perhaps what should happen to develop this wider narrative.

[89] **Alun Ffred Jones:** Gofynnaf ichi fod yn gryno yn eich atebion oherwydd mae nifer o gwestiynau. Pwy sydd eisïau mynd gyntaf? Lila.

Alun Ffred Jones: I ask you to be succinct in your responses because there are many questions. Who wants to go first? Lila.

[90] **Ms Haines:** We feel that one thing that could be done is to ensure that behaviour

change is nurtured from an early age. I think that one way of doing this is through strengthening education for sustainable development and global citizenship. It is being reviewed at the moment, but the review is due quite soon—July, I think. I think that that should be taken into account in setting targets, realising that children as well as their elders are the ones who will be making a real impact and it is important to keep that as a key part of the education system.

[91] **Alun Ffred Jones:** Does anybody else want to come in on this? Jessica.

[92] **Ms McQuade:** There is a lot of money invested in the Welsh Government's communication and engagement strategy and I think that the narrative project was one of those. The use of that has not really been to the scale that we thought would come from the investment, so I think that when it looks at the refresh, it certainly needs to do a proper analysis of what has happened to that and build on it. There were a lot of good findings within that. I think also that it needs to be a bit more creative in terms of what it is talking about. For example, there is history of social justice and consideration of people outside of Wales, and it has been shown that people respond well to that sense of global justice. I would also say that people respond well—and I would say this because it is a WWF campaign—to the One Planet Wales concept. So, people use, in a sense, what we have in Wales and how that impacts globally is, I think, a really good way of demonstrating what this all means to people.

10:15

[93] **Mr Byrne:** I would say that it can happen from the grass roots but also from the top down, as well. Every Minister and portfolio needs to take climate change seriously, including, as I mentioned, carbon sequestration and green infrastructure, which can be done at a relatively low cost but have huge benefit—restoring all of the blanket bogs in Wales, for example, roughly, the back-of-a-fag-packet calculation is something like £16 million, which is, in the scheme of things, not an awful lot to sequester a shedload of carbon.

[94] **Alun Ffred Jones:** A shedload of carbon—a technical term. [*Laughter.*]

[95] **Antoinette Sandbach:** I wanted to go back to the housing issue. We know that a large amount of housing, particularly in rural areas, will not comply with the 2018 criteria for letting. It seems to me that one of the problems is that landlords cannot access Arbed and the Green Deal, particularly without the consent of their tenants. It seems that, where landlords want to make improvements and take advantage of Green Deal schemes, they should be allowed to do that to improve the housing stock. Otherwise, we are going to be facing a bit of a housing crisis in 2018.

[96] **Ms Haines:** Personally, it seems perfectly reasonable to me that that should be the case, and I am sure that it is something that the Welsh Government ought to consider—I am sure that you raise it. It is, perhaps, a bit wider than that. That is a very important part of the housing stock, but there are also huge areas where there is privately owned housing that is very old and really needs updating. I think that you need to consider some sort of scheme that will allow that to happen, perhaps on a community-by-community or street-by-street basis with people's co-operation. It requires a very joined up and, probably, quite costly approach, but it is also essential that all aspects are considered.

[97] **Russell George:** On that particular point, is there anything more that the Welsh Government can do to lever in more money from the Green Deal to support its own projects, like Arbed and Nest?

[98] **Mr Clubb:** Mae cyhoeddiad newydd **Mr Clubb:** An announcement has just been ddod ynghylch y *Green Deal*. Hynny yw, o made on the Green Deal. From this month

fis yma ymlaen, byddwch yn gallu cael grant hyd at 75% am insiwleiddio eich waliau trwchus. Felly, os nad oes gennyh gendwll yn eich waliau, mae ffordd o gael 75% o'r gost yn ôl. Cynllun newydd yw hwnnw, a'r broblem, wrth gwrs, yw nad oes gennym, yng Nghymru, ddigon o gyfalaf i fachu ar y cyfle i fanteisio ar y cyfleoedd sydd yna. Felly, os nad ydym, fel gwlad, yn ddigon chwim a pharod i fanteisio ar y cyfle, bydd y rhan fwyaf o'r gyllideb honno yn mynd i rannau eraill o'r Deyrnas Gyfunol. Felly, yn bendant, rwy'n credu bod Llywodraeth Prydain wedi cydnabod bod yna fethiannau mawr iawn ynghylch y *Green Deal*, ac mae wedi gweithredu yn hynny o beth.

onward, you will be able to access a grant of up to 75% for the insulation of thick walls. So, if you do not have cavities in your walls, there is a way of reclaiming 75% of that cost. That is a new scheme, and the problem in Wales, of course, is that there is not enough capital for us to take full advantage of the opportunities that exist. So, if we, as a nation, are not swift enough in our response and take advantage of these opportunities, most of that budget will have gone to other parts of the UK. So, certainly, I believe that the UK Government has recognised that there are major failings in terms of the Green Deal, and it has taken action in that regard.

[99] **Russell George:** What can the Welsh Government do in that regard?

[100] **Ms McQuade:** I think that there have been a couple of examples of where local authorities—I would have to get back to you with the details—have tried more of a co-production approach, working with local authorities and housing associations to look at getting capital to enable that to happen. If you like, we can come back to you with that example.

[101] **Russell George:** Thank you. My wider question, if we have finished on this thread, Chair, is about people's attitudes toward climate change, green energy and renewables. Government can do so much, but what more can the Welsh Government do to change people's behaviours and attitudes in those regards?

[102] **Mr Clubb:** Mae angen peintio llun o ddyfodol carbon isel nad yw'n ddyfodol llwm, di-liw o gwbl; mae'n ddyfodol gwell, rwy'n credu, i bawb. Mae angen i Lywodraeth Cymru ddechrau llunio'r naratif hwnnw os yw am i bobl gymryd rhan lawn yn y gweithrediadau sydd eu hangen ar bob un ohonom yng Nghymru.

Mr Clubb: We need to paint a picture of a low-carbon future that is not a grim future; I think that it is a better future for all of us. The Welsh Government has to start to develop that narrative if it is serious about people playing their full part in the actions that each and every one of us needs to take in Wales.

[103] **Russell George:** One issue that I come across from speaking to communities is that very often they, perhaps, have a negative view towards climate change or green technologies because they feel that governments, politicians and developers are imposing projects on them. Very often they go from having no view of a particular technology to being very anti-technology and, in that, being very anti-green technology as a whole. How do you think that can change?

[104] **Mr Byrne:** If you look at win-wins, for example, I mentioned earlier the green infrastructure—apologies if I keep going on about it. If you really look at putting green infrastructure into every town and city in Wales and coming up with a brighter, literally greener future—as suggested in the document that I have here: 'Living Landscapes Cymru Vision 2020'—then, with all the benefits of green infrastructure, we can have, as I said, social justice, health and wellbeing, market prices for houses and the whole works. We can have a greener and brighter future for people that they will look forward to. It is not, as Gareth mentioned, a 'grim future.'

[105] **Russell George:** I think that what I am suggesting is that when our communities do not feel empowered to make their own decisions and feel that projects are being imposed upon them, that creates a negative attitude, which is not helpful to what we are talking about today. So, how can Government change that?

[106] **Mr Byrne:** It can be done through community consultations. A good example in Cardiff is Greener Grangetown, where Welsh Water, Natural Resources Wales and, to a lesser extent, the Wildlife Trusts Wales are working to develop green infrastructure solutions to flooding and heat island effect.

[107] **Ms McQuade:** In addition to that, supporting and enabling communities is vital in this area. There are brilliant examples across Wales of where communities have taken ownership and, even though they are small scale, they have really helped change behaviour in their local community. It is not just about having a top-down behaviour change programme from the Welsh Government, but also supporting the third sector and communities to enable them. It has gone quite quiet recently. The Government has kind of petered off in the last couple of years with its programme to support the third sector. A Wales Council for Voluntary Action representative will be here later on, so, maybe, you can pick up on that then. However, I think that there is a lot more that the Welsh Government can do to support and enable communities to take action on climate change.

[108] **Alun Ffred Jones:** Julie James, did you want to come in here?

[109] **Russell George:** I think that Gareth wanted to come in, Chair.

[110] **Mr Clubb:** Yn gryno, gall Llywodraeth Cymru a Llywodraeth Prydain ddysgu llawer o'r hyn a ddigwyddodd yn yr Alban lle mae pobl leol, yn unigolion a ffermwyr, yn berchen ar hanner y datblygiadau ynni adnewyddadwy. Yng Nghymru, ac ym Mhrydain yn gyffredinol, mae hynny lawr i 1% neu 2%. Felly, mae yna bethau strwythurol sy'n gallu cael eu gwneud i hwyluso'r broses.

Mr Clubb: Briefly, the Welsh Government and the UK Government can learn a great deal from what is happening in Scotland, where half of the renewable energy developments are owned by local people, as individuals and farmers. In Wales, and in the UK in general, that is down to 1% or 2%. So, there are structural things that can be done to facilitate the process.

[111] **Julie James:** I wanted to ask, on the education point, whether any of you have contributed to the curriculum review consultation that is going on.

[112] **Ms Haines:** No.

[113] **Julie James:** There is still time.

[114] **Ms Haines:** We want to ensure that ESDGC is part of the curriculum; it is mainstreamed but it has gone off the boil.

[115] **Julie James:** There is still time, as one would say, if you have not.

[116] I want to ask one last thing. City and County of Swansea Council has recently done something that we have been trying to sort out for a long time. It has stopped the cutting of all the highway verges, apart from vision displays. It has planted pollen-rich wildflowers along all of its green verges, and, this year, is doing another two-thirds. I just wondered what you thought of that and whether you thought that was something that we could write in to some of the highways and transport guides, as a way of highlighting the project, as much as anything.

[117] **Mr Byrne:** The wildlife trusts have been working with local authorities for years to try to get roadside nature reserves and wildflowers in our verges. Projects like that are excellent. Monmouthshire has recently adopted a pollinator action plan. Denbighshire has recently adopted one. A member of the wildlife trusts has been seconded into Powys County Council for several years to work on roadside nature reserves. It is something that the Welsh Government's pollinator action plan is looking at and, hopefully, will be implementing. We are potentially looking at the environment Bill to place a duty on local authorities to put in plans like this. So, yes, rolling out initiatives such as Swansea's is excellent, and we really support it.

[118] **William Powell:** In fact, I believe, last week, there was a really encouraging statement from Edwina Hart on a Wales-wide approach. In fact, I think that we engaged in some e-mail correspondence on it, James. I think that that is really to be encouraged.

[119] Going back to the leadership that Gareth acknowledged that Alun Davies clearly does provide on climate change, which is refreshing in terms of what we see elsewhere in terms of people being more sceptical in other tiers of Government, I was nevertheless slightly concerned when I understood that, during last week's Intergovernmental Panel on Climate Change meeting, he said that he felt under no pressure within the Assembly on these matters because climate change was barely raised. In fact, I have done a cursory check and I can see that, in different ways, on over 200 occasions in this Assembly we have sought to raise this, in Plenary, in written questions, in committee and so on. So, I think that it was worth setting the record straight on that. Nevertheless, how can we, as ordinary members of this Assembly around the Chamber, actually contribute to keeping this right at the top of the agenda?

[120] **Ms McQuade:** I think that the refresh is a really good opportunity to hold the Government to account in terms of its delivery. That needs to be not just high-level policy statements of what has been done; it actually needs to be an assessment against what it has said that it has done. As organisations, we can certainly help it to do that. We are doing that researching well so that we can provide that evidence to you. I think that really holding it to account is important. The other thing that certainly we need to see is using forthcoming legislation—the future generations Bill and the environment Bill. If climate change is not writ large throughout those, the Minister has really failed in terms of delivering on climate change. For example, we really need to see some strong environmental goals within the future generations Bill. There are questions about that, particularly around global impact. We do not have global impact reference in the future generations Bill. It is hard to see how climate change can be delivered through that. Something that we are recommending in WWF and also in the Climate Change Commission for Wales is that we have statutory climate change targets in Wales. We have looked at the research on this. We have devolved competence to do that. So, that is another lever on which the Minister can be challenged to demonstrate his commitment. So, he needs to embed statutory climate change targets in the future generations Bill or the environment Bill.

[121] **Alun Ffred Jones:** May I stop you there? Do you wish to add anything, Lila?

[122] **Ms Haines:** I just wanted to mention the future generations Bill, in particular. My understanding from the Minister is that this will not be terribly specific. He has said that he is only putting some very top-line what he calls 'goals' on the face of the Bill. I think that there is a great opportunity there for you to try to amend that and other Bills to be more meaningful.

[123] **Mr Byrne:** One way to hold the Government to account is obviously to keep asking each Minister in Plenary what they are doing to aid the climate change agenda. Just as one example, I have been in discussions with the NHS and the health departments about bringing over an English initiative called NHS Forest, which is about green infrastructure and getting green infrastructure into the healthcare estate. Evidence shows that if people, after an

operation, are actually looking at nice greenery, they recover better. There are loads of other benefits. So, I am in discussions with them about that, but obviously, if you were to ask similar questions of the Minister for Health and Social Services and other Ministers, it would be very useful. Getting a biodiversity commitment within the FG goals would also be very important.

[124] **Alun Ffred Jones:** Diolch yn fawr. I want Julie Morgan to ask what will probably be the last question.

[125] **Julie Morgan:** I just wanted to comment on what James last said. There are a lot of those initiatives already going on in the NHS, certainly in my constituency, in terms of greening the hospitals and so on. I have just one question, really. I do not think that we are able to emphasise the global impact and the international perspective strongly enough. I wondered whether you saw the future generations Bill as a way, perhaps, of emphasising the international perspective of what we do here in Wales.

[126] **Ms Haines:** I think that you will have inferred from what I said already that we think that it is vitally important that you do that. The poorest people across the globe who are most likely to suffer are already suffering from climate change. If Wales does not recognise that in what is its attempt to signal what we want a future Wales to be like, then we have totally failed to understand what kind of world we live in. It is very important that this aspect is included. I do not know whether that is the plan, but it would be fantastic if you could all try to ensure that that happens. Of course, Oxfam is more than happy to provide any information from our projects in 90 countries that you might find useful.

10:30

[127] **Ms McQuade:** The way in which that can be demonstrated is if we get a goal around fair share or global impacts in the Bill, and also that procurement is included in the scope of the Bill, which would also include a remit in relation to fair trade. The other key thing is to have an indicator or a target, depending on the structure, on ecological footprinting. It is vital that we get that in the future generations Bill somewhere.

[128] **Mr Clubb:** Gan gyfeirio at y pwynt diwethaf, yr hyn sydd angen ar Lywodraeth Cymru yw strategaeth glir wedi ei seilio ar wyddoniaeth. **Mr Clubb:** Referring to the previous point, what the Welsh Government needs is a clear strategy based on science.

[129] **Alun Ffred Jones:** Ar y nodyn herfeiddiol hwnnw, rwy'n diolch i'r pedwar ohonoch am ddod i mewn a chyfrannu o'ch profiadau a'ch gwybodaeth a'n helpu a'n goleuo ni ar y mater hollbwysig hwn. Diolch yn fawr iawn ichi am eich cyfraniad. **Alun Ffred Jones:** On that challenging note, I thank the four of you for joining us and contributing your experience and your knowledge and for helping us and enlightening us on this important issue. Thank you very much for your contribution.

[130] We will have a very short break before we invite the next set of guests in. We will break for five minutes.

*Gohiriwyd y cyfarfod rhwng 10:31 a 10:41.
The meeting adjourned between 10:31 and 10:41.*

**Newid yn yr Hinsawdd—Grŵp Trafod
Climate Change—Round Table Discussion**

[131] **Alun Ffred Jones:** Rwy'n agor ail ran y pwyllgor yn swyddogol ac yn croesawu ein gwesteion heddiw i gynnig eu sylwadau ar y maes newid yn yr hinsawdd. Rydym yn edrych ymlaen yn fawr iawn at glywed eich sylwadau ac at eich ymateb i gwestiynau gan yr Aelodau. Gofynnaf i chi gyflwyno eich hunain i ddechrau gan ddweud pwy rydych yn ei gynrychioli ac os hoffech wneud unrhyw sylw cyffredinol ar y maes yn fyr, rwy'n hapus i chi wneud hynny. Fe wnawn ddechrau gyda Clare.

Alun Ffred Jones: I open the second part of the formal meeting and welcome our guests this morning to give their comments on the matter of climate change. We look forward very much to hearing your comments and your responses to questions from Members. I ask you to introduce yourself to begin with and say who you represent and, if you would like to make a few general comments on this matter briefly, I am content for you to do so. We will start with Clare.

[132] **Ms Sain-ley-Berry:** My name is Clare Sain-ley-Berry. I am representing WCVA and the wider third sector and communities. I also co-ordinate the Environment Wales programme, which is funded by the Welsh Government to build community-led sustainable development projects that involve volunteers. We really welcomed the fact that there was an engagement strategy as part of the last climate change strategy. We had some serious concerns about the way in which that programme was put together and then delivered, but we also recognise that there were some very bold, innovative approaches, which we welcome. We would like to make sure that the key learning from those is carried forward in any future scheme.

[133] **Dr Hopkins:** Hi, my name is Dr Sharon Hopkins. I am director of public health in Cardiff and Vale University Local Health Board. I represent the NHS on the climate change commission. We are very supportive of the work that has been done. From the health service perspective, we are really at the beginning of understanding and making the most of what the health service can offer and contribute to addressing climate change. It is very clear that there is still quite a long way to go for us. We very much welcome what has been in the strategy and the up and coming refresh. We are looking at how we can enable the contribution of the NHS to make more of a difference and become even more central to its core work.

[134] **Mr Davies:** I am Peter Davies; I chair the Climate Change Commission for Wales and also have the role of Commissioner for Sustainable Futures. I know most of you through that role. I have been chair of the climate change commission for getting on for three years and am an independent chair of the commission. You will be aware that the commission was established by the Welsh Government in 2007 and it began with the Minister chairing the commission. It is a cross-sector and cross-party body. We have all the political parties included, and Russell has been the representative of the Conservative party on the commission for some time. As I said, it is a cross-sector and cross-party body. Our role is to provide advice to Government, so we were instrumental in providing advice for the original climate change strategy; to mobilise action through the various constituent parts of the commission; to build consensus on climate change; and to hold the Government to account in terms of the delivery of the strategy. I am delighted to be joined by colleagues here today, who are particularly focused on their experience on public engagement in respect of climate change. I need to just give an apology for Iestyn, from the Federation of Small Businesses, who was due to be with us but, unfortunately, cannot be with us this morning.

10:45

[135] In terms of the commission, obviously, we are now in the process of putting together

our response to the climate change refresh. We had a session, as a commission, last week and, obviously, we are happy and keen to share some of those thoughts with you throughout this session.

[136] **Dr Whitmarsh:** My name is Lorraine Whitmarsh and I am a senior lecturer in the School of Psychology at Cardiff University. I am also an associate in the Tyndall Centre for Climate Change Research. My research is around energy behaviours, adaptation behaviours in relation to climate change, and communicating climate change. So, part of my role on the commission is to represent some interests around transport, because I have done particular work around travel behaviours and behaviour change, but also around communication and behaviour change more generally.

[137] So, in terms of general comments on the strategy and the refresh, I would pick up perhaps the need for greater monitoring and evaluation. I think that that is something that we—. Two years ago, we produced a position paper on transport and climate change and that was one of the key messages there: we need to know better the extent to which the actions are actually making a difference and the extent to which they are drawing on best practice and the evidence base that we have. We know a lot about what works to change behaviour. Some of that is feeding through, but there is also an awful lot of untapped potential and knowledge and learning.

[138] Equally, some of the work that we flagged in that position paper was about the need to address travel demand, which, currently, the strategy does not really do; it is about shifting from one mode to another, but not tackling demand.

[139] **Alun Ffred Jones:** Diolch yn fawr iawn. A gaf gychwyn, trwy ofyn ichi, Peter Davies, fwrw ychydig o oleuni ar ble yr ydym ar hyn o bryd mewn perthynas â thargedau'r Llywodraeth ei hun? Os rwy'n ei ddeall yn iawn, y targed yw gostwng allyriadau carbon gan 40% erbyn 2020. Mae'r Llywodraeth yn dweud ei bod wedi cyrraedd y targed o ostyngiad o 3% y flwyddyn. Fodd bynnag, mae'r ffigurau diweddaraf, sydd wedi cael eu rhyddhau ddoe, os deallaf yn iawn, yn dangos codiad o 5% yn 2011-12. A yw'r Llywodraeth yn debyg o gyrraedd ei tharged, neu a ydym ym mhell ohoni, fel yr awgrymodd rhai o'r tystion blaenorol? Fel tyst gwrthrychol ac annibynnol, fe gewch ddweud.

Alun Ffred Jones: Thank you very much. May I begin by asking you, Peter Davies, to shed some light on where we are at present in relation to the Government's own targets? If I understand it correctly, the target is for a reduction in carbon emissions of 40% by 2020. The Government says that it has reached the target of a 3% reduction every year. However, the latest figures, which were released yesterday, I believe, show that there has been an increase of 5% in 2011-12. Is the Government likely to reach its target, or are we far from doing so, as some of the previous witnesses suggested? As an independent and objective witness, you may put your views.

[140] **Mr Davies:** Thank you, Chair. The Welsh Government's first annual climate change report indicated that it was on target to meet the 3% target reduction for devolved areas but was not in line with projected trends in meeting the larger 40% reduction. I think that the challenge that we face is that the direct leverage of Welsh Government in terms of delivery on the target is limited. So, if you take the 3% for instance, you could probably allocate about a third—1%, if you like—of that 3% directly to Welsh Government interventions resulting in the reduction. About one third is in respect of the delivery in Wales of UK and EU programmes—UK programmes in particular—and one third, which is why colleagues here are particularly important, is around how society in general is enabled to change behaviour and reduce emissions.

[141] So, I think that we need to be clear about where there are direct points of intervention

where Welsh Government has a direct capacity to intervene and where it has a role in enabling change and in enabling the effective delivery of UK programmes in Wales.

[142] There is no question that, as a commission, we are clear that meeting even the 3% target is not necessarily going to be enough to address what is the increasing global emissions trend. So, part of the work that we have done in the past is to look at what the implications of a 6% and a 9% reduction trajectory would be.

[143] I think that, in summary, we feel that the climate change strategy was a good start. We have seen evidence of reductions. Most of the evidence—which reinforces my point—of reduction was due to factors other than direct interventions from the Welsh Government. So, for instance, the economic conditions, where we saw a downturn.

[144] **Alun Ffred Jones:** How meaningful is the 3%, and do the recent figures indicate that we are way off the mark? I am referring to the most recent figures that were released yesterday.

[145] **Mr Davies:** I must admit that you are ahead of me in the sense that I have not seen the figures that were released yesterday.

[146] **Alun Ffred Jones:** I had not seen them until this morning either. *[Laughter.]* Anyway, how meaningful is the 3%?

[147] **Mr Davies:** I think that it is meaningful in the sense that we have to be clear about what it is that we can directly intervene to deliver on. That is a really important sort of premise: being clear that interventions directly in devolved administration and devolved public service will have a direct impact on carbon reduction. There are a lot of factors that were outside the direct intervention control of the Welsh Government, but I think that we have to be clear on where the direct interventions can have most impact. There are areas of concern there, I must admit, in terms of where we feel that there is, perhaps, a rowing back, slightly, from original commitments.

[148] **Alun Ffred Jones:** Diolch yn fawr. **Alun Ffred Jones:** Thank you very much. Trown at yr Aelodau rwan. Caiff Llyr We now turn to the Members. I call on Llyr Gruffydd ddechrau. **Gruffydd.**

[149] **Llyr Gruffydd:** Surely the sectoral adaptation plans would play a key role in that respect. I know that you have previously expressed concerns about maybe the slowness of the Government in developing work around those. Do you feel that there has been a new impetus in moving that forward, or is that now in abeyance because of the refresh?

[150] **Mr Davies:** I am continually being pressed by my colleagues who are on the adaptation sub-group of the commission on the fact that we are not making enough progress on the delivery of those adaptation plans. The sub-group of the commission, which is working with the Welsh Government on this, feels that these are key to delivery. They need to be in place, they are not in place, there has been a delay in their development, and they are really critical. We are obviously offering support to the Welsh Government in putting them into place. So, no, absolutely. It is one of the areas where there has not been progress in delivery, and it is a critical area.

[151] **Llyr Gruffydd:** Why has there not been progress, do you think? If it is so critical, you would imagine that the Government would want to make it a priority.

[152] **Mr Davies:** I think that there are two points to make on that. One is that the commission has said all along that we are concerned about capacity internally in the sense

that, when the climate change strategy was being put in place, there was a very significant team within the Welsh Government developing that strategy and putting it in place. Once it was in place, the team dissipated away to leave a very small dedicated structure on climate change. I know that the argument is that this is about mainstreaming across departments, but that is my second point, in the sense that you have had quite a lot of change and quite a lot of dissipation from the core team—so, the core team is very small—and you have also had a lack of priority being given to it across the other mainstream departments—probably for quite understandable reasons in terms of the priorities being jobs and issues of austerity and economic issues, but if you put those two things together, it results in a lack of progress on delivery.

[153] **Llyr Gruffydd:** So, whose responsibility do you think it is to bring this higher up the agenda? If it is a cross-government issue, that suggests to me that that sort of strategic leadership is not sufficient at the moment across the Government.

[154] **Mr Davies:** I think that that is true. I think that we have a Minister who is very clear about the importance of climate change. Incidentally, I think that it is worth highlighting the fact that, in a presentation at a conference that I chaired earlier this week—and you may have seen my tweet on this particular comment—the Minister said that he did not feel that he was under any pressure in the Senedd on climate change. He felt that he was under pressure on many other things, but as far as climate change was concerned, he did not feel that there was any pressure coming through from the Members in respect of climate change.

[155] I think that the point about leadership is a broader one; however, we have just had a conference call with all of the commission members, following up the meeting that we had last week, and one of the key themes coming through was the point about accountability and the lack of clear accountability for delivery within the Government on the climate change outcomes. You could sort of take that down through the public sector. Incidentally, I think that one of the key areas, of course, if we are going to address climate change, is energy. The First Minister has responsibility for 'Energy Wales', and I realise that the committee will be meeting with the First Minister on this. However, there is, if you like, clear accountability for energy efficiency and generation with the First Minister. Energy, of course, is one of the key issues that we have to address if we are addressing our climate change reduction and adaptation targets.

[156] **Alun Ffred Jones:** I call William Powell.

[157] **William Powell:** Diolch, Gadeirydd. Peter, thank you very much for flagging up the Minister's comment last week at the IPCC meeting. I was somewhat disturbed to be informed of that, and I also saw your tweet on it. In fact, in the previous session, I flagged up that, on up to 250 occasions in the course of this fourth Assembly, there have been questions in Plenary, both oral and written, and clearly mainly in the forum of this committee, but the Minister went on to say—and I quote him directly, I believe—that political parties in Wales do not see this as a priority. 'This' being climate change. He referred to this as a tragedy. Do you agree with him?

[158] **Mr Davies:** Do I agree with him? In fact, I did not agree with him at the time of the conference, really, because one of the things that I am very proud of in terms of the commission is the cross-party representation that we have on the commission. I think that we have a situation, generally, in the Assembly where the pressure on the Government is for the Government to do more on climate change. I drew that as an example of possibly the different environment that exists in Westminster on the same scenario. So, the pressure on the Government here is to do more. That, I think, is different. Where I do understand his point is that I think that, as a doorstep issue for politicians, climate change is not a doorstep issue in terms of the immediacy of the general public raising issues with politicians on the doorstep,

which you then obviously need to reflect in your contributions in the National Assembly. So, I think that there is a responsibility. It is interesting that you say that you have been fulfilling that through 250 questions, to raise the issue formally in your leadership role, but I think that we also have a job to do. We are trying to do this through the commission as well to raise that awareness and understanding in the general public, so that it becomes more of an understandable public issue. We had a very informative, challenging debate with David Davies, Member of Parliament, in Abergavenny.

[159] **Alun Ffred Jones:** You would. [*Laughter.*]

[160] **Mr Davies:** Yes. I took a number of things out of that, but one of the things that I did take out of it, which I fully accept from what he was saying, is that it is not a doorstep issue. What is a doorstep issue is the cost of energy and people interpreting the cost of energy as being something that is higher because of our attempts to tackle climate change.

[161] **Alun Ffred Jones:** I wish to ask the other members of the panel about their perspective in terms of this question of priority within your fields and spheres of influence.

[162] **Ms Sain-ley-Berry:** In terms of the third sector, less than 5% of community organisations in Wales are from the environmental sector. So, most of those organisations have other priorities in social areas, health or whatever. When services are squeezed, climate change also falls by the wayside. But, I think that people react when it is made real to them. People do not see bold leadership around them. There are lots of contradictory messages. I think that people are quite—. There is the tremendous reach of organisations like WWF and Friends of the Earth, so, people hear messages from one side of the debate and they appear to hear contradictory messages coming from Government. People do not know if it is real; they do not know who to believe. There is a lot of misinformation about climate change. There is a huge gap between what people think that they know and how that influences their behaviour. This is pretty well researched and documented.

11:00

[163] The WCVA has done a lot of work with the third sector leadership group on climate change, and the main points that people were raising were that there seemed to be a patchwork of support, and people did not know who to go to. They were interested, but they did not know where to start thinking about: 'How do I futureproof? How is this going to impact not just on my organisation, but on my beneficiaries—the people who we are working with?'

[164] The WCVA produces a range of information sheets and tries to organise some events as well, and the message that came forward was that people need to engage on terms that are meaningful to them. Small-group support, mentoring and one-to-one, personal development officer support is what is being requested, but there is not much of that available.

[165] **Alun Ffred Jones:** Any comments?

[166] **Dr Hopkins:** If I come to the healthcare sector, I guess the issue about priorities is really important, because something that is a priority in one sector may not be a priority in another sector. We have an awful lot of priorities in Wales, so we are back to that: if everything is a priority, nothing is a priority. A bit like Claire has said, there is something critically important about how we articulate this as regards why it matters to me as, for example, a healthcare organisation or healthcare practitioner, or I could translate it further to me as a punter, patient, carer or user who interfaces with the health service—why is this important to me? I think we have a lot more to go at there. One of the ways in which that has become much more live over the last couple of years has been around the energy

conversation, although we have not yet really maximised the possibilities there. The other issue has been around active travel, again because that has played into something that feels very real in relation to health. The climate change element might be slightly tangential, but the active travel you can translate through to something that means, ‘This is very meaningful in the health context’.

[167] So, if we are not seeing very active, noisy leadership that is able to translate why this is important to the different sectors, then it does become somebody else’s priority, not my priority. Again, when we are talking in the commission, a lot of this is about, ‘How do I make it relevant?’ My role as the commissioner on the climate change commission coming from health is really trying to think through with my organisations how we do some of that. Certainly, from the Government perspective, seeing a wider conversation about how you translate this into the various sectors would be very welcome.

[168] **William Powell:** I have one more—

[169] **Alun Ffred Jones:** I will let you come in in a moment, but Lorraine, do you want to speak?

[170] **Dr Whitmarsh:** I will just briefly agree with Sharon about this idea of competing priorities. In higher education, we have a priority to attract more international students and to encourage our students to spend more time abroad as well. Clearly, that is in competition with the idea that we should have low-carbon organisations. There are competing objectives. There are some good things, and some positive trends in terms of online courses like MOOCs—massive open online courses—where clearly people will not necessarily need to travel to universities to access educational resources, but the globalisation/internationalisation trend is competing—

[171] **Alun Ffred Jones:** Russell George wants to come in, and then I will come back to you, William.

[172] **Russell George:** I will follow on from what Peter was saying about people’s attitudes on the doorstep and that climate change is not an issue that people talk about. Lorraine, given your opening remarks and your background, it is really about understanding people’s attitudes and behaviour. What is Welsh Government doing that you think is good in helping to change attitudes and behaviour, and what can it do better?

[173] **Dr Whitmarsh:** The climate change engagement strategy was, I think, a very informed document, and I think it drew on a lot of good practice in terms of going through community organisations, through trusted sources of information, and being a grass-roots way of engaging people, so that it was not about academics, or politicians—people who are relatively distant from what people are familiar with, and their trusted information sources. Speaking in a way that touches on the core values that people have, their day-to-day concerns and realities would resonate with those. I think that that strategy was very informed, in that sense. How it has been realised so far has been a little disappointing, perhaps, because it relied on a kind of top-down communication strategy, which is the traditional approach. It has gone about giving messages that are relatively timely, so timed to the time of year when people would be making particular decisions, but I still think that it has not realised its full potential. It has not used a lot of the evidence base of the Welsh Government and what is available more broadly around narratives and the stories that would engage people and get people to think about climate change in their day-to-day lives. Sometimes, that is not even in respect of climate change. If we want to get people to save energy, then it is probably a matter of talking about monetary savings and health benefits. As Sharon has highlighted, the co-benefits to health would be one of the strongest arguments, I think, for getting people to save energy.

[174] **Russell George:** What is the leading reason why people have a negative attitude or behaviour towards climate change, in your view?

[175] **Dr Whitmarsh:** There is only a minority of people who are outright sceptics and would doubt the reality. It is somewhere between 10% and 20%; it fluctuates significantly. However, most people accept that it is real and express some level of concern, but, for them, it just does not translate into their day-to-day behaviour. So, I do not think that they necessarily have a negative view about it, but just that it is a fairly low priority, relative to other things.

[176] **Alun Ffred Jones:** William Powell, do you want to come back on this point?

[177] **William Powell:** Thank you, Chair. I was encouraged by some of the responses that we have just had to my earlier question, particularly, Dr Hopkins, your comments that these issues are coming up the agenda of the health sector. In the previous panel, James Byrne of Wildlife Trusts Wales linked the issue of successful health outcomes with the natural environment and attention to its betterment. A number of years ago, a GP called Dr William Bird did a piece of research, which I studied at the time, commissioned by Natural England about the clear linkages that there are in outcomes. Perhaps it would be worth revisiting that and bringing that to the attention of some of the health boards to promote that cause.

[178] I have one other question. We have had two panel sessions this morning and we have not, as yet, apart from a couple of tangential references, had any comment at all about the work of local government, which is obviously the 22 local authorities currently and the three special purpose local authorities. What, in your view, is the contribution that local government should make? We had a panel a number of weeks ago with the leads on issues around climate change, and some of them gave the impression that they were slightly lone voices or doing some missionary work out there. As you said, it is only one of many competing priorities. What do you feel should be done to raise that further up the agenda of local government?

[179] **Mr Davies:** May I come back on that? There are some really good examples in local government. We had the Climate Change Commission for Wales in Aberystwyth last week, and we had the Ceredigion cabinet member. He has in his title 'carbon management'. So, part of Alun Williams's cabinet title—and he has a couple of other things in it—is 'carbon management'. That is one of his titles. He has cross-local authority responsibility for carbon management in that authority, and is sat around the cabinet table. There are some other individual good examples that we could highlight. The Carbon Trust, which is a member of the commission, does a lot of work with local authorities and highlights some of the good and bad examples, would say if it were here that it is about accountability, in the sense that it is not built into their accountability, into their discussions with the Welsh Government. That aligns a little bit to the third sector as well. The third sector grants or contracts that it may have with the Welsh Government—this is the mixed messages point—would never refer to issues of the importance of incorporating climate change responses into that. It is the same when it comes to the relationship between central Government and local authorities in terms of accountability and responsibility.

[180] **Mick Antoniw:** At the opening of the meeting, you were suggesting that a number of the factors leading to reduced emissions are matters outside Government, due to the recession, the economic downturn, and all those sorts of things. To all intents and purposes, although we have a lot of focus, a lot of meetings, a lot of committees, and we do a lot of talking, effectively, we have made very little impact.

[181] **Mr Davies:** That is a good challenge. If you look at where we have made an impact,

the most inspiring thing, which I am sure you will see in your constituencies, is companies that have made significant strides in reducing energy costs and developing innovative products and services—you might touch on green growth issues later. You will see community groups, transition groups and all sorts of different community-led activity around local food growing, local energy responses and community energy responses to the issue. I have certainly seen a step change in the time that I have been a member of the commission, between where we were when the commission started, and where we are now in terms of the activity that is out there in business, local authorities and within the community.

[182] Those actions are about improving the overall wellbeing and quality of life of those communities, and they are making a contribution to climate change. If you take food growing as an example, the actual contribution that it is making is relatively minimal, whereas the community cohesion and the health benefits arising from it are much more significant.

[183] So, I think that we have made progress, but the scale of progress that we have to make is so significant, and the significant emitters that we have in Wales are those that are outside of the direct remit point. The big emitters are the power generators and the heavy manufacturing industries, and that is where the policy impact of the Welsh Government is more limited. However, I think it is wrong to say that we have not made any progress; I think we have made good progress and I think there is a real opportunity now in Wales, which is where the green growth message comes in quite strongly, I believe, to—. Where you see more progress is that some of those large companies have made significant progress in their emission reductions. So, Wales as a base for growing businesses in a sustainable way is where the opportunity lies.

[184] **Mick Antoniw:** Does that not hit the point and bring us back to the key issue in all of this, which is that so many Government targets and strategies are around energy? If you take the barrage as a potential opportunity for renewable energy, that is a massive chunk that we do not know quite when or where it will happen. I suspect that it may happen at some stage. The reality is that we then come back to another major area of renewable energy, which is wind— offshore and onshore—and effectively the whole policy has almost ground to a halt for a whole variety of reasons, which we all know about. The fact of the matter is that there have been changes in some parts of the world. I was in a part of Austria where, over 10 years, they have moved from 3% to 97% renewable energy, by selling the alternatives to wind power and winning the community over in terms of engagement, and so on. We do not seem to have made any significant impact on that whatsoever. Is it not fair to say that we will continue not to make any significant progress until we bite the bullet in terms of renewable energy?

[185] **Mr Davies:** I would agree. The two key factors that this committee would need to focus on, in terms of maximising the impact, would be the decarbonising of the energy supply and, within that, electricity and the progress or lack of progress that we have made in that, and where we need to accelerate that. I talked about some inspiration among many community groups, but I can also highlight the frustration that exists at a community level in respect of community-led renewable energy capacity. Real frustration has built up there that we must release.

[186] If you take energy generation and the other area, which is energy efficiency, we have some good examples of progress; Arbed is usually rolled out as the big example of progress, and it is an example of progress. It does not meet the scale that we need to have, and one of the areas of concern that the commission currently has—and I would hope the committee would take a close view on—is that we are in the process of completely changing the energy efficiency support system that is funded through Welsh Government. That will affect bodies such as the Carbon Trust and the Energy Saving Trust. It may result in a better outcome, but it is an area of very significant risk because we have got to make sure that the energy-efficiency

investment works. So, that is an area that we really do need to focus on. Those are the two key points, going back to where are the two key areas of investment: low-carbon generation and efficiency.

11:15

[187] **Mick Antoniw:** So, in terms of what we should be challenging Welsh Government on, we have that whole issue in terms of green energy and a whole series of potential proposals, for example, a proposal for a potential new 12-mile stretch of motorway at an enormous cost et cetera that has all sorts of implications going into natural resource areas. We also have the potential of fracking coming up and the investigation of those resources, which, again, leaving aside all of the issues around safety, is a fossil fuel. All the things that you have talked about are fine, but they all seem to be very much on the periphery. On the key things that would make a difference to achieving Government targets, we are either not making progress or there are other challenges coming that are going to push us backwards. Is that a fair assessment?

[188] **Mr Davies:** I think that it is a fair assessment to say that the two things that make most difference are de-carbonising energy and energy efficiency. Those are the two key things on which we need to hold Government to account—progress against those are the key measurement benchmarks that we need to focus on.

[189] **Mick Antoniw:** Does that not mean that in an awful lot of the discussions that we are having, on all sorts of things—which are all fine and good, I am not knocking them and I understand everything you say about food and I quite value the whole community side to that—we are just missing the main point, in most of the direction of our debate?

[190] **Mr Davies:** I would argue strongly that one of the failures, and why we have not made enough progress, is the fact that we have not brought the public understanding with us through this process. So, you cannot make some of the big changes that you want to make unless you bring that public understanding with you. You could probably point to onshore wind energy production as being a classic example of a failure to deliver to scale because of the failure to deliver community benefit and involvement with you through that process.

[191] **Mick Antoniw:** How can that be right because you have a relatively smallish number of people, in terms of some of those issues, saying, ‘It’s fine as long as it’s not where I live’, but the reality is that the big reason for scepticism among so many people, or in terms of their engagement, is because they say, ‘What you’re doing is peripheral unless you actually tackle the big things?’ On the big things that we are not tackling, what you seem to be saying is, ‘Ah, yes, but as long as we get all the people tackling the little things’. I can see it working the other way around.

[192] **Mr Davies:** De-carbonising electricity is the big thing and wind energy production is one of the key elements in that mix. In fact, onshore wind energy production is one of the most cost-effective mechanisms of low-carbon generation. So, I think that you have to bring the people with you and you also have to accept, and this is the point that I made at the beginning, the complicated nature of energy devolution issues, which means that there are again limits to what Welsh Government can do in terms of large-scale energy production. Obviously, the First Minister would highlight that and, hopefully, progress on the Silk commission’s findings will deliver a better outcome on that.

[193] **Mick Antoniw:** May I ask you one final question? I appreciate the generosity of the Chair on this. The future generations Bill is coming forward and obviously the terms of that will be important in terms of whether it will be effective or not. There is talk of—I am not sure what the term will be—a future generations commissioner or a sustainability

commissioner. Are you of the view that one of the key issues in terms of whether or not that legislation will be effective in delivering is going to be tied into the powers that are given to the commissioner to be able to, if necessary, intervene in decision-making processes?

[194] **Mr Davies:** Having spent a number of years in the role that I have, which is not full time, with no powers or duties or abilities to intervene directly, I absolutely agree that the strength of the commissioner role will be very important. We wait to see what it says in the Bill, but I hope that it will be a strong role for the new commissioner. It will not be me, but I hope that it is a strong role for the new commissioner.

[195] I also think, and I have written to the two Ministers concerned, namely Jeff Cuthbert and Alun Davies, on this point, on behalf of the commission, that we feel very strongly that the future generations Bill needs to acknowledge climate change as being the major factor that will impact upon the wellbeing of future generations. Whether in the future generations Bill or in separate legislation, we feel that it is important that there is a legislative framework for targets on delivery of climate change for Government. As a devolved administration, we are the only part of the UK that does not have that requirement built into the legislative framework. So, the role of the commissioner is absolutely central, but within that, the role of climate change in the future generations Bill and certainly the function of the commissioner in convening the sort of thing that we have with the Climate Change Commission for Wales is important as well.

[196] **Alun Ffred Jones:** Before I call Julie, Russell has a very brief question.

[197] **Russell George:** With regard to the new commissioner role, who do you believe should appoint the commissioner? Should it be the National Assembly for Wales, or should it be the Welsh Government?

[198] **Mr Davies:** We have had discussions on this. I chair the reference group for the Bill, and this is one of the issues that we have discussed. If I speak on behalf of the reference group and personally, I would argue strongly that the commissioner, to be effective, should be appointed through the Assembly and should be accountable to the Assembly. Certainly, that is the view of the reference group. If you look at other models around the world, you see that that tends to be one of the characteristics of an effective model.

[199] **Julie James:** I would like to turn to something that is a little bit different from what we have been talking about, but is associated with the carbon sink stuff. We have just been hearing from another panel—I do not know whether you got to hear any of that evidence—and we had a session last week, I think, although time flies when you are having fun, and it could have been the week before, from the forestry industry, the Woodland Trust, and so on, and there was the question of whether we are planting sufficient trees, not only for the industry but to act as a proper carbon sink. Professor Gareth Wyn Jones gave us some very persuasive and radical evidence about how much of Wales should be forested in order to make a real impact. Do you have a view on that? Should we, for example, do something very radical about redirecting farm subsidies from upland meat production towards forestry, by way of a radical example? Do you have a view on that?

[200] **Alun Ffred Jones:** Peter has taken the lead so far; does anyone else have a view on that and then I will come back to Peter?

[201] **Ms Sain-ley-Berry:** We support lots of community woodlands, and there are lots of benefits also for education skills training. The only thing about planting trees is that we have to be careful where we plant them, not to contradict or undermine any other biodiversity priorities we have going on. The state of nature report is fairly damning; most of our species are in decline. So, if there was a very radical push to plant trees, we have to measure that very

carefully against other priorities.

[202] **Mr Davies:** The two colleagues you heard evidence from this morning are also members of the climate change commission. I am sure that you will have heard a conversation about blanket bogs and the role of the uplands this morning as well in that respect, with regard to sequestration. The woodland agenda is important. We need a much more effective strategy and the strategy that we have had has not been successful. We need to look at the different elements of that. We need to engage the farming community far more successfully than we have done in that. There are examples—Pontbren is usually highlighted as a particular example—where there is small-scale planting, management of hedgerows, et cetera, that delivers value to the farm and delivers increased woodland capacity.

[203] One of my particular passions—I am chairing, very unusually, a cross-department group on this, so I have three departments around the table—is the use of Welsh timber in construction. That is one of the key factors in getting that positive cycle. I was asked by the Minister for Economy, Science and Transport to go to Scotland to look at what they are doing in Scotland. There, some 70% is built through timber frame, and increasing amounts of that are natural resources grown in Scotland. I was told last week that we, apparently, grow a house every 10 minutes in Wales, potentially, in terms of our timber capacity. There is every opportunity here. There is a myth that you cannot use Welsh timber in construction, but you can, and there are plenty of examples of that. We have begun to see some progress on that. So, we really have to accelerate that, which is part of the virtuous circle that will generate more timber capacity as well. The critical thing there is that it locks up the carbon for a long period.

[204] **Julie James:** We also had some evidence from NRW about how it is currently managing its estate, which I have to say I thought was absolutely contradictory to the evidence that we had from the forestry industry and indeed the Woodland Trust. How do you feel about how the Government should try to come to terms with such contradictory evidence? Do you think that the future commissioner—I do not know whether you would have done it, personally—should have the power to intervene and arbitrate, if you like? The management of the Welsh forestry estate is clearly something that we could do as an exemplar project. We could have all the biodiversity that we want, we could grow much longer-life trees because we do not have the difficulty of making ends meet day to day, and so on. However, we do not see much evidence of that sort of thinking, really.

[205] **Mr Davies:** It is the reason why I am convening this cross-department group. I have no powers to do it, so I only have to do it through consent. Many of the bodies that you are talking about are funded through different streams of Welsh Government, yet there is a lack of alignment within both the purpose of some of the funding streams, but more importantly through the recipients of some of those funding streams in terms of what it is that we are trying to deliver in Wales on timber, forestry and construction. It is a real opportunity that we have to get right and it probably does need to bang some heads together in order to get it right. Although I do not have the power to do that, I do see it as a really important piece of intervention that we need to focus on.

[206] **Alun Ffred Jones:** Clare, you mentioned a lot about changing attitudes and behaviour. You mentioned a lot of community groups that are active in this area. Was there not a Government-backed project supported last year to ascertain the effectiveness and best practice within community groups?

[207] **Ms Sain-ley-Berry:** I believe that you might be talking about the pathfinder programme.

[208] **Alun Ffred Jones:** Indeed.

[209] **Ms Sain-ley-Berry:** That was part of the engagement strategy. I think that the commission heard a presentation about the final evaluation report, which concluded that that programme had not been as successful as hoped, although—

[210] **Alun Ffred Jones:** The project to ascertain the effectiveness had not been successful.

[211] **Ms Sain-ley-Berry:** Yes.

[212] **Alun Ffred Jones:** It has reported, though.

[213] **Ms Sain-ley-Berry:** In its design rather than its delivery. One of the original goals, for example, was to calculate community carbon footprints, and it was found that that was just too difficult to do. There were other issues with that programme. A research report is available. The sorts of things that it highlighted were the roles of trusted intermediaries and the role of existing networks, because if you have to get a load of people together to take action, it takes a lot of time before anything happens.

[214] **Alun Ffred Jones:** Is this report public now?

[215] **Mr Davies:** It is. Clare has been quite kind, I think. It is public. There was quite a long delay in publishing it, and I think that it is one of the lessons that we can look at in how we take the learning and apply it. There was something like an 18-month or two-year delay in terms of the end of the programme and the publication of the report, and I think that one of the key issues would be learning that parachuting projects and people into communities for short periods of time is not necessarily going to deliver you the outcome that you want from that process. I do not think that it gathered the learning that we were hoping for. The point that I think Clare would make strongly is that there is quite an established, community-led network of community groups working towards tackling climate change out there, and this was parachuted in as a Government programme on top of that. That is difficult and does not work very well.

[216] **Llyr Gruffydd:** The only other question that I have is about the statistics, which are looking pretty grim, are they not, in terms of reaching targets, and turning a 5% increase, as was reported yesterday, into what probably needs to be a 5% or 6% decrease year-in, year-out for the next few years. In your heart of hearts, do you really think that we will achieve a 40% reduction by 2020?

11:30

[217] **Ms Sain-ley-Berry:** If I may, briefly, I would like to draw your attention to another piece of work that was funded under that engagement strategy, which was the supporting sustainable living scheme. It was a £1 million investment in a behaviour-change approach across sectors to deliver emissions reductions through long-term changes in lifestyle. An evaluation of that programme has suggested that it generated sufficient evidence to continue to pursue a behaviour-change approach. Some of the projects funded under the scheme have made what are approaching step-change interventions. If we want to achieve that 40%, I think that my key message is that technological quick-fixes and long-term fixes are appropriate, but we cannot rely on them. We have to take people with us, and there is a body of behaviour-change expertise that we should be reflecting on and building into any future programme, because the wins that that delivers are over and above what can be achieved with technology. The two go hand-in-hand. Ymlaen Ceredigion did a project working with people who had solar panels installed by the local council. It found that the emissions reductions achieved through changing behaviours were greater than the ones that were generated by the technological input. There is no point giving people solar panels if they continue to use their

washing machines at night instead of in the day, for example. So, I think that the 40% is achievable if we combine those approaches, and it needs bold, aspirational leadership from the Welsh Government.

[218] **Dr Hopkins:** I think that for me, it is absolutely strong leadership, and if the Government does not believe that it can be achieved, that will come straight through in what we are trying to do. I guess that that is part of what you were raising, namely that the commitment to this being achievable and doable just is not there and has not been a high enough priority. I think that there has to be an alignment of the public sector priorities and policies, so a lot of the behaviour change that Clare is talking about, if I put my health hat on, are things that I absolutely need for things like obesity and the increasing number of diabetics—all of those things that you see in health are absolutely about behaviour change, and they go hand-in-hand. So, those would be my issues. It is achievable if we believe that it is, if the leadership is there to enable it and if we align policies right across the sectors, working with people on behaviour change. So, if the messages are mixed, people will not change their behaviour.

[219] **Alun Ffred Jones:** Lorraine, do you wish to have the last word?

[220] **Dr Whitmarsh:** Just to agree with my colleagues. The point that was raised about some of the signals around road developments and other things, which clearly go counter to the climate change aspirations of the Welsh Government, was that they send a signal to the public that this is not a priority, is not a co-ordinated strategy and why should they also make an effort? In addition, the evidence base is largely there in terms of how to change behaviour and how to achieve this 40% target. I think that we can do it, but it is about will, co-ordination and embedding carbon emission targets into the decision making on the ground.

[221] **Alun Ffred Jones:** May I thank you on behalf of the committee for coming in and for speaking so frankly and openly? Certainly, we are much wiser now, at the end of this session, than we were at the beginning. Diolch yn fawr iawn. Thank you very much.

11:33

Papurau i'w Nodi Papers to Note

[222] **Alun Ffred Jones:** Very quickly, I need to move on to the papers to note, one from NRW and one on the Minister's response on the marine policy. They are noted.

[223] Dyna ddiwedd y cyfarfod, diolch yn fawr iawn i chi. Fe'ch gwelwn chi ddydd Iau nesaf yn sir Benfro. That concludes the meeting, thank you very much. We will see you next Thursday in Pembrokeshire.

*Daeth y cyfarfod i ben am 11:34.
The meeting ended at 11:34.*