



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

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

Dydd Mercher, 21 Mawrth 2012
Wednesday, 21 March 2012

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Meeting

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

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

Aelodau'r pwyllgor yn bresennol
Committee members in attendance

| | |
|------------------------------|--|
| Mick Antoniw | Llafur Labour |
| Yr Arglwydd/Lord Elis-Thomas | Plaid Cymru (Cadeirydd y Pwyllgor) The Party of Wales (Committee Chair) |
| Rebecca Evans | Llafur Labour |
| Russell George | Ceidwadwyr Cymreig Welsh Conservatives |
| Vaughan Gething | Llafur Labour |
| Llyr Huws Gruffydd | Plaid Cymru The Party of Wales |
| Julie James | Llafur Labour |
| William Powell | Democratiaid Rhyddfrydol Cymru Welsh Liberal Democrats |
| David Rees | Llafur Labour |
| Antoinette Sandbach | Ceidwadwyr Cymreig Welsh Conservatives |

Eraill yn bresennol
Others in attendance

| | |
|-------------------------------|--|
| Dr Michael Gandy | Rheolwr Cynllunio, Celtic Energy Ltd Planning Manager, Celtic Energy Ltd |
| Dr Mark Picton | Rheolwr Gweithrediadau Masnachol, Gorsaf Bŵer Aberddawan—RWE Npower Commercial Operations Manager, Aberthaw Power Station— RWE Npower |
| Yr Athro/Professor Jim Watson | Cyfarwyddwr, Sussex Energy Group, Prifysgol Sussex Director, Sussex Energy Group, University of Sussex |

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

| | |
|----------------|--|
| Alun Davidson | Clerc Clerk |
| Catherine Hunt | Dirprwy Glerc Deputy Clerk |
| Lisa Macdonald | Y Gwasanaeth Ymchwil Research Service |

Dechreuodd y cyfarfod am 9.31 a.m.
The meeting began at 9.31 a.m.

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

[1] **Lord Elis-Thomas:** Bore da. Good morning.

**Ymchwiliad i Bolisi Ynni a Chynllunio yng Nghymru—Tystiolaeth ar Ddal a
Storio Carbon a Thechnoleg Glo Glân
Inquiry into Energy Policy and Planning in Wales—Evidence on Carbon
Capture and Storage and Clean Coal Technology**

[2] **Lord Elis-Thomas:** It is a delight to have our witnesses here—Dr Michael Gandy and Mark Picton, and Professor Jim Watson, who can hopefully hear us loud and clear in Sussex.

[3] **Professor Watson:** Yes, good morning.

[4] **Lord Elis-Thomas:** As you know, this is part of a long inquiry into all forms of energy and its relation to planning. I will start by asking you what you think is the contribution of your particular form of energy to the energy mix in Wales, especially to our electricity generation over the next 20 years.

[5] **Dr Gandy:** Good morning. Thank you for inviting me to come along this morning. I represent the coal industry. I work for Celtic Energy Ltd and the views that I have submitted have been endorsed by one of the colleague companies, Miller Argent Ltd, and also by the coal federation, so I will try to speak in a broader sense for the coal industry, if I may.

[6] The industry, as everybody knows, has undergone a major contraction in recent years but, at the present time, is undergoing a little bit of a renaissance. We have reached a point of several major schemes having been approved in the planning system, and the major companies in south Wales—Celtic Energy Ltd, Miller Argent Ltd and Tower Regeneration Ltd—supported by the new developments in deep mining in the Neath Valley, are looking forward to a brighter future. That being the case, there are fairly substantial reserves with permission for the next eight to 10 years, and we believe that the figure will be revised upwardly fairly soon, once the statistics have been put together.

[7] The coal industry essentially exists as a supplier of fuel to the energy sector. That is split between power generation directly—the power stations—industry, households and exports. As a company, Celtic Energy produces about 40% of its product for power generation at Aberthaw power station, 30% for industrial use, such as steelworks, cement manufacture and so on, 15% for household use and 15% for export to Europe. So, they are all markets that are in the energy sector, and we believe that having a broad range of markets is good for the industry. It is a similar story for the other companies as well. We have sufficient reserves now to last for five to six years, and we hope to keep topping those up. As south Wales companies, we have perhaps a little longer than that. However, without the markets, it is a simple assessment that there would be no coal industry. We do not have any other ways of marketing products that are not in energy. It is as simple as that. We rely on Aberthaw power station and Tata steelworks in Port Talbot as our major markets. If they decided or there was a reason for them not to burn coal, the effect on the coal industry would be profound, very quickly. We provide many jobs in south Wales. In total, the industry provides more than 2,000 jobs directly and indirectly, and in communities that are very reliant on the industry for their employment, social wellbeing, health and provision of support for workers' families.

[8] We try to employ from the local community as much as possible, because we feel that

that is the best way to be part of the community, but the simple fact is that we serve the energy market as a supplier of fuel. If we were not to do so, the energy market may look elsewhere, perhaps to imported coal, which would obviously have an effect on the economy of the United Kingdom and, of course, Wales. We feel that it is far more appropriate to supply from indigenous sources. That is where we find ourselves currently. It is essentially a very strong relationship between energy users, the power generators, industry and us as a supplier. We rely upon them; without them, we have no future. That is as I see it.

[9] **Lord Elis-Thomas:** Thank you for setting that out very clearly. Mark Picton, would you like to describe how you see the situation from your point of view at Aberthaw? Clearly, we met RWE, particularly with regard to the renewables side during this inquiry, so it would be very useful to hear the point of view of high-carbon energy.

[10] **Dr Picton:** Okay. Good morning, everyone. I am Mark Picton, commercial operations manager at the Aberthaw power station, which is just west of Barry. We are a large, coal-fired power station. Basically, the ‘trilemma’ rather than the dilemma facing the energy industry at the moment is that there is a requirement for us to provide energy that is both affordable and secure—we need to keep the lights on, and we know that we have that remit—and, at the same time, we need to consider how we generate that power with regard to our environmental performance, given the carbon-reduction agenda.

[11] On behalf of Npower, we see coal as a factor in the sense that we need a diverse energy mix. We cannot put all our eggs in one basket, whether you are talking about wind and hydro power, nuclear power, coal power or gas. There are fluctuations in the energy market. Take for example what was quite an ignorant view of several years ago, when we thought that perhaps all our problems would be solved by gas. Gas prices are now particularly high, and many of the gas plants throughout the UK are not operating. In fact, there is now a focus on encouraging coal. Therefore, we would like a diverse energy mix going forward.

[12] Within that, looking at the Aberthaw operation, we have a proud history over the past nigh on 50 years of being able to generate nearly a third of the electricity required for Wales. Our proud history is that we burn probably in excess of 2 million tonnes of coal a year, burning as much Welsh coal as we possibly can, although, unfortunately, because of the decline in the coal industry, that is probably only about 50% or 60%. As a result of the developments that Mike referred to earlier, it is hoped that that percentage will grow in future. RWE has recognised that history of performance at Aberthaw and, over the past five or six years, we have had some fantastic investments, primarily to increase our energy efficiency and to reduce our carbon footprint and to enhance our environmental performance, such as the installation of a biomass plant and an ash reprocessing plant. We invested £60 million in new turbines in order to generate 60 MW of extra power for the same volume of coal, so that a proportionate amount of carbon dioxide is not generated.

[13] In a nutshell, to summarise, the view is that we have a history and we have been successful. Year on year, we are able to provide that energy for Wales, and with the right support—we have certainly got the suppliers earmarked—we would like to think that there is a secure future for coal generation as part of that energy mix going forward.

[14] **Lord Elis-Thomas:** I must apologise, but we have lost Sussex. We will try to reconnect. I think that he may be back. Did you hear any of that, Professor? Apparently not. We will adjourn briefly. This is what is called a technical adjournment. *[Laughter.]*

*Gohiriwyd y cyfarfod rhwng 9.41 a.m. a 9.43 a.m.
The meeting adjourned between 9.41 a.m. and 9.43 a.m.*

[15] **Lord Elis-Thomas:** We will now resume, and I will ask Professor Watson in Sussex

to describe the particular research project in which he is involved and its relevance to the work of our committee.

[16] **Professor Watson:** Thank you for having me this morning. Sorry about the technical problems. I am director of the Sussex energy group, which is a social science energy policy research group at the University of Sussex. We do not work on one particular technology; we look at the energy system as a whole in the UK and internationally. One of my areas is coal and carbon capture and storage, but we also work on renewables, nuclear energy, grids and social dimensions of energy. It is often the economic and policy issues that are at the forefront of our work. I am not supporting particular options in the energy mix, but we are quite interested in how we meet our big challenges, such as energy security and reducing carbon emissions, both in the UK as a whole and in Wales, in particular, for this inquiry.

9.45 a.m.

[17] For the project that I am representing, which includes Cardiff University, Edinburgh University and Imperial College London, we have been assessing the prospects of carbon capture and storage technologies, which are very important if fossil fuels are to continue to be a part of our energy mix in the UK and in Wales—that is, if we take our climate change targets seriously. Those technologies are crucial, but the real problem is that the technologies have not yet been demonstrated at full scale on the kind of power stations that you have in Wales, and which we have in England as well. That is a big problem because we do not know to what extent it is technically feasible to implement carbon capture and storage, and therefore take perhaps 90% of the carbon dioxide out of a fossil fuel power station. Also, we do not know what it will cost and what kind of incentives companies like Npower or E.ON might need in order to invest in this technology. What we have been doing in our research is to try to understand what the uncertainties are by looking at some historical examples of similar technologies and then coming to some conclusions about how some of those uncertainties might be resolved. Whatever the role of coal or gas in the future energy mix, one of our big conclusions is that it is very important that these technologies are demonstrated as soon as possible so that we know where we are, and whether they really are an option that is on the table or whether we will have to rely on other low-carbon options, whether they be renewables or nuclear, and control of demand. I would echo what one of the other speakers has said—that, actually, we will be requiring a combination of options to meet our targets and keep the lights on and all the other things that we need.

[18] **David Rees:** Good morning, gentlemen. Just to let you know, I represent Aberavon, which covers the area of Margam and Park Slip and also neighbours East Pit. Your business is mainly opencast sites, and you talk in your paper about the focus on planning and issues related to planning, particularly highlighting your concerns about minerals technical advice note 2. Why do you think that MTAN 2 is more stringent than necessary?

[19] **Dr Gandy:** The concern about MTAN 2 is that it seems to go a lot further than the equivalent document for aggregates, and yet many of the issues at which it was directed are common to both industries. We felt that MTAN 2 placed hurdles in front of the coal industry that were not placed in front of other forms of mineral extraction, in particular the very stringent requirements on proximity to other forms of development. We also felt, at the time of publication, that although opportunities were given to the coal industry during the various stages of the preparation of that document, it appeared without any warning some 18 months after the previous consultation document had been out for view.

[20] The essence of our concern is that we do not believe that the coal industry has been placed on a level playing field in comparison with other forms of industry. In particular, I would identify aspects such as proximity, noise, dust and blasting; there is a problem there with the perception of the coal industry compared with other forms of mineral extraction. We

feel that there was a disadvantage placed in front of the coal industry, primarily.

[21] **David Rees:** May I take that further? You claim that it is an issue of perception, but I have residents in my constituency who do not think it is a matter of perception, but fact—there is an impact on their properties, their lives, their homes and their environments. The 500m buffer zone is the issue that you lost an appeal on, if I remember rightly. As such, it seems to be something that residents are comfortable with. Do you think that the buffer zone should be smaller, considering that the same buffer zone applies to renewables like windfarms, and so it is a consistent figure?

[22] **Dr Gandy:** If I may, sir, the issues on which we lost the appeal were four in particular, and the buffer zone was only part of that. We did challenge that in the courts and it was found that there was some difficulty with the interpretation of the minerals technical advice note and the development plan. There were other issues that were quite strong, such as landscape impact. We know that there was a lot of concern in the locality, but there were no facts presented to support that at the inquiry. The issue of buffer zones is very emotive. It is one that is being debated in other parts of the United Kingdom. Currently, there is no common ground between the situation in Wales and in England. There is no common ground between equivalent forms of mineral extraction and that is the issue that we were particularly concerned about: the buffer zone for a quarry is 200m, whereas the buffer for a surface mine is 500m, and yet the same issues, which were reported in ‘Minerals Planning Policy Wales’, apply to both types of development.

[23] **David Rees:** I have one other point. What proportion of coal do you anticipate will come from opencast mining and deep mining in future, in terms of volume?

[24] **Dr Picton:** If you think, David, that 60% of the coal that comes to Aberthaw is indigenous, I would probably say that, with the Unity and Aberpergwm mines, which are very small producers for us, in excess of 80% of the coal that we will receive in going forward will be derived from opencast mining.

[25] **David Rees:** If the Margam deep mine comes on board for Tata Steel, how much of an impact will that have on production?

[26] **Dr Picton:** On us directly?

[27] **David Rees:** On the coal industry generally, because you said you supply Tata Steel, for example.

[28] **Dr Gandy:** If I may answer that point, Tata Steel is looking to that as a source of high-quality coking coal to replace the imports that are being brought in in large volumes. None of that coal is being targeted at this stage for power generation. However, when you mine coal from whatever seams, there is a proportion that is not suitable for the high-quality market. That may well then find its way to power generation through blends, but the essence of the Margam deep mine is purely as a supply for coking coal for the steelworks.

[29] **David Rees:** I will come back on this matter later.

[30] **Mick Antoniw:** Looking at the security of coal as an energy source, can you explain your position in greater detail? Is it your view that we are underestimating our reliance upon coal for energy production and, if so, why?

[31] **Dr Picton:** I think there is a perception that the Welsh Government and the UK Government want to accelerate the low-carbon technologies, particularly renewables, and perhaps coal is the poor country cousin. At the moment, if we can quote figures from energy

production, on the coldest day of last year, the amount of megawatts generated by renewable forms of energy for the national grid was 20 MW, while the amount of energy generated from traditional fossil fuels was 20,000 MW. I still think that the fossil fuel side of the business needs to provide that platform from which we can grow our renewable business. However, we cannot switch away from the coal industry and its supply and fossil fuels in the energy generation of today. There is a strong focus on developing the low-carbon technologies. With regard to carbon capture, I would put that in that field as well. We need to encourage that, but I think that, at the moment, there is more of a focus on wind and hydro than on our traditional fuels.

[32] **Mick Antoniw:** Are there issues with securing coal for energy production? You have a certain amount of domestic production, from Aberpergwm and Unity and presumably some from England as well, and a substantial amount that is imported. There is a lot of information emerging with regard to, effectively, a world shortage of coal. Are there issues in terms of the availability of imported coal for energy production, if it is required? Also, is there fairness in terms of local coal as opposed to imported coal?

[33] **Dr Picton:** Our massive preference is to receive Welsh coal. There are huge benefits in having a supplier that is 30 or 40 miles away from the power station. It makes good commercial sense for us as well. However, the facts and figures that have been brought to our table about the availability of imported coal, particularly from Russia, demonstrate that there are tens if not hundreds of years' worth of coal available. It is a matter of preference that we go to Wales for the 60%, because of all of the advantages that it offers, but, if we had to, we could run Aberthaw power station with imported coal.

[34] **Dr Gandy:** One of the products that we as a company produce is anthracite. In fact, probably something like 90% of the United Kingdom's anthracite is produced by Celtic Energy and it is directed primarily to the domestic market. The alternative sources are very much further away, in Vietnam and South Africa, and if we were unable to produce it, for whatever reason, then there would clearly be imported coal, because there is still quite a substantial market for domestic coal. However, in producing that anthracite, we have to produce the essential but not quite so high-quality coal, which I alluded to briefly. Some of the coal from Margam could be destined for power generation via blends. So, there is a complex arrangement in terms of the sale of coal, and if it was imported, it would not be quite so easy to arrange to provide it through our various blending operations and so on.

[35] **Lord Elis-Thomas:** May I ask Professor Watson to comment on what he has heard so far before I turn to David?

[36] **Professor Watson:** I would expect any users of coal, such as power stations and steel producers, to want to look for the cheapest price. As one of the speakers has said, there may be advantages to going local and being able to talk to your supplier directly, but if there is a big price differential between imports and domestic Welsh coal, and the imports are much cheaper, then I would expect power generators and steel producers to go for the imports.

[37] I do not see any difficulty with importing coal in terms of security. There may be difficulties to do with jobs and with industrial policy reasons, but in terms of energy security, there is no particular problem with coal when you compare it with the other fossil fuels, particularly oil. There is not a big concentration of suppliers in the world. One of the big drivers of the coal market has been increases in demand in China, and there are big worries there about the amount of coal that it is using and it is trying to reduce the rate at which that has been increasing. So, in a way, if there is a shortage out there, you would expect the relative price of coal to rise, which would make other forms of energy more attractive. So, I do not think that there is a particular security issue, but there may be other policy considerations that mean that you might sometimes want to favour domestic resources.

[38] **David Rees:** You said that most of the anthracite is for the domestic market. Have you seen a change in the domestic market as a result of individuals deciding to go greener, or perhaps other forms of energy becoming more widely available to domestic markets? Some areas in my constituency did not have gas for many years, for example.

[39] **Dr Gandy:** In the broader sense, there has been a decline in anthracite usage in the United Kingdom, and I have to look at it in its broadest sense there. We also export anthracite to Europe. There are many people whose preference is for solid fuel boilers. Although the number has declined over the years, it is still a fairly substantial market and one that we happily supply. There are no other sources of anthracite that can be mined in the quantity that we provide. So, yes, there has been some decline, but there is still a buoyant enough market out there to make the operations very much worthwhile from an indigenous point of view.

[40] **Lord Elis-Thomas:** Mark, do you have anything to add on that?

[41] **Dr Picton:** No, there is nothing that I can add on the domestic side.

[42] **Antoinette Sandbach:** Professor Watson, what are the academic estimates for carbon emissions related to coal use? Are you aware of those? You indicated the importance of carbon capture and storage. I saw that, in 2008, Germany ran a project on carbon capture and storage. Are there lessons that we can learn from that project in Germany, even though we do not have the technology here in the UK yet?

10.00 a.m.

[43] **Professor Watson:** Thank you for the question. The first thing to say is that I do not have all the detailed figures to hand. Specifically speaking, you are emitting about 900g of carbon dioxide per unit of electricity generated from a coal station. For comparison purposes, it is 400g from a gas station. Coal accounts for around 40% of the electricity that we produce in the UK, and the power generation sector accounts for about a third of our emissions. So, within that third of UK emissions, the share of coal-fired power stations is probably quite big. I suppose that the reason that people are focusing on carbon capture and storage is that, of course, fossil fuels are particularly carbon intensive, but there is a particular opportunity to reduce emissions from that power sector earlier than we can reduce emissions from the other sectors in our economy that produce carbon dioxide, which are transport, heating and so on. There is a perception by many that we may have more options in the power sector, so it is easier to start there.

[44] We can definitely learn from other countries. Carbon capture and storage technologies, like many of these low-carbon technologies, are international in nature. Some countries have gained competitive advantage by moving first, such as the Danes in wind power and, increasingly, the Chinese in solar photovoltaics. We have some companies that are active in CCS in the UK, but we do not have all of the capabilities. Most of the projects that are being planned around the world involve a whole range of different suppliers, and many of them are multinational companies, such as Shell, Alstom, the pan-European equipment supplier, General Electric and so on. Germany has had particular problems with CCS. Although it was quite early to move and to plan some projects, it has been hit by some quite serious public protest about the storage of carbon dioxide under the land rather than offshore. That has meant that, in Germany, plans for CCS are in some trouble, as they are in some other countries. However, there are other examples, and I particularly point to North America—the United States and Canada—where some projects exist and others are going ahead. So, I agree with your main point that learning across borders is very important in this field. Each plant will cost a lot of private money, but it will also cost a lot of public money to get them built, so sharing makes sense.

[45] **Antoinette Sandbach:** You talked about the uncertainties in this technology that, effectively, make it difficult to know what level of support needs to be given to the research and development. Are there any provisional conclusions from your research that you can share with us that would help? Clearly, if there are uncertainties, it becomes difficult to make a decision. Are there provisional conclusions that you can share with us at this stage?

[46] **Professor Watson:** Yes; by definition, you cannot reduce uncertainties, at least not completely, by just analysing the problem. You can do some of that, and some UK power companies have spent £40 million over the last few years on front-end engineering design studies of CCS projects—one in Longannet, Scotland, which did not go ahead and was cancelled, and the E.ON project in Kingsnorth, Kent, which was also cancelled. Through those quite detailed design studies, they say that they have managed to get some of the uncertainties reduced on issues such as costs, how the components fit together and so on. There is really no substitute for building full-scale plants. A phrase from the field that I come from is that there is no substitute to learning by doing. In that way, you start to get a handle on what the real costs are, and on what some of the real challenges are in moving from the pilot-scale facilities that we have in some countries to the full-scale facilities, making all the components work together—the power station, the pipeline and the storage reservoir. So, there are many uncertainties, but, by working on some of these projects, designing them right, and giving the companies involved incentives to maximise how efficient and good they are, some of the uncertainties can, perhaps, be significantly reduced. If, at that point, we are getting somewhere, we may need another round of support to really get into the commercial deployment phase. Our main headline conclusion, certainly at a UK level, is that we really need to get to the point where we have some demonstration plants agreed and being constructed. We have been talking about this for at least five years, if not longer, and we are not getting anywhere fast at the moment.

[47] **Dr Picton:** This may be an opportunity to describe the operation that will, hopefully, be online by the end of April at Aberthaw. We have scaled up quite quickly. I mentioned the proud history of Aberthaw. We were lucky enough to be selected by our RWE parent company to take part in a group exercise whereby we will undertake a level of research in a certain technology while there will also be a separate research and development project in one of our other companies, in Niederaussem, Germany. We will compare those two technologies and whatever comes out as the best technology will be used when we build a new power station in Holland; we will look to go forward with that technology, based on our group studies. So, we are very much learning from other countries. The advantage of RWE being a pan-European company is that we can use the Aberthaw and Niederaussem experiences to support Eemshaven.

[48] The massive challenge with carbon capture is that the technology is not quite there. We need to scale up—we are scaling up about a hundredfold with the Aberthaw operation, and we probably need to double that to go to Holland. That is a big step in terms of research and development. There are significant investment costs. A bigger question than whether we will invest in carbon capture is whether we will invest in coal for the future. There may be no point going forward with carbon capture if there is no future for coal.

[49] **Antoinette Sandbach:** May I follow up on that? You indicated that you will take forward the best technology. What criteria, for you, will make it the best? Is it a combination? What are the factors against which you will assess what is the best technology?

[50] **Dr Picton:** There will be two factors. One, ultimately, will be cost, and the second will be the effectiveness—there are a number of chemicals to which we will be subjecting the flue gases—of withdrawing the carbon dioxide. So, the challenge is to get a removal rate of about 90%. There will be an analysis of which is the best carbon dioxide remover versus the

cost. Those are the two principles.

[51] **Antoinette Sandbach:** I will ask my final question, if I may, Chair. If you were to get Government assistance for, or money towards, research and development, would you then be prepared to share the benefits of the technology—any patent income or any future benefits of the technology—with the Government?

[52] **Dr Picton:** That is an extremely interesting question—

[53] **Lord Elis-Thomas:** You do not have to answer it now; you can phone a friend. *[Laughter.]*

[54] **Dr Picton:** It is an interesting question. One of the reasons why Npower withdrew from the CCS competition was over whether we would release the intellectual properties of the research to the general public. The feeling within the company was that we saw a competitive advantage in retaining that intellectual property. So, at the moment, we have left the competition and not taken up the option of Government money in order to retain intellectual property. Looking at it from the other direction, no, we would not.

[55] **Lord Elis-Thomas:** Professor Watson, do you have a comment on public sector funding versus what we have just heard from Npower?

[56] **Professor Watson:** What the last witness said echoes something that has come out of our research, namely that you have to demonstrate the variety of technologies at the moment. It is not clear, as he said, which is best and which will be cheapest and perform best in terms of carbon capture, so some variety—across the EU as a whole or within the UK—is important in order for us to know where we are.

[57] In terms of public funding and intellectual property, it is right that, if tens of millions of pounds—if not up to £1 billion—of public money are put in to a technology, there is some agreement about sharing the proceeds of that technology, if it is successful. Hard-pressed taxpayers are putting in a lot of money, so the benefits ought to be shared. However, this has to be negotiated carefully, because, as has been said, companies have their own needs and reasons for doing that. Scaling up CCS simply will not happen if there is not some public money from somewhere. Companies will not do it at full scale on their own. They may carry out pilot schemes, but I would be surprised to find a private company doing it of its own volition, without some underpinning from taxpayers or energy-bill payers.

[58] **Vaughan Gething:** For what specific reasons did you withdraw from the Government-run competition to scale up? I am especially interested in the balance between new technology for new plants and retrofitting. You talked about projects in Aberthaw and in Germany that would retrofit technology onto existing plants. Given the number of plants that are already providing energy to the grid, and given the background of the European directive on large combustion plants, I am interested in your view on how ready the technology is, or is likely to be, for retrofitting and not just for new builds. Obviously, a huge amount of capital has already gone into plants that already exist.

[59] **Dr Picton:** One reason why we withdrew from the competition—in addition to the issue of intellectual property—was how the competition was designed. It was designed for private companies to put their money up front and, if the project is a success, there are opportunities for moneys to be reimbursed by the Government. All of the risk of the project was primarily with private companies, so why be part of that competition and take on all of that risk? We would prefer to go it alone and retain the intellectual properties, as I mentioned earlier.

[60] On retrofit, we need to look at the full picture. Yes, I am confident, knowing the technologies at Aberthaw, that we will be able to remove the carbon dioxide. The question is: where will it be stored? At the moment, there are no sites available—there are certainly no sites close to Aberthaw to store the carbon dioxide locally. There are discussions regarding pipelines to the North sea, but we are talking about several hundreds of millions of pounds. So, I do not think that retrofitting Aberthaw is a realistic option. On retrofitting some older plants, carbon capture is an energy intensive project, which will significantly reduce the energy efficiency of any power station. Therefore, retrofitting will be a huge challenge. It is possible as a new build solution, and it is certainly possible for new coal-fired plants. However, as the professor mentioned earlier, there is even less carbon dioxide generated from gas operations, and the viability of fitting carbon capture is even less on existing gas plants, where efficiency is starting to decline.

[61] **Vaughan Gething:** I guess that it comes back to the point about new build and whether the technology would differ for new build. My follow-on question is on the comments that you made about the storage issue, and whether Npower and other companies have a view on where we go with that. You all have an interest in where to put the carbon if you capture it, but do you have a direct interest in creating areas or utilising areas for storing carbon? One comment that we have had in a paper is about the potential to store carbon in the North sea, which appears to me to have significant challenges anyway.

[62] **Dr Picton:** The professor might be able to answer that question better than me. I cannot see there being a difference between the technology for a new plant and an old plant, but that might be an ignorant answer. Are we focused on looking at storage opportunities? At the moment, we are not. There are storage opportunities associated with the Dutch plant that I mentioned earlier. We would probably focus our efforts at the moment on developing the carbon-capture technology and then, having learned how the Dutch plant is storing carbon, bringing that experience to the UK. However, that is probably five or eight years away.

[63] **Vaughan Gethin:** Given that timescale, what is the future for coal plants in the UK, if you are not able to retrofit and you are not able to store captured carbon in that sort of period, given what we said about the energy mix and the current reliance on them for a significant chunk of domestic and industrial energy needs?

10.15 a.m.

[64] **Dr Picton:** Ultimately, we need to run a profitable business. There is more and more legislation that is coming to the table, the electricity market reform and the carbon floor price and so on will make it far more difficult for the coal industry going forward, be that the provision of coal or the firing of coal to generate electricity. It is going to be an extremely tough market. However, provided we can make a viable operation and can meet our environmental performance standards, we like to think that we have a future for at least the next 10 years.

[65] **Dr Gandy:** I have just a brief comment to make. The coal industry in itself cannot do a great deal directly in this particular instance, because we cannot make our coal any cleaner than we provide it. We believe that it is as clean as it can be. However, we are looking at a different issue here. It is in our best interests to support any technology that will assist our future potential market. Clean coal technology is something that we actively take on board, and we have had many meetings with the British Geological Survey in south Wales to see if there is anything that we can do to facilitate the research being undertaken into the potential for storage in deep, unworked coal seams. It is early days yet. The Seren project is looking at very many aspects of three-dimensional views of the south Wales area, and we are very supportive of that.

[66] With regard to carbon capture and storage, that is, if you like, a direct part of the whole debate. Carbon reduction, however, is clearly at the centre of the inquiry and the issues that we are looking at. If we can achieve such a reduction by looking on a United Kingdom basis at our individual contributions, we still firmly believe that coal has a part to play, even though the industry cannot necessarily directly store the carbon dioxide at present. It is not a direct answer to the question, but we do actively support any research into achieving that, whether that is local or further afield.

[67] **Professor Watson:** I would tend to agree on the point that retrofitting for coal in the UK is probably less attractive. There are other technical and regulatory reasons, and a lot of the older plants are going to close because of the large combustion plant directive, the EU directive and the industrial emissions directive. As I have said, the efficiency of some of the older plants is already lower, and if you consider that adding carbon capture will knock 10 percentage points off at the high end of their efficiency, you might end up with plants operating at perhaps 25% efficiency by the time you have finished. So, there are a lot of reasons why you might not want to do it.

[68] In a way, it depends on the technology. You can retrofit relatively easily in the case of what is called post-combustion carbon capture, which I think is what was being referred to. That is where you scrub the flue gases out of a conventional power station using amine or another solvent. You can also do pre-combustion, which is where you process the fuel by first separating out the part of it that you can burn, which ends up as hydrogen from the carbon dioxide and you then burn the hydrogen. That is much harder to retrofit to the kind of coal stations that we have in the UK, because the technology is completely different. You really would not want to do that.

[69] Retrofitting for the purposes of the UK means that you are more in the realms of looking at gas plants. The efficiency rate of some of the older ones is in the late 40s in percentage terms, but the slew that was built in the 1990s, including those in south Wales, has a percentage in the mid to high 50s and they could be retrofitted with carbon capture relatively easily. One of the big issues, as has been said, is with long pipelines to storage reservoirs.

[70] If we look outside the Welsh and UK context and think about exports and other countries, it is clear that there is a need to develop a retrofit proposition for carbon capture and storage for countries such as China that are building huge numbers of coal-powered stations, many of which are new—they are five to 10 years old at most. So, the scope there for retrofitting in the future is very large, if this technology works. Retrofits depend on the context and the fuel and technology that you are considering. I hope that that is helpful.

[71] **Lord Elis-Thomas:** Russell, you have been very patient.

[72] **Russell George:** Thank you, Chair.

[73] We have had some evidence to say that there should be a review of ‘Minerals Planning Policy Wales’—this question is probably to Dr Gandy—on the grounds that a number of factors have moved on since it was first written in 2000. What are your views on that?

[74] **Dr Gandy:** There is probably a case for reviewing ‘Minerals Planning Policy Wales’. When it first came out, it followed on fairly closely from ‘Planning Policy Wales’. That was updated as recently as last year. ‘Minerals Planning Policy Wales’ is probably in need of some revision. I do not think that the essence of the policy document needs to be changed greatly. However, since it came out, we have had the minerals technical advice note, which was addressed earlier. There are issues there that perhaps need to be updated. There needs to

be a review of policy across the minerals sector, but, fundamentally, there needs to be a review of the way in which the policies are implemented in terms of strategic views. I have a very strong view on how mineral planning should be dealt with in Wales. There needs to be a more strategic view rather than a local view.

[75] I have held that view for more years than I care to remember, since I was in local government and presented evidence for the former County Planning Officers Society on strategic minerals planning. I felt at the time that there ought to be, perhaps, three or four major units in Wales that could take this broader view of mineral planning. We have, in a sense, had a bit of a hint of that most recently with regard to the way in which individual local authorities are combining their efforts almost to produce a regional context by default, in a sense. I am thinking in particular of the role that Carmarthenshire County Council is playing on behalf of Ceredigion, Pembrokeshire, the Brecon Beacons National Park and southern Powys as well as its own authority area. That is one aspect that ‘Minerals Planning Policy Wales’ could consider as a way of dealing with minerals development. That is something that is perhaps for another place, but it is one of the issues that could be dealt with. Coal, as an energy fuel, would be a part of that, as would aggregates, but there are other strategic planning issues that could be embraced.

[76] **Russell George:** I have another question for you, Dr Gandy. You recommended in your paper that consideration be given to regional planning for energy projects. Will you expand a little on that?

[77] **Dr Gandy:** In a sense, it is related to the point that I have just made. If you look at the way that individual local authorities are dealing with energy developments, there is a lot of local opposition and a local view—a very strongly held view—and I would not wish to comment on the merits or otherwise of that. However, anyone travelling around Wales or looking at the Welsh news will be aware of this happening on an almost daily basis. A strategic view has to be taken of the provision of energy. As has been identified elsewhere, Wales does not have devolved powers over energy provision, but bringing the enabling powers together could, perhaps, assist in that particular regard.

[78] **David Rees:** I would just like to follow up on that. Clearly, there is a difference between energy production and the production of the materials to produce the energy. Do you believe therefore that there should be a closer link between those two sections in the planning process so that, during the consideration of planning policy for energy production, there should also be consideration of planning policy for the use of minerals, or whatever, to generate the electricity? Wind is a different matter, because it is already there, but there are other products such as gas and shale gas.

[79] **Dr Gandy:** I think that the answer to that is probably in the affirmative. As I have said, we cannot influence the burning of the fuel. We are supplying the market at the moment. The two sit closely together; there is an interrelationship between them. We would hope that power generators and industry would use as much indigenous fuel as possible. As I have said, it is in our best interests that that happens. If the two were dealt with together, there would perhaps be an opportunity for a clearer understanding of the relationship of one to the other. Sadly, on occasion, it is lost in the debate as to exactly why we are producing the fuel. It may well be, and I do not know the answer to this, that there is perhaps a little uncertainty as to why power generators are located where they are and the advantages of having them in a particular place. The history of Aberthaw is very closely related to that of south Wales; Aberthaw would not have been built if it had not been for south Wales coal.

[80] **Antoinette Sandbach:** Just to follow up on that, and Professor Watson may want to come in on it as well, do you therefore see a benefit—you talked about a strategic approach—in the spatial mapping of resources and taking an overview of the whole of Wales? I do not

think the spatial map, in relation to energy, has been updated for some years now in Wales, certainly not since 2006. Would you welcome a spatial mapping approach?

[81] **Dr Gandy:** Again, the answer would be ‘yes’. I do not think you can deal with resources in one part of Wales without some awareness of what the requirements are elsewhere. If you are dealing with coal in particular, there are two major coalfields—there are also smaller ones that may not be as relevant in 2012 as they were—one in south Wales, which we know about, and one in north-east Wales, which is currently dormant, but nevertheless there are resources there that could be used. Minerals technical advice note 2 certainly took note of that and it made us aware of all the necessary potential resources, but it did not necessarily make the link with power, industry, household use and so on, and it would be helpful to look at that.

[82] **Professor Watson:** Briefly, it is a good idea to do resource mapping whether it is about coal, renewables or heat mapping within urban areas to look at the scope for district heating grids, for example. It is important information and it is a way of having a more strategic conversation about where energy ought to come from. That would provide a context for some of the more local proposals that can end up being quite controversial in many cases. Although you cannot stop such things being controversial, we probably need to find better ways of mediating between each and every scheme and of finding out what people in the local area think about it. It is about that broader conversation about where people think they want their energy to come from if it is going to be low-carbon, secure and so on. There is often a real disconnect between those two things. It is the epitome of ‘not in my backyard’ and it is a very difficult thing to deal with, but more attention at the regional level may be required to try to deal with some of those tensions.

[83] **Dr Picton:** I would like to comment on that. Any decision for a coal-fired power station, for example, should not be made in isolation. With regard to the future of our coal-fired power station and the knock-on effect, it is well-known that for every one job in that industry, there are four jobs supporting it. To make a planning decision or whatever by focusing purely on power stations would be ignorant; we need to look at the wider effects of that. Also, I want to come back to you, David, with an observation, more than anything. With regard to the Nant Helen extension and the Tower Regeneration Ltd planning applications, I sat in as a very interested observer in those planning committee meetings and the planning officer summed the cases up, and although there could possibly be movement into this 500m buffer zone, reference was made to the fact that the zone should be seen as strong guidance. When you review both cases, the massive advantages outweighed some of the disadvantages, and that is why the approval was given to both those cases and welcomed by Aberthaw.

[84] **William Powell:** Good morning. I would like to develop one or two of the points that we have just been considering. Do you think that the local development plan framework should require, as part of the test of the soundness of the plan, appropriate identification of mineral resources for coal extraction and other purposes? It was said that it would be a good idea to identify and spatially map it, but should that be stronger in requiring it to be identified as a test of the soundness of the plan when it comes to inspection?

[85] **Dr Gandy:** The advice and guidance that has been issued, through minerals technical advice note 2, is that the local development plan is the correct mechanism through which to identify these potential resources.

10.30 a.m.

[86] I am pleased to see in plans that have been through the system that there is that identification of the resource. My concern with each plan that comes through—and of course there are many that cover the coalfields of south and north Wales—is the danger that because

there is quite a time lapse between the start and the finish of each, and between the progress that each one is making, there is not necessarily the appreciation of what is happening beyond an administrative boundary. My worry—and I look at this from my experience as a regional mineral planner and as a geologist—is that administrative boundaries, with the greatest respect, have no relevance when it comes to what is in the ground and the potential use of a resource for the wider good. Looking at the plans that have been through the system, there is a danger that they could fall between individual plans going through. The planning inspectorate will take a look at the plan and will approve it accordingly. However, I look at the difference in the plans and find that there are inconsistencies between those local development plans that are already coming through the system. We make representation wherever we feel that is appropriate, but sometimes that is not taken on board.

[87] My view about a regional approach to this is that you could take a wider view of a resource in its total extent. The coalfield is a coalfield, like it or not—it has a geographical and geological extent. If you look at the quality of coal across the coalfields, there are subtle variations that can be quite critical. Take, for example, the difference between anthracite and dry steam coal. The boundaries are known, but are not related to any particular administrative boundary. Sometimes, the value of one area versus another is not always appreciated. I firmly believe that if you were to take a wider view of the whole resource, that would then come through in the local development plan as having had more of an appropriate consideration. However, having said that, there would not be a local development plan if that were taken forward; there would be a regional development plan, which would give it a much broader basis. That is the view I take and the one I support.

[88] **Lord Elis-Thomas:** Rosemary Thomas, the chief planning officer, has spoken to us on some of these issues. Following your evidence today, I am sure that we will want to return to those because there are parallel issues in renewables, nuclear energy and in all areas of energy and infrastructure planning. Some of that is beginning to be grappled with in the latest Government paper, and we will pursue that. I am grateful to you for your evidence.

[89] **Dr Gandy:** It allows an opportunity for a wider view of many land-use planning issues, which are not just related to energy or mineral provision. Probably everyone around the table has a view on what may or may not be appropriate in that regard.

[90] **Lord Elis-Thomas:** I am sure that Julie James will want to ask something about this in a moment, but we will let William Powell finish first.

[91] **William Powell:** Another point I wanted to make was that, in his recent statements, the First Minister spoke about creating a climate that is friendly to investment and gives certainty. That theme has run through many of the witnesses' evidence that we have heard in recent weeks and months. I noticed that, in your evidence, Dr Gandy, there was reference to previous decisions by the Welsh Government that have left a sense of puzzlement among developers. Could you expand a little on that so that we have a clear understanding of the kind of areas that have given rise to that puzzlement and how they are best avoided in the future?

[92] **Dr Gandy:** The clear example of that is how applications are dealt with differently from one authority area to another. The issues raised are not consistent and the approach taken to decisions has been variable. Our feeling as a company is that because we are coalfield-wide—we have made applications in Carmarthenshire, Neath Port Talbot, Powys and Rhondda Cynon Taf and so on, and I have to be careful here because I do not want to insult anyone—it is clear that the level of expertise is not quite as consistent as we would like it to be.

[93] **Lord Elis-Thomas:** You are more polite than most of our witnesses. [*Laughter.*]

[94] **Dr Gandy:** Perhaps at my age I can afford to be, I do not know.

[95] **Julie James:** You have just answered the question I always ask about the postcode lottery. We are much blunter than you have just been.

[96] **Dr Gandy:** I think back over many years of mineral planning, and I look back at how the recommendations were made in the 1970s by the Stevens committee on how mineral planning should be dealt with. There were fundamental conclusions in that which were taken up in part, but not in total. There is an inconsistency in experience, expertise and, perhaps, approach when it comes to decision making, which has caused the company a little concern, and that is the puzzlement to which I refer.

[97] **William Powell:** Have you found comfort when bringing such matters to appeal from Planning Inspectorate Wales? Have you then found the consistency that has been absent elsewhere, or do you have a variable experience of that also?

[98] **Dr Gandy:** The variable experience is extended to the mineral planning appeal system as well. We have taken one particular case to extensive challenge, to the High Court; we did not receive total satisfaction, but we found that our approach was vindicated to us to a great extent in the end. There is a danger within the Planning Inspectorate that the experience and approach is not always what we would hope it would be. We do not expect any favours; all we expect is a consistent approach taken to the applications that we make.

[99] **Lord Elis-Thomas:** Professor Watson, before I bring in Julie, do you have a further comment on that?

[100] **Professor Watson:** No, I do not.

[101] **Lord Elis-Thomas:** I am delighted that you mentioned the Stevens committee. I started as a very naïve young Member of Parliament, representing a national park, discussing all of the mineral planning issues, mainly slate, obviously. However, it is wonderful to hear allusion to such a historic document. Anyway, before I go into reminiscence therapy, Julie James will contribute. [*Laughter.*]

[102] **Julie James:** Tragically, I remember the Stevens committee as well. I want to emphasise I was even younger at the time—

[103] **Lord Elis-Thomas:** But more worldly wise, I am sure.

[104] **Julie James:** In fact, I was still at the University of Sussex. I feel obliged to point that out.

[105] May we take that a little further, and talk about your experience with the statutory consultees in the planning process? Are you experiencing the same sort of problems?

[106] **Dr Gandy:** The two main statutory consultees with whom we have dealings are the Environment Agency and the Countryside Council for Wales, and they comment at length, as they rightly would, on applications that we make. We would hope that they would comment in a given timescale that would not cause undue delay and concern. Our recent experience is that comments have taken anything up to six months to appear, with an excuse, if you like, that they have been busy, or that issues have been raised during the course of the consultation period. We have made representations to the Countryside Council for Wales at the highest level in terms of the coal industry. It understands our concerns and it has assured us that it will address many of the points.

[107] For example, when we go through the proper environmental assessment procedures and we seek a scoping opinion from them, they give us an answer, we proceed on that basis, and then they ask questions relating to the original opinion they expressed. This causes frustration, and we have an example of comments being received from one of the statutory consultees at 6 p.m. before a committee deadline the following day. That is astonishing. The outcome was that it did not affect the overall result, but there is a need to sharpen their approach to consultation. I look at what is proposed to happen with this bringing together of the Forestry Commission Wales, the Environment Agency Wales and the Countryside Council for Wales, and I hope that it will focus attention on the issues that are relevant to the developments that are taking place. It would provide a central area of expertise and avoid the overlaps that inevitably occur between EA Wales and CCW. I should add that I massively support the work they do and the approach they take because it is very good to have a wider environmental view of what goes on. I think that it would help development, not just mineral development but many other developments, to have a much more rapid response to applications. I made this point to the UK Coal Forum in London, and, interestingly enough, it was a view shared by very many other organisations.

[108] **Dr Picton:** I echo Mike's comments, Julie. Certainly, the message we get from our German board is that delays equal cost. It is not so much an issue if it takes a set amount of time, even if that is quite a long time. The problem is that it then runs on and on. I understand the pressures that the Environment Agency and Countryside Council for Wales are under, as I was a pollution inspector with the Environment Agency. I understand that they need to do their jobs correctly. However, I wonder whether they understand the pressures that we are under. At Aberthaw, for example, we are looking to get sanctioning for another £200 million environmental improvement investment, but we will be competing with the investment coming from RWE in a Turkish gas plant. You can bet your bottom dollar that the Turkish gas plant will go through all the consenting and permitting procedures much faster and with many fewer hurdles than the ones in the UK. I hold my hands up and say that that process in Turkey may not be as thorough, but it is the extended nature of the application in the UK that is the issue.

[109] Consider Pembroke power station. It is an example of an absolutely fantastic project for Wales. We were able to secure well over £1 billion from RWE. The plant was built more than a year ahead of time and within budget. That is something that we really should be flagging up and saying 'Well done' to Wales, and yet, perhaps because of the lack of cohesion between the Environment Agency and the Countryside Council for Wales, that project was delayed. That message going back to Germany makes the board ask whether it should invest in Wales or in Turkey. If it knows that it is going to be an extended process and that it is going to take 12 months to get a permit, that is fair enough and we can plan for that. If it takes 365 days, so be it. However, when it takes 366 days, 367 days and so on, that is when our German board becomes impatient. It likes security so that it can plan.

[110] **Julie James:** Yes, so it is the issue of uncertainty and it being a sort of lottery, again. Dr Michael Gandy referred a little bit to the proposals for a single environment body. We have heard quite a bit about the problems with Pembroke power station as a committee. Do you think that a single body will solve some of those problems?

[111] **Dr Picton:** I would like to think that they can become closer. I am mindful that this is going to take place over the next 18 months. If I am honest, being very selfish about my own projects, I am fearful about it. I am looking for sanctioning in March 2013, and I think that the next 12 months are going to be a bit of a challenge for those bodies as they come together. If they can come together with a common voice and govern together with one policy in mind, yes, I think it is a great idea. However, I will remain sceptical until it is delivered.

[112] **Julie James:** The proof of the pudding is in the detail. I have one last question on something you alluded to a little. One of the other issues we have been looking at is the juxtaposition of the planning and permitting regimes, the difficulties of them effectively being completely separate in some areas and the way that planning authorities deal with dual permitting or not and so on. Do you have any comments on that?

[113] **Dr Picton:** I must be honest: they have my greatest sympathy at the moment. We are looking for this extension to our plant to improve our environment performance once more; we now find that we need four separate planning applications, as well as for the operational licence to be varied. Now that is complicated.

[114] **Lord Elis-Thomas:** Will that be under one environmental statement or will you require more than one?

[115] **Dr Picton:** It will probably just be one.

[116] **Lord Elis-Thomas:** That is a relief.

10.45 a.m.

[117] **Dr Picton:** Yes. They are of varying complexity and it is very difficult, because we are trying to ensure that all the projects go ahead. Do we submit the four planning applications separately or do we put them all in together, as one? We are fearful that, if you put in four applications, they go off to the statutory consultees, who ask questions, and it just builds and builds. That is incredibly difficult. We are mindful of that. However, I think that the idea of running these in parallel is a good idea. Our recent experience, in fairness, is that the Vale of Glamorgan Council and the Environment Agency have come on board very quickly and have said, 'Please give us these applications early doors'. We have learned lessons from Pembroke and we have shared exactly what our designs are going to be. Hopefully, that will make for a smoother process, but it is complicated and it can introduce delays.

[118] **Julie James:** I have one last question, on an issue to which you alluded there. One of the other issues that we have heard about with regard to the inconsistency between authorities, permitting areas and so on is the ability, or otherwise, to have one environmental impact assessment or one environmental statement covering the planning and the permitting and all the other issues. Are you constantly asked for slightly different information or, worse still, duplicate information for the two twin-tracked applications?

[119] **Dr Picton:** Whether it is the Environment Agency, the Countryside Council for Wales, the environmental health department—there are a number of other consultees, such as the sea fisheries committee and so on—with all fairness, these guys have a role to play. Sometimes, you get the impression that they want their voice to be heard and that they want to ask the question, so they do not leave it to the Environment Agency. They ask their own question themselves, so there are four answers. Going back to an earlier question that you asked, Julie, if they all came together as one co-ordinated board, we would get one question and, therefore, one answer, which would, hopefully, satisfy everyone and make it a little bit smarter.

[120] **Dr Gandy:** I have a brief point on that. We try, if at all possible, to produce one single environmental statement to embrace all the issues. However, we do, in a smaller way, share the experiences, because we not only have the planning consent to negotiate, but also the pollution prevention control permit from the local authority and the discharge consent permit from the Environment Agency. If they were to work in parallel, there would be a saving of time and effort. Sharing the information would be an advantage to all parties if that

could be done at that time.

[121] **Lord Elis-Thomas:** Professor Watson, do you have any comments on this?

[122] **Professor Watson:** No, it is not an area of my detailed expertise, so I will leave it there.

[123] **Antoinette Sandbach:** I have a question for Mark Picton. Both witnesses have spoken about the Environment Agency and CCW, but the single environment body may involve a merger of three organisations rather than two. Is there a perception that it would be easier to deal with a merger of two organisations rather than three? I do not know whether any of you have had business experience of mergers of that type. If three rather than two organisations were to delay or complicate the process, what would be your view?

[124] **Dr Picton:** Perhaps the simple fact that it is three rather than two means that it is one more that you have to bring together. When I worked for British Steel, we rationalised our operations with Koninklijke Hoogovens, a Dutch operation, and that was a very complicated process. Although the board was set up and the policy and mission statements were in place within 12 months, it probably took two or three years for us to be joined up in our thinking. So, I would have said that it was another factor again to introduce a third body. However, if you have a guy at the head of that single body who is single-minded and says, 'Right, guys, we have to get this together' from the very early days, he might be the guy who can get it together. It is a lot of pressure.

[125] **Antoinette Sandbach:** On one person.

[126] **Dr Picton:** Yes, to bring everyone together. It is fantastic if he can do it, but obviously, three organisations rather than two is a bigger factor.

[127] **Dr Gandy:** I do not think that there is any real problem in principle, as far as we are concerned, in bringing three rather than just two together. We would hope that, whichever combination is favoured, they will focus on the issues that need to be addressed. If they can do that, we as developers will have much more certainty if we know that we are dealing with all of the expertise brought together under one heading. I have to be slightly cautious in as much that I know that I am arguing for a different governmental amalgamation in local government, in a sense. However, if it is done properly, it can work, and it is up to those involved in planning that to ensure that individual sectors of expertise are brought together, and that they provide the necessary advice.

[128] **Mick Antoniw:** On the role of the Welsh Government in all of this, you mentioned earlier the importance of the broader strategy. Do you have any comments on the role of the Welsh Government, and on how that might change or be improved?

[129] **Dr Gandy:** The role of the Welsh Government is vital in ensuring that an overview is taken for the whole of the principality. If you have a regional structure, there is still an opportunity for the Welsh Government to provide all of the necessary advice, guidance and support for the regional units to ensure that they are all working together. I suspect that it would be much easier with three or four units—whatever number might be favoured—rather than with 22 local authorities plus the national parks, with all of their individual pulling and pushing. It might make the role of the Welsh Government a little easier, in that sense. So, the whole lot could work together. I should add that there is a regional tier but there still has to be a local tier. A structure right from the top to the bottom is still needed, to ensure that all aspects of society are covered within that structure.

[130] **Lord Elis-Thomas:** I will ask one final question, to summarise the discussion. As a

committee, we have been looking at this subject for what feels like nine months—although it cannot be that long. If you were members of this committee or advisers to it—as you are, as witnesses—what would you prioritise? I will start with you two here in Cardiff bay, and then I will turn to Professor Watson in Sussex. Based on your experience, what particular message would you like us to put in our report that would represent not only your views but how you think that the planning and energy sectors in Wales could be improved? What one golden message, shot, nugget or lump of coal—whatever metaphor you like—would you like to see?

[131] **Dr Picton:** I suppose that the golden nugget, Chair, is that, going forward, we need a diverse energy mix. That is the short statement. I encourage you to recognise that there is a lot of expertise in relation to the industry. A lot is happening. We are very focused on reducing carbon emissions. There are headlines—we have talked this morning about carbon capture—but if you go below the headlines you will see opportunities. For example, in Aberthaw, we are now engaging in a biomass plant, which is encouraging less carbon emissions. We also have new steam turbines and so on. There are many initiatives. Please get closer to industry and learn from us. At the same time, we would welcome your support, because there are other innovations on the horizon, and we are focused on reducing carbon emissions, encouraging energy efficiency and so on. So, if you can stick with us and engage with us, your targets can become our targets and we can manifest that as a similar goal.

[132] **Lord Elis-Thomas:** We have been thinking of what we should do with our report to ensure that it has maximum impact. Perhaps we should come to your fine centre at Aberthaw to promote our work.

[133] **Dr Picton:** You are more than welcome.

[134] **Lord Elis-Thomas:** There is nothing like inviting yourself in public and getting a ‘yes’. [*Laughter.*]

[135] **Dr Gandy:** The main point that I would like to be considered is that coal is still very much part and parcel of the energy mix in Wales and in the United Kingdom, and I believe that it will remain so. It is important to recognise how that particular fuel supports the economy of Wales—the local economy and the national economy. It is part and parcel of the mix that Mark has mentioned. It needs to be part of that mix. We support carbon capture. If a mechanism can be found whereby coal can continue to be a part of the mix, we would be delighted. I would reinforce the view that I have expressed that a regional view of energy would be very important. That could embrace many of the comments that I have put in writing and those that I have added verbally. That would be something that I would hope that the committee could take a very clear and strong view upon.

[136] **Professor Watson:** As has been said, there needs to be a vision at a Wales level about how exactly the targets of reducing carbon emissions and maintaining energy security can be met—what kind of mix of energy sources might there be in the future. I am sure that some of my colleagues at Cardiff University and the Welsh version of the Committee on Climate Change have thought through that in some detail. There then needs to be some sense of what the priorities ought to be within that. One thing that we have not discussed today, because we have been talking mainly about coal, is that you should start at energy demand and energy efficiency and think about how energy use could be made more efficient in cars, homes and buildings. That is energy that you do not then need. It can help people with affordability, it can certainly help with climate change targets and, arguably, with energy security. However, certainly for Wales and for the UK more generally, carbon capture technology, among that family of low carbon technologies, is a particular priority to make some progress with regard to seeing whether it is really an option, technically and economically, for the future. Within that, although we have had a lot of discussion about coal, the UK is one country among many where the role of gas will be prominent for many years to

come. So, although gas is less carbon intensive than coal and is being sold as a destination—a clean fossil fuel for the future—talking about carbon capture and storage on gas is really important, as is pushing that and making some progress on it, rather than thinking that it is something that we need to deal with in the 2030s and the 2040s, which would be too late. So, those are a few thoughts from me.

[137] **Lord Elis-Thomas:** Thank you. I think that we are moving on to discuss gas next week or the week after that. Thank you for your contribution, Professor Watson in Sussex and Dr Michael Gandy and Mark Picton here. Diolch yn fawr.

10.58 a.m.

Papurau i'w Nodi Papers to Note

[138] **Yr Arglwydd Elis-Thomas:** **Lord Elis-Thomas:** I ask you to note the Gofynnaf ichi nodi cofnodion cyfarfod 1 minutes of the meeting held on 1 March. Mawrth.

Cynnig o dan Reol Sefydlog Rhif 17.42(vi) i Benderfynu Gwahardd y Cyhoedd o'r Cyfarfod Motion under Standing Order No. 17.42(vi) to Resolve to Exclude the Public from the Meeting

[139] **Yr Arglwydd Elis-Thomas:** **Lord Elis-Thomas:** I ask someone to move the motion.
Gofynnaf i rywun gynnig y cynnig.

[140] **Llyr Huws Gruffydd:** Cynigiau fod **Llyr Huws Gruffydd:** I move that

*y pwyllgor yn penderfynu gwahardd y the committee resolves to exclude the public
cyhoedd o weddill y cyfarfod, yn unol â Rheol from the remainder of the meeting in
Sefydlog Rhif 17.42(vi). accordance with Standing Order No.
17.42(vi).*

[141] **Yr Arglwydd Elis-Thomas:** Gwelaf **Lord Elis-Thomas:** I see that the committee
fod y pwyllgor yn gytûn. is in agreement.

*Derbyniwyd y cynnig.
Motion agreed.*

*Daeth rhan gyhoeddus y cyfarfod i ben am 10.58 a.m.
The public part of the meeting ended at 10.58 a.m.*