



## Welsh Affairs Committee

### Oral evidence: [The Future of Nuclear Power in Wales](#), HC 699

Monday 7 March 2016

Ordered by the House of Commons to be published on 7 March 2016.

Written evidence from witnesses:

- [Horizon Nuclear Power](#)
- [Albert Owen MP](#)

[Watch the meeting](#)

Members present: David T.C. Davies (Chair); Chris Davies; Dr James Davies; Stephen Kinnock; Mr Mark Williams

Questions 1–58

#### Examination of Witnesses

Witnesses: **Alan Raymant**, Chief Operating Officer, Horizon Nuclear Powers, and **Greg Evans**, Operations Director, Horizon Nuclear Power, gave evidence.

**Q1 Chair:** Good afternoon, Mr Raymant and Mr Evans. Thank you very much indeed for coming along and talking to us. We had a visit up to Wylfa a few weeks ago, which was very interesting for us all. If I may, I am going to start off with a few questions, but please feel free to throw at us any information that you feel may be pertinent to this. The first thing is that we have heard the news today that there is some hiatus going on in EDF at the moment. How confident are you that you will be able to reach an agreement with the Government over contract for difference and strike price?

**Alan Raymant:** Thank you very much for inviting us to this inquiry. We are very confident that we will be able to strike a deal for contract for difference with the Government. The Hinkley Point project is an important bellwether for the nuclear new build programme as a whole, but we are not dependent on that project succeeding. We observe with interest and look to learn from that project but we are not dependent upon it.

**Q2 Chair:** You have already put quite a lot of money into this so far, haven't you? Are you able to give us a rough idea of how much you have put in, or is that commercially sensitive?

**Alan Raymant:** I can't give you the full details but, to give you an indication, when Hitachi bought Horizon in 2012 it spent just under £700 million buying the business and we have invested heavily since that time. It does require a lot of upfront investment, and investment for the construction phase as well. Hitachi is making a huge commitment to this programme and to the UK energy sector generally.

**Q3 Chair:** I assume you must be fairly confident that this is going to come about because you have invested what, to my ears, is a vast sum of money and you would lose the lot if this project does not go ahead.

**Alan Raymant:** Absolutely. We observe what is happening at Hinkley Point. We look at how that could translate to our project and that is important in terms of us maintaining the confidence of our shareholders to continue to invest in the project going forward. The key thing for us is to make sure that the framework, which is put in place by Government, is sufficient to attract the level of investment that is required to fund these projects going forward. That is what gives us our confidence to invest in the development phase and gives us confidence we can develop a successful project.

**Q4 Chair:** There is a strike price that has been printed of, I think, £92.50 per megawatt hour. Would you confirm that is the strike price that will be agreed with Government? How far has the variation gone?

**Alan Raymant:** That is the strike price that has been agreed for Hinkley Point. It is far too early for us to confirm the price that we would agree with Government. We have not started those detailed discussions yet. Suffice it to say, we are acutely aware of the importance of affordability and delivering value for money. That is at the forefront of our minds as we develop the project.

**Q5 Chair:** Do you feel that you will be able to get the financing for this? If the upfront costs suddenly start to rise, as has been the case with other nuclear projects, who carries the risk for that?

**Alan Raymant:** The developer, like ourselves, is carrying the risk for the investment up to the point of what we call financial investment decision. Hitachi has made no secret of the fact we are looking for additional investors to fund the construction phase. Working in partnership with Government, one of the key things we have to do is to make sure that the framework attracts the widest pool of investors possible. The investment requirements are so huge that we need a wide pool of investors in the market to support these projects.

**Q6 Mr Mark Williams:** There has been a history of projects going over budget quite significantly. Was it the Flamanville project in France that tripled in cost? What actions are you able to take to ensure that, if faced with those challenges, Wylfa Newydd would offer value for money?

**Alan Raymant:** The first thing to say is that we are using the advanced boiling water reactor technology, which is the only proven latest generation technology that has been built and been in operation, so we are building on a successful track record in Japan. The challenge for us is making sure we successfully transfer that experience and know-how to the UK, which we see as a huge opportunity for the UK supply chain and for the UK economy generally. As I say, I think a key differentiator for us is that we are looking to deploy proven technology with a track record of successful delivery.

**Q7 Mr Mark Williams:** Following on from that, notwithstanding that answer, what potential additional costs might there be? I am talking specifically about the process of construction. What things might emerge down the route and what are you practically able to do to keep spending under control so that you are not in those vast escalating cost situations?

**Alan Raymant:** In many ways our project is no different from any other large capital project that takes many years to build. You have the normal construction risks that have to be managed: things like labour productivity, the quality in the supply chain and access to the supply chain. All of those things are key project risks that we have to quantify and then manage. A lot of the work we are doing between now and starting the project for real is working on those risks to make sure we do have a robust supply chain, the companies understand the quality requirements, the engineering of the project is well advanced and that we have a very robust schedule and work programme to make sure the project is delivered on time.

**Greg Evans:** I think that is one of the key areas. The nearer we can keep the UK advanced boiling water reactor to the original ABWR design, the less risk you then have in modification and development of the ABWR, which we know for operating reactors has a good construction, commissioning and operational record.

**Q8 Mr Mark Williams:** What would explain a tripling of the cost on a scheme like the French project that I mentioned?

**Alan Raymant:** I don't know the full detail of that project, but the European pressurised reactor, the EPR, is a new technology. It is under construction on a number of sites but none of those projects has been completed. They are still going through a process of learning and understanding for those projects, so I guess that is a contributory factor.

**Q9 Chair:** I think you said in your written evidence that you would expect the site to operate at about 85% to 90% capacity over the course of a year. Is that right?

**Alan Raymant:** Yes.

**Q10 Chair:** How does that compare with previous nuclear power plants that you have built and nuclear power plants that you may be operating at the moment?

**Greg Evans:** We are not operating any others as Horizon Nuclear Power, but if you look across the nuclear industry at the boiling water reactor technology, it has quite a brilliant operating record, to be honest. Particularly in the United States and in Spain it achieves 92% to 93% availability. The 85% to 90% that we quoted in our written submission to you is an investment assumption. That obviously takes in worst-case and best-case scenarios and then averages them out. As operators we are confident that we can take that proven design from the Japanese, apply it in a UK context and, in our regulatory environment, achieve upwards of 90% availability.

**Q11 Chair:** Presumably, if that calculation was incorrect and it was only making 60% or 70% or something, then it would be your investors who would lose out because they would be seeing less money achieved per megawatt hour than they would if it was at 90%. There would be no risk or cost to the British taxpayer. Am I correct in thinking that?

**Greg Evans:** Yes, that is right.

**Alan Raymant:** Yes. It is our risk.

**Q12 Mr Mark Williams:** Turning to the issue of EU state aid rules, mindful of the fact that Hinkley C did receive clearance for state aid from the European Commission but then Austria challenged that decision in July 2015, the European Commission and the UK Government are saying they are confident of winning that case. Are you confident that the agreement with the UK Government will meet EU state aid rules and, if it didn't, how would that affect the Wylfa Newydd project?

**Alan Raymant:** I think we have to take our lead from the Government and the Commission on the robustness of the decision. On that basis we would be confident that ultimately that challenge won't succeed. It is also important to make the point that the state aid clearance was specifically for Hinkley Point, so we will have to go through that process ourselves for the Wylfa Newydd project as well. Hinkley Point is an indication of how the Commission may view our project, but it is not a guarantee that we will automatically follow the same path, so we have to make our own case.

**Q13 Chair:** Has it taken a long time for the European Union to sort out this claim and counterclaim?

**Alan Raymant:** I would have to check my figures, but I think it took about 12 months for the Commission to come to its conclusion, based on DECC's submission. In terms of the resolution of the legal challenge, who knows? These things can take many years. It is certainly not even clear to us exactly what stage that legal challenge is at, at this point in time.

**Q14 Chair:** Does that prevent the work from going ahead? Is that causing a big delay and a cost?

**Alan Raymant:** No. The decision of the Commission stands unless and until it is overturned. It does not prevent it but if it turned out that that decision was unsafe, and that the aid was illegal, then any money would have to be paid back.

**Q15 Dr James Davies:** National infrastructure projects are often subject to delay and that is particularly true of nuclear power projects. What are you doing to ensure the delivery of Wylfa Newydd as soon as possible or as per schedule?

**Alan Raymant:** A number things. As I say, we are starting from the track record that Hitachi has in Japan of building reactors to time and cost. That is important. We are doing a lot of work to establish how to transfer that expertise to the UK, working with the UK supply chain, so Hitachi is already working closely with a number of UK suppliers to enable that to happen. Throughout the period from the end of 2012, when Hitachi acquired Horizon, through to the middle of 2018, when we hope to have all of the various licences and agreements in place, part of that work is doing the detailed engineering and planning to make sure, as far as possible, that we have all of those risks identified and managed so that we can do a risk assessment project.

**Greg Evans:** One thing to follow on, it is helpful sometimes to think of a nuclear power station project in two phases. There is the design and development and construction and delivery but there is also the enduring company of the operating entity. I joined in June last year to put together a small team to start looking nine years in advance and start building operational capability to ensure that we have the skills, resources and plans to operate the power stations for 60, 80 and decommission over 100 years.

**Q16 Chris Davies:** You have given those reasons but are you confident that Wylfa Newydd 2 will be completed on time?

Alan Raymant: Yes.

**Q17 Chris Davies:** You are. Is there any more help that you think you could have from the British Government, or the Welsh Assembly Government, to ensure that that does happen?

**Alan Raymant:** Yes. We work closely with the UK Government, the Welsh Assembly Government and the local authority, on all aspects of the project, to make sure that the specific requirements are well understood, where the support is actually required and that there are no surprises from all quarters. We have discussions with the UK Government about the contract for difference and the UK guarantee for the financing, which are the two principal support mechanisms. Those discussions are ongoing and we need to accelerate those. Locally we will be starting to submit planning applications this year, and one of the key issues for us is making sure that that process runs as smoothly as possible. We are providing as much support as we can to the local authority to be able to support

them financially in terms of being able to assess our proposals. We also have a long-established dialogue with both the local authority and the Welsh Government in terms of the infrastructure developments that may be required to support the project. Of course we can always do more, but we have the relationships in place to be able to have those conversations.

**Greg Evans:** One of the most important elements of government support that can be had—whether it is local, regional or UK—is continuing and non-wavering strategic support for the technology being employed. It is clear to us, and we feel quite secure, that nuclear is a part of the mix going forward. We have heard that time and again from cross-party political representation. We feel that locally on Anglesey, in Wales, in the UK and also in Europe. From that perspective, everything that we are doing today is in our control and we are not actively looking for massive amounts of government support or intervention. The problems, the issues and the challenges that we have are in our hands, so we are working hard to make sure that we liquidate those challenges and provide this technology going forward.

**Q18 Dr James Davies:** It sounds as though you have been trying to pre-empt any potential obstacles to progression on schedule, such as helping the local planning authority. Are there any other obstacles that you can foresee or any issues with talks with regulators? For instance, are talks progressing well with them on the design of the reactor?

**Alan Raymant:** These projects are not easy. We do have a lot of difficult issues we have to resolve over the next three years. As I mentioned to you, we have clear plans to address those but I would not want to give you the impression that it is an easy task. In terms of the nuclear regulation, there are two main streams of work. The first is what we call a generic design assignment, which is specifically looking at the generic aspects of the advanced boiling water reactor design, and that process is going well. We are due to complete that at the end of next year, the end of 2017. In parallel with that, we are looking at the site-specific regulatory requirements. Our plan is to run those two processes in parallel, as closely as we can, to minimise the risk of surprises and potential delays; so, so far so good.

**Q19 Dr James Davies:** How will you ensure that Wylfa Newydd operates safely? That is probably the issue of greatest concern to those who have misgivings about nuclear power?

**Alan Raymant:** First and foremost, it is the primary issue that we consider: safety in everything we do. That is core to our company values. Specifically around the technology, the UK has a very well established, very highly regarded regulator. The process that the regulator goes through is very intensive, very robust. That is important, from our point of view, in terms of building and maintaining public confidence in the industry and in our project specifically. We start from the recognition that what we are dealing with is a high hazard industry, so we manage our business accordingly, and then we have a strong regulator in the UK that gives the public confidence that we are doing our job properly.

**Q20 Dr James Davies:** The Fukushima disaster, of course, led a number of countries to reassess their approach to nuclear power. Could you outline some of the safety features that have been brought in as a result of that disaster?

**Alan Raymant:** Sure. The event that triggered the issue at Fukushima is extremely unlikely to be repeated in the UK, given it was initially a seismic event that triggered a tsunami. The important thing to mention there as well is that the reactor itself shut down safely as a result of the seismic event. It was the inundation of the tsunami that caused the problem that essentially took out all of the backup emergency provisions. A lot of work has been done globally on: what are the lessons learned from Fukushima, and what can be done to reinforce the safety of the plants around the world? Those features have been incorporated into the design. For example, additional protection against flooding of the emergency diesel generators that are required and the arrangements for backup of power supplies are now built into the design. We will also be updating a lot of the emergency procedures, so what would happen in the event of an incident but, Greg, have you—

**Greg Evans:** It is a lot about the corporate and the local and national infrastructure to respond to events, which is a key learning point from Fukushima. We know that our regulator played a key role in advising the Japanese on how they can improve and bolster their emergency preparedness offering. For us, the key issue on all nuclear power stations has been what we refer to as a loss of offsite power. It is a fundamental safety case that we provide for through means of diverse cooling methodologies and backup power supplies. Those have all been reinforced, as a result of learnings from Fukushima, and incorporated into both the ABWR in Japan and now the UK ABWR through our generic design assessment.

**Q21 Dr James Davies:** Will those alterations be scrutinised by the Office for Nuclear Regulation? Is that one of their roles?

**Greg Evans:** Yes.

**Q22 Dr James Davies:** Are you working closely with them, presumably at an early stage, to address their concerns and potential solutions or suggestions they may have as well?

**Alan Raymant:** Yes, absolutely. The UK regulator was right at the forefront of the assessment of what happened at Fukushima, the lessons learned from that and how those needed to be incorporated into the requirements here in the UK. We are very confident.

**Q23 Chris Davies:** You have just given us a very good explanation to reassure us as a Committee, but how are you reassuring the people of Anglesey and further afield in North Wales of the safety measures that you are going to put in place?

**Alan Raymant:** A number of ways really. We hold regular surgeries on the island. At the moment we are in the middle of a public consultation process as well, so we have lots of points of contact with the local community where any concerns about the project can be

raised. From time to time, the issues of nuclear safety have been raised with us. First of all, we have our own experts who can answer questions that are raised. We also had a presentation by the ONR, the Office for Nuclear Regulation, who visited the island to talk to the community. We will repeat that, as and when the need arises, to make sure that the local community has the confidence they deserve.

**Greg Evans:** I have had the honour and privilege of being the station director at the existing Wylfa Nuclear Power Station, from about 2001 to 2009, and I live on the island. My wife is a health, safety and security manager at the existing Wylfa.

**Chris Davies:** I can see you have picked up the accent.

**Greg Evans:** I am an immigrant, a naturalised UK citizen now, but I moved to the UK in 1988. I started on Sizewell B and then moved to Wylfa in 2001, so I have had the privilege of working with the nuclear workforce on Anglesey for many years and still live and work there. There is a huge nuclear capability on the island in terms of operational and support capability, both directly employed on the power station but, as importantly, in the local and North Wales supply chain and the rest of the UK supply chain. There is a relatively good understanding among the general public about what Wylfa is about. For the last 45 years, Wylfa has been an exceptionally good neighbour with a fantastic safety operating record on the existing power station. It is my role and job and ambition to replicate that for Wylfa Newydd.

**Q24 Mr Mark Williams:** Over that period, you said fairly well informed. I think Anglesey is probably very well informed on these issues, aren't they? Do you think there has been a change in perception locally, some of the concerns that we raised when we went to visit the old site and indeed the new site? Do you think that argument is being won? Has it changed from when you first arrived there in 2001?

**Greg Evans:** Yes, definitely. As with any business entity, the existing Wylfa went through tough periods technically with regards to ageing plant components. There was a period, when I joined in 2001, where the people who worked at Wylfa and the local community were beginning to fear closure, albeit for what may have been the right reasons. We were able to technically work our way through those issues and succeeded in securing another 16 years of operational life for the power station. Through that period and certainly what I have seen, particularly among younger people, is—and I think it is fuelled by an interest in what is the largest employer on the island—many young people, who in 2001 were five, six, seven years old are now 21, 22, 23 years old, are considering their futures and looking at Wylfa as a potential technical and well-paying career. They see that it won't just be one generation. It will be two, three or four generations who will have opportunity and benefit from the local power station. If you live and breathe on Anglesey, like my family and I do, nuclear is never the conversation. It is always about, "It is taking too long". I get that every single day, "When are you going to start preparing the site? When are you going to do this? When are you going to get things moving?" It is a slightly different offering, I think, than if you went to another part of the UK or Europe and had to deal with a well established and very well developed anti-nuclear position.

**Q25 Stephen Kinnock:** I apologise in advance, but I am going to have to go to a European Committee. I did want to ask about the local environment and particularly some of the concerns that the National Trust has raised. I understand that they have written to you and are not entirely satisfied with the answers that they have received. Can you say a little bit more about that and why you think it is that they are not satisfied?

**Alan Raymant:** We strive to have good strong relationships with all of our stakeholders. Most of the time we get it right; sometimes we have some further work to do. We are very well aware of the concerns that National Trust have and we will address those as soon as we possibly can. At the end of the day, we can't always satisfy fully all of the stakeholders. We have to find a solution that works for the project and for the community as a whole, but we do take their feedback very seriously and it is something we will address.

**Q26 Stephen Kinnock:** Nuclear waste is another very important issue. Are you confident that you will be able to deal with the waste in a way that will have minimal impact on Anglesey?

**Alan Raymant:** Yes. The UK policy and the Government of Wales policy is deep geological storage of spent fuel. In the interim what we will be doing is storing waste on site, spent fuel on site, until it is ready to go into the final storage facility. We are following established policy. We are very confident that that is a robust solution. It has been adopted in other countries. We continue to press the UK Government to identify the site for the geological storage facility and start the detailed development of that facility so that it is ready, first of all, to deal with the waste from the existing nuclear estate but then in time to deal with that arising from the new build projects.

**Q27 Chair:** How much high-level waste would be produced each year by a plant like yours? Can you give us a picture in our minds? I have heard it said about—

**Greg Evans:** In volumetric terms?

**Chair:** Yes, volume. What would it fill each year?

**Greg Evans:** Every 12 to 18 months one-third of the reactor fuel is replaced. That reactor fuel is stored in water for 10 years, at which point it is available to be transferred to what we call dry storage casks. The volumetric of that, I would estimate, is less than the arch of the desk that you are sitting around and about 12 feet high, 3 metres high.

**Q28 Chair:** Is that every year?

**Greg Evans:** That is every 12 to 18 months. That is stored in ponds and it is in its original fuel assembly, which by nature is not condensed at all, so it still has the design space and volume in it. When it is stored dry, it is stored two to three elements per fuel cask and that

fuel cask is stored in a purposely-designed seismic building where it just sits basically untouched, just monitored, for a period until final disposition is approved.

**Q29 Chair:** Without putting you on the spot, how dangerous is high-level nuclear waste? Will it kill you if you get too close to it? Is that the gist of it?

**Greg Evans:** Irradiated spent fuel is lethal when not adequately shielded. For the first 10 years it is adequately shielded in water within lead shielded and concrete shielded ponds. When it is in a dry cask, the dry cask effectively forms a permanent shield around the two or three elements that are stored within it, which is sealed and cannot be unsealed indefinitely.

**Chair:** It can be kept like that for thousands of years.

**Greg Evans:** That dry cask, like you and I are speaking here today; you could be a spent fuel cask and I could be an employee monitoring it and I would do that every day for my entire working life.

**Q30 Chair:** But it has to be kept like that for hundreds or thousands of years?

**Greg Evans:** Once put in the cask it is kept like that forever. The only further step would be to transport it once to its final resting place, which, under current UK policy, is a deep store repository yet to be determined in terms of its location. What we don't do with spent fuel is move it to move it. We move it to its final resting place and we leave it.

**Q31 Chair:** As it happens, at a personal level, I am quite pro nuclear, but this always worries me when you say "forever", for hundreds and thousands of years. I just think things can go wrong. What happens if something terrible does go wrong and these casks break? It is going to kill a lot of people, isn't it?

**Greg Evans:** I think, just working within the realms of possibility and risk and designing to events that we refer to as one times 10 to minus six, which is one in 1 million or one in 10 million chances of occurrence per reactor year. All we can do is design to what we know are the likely outcomes and we tend to overdesign everything in regards to spent fuel and highly radioactive waste.

**Q32 Mr Mark Williams:** Let me turn back to the local environment issue. I don't want to go into the specifics of the National Trust concerns. Some of us from this Committee have found ourselves standing in a field overlooking the existing Wylfa, and the plans that were described to us were pretty amazing, the sheer volume of landscape that is going to be shifted and moved away to make way for the new site. I am conscious of the fact that there are adjacent SSSIs and there are some concerns about the offloading marine facility there. Is it something you might like to consider writing to the Committee about, in terms of the detail,

as things progress? But here, the generality of how you are going to protect the local environment around the site, what are you going to offer the local community?

**Alan Raymant:** First off, we have to obviously mitigate the environmental impact both during construction and in the final design. What you are talking about in terms of the landscaping, part of the strategy there is we want to minimise the amount of material we take offsite and we also need to create screening and noise boundary. We are taking opportunities like that to come up with a solution that addresses both issues. We have an extensive programme of environmental impact assessment, looking at the current environment and the disturbance that we will create, to make sure that we fully understand the impact the plans will have and then what the best mitigation plans are. Then, when we get right down into the immediate impact on the community, from things like our increased traffic flows, workers' accommodation, and so on, then we look at how we can improve the infrastructure to support that, and then also what benefits we can provide the community to mitigate the impact that they suffer, particularly during the construction phase. We make no secret of the fact this is a massive development and it will have a huge impact on a relatively small community.

**Q33 Mr Mark Williams:** Did I detect from your answer to Stephen Kinnock earlier that some of the concerns may need to be addressed much more fully for stakeholders like the National Trust?

**Alan Raymant:** Yes. As I say, being a good neighbour is very, very important to us and we are acutely aware that we need to maintain public support; we need to maintain the support of the community for what we are doing. Clearly we are not going to be able to address everybody's concerns fully, because we would be very unlikely to build the power station. But we have to make sure that we recognise we are having a huge impact on the community, although we do provide benefits to the community to compensate for that. The most obvious one is: we are creating a massive employment opportunity and providing huge socioeconomic benefits in the long term. In the near term, we are working through what the most appropriate solutions are that we can accommodate the immediate impact on the community in the best way we can.

**Greg Evans:** Perhaps I can address Mr Kinnock's question from a local perspective. I joined in June, and over the course of the remainder of last year I met National Trust three times, and we have two meetings planned this month. I know the local representatives very well. I think my joining and starting up a dialogue—consider that, from a statutory perspective, we are dealing with the Environment Agency, Natural Resources Wales, the RSPB and a whole range of environmental bodies; National Trust is not a statutory one, but an important one none the less—from a local perspective, means I have taken it and made it a personal responsibility to engage and then make sure that their interests and concerns are raised at the highest level within Horizon, and to make sure we address those in exactly the same way that we would with Natural Resources Wales and the Environment Agency.

**Q34 Chair:** Are you supporting local companies so that they can get into the supply chain?

**Greg Evans:** Absolutely. I have three kids to feed, and I want them all to be able to get employment.

**Q35 Chair:** Would you expect most people working in the new plant to live on the island and in the vicinity of the plant?

**Greg Evans:** If I go back to a previous answer, where I described the project in two, maybe three phases: the business development phase, the construction, design and delivery phase and then the operational phase. These have three kinds of distinct timescales: business development perhaps over the next three to four years, design and construction over the 10-year period until commercial operations, and then the operational phase for the 80 to 100 years that we will be operating the facility. The vast majority of jobs at the operational phase will come from local resources, as is demonstrated by the existing Wylfa power station, where of 650 employees and 300 contractors, about 90% were Anglesey residents.

During the construction phase I would think there is a necessary influx and outflow of people. It is transitory by nature—civil then mechanical, electrical then commissioning—so the workforce changes and churns a little bit more than during the operational phase, where we are looking for consistency and continuity. So, by and large, our main mission is to maximise local content in terms of jobs and supply chain. Of course, with supply chain you need to be competitive, and by “competitive” I mean in a legislative way. You need to be able to demonstrate that you are adding value. But for local jobs it is all about the skills pipeline and making sure that our young people today, who are interested in a career in nuclear at Wylfa, are taking the steps necessary now to build the skills and capabilities to be considered for employment going forward.

**Alan Raymant:** We are already working with a number of small, local-supply chain companies and helping them to understand the requirements that they will need to develop to support us going forward in the future. We have had some successes with a number of firms locally already, and we look to build on that.

**Q36 Chris Davies:** Can I ask how you find, and how you are finding, the skilled workforce in Anglesey, North Wales, and are you going into schools and colleges to guide them as to what your requirements are in the years to come, the throughput and the children and youngsters who are coming forward will be trained in the right way for you?

**Alan Raymant:** Yes. As Greg said, it is critical for us that we have access to skilled resource, particularly for the construction phase and for the operational phase going forward. We are building up our school engagement programme. We started this year and we will extend that further going into next year. We are talking to school children directly and recognising that the children in secondary education now are likely to be in our first crop of workers. We have been sponsoring an apprentice programme at Menai since 2011, so we are already into our fourth year supporting that programme. We are starting our own apprenticeship programme this year. We will be taking our first intake of direct apprentices for Horizon in September of this year, which will be the start of an ongoing programme of apprentice recruitment. Then we also have relationships; we have a memorandum of understanding with Bangor University at the higher education end.

Across the spectrum, schools right through to universities, we have established relationships that we will be building on further over the coming years.

**Q37 Dr James Davies:** To what extent are the national projects like HS2 a challenge, when the workforce is engaged with those projects, whereas you might need the skills of those people?

**Alan Raymant:** Yes, that is a very, very good question. It is a risk that we are acutely aware of. Thames Tideway and Crossrail will be coming to an end but you have HS2, Hinkley Point and ourselves all vying for similar resources and skills. I see it as a huge opportunity. We should be planning for that. We know there is a big programme of infrastructure renewal in the UK, whether it is energy infrastructure or transport infrastructure, and I don't think any of us see that declining. Therefore, we should be viewing this as an opportunity to create more opportunities and create more employment for the UK, and that requires training and development in the first instance. We are doing our part, particularly locally, in trying to encourage apprentices to support primarily growth activities going forward, also the construction activities but also at the higher education end as well. We need all of that. We need everybody, all companies, really, to be supporting similar programmes.

**Q38 Chair:** Excellent. Thank you both very much indeed for coming in, and obviously we will be watching the project hopefully progress with great interest. Thank you.

### **Examination of Witnesses**

Witnesses: **Albert Owen MP**, and **Lord Elis-Thomas AM**, gave evidence.

**Q39 Chair (Translation):** May I welcome Lord Elis-Thomas and Albert Owen here? Thank you very much for joining us. As everyone can see, we do have political balance, given that you are both here this afternoon. Can I start by inviting Dr James Davies to kick off the questioning?

**Dr James Davies:** Can you both kindly explain to me why you support nuclear power, please?

**Albert Owen:** Yes. Good afternoon. It is a great pleasure to be here. As an ex-member of this Committee, it is quite unusual to be responding to questions rather than asking questions, but I very much look forward to this session. I have supported nuclear energy all my life, to be honest with you. I was brought up on Anglesey, and my father worked on the construction of the first Wylfa one. I have taken an interest in energy matters since the 1970s, and since I have come to the House of Commons I believe that nuclear power is an important part—and I stress the word “part”—of an energy mix. In my opinion, it is beneficial for energy security, for a low-carbon future, and for socioeconomic factors, not just for Anglesey, but for North West Wales, North Wales, and indeed Wylfa Newydd will

be the biggest project in Wales in the future. I think it is hugely important for jobs, for energy security, as I have said, and I think it is good for the economy going forward.

**Lord Elis-Thomas (Translation):** I would be happy to answer that question. I would like to thank you for your words of welcome, Chair, and congratulations on carrying out this inquiry. I can agree with every word that Albert Owen has said. Although I was not born and raised in the Trawsfynydd area, I do have very close family links with the area and always have had. I was, of course, elected to represent the area when the three-day working week was in place under a Conservative Government. We will not get into an argument about this, but I have always been very aware of the crucial importance of the nuclear industry, and like Albert—perhaps I may be a little older than you Albert.

**Albert Owen (Translation):** Yes, certainly you are.

**Lord Elis-Thomas (Translation):** —I do recall Trawsfynydd being put in place. I was very interested in nuclear physics at that time, and I have always maintained that interest. The first opportunity I had to enter the Trawsfynydd facility in 1974 was a very exciting opportunity. More than that, I now feel that the world has caught up with the attitude I have always had in terms of the nuclear industry. I don't need to explain that if you represent 600 people working in a small constituency then you have to support that project and those people, whatever your views, as an elected Member, but there was no question in my mind in terms of supporting that industry. But that process then of learning about the impact of the industry on the community and seeing changes in people's attitudes over a period of years, I think the most difficult time for me, as a supporter of Trawsfynydd, was the period post-Chernobyl when there was that heavy radiation, just because of international rainfall. What that did for me, and for many people who considered these questions in earnest, was to identify the importance of the safety and security of reactors and to mitigate the effect if anything should go wrong.

**Q40 Dr James Davies:** Thank you. What about the views of local people? Because the view is not unanimously in support. What do local people tell you about their views with regard to what has already existed on Anglesey and what is proposed?

**Albert Owen:** It is interesting, when I became a Member of Parliament it was, obviously, post-Chernobyl, and there was a period in the 1980s and 1990s when people were just talking about the closure of nuclear industry in Traws, in Wylfa, but also in the UK, and there was a lack of appetite for new build. I am in favour of new build myself; I remember going to talk to sixth forms when I was first elected. I knew the opinions of many people who worked in the industry and had been involved in the supply chain, and I also knew and respected the views of those who were opposed but, when I canvassed the opinions of young people, I realised how important it was for the future and how they understood the longevity of potential employment at all skills levels. We are talking about people who wanted to be operators there and scientists in the industry as well.

The importance of it is huge in the area, and they do have a great understanding of it. When I talk about longevity, I am talking about when I was in school, during the period that you refer to, and the three-day week, and so on. I think I was a paperboy then, Dafydd, not quite in paid employment. I do remember my peers in school had plans to go and work in the industry. They knew when they went into apprenticeships that they

possibly had a job for life, probably had a job for life, and there are very few industries that can say that. People understand the importance of it. In an area of North West Wales it is above average wages, so people who work and live in the area have a good standard of living. I think that is important, and that does frame and shape the minds of local people.

But I do understand and respect those people who have a different view on nuclear. They have strong voices and those voices should be heard, and we should not run away from any of the arguments that they raise. I would not be sitting here and I would not be living as a resident on Anglesey if I did not believe in safe nuclear generation. I take those arguments on straight and I give them the answers that I can. I know we will be developing answers, and I heard the session earlier. We must not run away from the waste element of it. We must not run away from costs and everything, because I think the nuclear industry has a good story to tell, and I think it is good for North West Wales and Wales, as I indicated. I think that the energy industry and low carbon could be a huge success in Wales and that nuclear could be central to that.

**Q41 Chris Davies:** We have already heard one political party being mentioned and we will move away from that, but I will say you are very supportive naturally because you represent the areas that we are talking about. There are other members in your party—elected members in both parties—who are not so keen on nuclear. How do you address that? If they had a majority in the elections coming up and they decided not to support nuclear, how would you feel and how would you address that?

**Albert Owen:** When I was first elected here there was an energy review, and there was a Labour Government in and it was split on nuclear. I and a small group of MPs pushed for nuclear to be part of an energy review. I remember at that time—since we are being party political here—the Conservatives opposing it and David Cameron, when he first became leader, hugging huskies, going green and being in favour of wind power. As political parties, I think we have all had journeys on this very issue. The serious point is that climate change is very real, and people understand that, and if we are going to reduce carbon then we need to have baseload low-carbon energy. That has framed the mind of many political parties, and many people within the political parties, that we need to have nuclear as part of the mix. In a rather odd position, I support nuclear power, clean coal, renewables and energy efficiency, and I think there is no contradiction in that. I think that is the direction of travel, but all political parties have had to make that journey from different starting points.

**Lord Elis-Thomas (Translation):** I don't see any conflict between supporting nuclear energy as a low-carbon energy and supporting all sorts of other energy forms, particularly onshore and offshore wind energy and also other renewables. I have a problem in terms of our current reliance on imported gas. I don't think that is a reasonable policy. If we go into another area, I think that the European Union policy at present, in terms of creating an energy union, is crucially important. It is crucial to Wales because, in my view, we should be part of that union. Wales has a long history of being an energy-producing nation. Of course, from the history of coal through to hydro energy, and large-scale hydro energy, and now low-carbon nuclear, I have always argued, within my own party and within the National Assembly, and as I argued when I was in this House, in favour of an appropriate energy mix and the need for long-term energy planning.

One of the strongest feelings I have is that we have had 20 years under two parties—if I may say—in government in Westminster, where there was no energy policy. I very warmly welcome that speech made by Amber Rudd, the current Secretary of State, because, for the very first time in my memory, she did set out a balanced energy policy and she put that before the people of the United Kingdom. I have all sorts of questions as to who should run that energy policy and how much should be devolved, and how much should be retained here. When I was responsible for this area within the Assembly and chaired a Committee there at the time—the Environment Committee, where we looked specifically at energy—I gained the agreement of all parties in that Committee with just a little disagreement on the nuclear issue. I am not denying that, but there was cross-party agreement on having a mixed-energy policy for Wales, and that is what I continue to support.

**Q42 Chair (Translation):** If we can be clear on this, if Plaid Cymru were to win the next Assembly election in May, are you confident, Lord Elis-Thomas, that the policy won't change and that we can have confidence that this project can proceed?

**Lord Elis-Thomas (Translation):** Nuclear energy is not devolved, Chair.

**Q43 Chair (Translation):** No, but issues around planning permission are important here, aren't they? If Plaid Cymru were in Government, what would the situation be?

**Lord Elis-Thomas (Translation):** Clearly that is a strategic issue, because the Welsh Planning Act is going to come into force in a year's time. That is going to run alongside some changes to local government, possibly, and I am in favour of that too, of course. Then you could have a strategic planning regime. Any decisions on nuclear energy at a Welsh or UK level would be strategic decisions. May I make one further point? I am the Assembly Member for Dwyfor Meirionnydd and part of Gwynedd. Gwynedd Council is one of our strong partners within the energy industry in Wales and seeks to ensure continued employment in the nuclear industry in the North West of Wales. This is the argument that I have made across the years within my own party too. This is the third generation of nuclear engineers who have been trained in North West Wales, so what is the purpose of generating those skills unless we secure employment for those people? That is what will happen, in my view.

**Q44 Dr James Davies:** What do you see the economic impact of Wylfa Newydd to be for Anglesey and Snowdonia, and how would you counter those who say that the area has remained poor despite the operation of similar facilities since the 1960s, so how would this be different?

**Albert Owen:** I think nuclear power, for both stations you talk about, and its economic impact has lifted the standard of living in that area. Without them, in difficult periods—like the 1980s, which I remember very plainly—it would have been a lot worse, is the honest answer. Many people have stayed there, worked there, trained there, and spent their money there, so it is a huge plus to the area. It is not an industry that is just on its own. It does have potential going forward, I think. This is the challenge for government at all levels, local, Welsh, and the UK; that we have transferable skills in energy. We have

dubbed Anglesey an “energy island”. What we mean by that is that people can have careers in renewables, can have careers in nuclear, and can have careers in other high skills in the area. I don’t think that was done in the 1950s, 1960s and 1970s, because the brutal reality was that we had National Nuclear fields and we had National Grid, and it was basically about taking energy away. We can learn from that and we can invest. I think it has greater potential in the new build than there was in the 1960s and 1970s. Another issue where I have a debate with people is it is not tourism or industry; it is both and they can live side-by-side. What we have seen in North West Wales—and I am sure Dafydd will agree with this, because we have discussed it many times—is an increase in tourism while there has been nuclear power there. It is providing a hub. It is quite perverse in many ways that the nuclear industry has sustained the tourism, hotel, catering and hospitality trades, because when there are outages on the nuclear power station in the winter months when there are fewer visitors, it has been full of people working in the nuclear industry. Going forward, I do accept that the industry has not quite integrated in the past as it should, but I think that is an opportunity for the future.

**Lord Elis-Thomas (Translation):** I would agree with that and, may I add, if you look at the North West of Wales, what we now have is Gwynt y Môr and Rhyl Flats, a huge-scale offshore wind energy, which is the second largest in Europe, if not the world. You have the traditional electricity pump generation at a smaller scale in Ffestiniog, a larger scale in Llanberis and, therefore, we have those skills in hydro in terms of storage and pumping. Then you also have the small-scale hydro developments on our rivers, and you also have the nuclear industry. The nuclear industry sits alongside all of that. It is part of the local engineering skills mix. What is important to me is the very serious attempt now being made by Horizon, working in partnership with the Grŵp Llandrillo Menai. I have the privilege of being the honorary president of the Grŵp Llandrillo Menai and keep in close contact with their work on apprenticeships. These plans, which are going to happen mostly in Llangefnî in order to boost engineering resources, are crucial to ensuring that through new apprenticeships there will be local employment. It is happening now, of course, for a period when the work will have started on the site.

In addition to that, of course, there are plans in place by the Welsh Government. They have established a Nuclear Programme Board in order to draw the public sector together around the issue of Wylfa Newydd, skills, education, infrastructure, and all of the other needs. This is going to be led at a high level. I am confident that this leadership will be maintained whoever is in Government next, following the excellent basis that we have had put in place by our excellent Minister, Edwina Hart, who has provided great leadership as a Minister into developing the situation in this area. As I have said, I am confident that the economic impact will be constructive because preparation for this has been better than ever.

**Q45 Chair (Translation):** You mentioned the economic impact there. What about the cultural impact? How supportive is Horizon in terms of the use of the Welsh language onsite and what will be the impact of very many people moving to the island? What impact will that have on the Welsh language and the culture more generally there?

**Lord Elis-Thomas (Translation):** May I answer that with a question? How many people would be speaking Welsh, English, or any other language in the Trawsfynydd area today if

there had not been a reactor constructed there in the 1950s? Any major development in Wales is subject to the coming into force of the Well-being of Future Generations (Wales) Act, and there are seven aims there. One of those is a vibrant economy and another is vibrant culture, with an increasingly prominent place for the Welsh language alongside the English language. Every major development has cultural aspects to it and the main problem for any small culture or any small language is not overdevelopment—if it is done properly—but lack of development. That is the problem.

I think this is a very important question. Horizon is aware of the importance of the Welsh language in the area. They collaborate with the college. They are collaborating with the council, and they are also working with the Welsh Language Commissioner, so they are very aware of the issue. But to return to the point made by David, this is an important point. It is a Welsh-speaking area. People who have remained in the area continue to speak the Welsh language. Many people, of course, have moved away to England or have moved to South Wales, and if they leave of course they take the language with them. I have been onsite in Wylfa speaking to the people working there. The majority of those workers speak Welsh and they converse in Welsh at work. It is important for the language, it is important for our culture, and it is important for the future of Wales.

**Q46 Chair (Translation):** You think it is going to have a positive impact because it will retain people in the area?

**Lord Elis-Thomas (Translation):** Yes, I think people will come from all parts of the world with skills, and that is true. But there are people who will remain in the area, and they will continue to speak Welsh and be part of the area.

**Q47 Mr Mark Williams:** We have looked to the future, and I want to reflect now on the recent history of decommissioning. Albert, in your written evidence you spoke of some of the challenges decommissioning has brought about, and I wonder whether you are happy with the way that decommissioning has been carried out in Wylfa, or indeed Trawsfynydd. Can I say, critically, the next bit about that was: have you been satisfied that the public have been kept informed of developments as they have proceeded?

**Albert Owen:** I think in 2000 the decision was made to close in 2010 and decommission. I can remember as far back as about 2003 or 2004 they were planning for decommissioning and they were re-skilling people. I think that is important, because it is a fact there are going to be less people onsite during decommissioning as there is during generation. Those people who are leaving the industry would have the appropriate skills when they left, managerial skills, various skill sets, and that was important. I think the phase of decommissioning is good for the area because it has challenged their skills. There are private companies that have moved in there now who need the skill base. Some can retrain but it is also important that it is going to last for a number of set years so you can plan for it.

Does the public know much about it? If I am honest with you, unless they go on the websites of the MDA it is very difficult to get the information. All they know is people are working on the Wylfa site. When it moved from two reactors to one they did not realise decommissioning was going on, and now that it is in full decommissioning mode they just

know that people work on the site and they have an important job to do. That is the honest answer to it. But I have been impressed with the decommissioning, because there is no template for this. Each Magnox station was an individual station, but the best people to do the decommissioning are those people who have worked on the site. Some of them remember the actual construction of the site, so they are the best people to take the place apart safely during the decommissioning period. But do the public have a strong understanding of it? The information is available, but it is not general talk in the pub about decommissioning.

**Lord Elis-Thomas (Translation):** They speak of little else in the pubs of *Merionethshire*, I can tell you. It is only decommissioning that they are discussing. What I have always appreciated over the years of my relationship with Trawsfynydd is the excellent relationship that I have had with the management of the plant, but also particularly with the unions. I would meet the unions regularly, as well as the manager of the old CBG, Lord Walter Marshall. But now for around five years I have had the opportunity to chair the Trawsfynydd Oversight Board. That is a non-statutory board but it does include Gwynedd Council, Magnox, the Snowdonia Enterprise Zone, the Nuclear Decommissioning Authority, officials from the Welsh Government, as well as strong representation from elected Members and the trade unions, and the chair of the other statutory board involved in the nuclear industry. That is a meeting of stakeholders and they are all participating in that process.

I have had the opportunity to closely follow the decommissioning process—not only decommissioning, but also the scientific aspects of that. That has been an eye opener, just to see exactly what was being devised in Trawsfynydd for the very first time—just as Albert said—in working with universities and others to work out how decommissioning could work, how it should develop as it was ongoing, the continuing assessment of the most appropriate and effective ways of decommissioning and how to deal with problems. It has been an education for me to follow that process.

What I want to say about this is that we have also been involved with other things that were related to this. There is the path around the Trawsfynydd Lake but also the identification of skills for local employment. For many years now the nuclear industry in North Wales—and North West mainly—has planned coherently, creating opportunities for the current workforce who have been decommissioning Trawsfynydd and then decommissioning Wylfa. I have not made a public pledge to take the waste from the central facility in Wylfa, but we do have space for it in Trawsfynydd, if that were necessary, because there is now a willingness to look at the industry in a holistic manner and to see the importance of linking decommissioning with new developments. I will have more to say about that, Chair, when we come to discuss those beautiful, small modular reactors.

**Q48 Mr Mark Williams:** In terms of future developments, I wonder what your view is on the respective roles of the UK and Welsh Governments in relation to the development of small modular reactors. I think you both made very positive speeches about the opportunities there.

**Lord Elis-Thomas (Translation):** Yes, it is a pleasure to respond on this issue, because I do feel very confident and very excited about this issue. First of all, we are dealing with an

international situation that is developing very swiftly. I would encourage the Committee to look at what the US Government's Department of Energy is doing in this area, particularly all the work being done in terms of developing national laboratories along with the commercial companies. They are innovative partnerships in generating new nuclear. They are concentrating on these reactors between 50 and 30 megawatts. That is a very special and excellent opportunity for Wales and for Trawsfynydd more specifically.

What I would like to suggest, if I may, is that it is very important for you to consider whether you should recommend to the UK Government and the Energy Minister whether it would be possible for the competition for the modular reactor to pay even closer attention to what is happening at the moment in the United States of America. I think the point was made in previous evidence that, in dealing with the advanced boiling water reactor, such as Wylfa, it is very important that the design happening within the UK does not differ too much from what is happening in the USA, because that could lead to greater costs. Certainly the same is true of small modular reactors. In Trawsfynydd you have one unique facility, namely land that is already in public ownership by the Nuclear Decommissioning Authority. I think this should be considered as an asset for the development of small modular developments.

I would go further and say: wouldn't it be reasonable to expect the decommissioning process also to involve looking at the site end state, as is the terminology within the nuclear industry? Seeking that site end state, in the case of Trawsfynydd, should be linked with the possible development of new nuclear, because this could be a very great cost saving. You could also consider placing the costs of decommissioning alongside the costs of a new development and thereby find some savings there too. I am not suggesting that this development should happen in the public sector but I do think that we need to find some smart ways of engendering partnership between the public sector and the commercial sector in this area, and this is an excellent opportunity for this Committee to get a hold of this whole issue.

**Albert Owen:** If I could just add to that, I was a member of the DECC Select Committee when we ran an inquiry into the small modular reactors. We did not have to go far, because we visited Advanced Manufacturing Research Centre in Sheffield, where they have the potential to make these modules or to be a huge part of it. Trawsfynydd is ideally located because it has the infrastructure in place and it has the skills base there still from the decommissioning. I think this has massive potential to create a centre of excellence—as I indicated earlier—in North West Wales. It isn't simple technology, but it is pioneering technology. If Britain and Wales move forward with this very quickly and Traws is identified as a site, then I think this can have huge benefits for Britain and we can export this technology to many other countries. It is a high-skilled industry. It has great potential. As I say, it has some of the issues that we have talked about or will talk about with waste and things and it has less of an impact as well. The site is an existing site where they have had nuclear before. It is ideal because much of the landscaping has already been done. Many of these reactors will be underground, so they are less of an environmental impact visually. I think it is good news and we can build the skill set to be transferable so that they can work in different parts of the nuclear industry. As I indicated—and I will use this word again—I think Wales and North West Wales can be pioneering in this technology.

**Q49 Mr Mark Williams:** At the time when you were doing that work for the DECC Committee, what was the main inhibiting factor to advance that in the way that you said?

*Albert Owen:* It is always the commercial jump from being a prototype to being an actual commercial enterprise. That is the same with tidal, and it is the same with many energy technologies at this moment in time. Once that investment is made, once they are up and running, I think it is very easy then to replicate it. It is about finance. To be fair to this Government, they have already put aside money for it so the focus of attention can be on developing this. I think we have to develop it rather quickly so that we are ahead of the game, rather than having a huge pause and a debate, like we are having on other technologies when we see other countries moving ahead. Here we have the skills, the site, the technical know-how, and I think we need to go forward.

**Q50 Mr Mark Williams:** So that the mix that Dafydd Elis-Thomas talks about, and that Amber Rudd talked about, is a reality?

*Albert Owen:* Yes.

*Lord Elis-Thomas (Translation):* That is right. I also want to emphasise the need to look carefully at what is happening commercially in the United States, because the whole emphasis of the SMR development in the United States is to do it more swiftly, to do it cheaper and to work with the private sector. Although this is new technology in terms of a reactor on the ground, it is not new in terms of the technology in terms of what we have had over a period of decades in our nuclear submarines and in other US warships. The reactor is housed within the cooling facility, and that is scientifically proven. There are other possible developments in this area when you look at other means of cooling through using liquid metals, or saline, or gasses, and there are huge possibilities here. If we could get into this technology in earnest, perhaps in partnership with a commercial company from the United States that might already be working in the area, these are not impossible.

**Chair (Translation):** I would like to learn more but unfortunately there is no money in our budget to travel to the United States at the moment, so we will not be able to do that. I will now go to Chris Davies because time is moving on.

**Q51 Chris Davies:** Moving on to waste and the environment, does the current policy on nuclear waste provide a long-term solution and what improvements can be made to the current disposal process?

*Albert Owen:* This really is the big issue for the nuclear industry. It has been operating from the late 1950s and 1960s right the way through, and we have not had a proper nuclear waste policy. Successive Governments have fudged it. They have been more interested in short-term politics than long-term waste disposal, to be absolutely frank, and I think we need to grapple with that. What we are talking about today is legacy waste. It is waste that has been built up over decades, and it needs dealing with. The low-level and intermediate is being dealt with but the long-term, high radioactive waste, whether it came from civil nuclear—and some of it came from the military—health, or wherever it comes from, it needs to be disposed of correctly. I think the theory is there. It is just the political will to do it, whether it is at central Government level or local level. I am in favour of it

being in Sellafield, for reasons you heard from the first panel. It is easier to move it short distances or to bury it in close proximity to where it has now been stored for the last 10, 20, 30 or 40 years. I think the policy is right; it just needs that political will to do it. Once I am assured it is securely buried then it is safe. It is safe now; this is what people do not understand. There is highly active waste now in places where it is safe and there are very few incidents in the United Kingdom of that. It is stored safely on site.

But moving forward to a new build—and I think this is where people try to mix the two—what we are talking about is that new technology that has been talked about at Hinkley and, in particular with Wylfa Newydd, which is proven technology. This will be less waste and it will be paid for by the companies. The companies who embark on these projects have to deal with the preparatory work, the construction, the production, decommissioning and the waste, so it is not a cost to the taxpayer. The fact that we have not been dealing with this problem for many decades has increased costs. It has decreased confidence in the public and we need to manage that as well. To be fair to the Government, it tried as a coalition Government last time to move forward on this, and we all need to. I put a challenge to those people who say we should not go forward with nuclear because of the waste. Okay, let's park that argument. What are we going to do with the legacy waste? I think the only sensible solution is deep burial and we really need to move forward with it. Sellafield in Cumbria has the skills and the geology to deal with that, and I think as a country we need to move forward.

**Q52 Chris Davies:** Before Dafydd comes in, could I come back to you and ask what would you say to those people who say the waste is created in North West Wales, so bury it in North West Wales?

*Albert Owen:* Some of it is being held there now and will be buried there at different levels, but the geology just is not there. I have seen the Nirex maps of the 1980s and the 1990s and what we have in Anglesey is Precambrian rock, and it does not lend itself to the burial of waste. That is the honest answer.

**Q53 Chris Davies:** Is that honest, or is that a NIMBY answer?

*Albert Owen:* No, it is an honest answer. It has come from them, not from me. Whereas there is certain geology in the United Kingdom where you bury it and it actually forms a crust itself and enclaves the radioactivity. That is the reason for it.

*Lord Elis-Thomas (Translation):* I agree with the question. We have a responsibility—and I would say that as an environmentalist—that if we do generate waste for future generations we have a duty to deal with it. I accept the Welsh Government's current policy, but it is not a matter of disposing of this, of course, it is a matter of storing. It is not waste. It is a by-product rather than being waste. It is part of the process. Therefore, we do have to call these things by their proper names. It is a by-product that you cannot destroy or dispose of and, if you have to store it, you have to store it in the most appropriate way possible. It is significant to me that the only nations that have pursued these issues are the Scandinavian countries and we have been lagging behind in the UK and Wales. I don't know if there is geology somewhere in the middle, a deep tunnel somewhere that would be safe. I don't know the geological answer to that but we have to be responsible. I would

encourage the Committee if you have time, and it would be of interest—and you don't have to visit the United States to do this; I am sure you could get geological advice in Wales and in the UK on this—to see whether there is a possible choice of sites available. Because my understanding is that there will be another attempt to create interest within local authorities on the feasibility of storing nuclear waste. I do accept the point made in your question that, if waste or by-products have been generated in a particular area, one should look in the first place to see if it can be stored in that area because that is the most appropriate environmental solution.

**Albert Owen:** There is also the possibility of technology being developed that could use some of that waste, to put it back into the nuclear industry and have reactors that could use much of the volume up. You would be left with very little in terms of volume. That has not been explored because we have gone for Magnox reactors in the past, and individually built ones, but in the future there is a possibility of using the waste as a fuel for energy.

**Q54 Mr Mark Williams:** I think we have covered my question, other than to ask: what specific responsibilities should the Government be undertaking? You talk about industry finding solutions, but what should the Government be doing to allay the concerns of the public on storage and transportation? It would be fair to say that my colleague who is not here, when we went to Wylfa, if there was any discord at all it was a concern about transportation of waste in particular.

**Albert Owen:** Yes. It needs to be open, honest and transparent, and we need to talk about how we dispose of military waste? We need to know about that. It is not just about civil. We need to know when people go to a hospital and have an X-ray, how that is disposed of safely, and we need to be honest and open about it. That is what I am saying.

**Q55 Mr Mark Williams:** We just do not have that to date, do we? We do not have that discussion?

**Albert Owen:** No.

**Mr Mark Williams:** In the pubs of *Dolgellau*, or anywhere else, they are not talking about where the waste is going from—

**Albert Owen:** No. Nuclear waste is quite often used as a proxy against both atomic bombs and against civil nuclear industry, and I think that is why we are saying we need to have a better debate about how we deal with it. What can Government do? I think Government has to have this dialogue and has to talk to communities. My understanding in Cumbria, from colleagues and from local Government leaders, is that many people are in favour of it in the Cumbria area, but it was the political cycle of elections coming up every two years that prevents them from making a decision on it. That is a fact. I do accept the fact that, if you produce the waste and if it is safe, why not deal with it, but there are scientific reasons why it cannot just be put anywhere. Going back to an earlier question about why we are not moving forward on a lot of this, it is about costs and we need to have proper frameworks of how we deal with new technology, like small modular reactors. We need to know about offshore wind. I am not digressing here, Chair, but we need to have a proper

framework of how these are going to be costed and how waste is going to be dealt with, and we need to have an honest discussion.

**Q56 Mr Mark Williams:** Again, as constituency Members, people on the transportation—whether it be about the decommissioning process or whatever—has that debate been won across Ynys Môn and in Gwynedd in terms of the decommissioning material? Is your perception that your constituents are reassured by what has happened?

**Albert Owen:** I think fuel has been moved from sites—both from Trawsfynydd and Wylfa—for decades and it has been done safely. There are huge, huge management issues with it but those management issues have been dealt with properly. There has never been at the top of people's agenda how dangerous it is. I was concerned, as were many people, when it went from rail from the site to road before it went back on to rail, but there have never been any incidents and it is probably at its safest when it is in those casks.

**Q57 Chris Davies:** I want to ask one last question to finish, if I may—to throw one in, as they say. I am a supporter of the nuclear initiative without a question and I always have been, but what would you say to those people who say that the money should not be spent at Wylfa on nuclear; that it should be spent on the Swansea barrage, the Cardiff barrage and the Newport barrage?

**Albert Owen:** What would I say to them? I think we need to have both. The two technologies that you refer to are pretty predictable. We are going to have baseload for many, many years, so I think we need both. If we are going to be a top energy-producing country we need to look at both. It is not either/or. The difficulty I have with the Government, as a Member who is interested in energy issues, is that it does not quite have the policy yet to deal with all those big projects. We are talking about competition. You are saying we should have either/or. I think we need to have a proper strategy, so rather than having auctions, have long-term planning. We talk about nuclear with 60 years' production. We are talking about some of those barrages having 100 years plus of production. Let's start having policies and funding and support mechanisms that fit that, rather than having this discussion about pitting one technology against another and having winners and losers. I think we need to look at it. What I would say to those people is we need both, but hundreds of millions have already been spent on nuclear. It is a proven technology and it should be given the priority.

**Lord Elis-Thomas (Translation):** There is a difference here, isn't there, between low-carbon energy that is consistent, and that is the glory of the nuclear industry, and low-carbon capacity that varies in terms of its timings and whatever the future of the National Grid is and however it is maintained? The question of battery storage is one area that is developed and the increase or the development of renewable energy is quite dependent on that development. As far as I am concerned, I would say that the crucial thing here is that there should be far more management at a local level. We should devolve more energy and commercialise more energy so that you can develop an appetite to do business in energy. That is one of the problems that I have with this policy of seeking the strike price, because that isn't a long-term way of resolving the problem. As we have mentioned the Conservative Party, may I now mention the Labour Party? When the late Tony Benn was

the Secretary of State for Energy—he was the most difficult Secretary of State for Energy I have ever dealt with. I remember having to discuss with him—

**Q58 Chair (Translation):** He had some very interesting views on the European Union too.

**Lord Elis-Thomas (Translation):** We will not pursue that. But I do recall entering an argument with him stating that there was nothing wrong with him taking a particular interest in the death of a cat in Trawsfynydd and putting that down to the nuclear industry.

**Chair (Translation):** May I thank both of you. It is interesting that we are able to agree on many things, and this may have implications after the next Assembly election in May, who knows? Thank you very much.

**Lord Elis-Thomas (Translation):** Thank you, Chair. As you know, I will work with anyone.