

Energy Security and Net Zero Committee

Oral evidence: [Revisiting the nuclear roadmap](#), HC 735

Monday 27 April 2026

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Members present: Bill Esterson (Chair); Sir Christopher Chope; Lizzi Collinge; Graeme Downie; Wera Hobhouse; Melanie Onn; Mike Reader.

Questions 336 - 437

Witnesses

I: Lord Vallance, Minister for Science, Innovation, Research and Nuclear, Department for Energy Security and Net Zero; Sam White, Deputy Director, Nuclear Power, Department for Energy Security and Net Zero.

Written evidence from witnesses:

- [Department for Energy Security and Net Zero](#)

Examination of witnesses

Witnesses: Lord Vallance and Sam White

Q336 **Chair:** Welcome to this afternoon's session of the Energy Security and Net Zero Select Committee and our inquiry revisiting the nuclear roadmap, where we are delighted to welcome the Nuclear Minister, Lord Vallance, and Sam White, the deputy director for nuclear power at the Department for Energy Security and Net Zero. Gentlemen, you are very welcome this afternoon.

I will start by following up on some of the evidence we have heard about the achievability of the 24-gigawatt target. There has been some concern raised with us as to whether it is achievable by 2050. Perhaps you can tell us whether it is still the Government's intention to deliver to that agenda and that target.

Lord Vallance: There is no doubt that we agree with the direction of the roadmap. The 24 is an up to 24-gigawatt target. It is not something that is necessarily based in evidence as to why it should be that. We are cracking on. We are trying to get as much nuclear done as we can, which is why we have Hinkley Point C and Sizewell C, and now the small modular reactor is progressing. We will continue to push on that.

In terms of what the absolute number should be, we have a strategic spatial energy plan being produced by NESO, which will come later this year to the Secretary of State. It will go out for comments after that and will be published next year. We want to look at nuclear in the context of the entirety of the need for energy in the grid, rather than picking on a target just for nuclear. We are progressing as much as we can and concentrating on delivery of that, but we are not bound by a particular figure.

Q337 **Chair:** We have heard that the combination of Hinkley C, Sizewell C and Wylfa will deliver about 9 gigawatts. Where will the additional contributions likely come from?

Lord Vallance: There are three main things to think about there. The first is that we have asked GBE-N to look at other sites for a potential gigawatt-scale power plant. That is going to read out later this year.

We have started the small modular reactor programme with the three that we have committed to with Rolls-Royce. I am pleased to see that Rolls-Royce now have more on the order books from the Czech Republic as of Friday, so it is going to be getting into this rhythm of producing many more. That gives us a very flexible resource to turn to for future small modular reactors.

The third component is lifetime extension, which is being looked at very actively. EDF has already said it is looking at it for some of the ones that are coming off soon, but there are other opportunities around Sizewell B



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and so on to look at extension. Those are the sources of potential new nuclear in the immediate future.

Q338 **Chair:** We have been told that the advanced nuclear framework refers to new technologies, such as SMR, AMR and fusion. It does not refer to large scale. Is there a need to have greater clarity around large scale?

Lord Vallance: That is why GBE-N is coming back this year with a siting option for large scale. At that point, we will be able to look at what the options are for further gigawatt scale in the UK. I have talked about SMRs. As you say, the advanced nuclear framework lays out a plan for advanced modular reactors, which may have a very different distribution to other reactors as they are generally much smaller and much more able to do things locally.

Q339 **Chair:** Industry and investors need certainty. Do you think that you are giving them the certainty that they need?

Lord Vallance: They liked what was in the framework, which said that we are going to create a pipeline. We gave a way in which they can engage with the Department on wanting to join the pipeline. That will then create a regular flow of potential investment opportunities. The point about the advanced modular reactors is that they can be fully funded and led by the private sector. We are trying to produce a commercial framework for them that will be attractive to investors and developers.

Q340 **Chair:** As the Minister, do you find it harder to co-ordinate the private companies that are investing in this space or to co-ordinate the competing priorities of different Government Departments?

Lord Vallance: What is easier to co-ordinate: the private sector or Government? Is that the question? At the gigawatt scale, that is a Government thing. The SMR is a Government thing because it is first of a kind and we are trying to get those going.

The advanced modular reactors will be private sector led. There is a very strong desire for private companies to enter that pipeline and be part of that. At the moment, we are at the stage of talking to companies about entering that pipeline and looking at the credibility of them entering it. Once that happens, we have said that there will be a four-month process after that. There is a good structure in place to deal with that.

The whole point about that approach to nuclear is that it is much more diversified than traditionally. It allows for that diversity without worrying about whether we are having to bank on one or the other. We have the opportunity to get lots of different types in at that stage.

Q341 **Chair:** It is diversity within nuclear as well as diversity across the entire energy sector.

Lord Vallance: Diversity within nuclear is what I was referring to, but you are absolutely right. It is also diversity in terms of where you can



place these things, how you think about them in terms of more localised supply and what we are doing with the overall nuclear provision for the grid as a whole.

Q342 Chair: Moving on to regulation, the Government have accepted the Fingleton review. It made many of the same recommendations that we had made in response to the work we did in looking at EN-7 in the report we published last year, so we are encouraged by that. How confident are you that the end of 2027 deadline is going to be met?

Lord Vallance: I am confident that we are going to meet that. There is a very clear delivery plan for the recommendations. There is a group being set up—a nuclear regulation implementation panel—which I will chair, along with experts from outside and other Ministers, to keep track of the deadlines that we have against all of those recommendations. We intend to push very hard to make sure all of this happens.

The bit that is dependent on parliamentary time is any legislative work that needs to happen as a result of that. It is progressing well. There is a real determination to get this going. As you will know very well on this Committee, the UK has been the most expensive place in the world to do nuclear and with the longest timelines. This is a real opportunity to get that sorted out.

Q343 Chair: One piece of evidence we have heard a number of times is that the culture that we gold-plate from a regulatory point of view is very strongly embedded. It is not just the duplications. People are so risk-averse in this space that it really adds to the time. How do you change that culture across a number of regulatory bodies?

Lord Vallance: That is true in all sorts of areas and not just in nuclear. In some ways, there is not much in it to be a risk-taker as a regulator, in terms of process. The first thing that happened when the Fingleton review was accepted in principle by the Government was that the Prime Minister sent out a strategic steer to regulators, saying what he thought he wanted to see happen.

That is important. The clear political leadership to say, “Yes, we mean this. We want you to do this. You will have your backs covered as you develop these processes to do new regulation”, is a very important part of the cultural point that you raised. That is going to be crucial as we go through this, to show consistency and determination. The regulators intrinsically are not against any of this. They want to do this, but they also want to know that that is what everyone agrees needs to happen and that they will have cover, because there are always glitches when you go through things.

I am not talking about safety glitches, because this is not about changing safety. It is about changing process. It is about avoiding things where people often have to go through three different regulators to do the same type of thing, or where there is paperwork that perhaps can be



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dramatically reduced. There is an appetite for this, but you are right. It is a cultural change and they are never easy.

Q344 **Chair:** Why should staff working for a regulator believe that they are going to be looked after if they try to speed things up?

Lord Vallance: That is exactly the issue. That is why there has to be a consistency, a determination and a clear statement from Ministers. Actions need to go along with that, because there will be times when, as I say, on a process side, things do not work out as you expect them to. The regulators need to know that they will be supported when not everything works exactly as expected in terms of those processes.

Q345 **Chair:** Part of this, from what John Fingleton recommended, is about redefining what the national standard for tolerable risk is and enabling proportionate application of the “as low as reasonably practicable” system. How quickly do you think those changes can be made?

Lord Vallance: In the Prime Minister’s strategic steer, he set the path for that. Then we published the ways of working against the “as low as reasonably possible” and best available technology guidance, which talks about how you start to implement the existing regulation appropriately and what ways of working would allow you to take more flexible approaches to that. That is the start of this process and that is what regulators are now working on.

Q346 **Chair:** How will regulators test and validate that a more proportionate approach does not weaken safety or environmental protection, without having to rely on failures as evidence and before getting to that point?

Lord Vallance: If you look at some of what is being talked about here, a lot of it is about the amount of duplication, paperwork and risk associated with that. It is not about changing safety approaches or, indeed, environmental approaches.

I will give you the habitats regulation, for example. There, the changes that we are looking at are not to dilute habitats requirements, but to do things that provide proportionality, so, for example, make it possible to use the one assessment and approach you have for multiple different regulatory stages, rather than keep going back and doing the whole thing all over again. It is about saying that, if you do it once and you do it well, you can follow that through.

It is about looking at outcomes rather than prescribing precisely how somebody needs to do every step of the process. Those are things that you will be able to see the impact of quickly. None of those dilutes either safety or environmental concerns, but they start to get at this problem of regulation having been layered upon regulation and process being layered upon process.

Q347 **Chair:** Do you think that the fish disco at Hinkley C is a good use of money and an appropriate level of risk management?



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Lord Vallance: I cannot comment in detail on that because it may come as a quasi-judicial point to the Department at some point. I will say a couple of things. One is that it is important to stop fish getting into the pipes of these things, so that is a necessity. The second is that, when I visited Hinkley Point, I was impressed by the fact that it had actually gone to a local company, which is making particular sonar equipment for another purpose, to work out whether it can do things differently in order to keep fish away. There is quite a lot of innovation going on in that, but I am unable to comment on the precise project.

Q348 **Sir Christopher Chope:** Can you give some specific examples of where things have changed as a result of the Prime Minister's leadership on this issue?

Lord Vallance: I gave the example of the habitats regulation there.

Q349 **Sir Christopher Chope:** Has that actually happened?

Lord Vallance: Yes, that is in place now as the way forward. The second is to move from the environmental process—I will get the names of these right and you may have to tell me, Sam, exactly what they are. The principle is that it is moving away from an environmental impact assessment that deals with process to an environmental outcomes regulation that deals with what it is you are trying to achieve, giving much more leeway to regulators and developers to be able to say, "We think we can deliver this outcome in a way that is very different from the process you would use previously".

That is in place now. These changes are real and happening now. That is important, because it is very easy to get hooked up on individual processes as being the route to successful outcomes, rather than the outcome with more ability for people to use innovation and their own imagination and ways of working to achieve that outcome.

Q350 **Sir Christopher Chope:** Can you illustrate an example of where that has already happened? You say it is already in process.

Lord Vallance: It is in place. It will happen. You will see it in action with the small modular reactors.

Q351 **Sir Christopher Chope:** Nothing has actually happened yet. You just have the plan. I was hoping you were going to say that, "As a result of these regulators knocking their heads together, I can tell you that, this last week, X was agreed, which normally would have resulted in having to go to a whole lot of other regulators". What has actually been agreed or done by regulators since this clear remit from the Prime Minister came in?

Lord Vallance: There are two ongoing projects, which are Sizewell C and Hinkley Point C, which have been through all these things. There are small modular reactors, which are just starting, which will go through all these things. I do not have the examples because there are not hundreds of projects being looked at all the time here. The changes have taken



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place within regulators. They are there and ready to go. You will begin to see these happening as projects come through.

Q352 **Sir Christopher Chope:** We had evidence from Rolls-Royce and others involved in AMRs that was rather sceptical about whether these changes were actually happening on the ground. That is why I was asking for some specific examples of where things are different on the ground now.

Lord Vallance: I am not surprised that people are sceptical. This has been 40 years of very rigid bureaucracy, which is being changed. I am not imagining for a moment that this change is everywhere overnight. It is a cultural change. The changes are in place, but you cannot dream up projects to go into it. The projects that needed it, in a sense, are already there with Hinkley Point C and Sizewell C. You do not want them to go back and go through a new process. The small modular reactors provide a test bed on making sure that we turn this into reality.

To your point, we need to show developers that this is going to happen. This cannot just be a document. It cannot just be something that sits on a shelf. There have to be actions. There have to be things that people see and feel, if we are going to change this and get to a place where we can get these projects through faster and at reduced cost.

Q353 **Sir Christopher Chope:** Will the two regulators be amalgamated by the end of this month or next month? When are they going to be amalgamated?

Lord Vallance: What we have designated on the regulators is not a single unitary regulator. We have said that there will be a lead regulator in advance of getting a commission on that in place. It is going to be a lead regulator for every area, which can then cut through this issue of people having to go to multiple different regulators and agree a path with other regulators as to how this will happen.

Q354 **Sir Christopher Chope:** Has that lead regulator now been set up?

Lord Vallance: That lead regulator will be set up—

Q355 **Sir Christopher Chope:** Why has it not been set up already?

Lord Vallance: It is different for different purposes. You do not have a single lead regulator for the whole thing.

Q356 **Sir Christopher Chope:** When will it be set up?

Lord Vallance: As it is needed for the small modular reactors, which are happening now.

Sir Christopher Chope: If they are happening now, why has it not been set up at the same time?

Lord Vallance: We just signed the contract two weeks ago. It is literally happening now and there are people beginning to do surveys on the site. This is happening much faster now than it has happened for a very long



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time. You will see those changes. It is unrealistic to assume they have all happened now when we are getting new projects off the ground this minute.

Q357 Wera Hobhouse: Thank you for coming to the Committee. Given the rising demand for generic design assessment and the pressure this is placing on regulators, do regulators require additional support or a clearer national roadmap to prioritise resources?

Lord Vallance: The generic design assessment is actually popular because it gives companies and developers a chance to meet with regulators early, work out what designs are going to be acceptable and not acceptable and do it in partnership. It is a very popular scheme.

In the nuclear skills plan, there are things happening that are increasing the opportunity for regulators to upskill. There are the things that I have just talked about that reduce regulatory burden. You will not need the 44,000-page environmental impact assessment. That will free up regulator time. We are increasing the chance for regulators to have secondments into the regulatory authorities, which I think will help. The regulators are going to have a bit more time freed up, plus the use of more digital and AI tools to help them. There are some pay changes that are also possible in here and some extra resources, but that is in hand for those regulators as they go through this process.

Q358 Wera Hobhouse: I think we all appreciate that quite a lot of this is just progress as it happens and some of it is very new. Given that only one completed GDA has led to construction, how should success be measured, particularly in terms of value for money? How would you measure it?

Lord Vallance: Four gigawatt-scale projects have been through the GDA and two have been through with SMRs. One of them is the Rolls-Royce SMR programme and another one is going through in SMRs. I do not think that the answer should be everything that goes through a GDA gets built, because that would be a very strange situation where you have innovation and people wanting to do different things.

When we get to advanced modular reactors, we will have a much greater diversity of things coming through. You might expect to see a higher percentage actually getting through the GDA process because there is more chance that they will be built. Of course, for gigawatt, four have been through, but we are not building four gigawatt designs. We are dealing with one.

Q359 Wera Hobhouse: In terms of duplication, should the UK not rely more on internationally approved reactor designs? We have already heard that we should not go through the same thing again and again nationally. What about looking at international approvals?

Lord Vallance: Yes, I agree. That is important. There was an agreement made with the US regulators that we would work with them to make sure



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that, for advanced modular reactors, we had a more unified approach to that. Part of John Fingleton's review was that, by autumn of this year, there would be a joint Government-regulator international strategy. That will be in place for autumn of this year.

That is important. I agree that there is, across all sorts of areas, far too much, if you like, parochialism on regulation. There ought to be much more acceptance that other competent regulators have done a good job and therefore things can be applied that are the same as in other places.

Q360 Wera Hobhouse: We, as a Committee, before you came in, have asked this philosophical question of what a proportionate environmental and safety risk assessment management should look like. In the end, you have sort of said that, if you want to go ahead with a nuclear programme, there will always be a one-in-a-million risk that something might not go right. You have also clarified that this is more about the process rather than the outcome.

Lord Vallance: Yes, it is. I will give you an example. If you take the accepted radiation exposure that is allowed near to a site, it is 0.02 millisieverts per year, on a background of 2 millisieverts per year for the population risk yearly anyway. It is a hundredfold different.

Q361 Wera Hobhouse: We also discuss in this Committee that we have to deal with constituents who might be worried. You know what you are talking about. We might just about get what you are talking about, but how do we translate this as a risk assessment and what to say for our constituents in simple terms? All regulators and anybody who deals with this should probably think about how we then communicate that to constituents. I leave that with you.

Lord Vallance: You are right. My point that I will keep saying is that there is no watering down of any safety requirements here. It is all about process change.

Q362 Wera Hobhouse: GBE-N says that 34 gigawatts by 2050—we have already been through that—is achievable. You have explained earlier what that means. Its mandate ends at two FIDs by 2029. Are you content that GBE-N has run the SMR competition competently? If so, should its mandate be expanded?

Lord Vallance: I am absolutely convinced it has run the competition competently. There was a global competition with clear criteria. There was a very rigorous process that went through. Rolls-Royce came out as the winner of that. We have been through the process and signed the contract with Rolls-Royce. That is a good outcome and a very clear process, and I think people have seen it as that.

The next thing for GBE-N, apart from now having to make sure all that turns into real action, is looking at sites across the UK for a future gigawatt, which comes to your point about what next to build up the capacity. Of course, there is the potential now, with a small modular



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reactor being developed, that, as more and more come up, this gives real flexibility to be able to build nuclear capability more quickly and reproducibly and with lower cost. Now we have three small modular reactors in the UK. Czech Republic also signed. I hope that others will as well. That gives a real pipeline, not only of small modular reactors for the UK, but of course an export opportunity as well.

Q363 **Wera Hobhouse:** Is there a case for a UK civil nuclear test reactor, so testing those, or is the cost of a test reactor outweighing the benefits?

Lord Vallance: Now with small modular reactors, particularly with the Rolls-Royce design, which is a fairly standard design in a way, in terms of the technology, you do not need that. For the advanced modular reactors, the private sector is actually doing those test reactors.

Q364 **Wera Hobhouse:** The answer is no.

Lord Vallance: The answer is no.

Q365 **Wera Hobhouse:** Does the public co-operation model provide a sustainable way for UKNNL to deliver Government priorities, given its reliance on commercial revenues while acting as a custodian of national critical nuclear capability? The question is whether the public co-operation model is a sustainable model. It is delivered through non-governmental partners.

Lord Vallance: I think it is. It is right that the Department sets the strategy and is very clear about what needs to happen. It is right to have a body such as GBE-N that then does the organisation of the delivery and the co-ordination to deliver an output. That is run like a business, with the same sorts of checks and balances and board structure, but with the Department setting the direction. I think that that is an appropriate model.

Q366 **Mike Reader:** Hinkley Point C is being delivered under a contracts for difference and Sizewell C under the RAB model. Do you think that RAB is an appropriate model for the SMR programme?

Lord Vallance: "Maybe" is my rather unsatisfactory answer. For the SMR, we are clear that we have a contract with Rolls-Royce and will see how that develops, in terms of the funding mechanism, over time. For AMRs, as we said in the advanced nuclear framework, we do not rule out any type of interaction, whether RAB, CfD or others. It is going to depend on who is funding it from the private sector and what the aim is.

Q367 **Mike Reader:** Given that RAB would expose consumers to paying for construction costs and construction risk and that the first of a kind model used on SMRs means that we do not really know how much they are going to cost to build, is it appropriate for taxpayers to hold that liability?

Lord Vallance: In any model, as we have said, we would have to demonstrate value for money. I am not saying that RAB is the model. If it



is the model, we need to demonstrate value for money and that there is proper control of that.

Q368 **Mike Reader:** For the SMR programme, at what point will you be agreeing the final strike price for energy? Was that the 2029 date you gave?

Lord Vallance: At the moment we are in a planning and development stage. The idea is to get the SMRs up and running in the early to mid-2030s. I cannot be more precise than that at the moment. You are absolutely right. The first of a kind is always going to be more difficult. We need to accept that is going to be more costly and take a bit longer than the subsequent ones.

Q369 **Mike Reader:** What does “more costly” mean? If the strike price is astronomical compared to renewables and gas, are the Government prepared to walk away from SMR if it is disproportionately expensive to consumers?

Lord Vallance: We expect it to be, in the long term, extremely beneficial for consumers. There may be an upfront cost, like in other nuclear, but the whole point about SMRs is to bring that down. It is appropriate that we are the foundation customer for a UK-built SMR with very big potential for us and for export.

Q370 **Mike Reader:** In theory, we could be paying extremely high prices to be the first of a kind. It does not appear like the Government would step away from that decision on SMR if the price paid by consumers for the strike price is considerably larger than renewables.

Lord Vallance: I am not going to talk about extremely high prices. We are going to pay a price that is value for money for what is being delivered on the SMRs. There will be a number of considerations around how that is met, with options open that have not been decided yet. The key thing is that it is going to be value for money.

Long term, this is going to do two things. It will reduce the overall cost of energy and it is going to provide exactly the baseload and inertia that is needed in the system to create a stable system. It is very important that we have this nuclear baseload.

Q371 **Mike Reader:** You mentioned Czech Republic earlier. It is fantastic to see a British company getting out and delivering in other nations. A concern that we heard in the last session was where the factory will be. We have been told that Rolls-Royce is offering the Czech Government, “The factory will be in your country”. If Czech Republic is racing ahead of the UK in delivering SMRs, is the dream of UK manufacturing capability in nuclear actually a reality?

Lord Vallance: It is a reality. Seventy per cent. of the supply chain needs to be in the UK by the contract, including onsite and offsite, so both of those.



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Q372 **Mike Reader:** When we questioned Rolls-Royce, all the companies it named were not owned in the UK. They were American and French. They were the traditional nuclear supply chain. They were global companies that will use global labour and global capability. Is that 70% realistic?

Lord Vallance: It is realistic and it is exactly what the conversation is now about, how to get that supply chain secured. It is a very important part of this. It is also important that, because this is going to be a reproducible system of many SMRs, this creates potentially very good long-term supply chains in the UK of a type we had in the past and have lost.

Q373 **Mike Reader:** How much focus from the Department, Sam, comes on building that manufacturing capability to deliver the nuclear roadmap, compared to the regulatory changes and the focus on working directly with the building of the actual facilities themselves?

Lord Vallance: We are very keen to make sure that this 70% is real, UK-based and linked to the skills agenda.

Q374 **Mike Reader:** Sorry, I was asking Sam in terms of the Department. Is there a focus in your Department to make sure that that manufacturing base is delivered, as well as delivering the actual onsite nuclear and the regulatory changes?

Sam White: As the Minister outlined, GBE-N has set that the UK content for the SMR must be 70%, so that is what we are working towards. Alongside that, we recognise that you do not just need targets like that. You also need action, so there is a nuclear skills plan as well, which aims to make sure that the companies in the nuclear sector have the workforce that they need to be able to deliver for that supply chain.

Q375 **Mike Reader:** We heard through a previous inquiry that the UK is not an attractive place to set up manufacturing, with high energy costs particularly being one of the drivers, as well as planning regulations and cost of development. Are you confident that the levers are being pulled by the DBT and others to make sure that all those hurdles are removed so we get manufacturing capability in the UK in the nuclear sector?

Sam White: Yes. We have seen that in some of the nuclear projects already going ahead. You have Hinkley Point C. I think that that has around 65% UK content in the supply chain. Sizewell is going for 70%. The SMR programme is 70% UK content. The ambition from the project developers is there. Yes, across Government this is an absolute priority to get UK jobs.

Lord Vallance: To add one thing on that, it is where a pipeline becomes so important. If you look at what is happening with Hinkley Point and Sizewell, a large number of the 15,000 or so people working on Hinkley Point are going to move on to Sizewell C. That is an important part of what needs to happen with this. That is why having SMRs is so important,



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because it allows that continuous ability to keep making new things, rather than do one, disappear for 10 years and then not do another one.

Q376 **Chair:** You mentioned the up-front costs with nuclear a few minutes ago. All of us have constituents who are very worried about increasing energy bills. They were worried before the challenge of what is going on in the Strait of Hormuz right now. How do you sell these benefits—you mentioned baseload and inertia, for example—of this expansion of nuclear when it is going to put up the cost paid by domestic consumers, and indeed put pressure on industrial energy costs?

Lord Vallance: It is worth reflecting that Sizewell C and the RAB is going to add on average £1 per month to a bill. £1 a month is £1 a month. It is still an increase, but it is not a huge increase. It is important, if we are thinking about long-term energy security, that we do this.

Q377 **Chair:** The question, though, is how you take people with you. How do you make it compelling, so people go, "Yes, I will willingly pay more money for my energy bills"?

Lord Vallance: We need to explain that that is £1 a month. That is what we are talking about. I think that people will come along with that. It has created lots of new jobs. It is creating clean energy for the future.

Q378 **Chair:** That is only for a small number of people in relative terms, is it not? How do you explain to people who are not going to have a job working at Sizewell C or in its supply chain across the country? I am very familiar with the benefits of Sizewell C in my constituency in the north-west of England, but, for most people, that is not something they are going to see a benefit from. Why have the Government not got to the point where people are going, "This is fantastic that we have this new nuclear programme"?

Lord Vallance: There has been a remarkable change in the public approach to nuclear. People are positive about it and that certainly was not the case 15 or so years ago. People are positive about nuclear. They understand that we need this reliable, dispatchable energy. They understand that this is part of creating long-term energy independence and security. I think that people are very accepting of what is going on with nuclear.

Q379 **Chair:** They may well be, but they are not accepting of increases in their bills. They want to see bills coming down and £1 a month is £1 a month, as you said. That is just Sizewell C and there are going to be contributions from the SMR programme and what comes next with the fleet as well. That does not go down well. You do not have to face the electorate like we do. Our constituents are very worried about this and not keen on what is going on. What can change to make this a really compelling argument that new nuclear is very much in people's interest?

Lord Vallance: The argument is about overall energy bill. Everyone knows that they have to come down. The aim is to get those down. I do



not think that the nuclear is a big proportion of that. There are other things that are driving that. At the moment, of course, there is a conflict driving it.

Q380 Lizzi Collinge: Earlier, you told us that you are confident that the regulatory review implementation will happen on time. I want to ask you particularly about the semi-urban population density criteria, which in my constituency currently prevents new nuclear on the site of two existing nuclear power stations. That does not make sense to a lot of people in Morecambe and Lunesdale. When reviewing the criteria, what factors will you be considering as part of that? When will the new criteria be published so that developers can get certainty?

Lord Vallance: The revision to EN-7 when it came out actually gave the provision to allow to expand existing sites with some criteria, so that is already possible under EN-7. EN-7 revision is taking place this autumn, with a consultation following that, and obviously parliamentary scrutiny. It should be in place by March of next year, including with the criteria.

Q381 Lizzi Collinge: I also want to talk to you about extension of currently existing sites, particularly given the ongoing crisis in the Middle East. You spoke earlier about a strategic steer from the Prime Minister on regulation. I was wondering whether that included life extensions and whether the Government are asking the ONR to review the criteria to safely extend current stations. If so, will this take into account the risks of climate change and energy insecurity?

Lord Vallance: Life extension is already being considered for the ones that are going off short term. EDF has said it is looking at that and looking at increasing life of those. Sizewell B is a key one to look at for life extension. That is being looked at now. That is very much part of the plan, to look for life extension as one of the ways to increase capability. There is lots of precedent for that around the world and lots of opportunity in the UK to do life extension.

Q382 Lizzi Collinge: To come back on that, I have talked to a number of people in the industry who believe that the current criteria for extension, for example on graphite cracking, is so risk-averse as to be a little bit silly. It is looking at low-probability events that go much lower in terms of probability than the standard of what the regulators normally work to. Will you be looking at that for the current existing stations? You talked about Sizewell. Would you look at changing the regulations that currently prevent extensions and check that the evidence base for that is still sound?

Sam White: EDF has been clear that it is wanting to extend the life of its advanced gas reactors as much as possible. It has done so recently. The four working stations have had their life extended. The current closure dates are 2028 and 2030 for two each of those. It publicly stated again that it would like to extend those, but on the proviso that it is safe to do so. That is a conversation to be had between the ONR and EDF. That is



not something that we should get involved with. They are the ones that will need to make the—

Q383 **Lizzi Collinge:** The Government would not take a view on what is a proportionate risk appetite for the ONR?

Lord Vallance: I do not think that we should get into technical details of what graphite vulnerability looks like. The ONR knows that we want proportionate risk to be taken and it will do that as it sees fit. It is right that it does that as an informed, technically competent regulator.

Q384 **Lizzi Collinge:** Finally, I wanted to talk about how EN-7 enables nuclear development in new locations that might be unfamiliar with nuclear technology. I know that my constituency is very comfortable with nuclear, because we have lived with nuclear for decades. Those who are unfamiliar with nuclear might have more reservations, having not seen the operation. What is the Government's plan to engage with local authorities and communities in those areas that may have nuclear for the first time to build public confidence in the safety and operation of nuclear?

Lord Vallance: That is a great question. That is what the revision of the EN-7 that is taking place now needs to do. The public consultation needs to deal with that question of why this is being done and what it means. It needs to lay out the safety angles of this, because people still are jumpy about what nuclear means, whereas actually the safety track record is extremely good. Some of these new reactors carry even lower risk in terms of where they can be placed. That will be part of the EN-7 process over the next few months.

Sam White: As part of the revision for EN-7, community engagement remains a core component of our planning process. That has not changed. We are facilitating the roll-out of nuclear reactors in more locations—the changes we made in EN-7—but community engagement forms a core part of the planning process. That has not changed.

Q385 **Melanie Onn:** How is the 2008 page 99 requirement, which is that effective waste management arrangements must exist before new nuclear consents are granted, being interpreted and applied today?

Lord Vallance: There are two bits of that. There is the bit that the Government are doing in terms of handling a very long backlog of waste. There is also the question of new nuclear. New nuclear will have to have a predetermined, agreed, fully funded waste management plan for all new nuclear as it comes along. The developer is responsible for that. In the meantime, Government are developing the approaches to geological disposal for the existing large amount of high-risk waste that we have that we need to put into an appropriate place. That has been a long-term problem. For new, it is going to be fully funded by the developer.

Q386 **Melanie Onn:** There is no expectation then. That page 99 requirement says that arrangements must exist before new nuclear consents are



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granted. You do not think that there is any expectation. You say that, for new nuclear, there must be a predetermined waste management plan paid for by the developer. There is no expectation that the GDF will be built before new projects, just that there must be a plan.

Lord Vallance: Yes, because most of the waste from new projects is much lower-risk waste. About 94% is much lower-risk waste. It is not a GDF. There is some that will be and the same criteria will apply: that that waste needs to be handled in a way to make it stable, safe and suitable to go into a long-term storage.

Q387 **Melanie Onn:** For those that require a long-term storage still, there would be no requirement for that to be built prior.

Lord Vallance: No, the GDF will not be ready in time for any of that. It will not be ready until 2050 or so.

Q388 **Melanie Onn:** Okay. We cannot wait until then, can we?

Lord Vallance: No, exactly.

Q389 **Melanie Onn:** Waste burner concepts assume that plutonium is treated as fuel, but UK policy classifies plutonium as waste. Are there any implications justifying that contradiction, or do you intend to change the classification?

Lord Vallance: We are very clear—and this is in one of the many statements that have been put out over the past two years on nuclear—that we think the future of the fuels for UK nuclear is uranium-based fuels, both low-enriched uranium and so-called HALEU, so high-assay low-enriched uranium. That is what we are developing as a fuel source. That is what nearly all of the new techniques do in terms of nuclear. We think that there is no argument to put plutonium into the fuel system.

Q390 **Melanie Onn:** You are not going to change the classification in any way. You would not consider it. It will be entirely unnecessary, in your view.

Lord Vallance: We think that the whole thing can and should be done with uranium.

Q391 **Melanie Onn:** Do emerging reactor technologies reduce the waste decommissioning burden? Who should be accountable if SMR and AMR waste streams prove harder or costlier to manage than planned?

Lord Vallance: As I said, about 94% of the waste from all the new technologies is low-risk waste, and then there is some that is the higher-risk category. That will be handled exactly as all high-risk waste is, to be made stable and safe and in a storage form that can be properly looked after until a GDF is in place.

Q392 **Melanie Onn:** Is that an overall reduction, in your view?

Lord Vallance: There will be a reduction in the waste. The developers are responsible for the cost of the handling of that.



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Q393 **Melanie Onn:** Do developers understand that?

Lord Vallance: Yes.

Q394 **Melanie Onn:** Do the Government believe that the UK's current decommissioning framework, which was largely designed for old reactors, remains fit for purpose, particularly because we are looking at new nuclear, and that includes SMRs and AMRs?

Lord Vallance: There is what needs to be done with the high-risk waste. That is exactly the point about making it stable and safe in a form that cannot be accessed and then getting it ready for GDF. That is the right course for that.

Then there is the much lower-risk waste, which is the vast majority of it from new reactors, that therefore has a different handling process. It will be slightly different for different reactors, but that is much less onerous than some of the previous ones, where the proportion of high-risk waste was much higher.

Sam White: Also, a core part of things such as the GDA process and the process that developers go through with the regulators is to understand their waste requirements and their plan for decommissioning the waste at the end of it. As the Minister has outlined, all new nuclear power stations have to have a funded decommissioning plan. That is clear from the outset. You are correct that there will be different types of waste coming through—all uranium-based—but reactors have different technologies. A core part of engaging with the regulator is to understand these waste requirements, so things such as the Nuclear Decommissioning Authority can then plan appropriately.

Q395 **Wera Hobhouse:** What is the difficulty of finding a GDF?

Lord Vallance: There are two things that need to coincide. That is a willing local population to have one and a geology that is suitable for a GDF. We are waiting for the read-out from the Nuclear Waste Services on where it has got to on that.

Q396 **Wera Hobhouse:** I am asking that question because I grew up in Hanover near a proposed nuclear waste site. In 1976, we all said "Atomkraft? Nein danke", and the German Government have still not sorted out GDF. We have had this for decades, not just in other countries but here as well. Why is it so difficult to identify this? Also for nuclear waste that we still have, if you have known that for decades, why is it so difficult to identify that? As I say, it has been 50 or 60 years.

Lord Vallance: I agree. We are waiting for the Nuclear Waste Services to come up with its recommendations on current siting. We need to now get on with this.

Q397 **Chair:** Why has Finland managed to build its GDF when we are still having these conversations?



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Lord Vallance: If you look at the timeline for Finland, it is very long. It has done it because it started much earlier in its thing, but it was still something like a 30-year timeline, from the time it agreed it was going to do it to doing it. It has not been quick anywhere. France has done it with geological disposal facilities, and there is a lot to be learned from there. One thing I am keen to see is what we can learn from where other places have done it. I cannot comment on why it has not been done until today.

Q398 **Chair:** We have the hope that you are learning from other countries and applying those learnings, where it is working anyway.

Wera Hobhouse: Do not go to Germany.

Lord Vallance: Finland and, as I say, France have done it. We would be mad not to learn from what they have done and understand how to do this. There is a lot to know about the geology as well.

Q399 **Chair:** You mentioned 2050 earlier, if I am right in my memory. Is that realistic?

Lord Vallance: It is what the target is at the moment. We are so early in this. We are so early in it that I cannot tell you when this is going to be done, but that is the sort of timeframe.

Sam White: When you look at Finland, as the Minister said, it started its process in, I think, 1983. It started construction in 2016 and it is expecting to be operational by the mid-2020s. That is the timeframe.

Chair: Yes. Some of us have been in the Finnish GDF. It is impressive.

Q400 **Lizzi Collinge:** What takes the time to 2050? Is it the building or getting the community consent?

Lord Vallance: You have to get the first of those two things. Can you actually do it physically? Do you have the consent to do it? Then there is the building, which is very complicated.

Q401 **Melanie Onn:** Do you think you will be around to open it?

Lord Vallance: I am absolutely certain I will not be around to open it.

Chair: I apologise for the cruelty of some of my Committee members. Melanie, you have some questions on a different topic now.

Q402 **Melanie Onn:** I do on a different topic: workforce. Maybe they will be around to open it. We have had some evidence from Sue Ferns at the Prospect union and she told us that the industry is well positioned to deliver another generation of these nuclear jobs if the Government make strong commitments to the sector. Can you give us an overview of the commitments that the Government are providing in relation to jobs?

Lord Vallance: The nuclear skills plan identified that probably 40,000 new jobs were required. Actually, the number has gone down because some of them have started getting populated, so that is a lower number now. There are commitments ranging from 500 new PhD students at the



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high end of the skills sector, across seven different doctoral training places, through to secondments and many more apprenticeships. I was particularly impressed when I went to—I cannot remember whether it was Hinkley Point or Sizewell. It is both places, I think. Community colleges are being built to get people skilled up ready for this. There is a very clear plan in the nuclear skills plan.

Q403 Melanie Onn: Are they specific nuclear community colleges, or just their local colleges?

Lord Vallance: No, they are linked.

Q404 Melanie Onn: Are developers paying for that?

Sam White: There is definitely one in Hinkley Point C. There is Bridgwater College, which is the apprentice training college for Hinkley. I think that about 1,000 have already gone through.

Q405 Melanie Onn: Has Hinkley funded that?

Lord Vallance: It is putting a lot of money into it. I think that it is Sizewell C that has a college, College on the Coast, next to the development, which is being funded by the programme.

Q406 Melanie Onn: There are lots of numbers projected in different sectors for roles: if we are able to build out this much on time, we will need this many people. Some of it will be up front in construction and some of it will be long term. They reach a bit of a ceiling, really. How closely on track do you think that the skills agenda is now for nuclear? How do you envision it going forward? Do you have a trajectory planned out of when you would like to see more jobs being rolled out?

Lord Vallance: We know roughly what is going to be required in Sizewell C. We know, because it is an exact replica of Hinkley Point C, exactly what that is going to need by when. There is a clear plan for that. People there have been telling me that these are just large modular reactors, because they are exactly the same design. I think that that is pushing it a bit, but they are, so they know the skills.

We know the skills we need in the early sector, so the PhD things have already started. We know the skills that are going to be needed. That is why the college is there in place. This is being monitored as part of the nuclear skills plan and you can see how that is going to need to ramp up. To your point, it is going to ramp up differently depending on what you are doing. Construction is obviously very early and other things are going to be late.

Q407 Melanie Onn: There are challenges around that construction piece. There are other industries that are also utilising people who are skilled in those particular areas, so there could be a strain. Is there a particular focus on that construction side of things for the sector?



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Lord Vallance: Yes. In the discussions I have had with them, they are looking at that all the time. They feel very pleased with what they have going at the moment.

Q408 **Melanie Onn:** Who is going to be ultimately accountable for those 40,000 jobs being achieved by 2030? Will that sit on your desk?

Lord Vallance: I doubt I will be here in 2030 either, but yes, it is a departmental responsibility to make sure that that happens.

Q409 **Melanie Onn:** Why are you talking yourself out of a job?

Lord Vallance: It is called age.

Q410 **Melanie Onn:** Do you think that there is a bit of a siloed approach between civil and defence nuclear that undermines that workforce delivery capacity?

Lord Vallance: It is one of the areas where we are working very well between the two Departments on regulation and skills. It is one of the areas that is working well. There is definitely more that can be done there.

Q411 **Melanie Onn:** What is happening at the moment to try to integrate that? How are you working well?

Lord Vallance: Do you want to talk about the departmental bit, Sam? Then I will come on to the ministerial level as well.

Sam White: The first thing is that the skills plan is a joint skills plan, so it is civil and defence. That number that the Minister talked about, so the 40,000 additional jobs from when the skills plan was announced, are civil and defence jobs. The 120,000 in total is civil and defence. We have now made progress on that. The gap is no longer 40,000; it is now 24,000. The skills plan is a joint plan for the civil and defence sectors, so that is certainly one area where we work very closely with our defence colleagues.

Q412 **Melanie Onn:** As the energy transition moves on, there is a continued risk for oil and gas workers of them being displaced. Has there been any work from Government in engaging with the North sea transition zone to support those workers?

Lord Vallance: I think there has been. I am not sure that I can give you details of that, but I know people are looking at exactly that and other areas where there are people who have skills that can come through.

Q413 **Melanie Onn:** Are they doing an official skills matching assessment?

Lord Vallance: I think that that probably is part of the nuclear skills plan, but I do not know. I can get back to you, unless you know, Sam.

Sam White: Certainly there is that career switchers aspect to the nuclear skills plan, where people who have careers in an aligned sector are



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supported to retrain for the nuclear sector. I do not know for sure, but I guess that that would also apply to oil and gas workers.

Q414 **Melanie Onn:** Will they be jobs of an equivalent salary, do you think?

Lord Vallance: The nuclear sector generally is well paid compared to others. We will come back with a written thing on that so you have the detail, rather than us trying to work it out here, because we do not know the answer to that.

Q415 **Lizzi Collinge:** We have heard evidence that decommissioning is considered slightly less attractive than generation and new nuclear. Why do you think that is and what are you going to do about it?

Lord Vallance: Do you mean as an overall subject or a career path?

Lizzi Collinge: I mean as a workforce.

Lord Vallance: It depends who you speak to. I speak to lots of people in decommissioning who are extremely passionate about it and very keen to be in it. It has a certain job security to it. It is not going to disappear anytime soon. We are talking about timelines of 120 years. You know that you are going to be doing it for a long time. There are people who very much want to be in that. It is also technically quite interesting for people, because how you get this into a stable state is important. There is a lot of interest in how the GDF eventually gets constructed. I have not picked up that this is an area where there are particular problems.

Q416 **Mike Reader:** Coming back to the supply chain and particularly the 70%, could you talk us through the contractual mechanisms that make sure that Rolls-Royce delivers it? What happens if it does not?

Lord Vallance: We are in the negotiations on that now. Having got the initial contract signed—it says 70%—we now get down to the detail of what that looks like.

Q417 **Mike Reader:** You have signed a contract with it without a contractual arrangement to deliver the 70%.

Lord Vallance: We have signed the contract with 70% in it and now there is detail that needs to go in as to exactly how that works and which parts go where. It is a very high priority of mine to make sure that we get a very strong UK supply chain with this.

Q418 **Mike Reader:** Is there a threshold at which you would consider removing the contract from Rolls-Royce, for example 50% or 40%?

Lord Vallance: I am not going to speculate on things like that.

Q419 **Mike Reader:** You do not know. Would it be in the contract that you would if it does not deliver on what it said?

Lord Vallance: Rolls-Royce is a UK company. It wants to build a UK supply chain. There are all sorts of reasons over the last few months that we have all seen that suggest that having a domestic supply chain is



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pretty important for not only the country but companies such as Rolls-Royce. I am confident that we will get to a good supply chain.

Q420 **Mike Reader:** In terms of the UK's nuclear supply chain, how exposed are we to China?

Lord Vallance: The supply chain analysis is one that takes China into account, and there has been a lot that has gone over the last few years that is looking at that. I cannot give you details on individual projects.

Q421 **Mike Reader:** Sam, what is being done in the Department to reduce the risk that China poses to UK security?

Sam White: Do you mean in terms of our safety and security?

Q422 **Mike Reader:** I mean China being in the manufacturing supply chain. What work is done in the Department to reduce that risk?

Sam White: Our regulators are very clear around their safety and security requirements. To be an owner-operator, you need to pass certain things within the regulation, so they are very clear about what is a safe reactor.

Q423 **Mike Reader:** Does the Department or GBE-N do supply chain assurance to look at your partners you are working with, such as Rolls-Royce, to make sure their supply chains are robust and free from Chinese or Russian influence?

Lord Vallance: GBE-N needs to do it, with advice from the Department and security.

Q424 **Mike Reader:** They need to, but will they?

Lord Vallance: Yes.

Q425 **Graeme Downie:** Just to pick up, first of all, on some of those questions from Mike around security, there have been some concerns about the requirement for importing nuclear fuel from Russian dependencies. How exposed are we to that risk?

Lord Vallance: We have no direct import now from Russia, and we will have no indirect imports in the supply chain by 2028.

Q426 **Graeme Downie:** Is that being built into any of the contracts for requirements for the future—that nothing can be relied upon from Russia?

Lord Vallance: Yes.

Q427 **Graeme Downie:** I have a couple of wider points around physical and cyber-security. What lessons have you learned so far from attacks or concerns in both Ukraine and Iran around nuclear infrastructure? What is the Department doing to protect the UK in the future?



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Lord Vallance: There are very clear requirements set down by ONR, as well as by the Health and Safety Executive and by the Environment Agency. There are very clear construction requirements as well—I was shown those in some detail when I went to look at Hinkley Point C—as to what you need to do to be really sure that you cannot be attacked. There is also the Civil Nuclear Constabulary, which is incredibly important for all of the sites, both small and big.

Q428 **Graeme Downie:** We have experience of that kind of security when it comes to physical buildings. What reassurance do you have from suppliers around cyber-security as well? We have quite a good history of building buildings that we understand. How are we making sure that we are similarly protected from cyber as well?

Lord Vallance: Cyber is part of this. The National Cyber Security Centre is part of developing the specifications for this, and that is an increasing focus, for obvious reasons.

Q429 **Graeme Downie:** Are there requirements on suppliers and contractors to engage with the National Cyber Security Centre?

Lord Vallance: I do not know to what extent that goes right the way through the supply chain, but it is at the overall level.

Q430 **Graeme Downie:** I would be quite keen to know if you have more information on that. Again, the concern is not so much just at the top-level supply chain but the soft underbellies that appear down the line, which is where we could be more vulnerable, so I would appreciate any additional information you are able to share on that. We have heard evidence as well that SMRs could increase risk from a national security perspective. Is that something you have assessed centrally as well?

Lord Vallance: People have argued it in both ways.

Q431 **Graeme Downie:** I can hear Sir Humphrey telling you, “On the one hand, and on the other hand”.

Lord Vallance: Rather than ask whether one is greater than the other, the key thing is to make sure that we are focused on those questions of, “Are you clear about the construction security? Are you clear about the cyber-security? Are you clear about the defence through the Civil Nuclear Constabulary? Are the standards the same, irrespective of whether it is small or big?” That is what we are focused on: absolutely clear standards right the way across the piece.

Q432 **Graeme Downie:** What are the additional risks from having a larger number of SMRs compared to having a small number of central, larger nuclear power stations?

Lord Vallance: You would need to ask the people who are claiming that it is more of a risk, because, as I have just said, the standards ought to be exactly the same. I can see that it is a risk if you decide that the standards are not the same between those, but that is not where we are.



Q433 **Graeme Downie:** Regardless of having more targets, as long as the standards are the same—

Lord Vallance: If the standards are the same, you should have the same degree of risk, even if you have more targets. If you do not do that, you end up being stretched very thin because you have lots of them, and that exposes a risk. That is an important thing to understand and not to do.

Q434 **Graeme Downie:** Just finally, we have touched on some issues regarding siting. What consideration is given to rapidly changing climate when you are considering which sites might be safe for nuclear development? How is that playing into some of the siting studies that you were discussing?

Lord Vallance: That is totally taken into account through the GBE-N process.

Q435 **Graeme Downie:** In what way? I am aware that we are slightly short of time but can you expand on that slightly?

Lord Vallance: They have a standard way of looking at climate risks and applying it to the sites they evaluate. I cannot tell you the details of that, but I know that there is a process for doing that.

Q436 **Graeme Downie:** Is that based on things such as one-in-1,000-year events? We heard about some of this risk last week from GBE-N, when we were trying to get to the bottom of what they mean by “risk” or “events”, and we never quite got there.

Lord Vallance: I cannot tell you the detail of how they do it. Again, we can get that back to you.

Q437 **Graeme Downie:** That would be helpful. It goes back to the earlier point that we need to try to explain this to our constituents as well, because we will get these questions.

Sam White: This is not on the GBE-N specifics, but, in terms of our overarching planning policy, EN-7, there is a specific requirement in that around climate mitigation. As part of the process, developers will need to set out how their development is robust to future projections on climate, so that is baked into our planning process.

Chair: Thank you very much. That brings us to the end of the session. Lord Vallance and Sam White, thank you very much for your evidence today.