

Energy Security and Net Zero Committee

Oral evidence: [A flexible grid for the future](#), HC 113

Wednesday 17 January 2024

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Members present: Angus Brendan MacNeil (Chair); Vicky Ford; Barry Gardiner; Mark Garnier; Mark Pawsey; Lloyd Russell-Moyle; Alexander Stafford; Derek Thomas; Mick Whitley.

Questions 222 - 314

Witnesses

I: Ian Lawrie, Chief Executive Officer, Island Green Power; Kevin O'Donovan, Senior Vice President Europe, and Managing Director of UK and Ireland, Statkraft; and Mike Parr, Engineer (Professional), Challoch Energy Limited.

II: Keith Anderson, Chief Executive, ScottishPower; Professor Keith Bell, Co-Director, UK Energy Research Centre; and Barney Wharton, Director of Future Electricity Systems, RenewableUK.

Written evidence from witnesses:

- [Island Green Power](#)
- [Statkraft](#)
- [Challoch Energy Limited](#)
- [ScottishPower](#)
- [UK Energy Research Centre](#)
- [RenewableUK](#)



Examination of witnesses

Witnesses: Ian Lawrie, Kevin O'Donovan and Mike Parr.

Q222 **Chair:** Good morning, and welcome to the Energy Security and Net Zero Committee. This is the third inquiry on the flexible grid, and this session is on connection reform, strategic spatial planning and the planning system itself. We have a panel of three and then another panel of three. First, we are very honoured this morning to have a delegation visiting from Mexico in the audience. Hands up, the Mexicans. Welcome, and good to see you all.

Mark Garnier: ¡Hola!

Chair: “¡Hola!”, indeed—said Mark Garnier, recent OBE. He has got it together here. We hope you enjoy the morning, that you find the session useful and your time here at Westminster useful. We would be more than pleased to go and see you in Mexico as well.

I will now have the panel introduce themselves—name, rank and serial number.

Ian Lawrie: My name is Ian Lawrie. I am CEO of Island Green Power.

Kevin O'Donovan: My name is Kevin O'Donovan. I am the country manager for Statkraft in the UK.

Mike Parr: Mike Parr with Challoch. I am an engineer.

Chair: Excellent. I believe that, Lloyd Russell-Moyle, you want to make a declaration at the start of this panel.

Lloyd Russell-Moyle: Challoch Energy has donated to my office in the past.

Chair: Challoch Energy has donated to your office in the past. Probably all offices are open to such donations.

Lloyd Russell-Moyle: Hopefully possibly in the future as well, but that is another issue.

Q223 **Chair:** Quite a shameless plea there, Mr Russell-Moyle.

I will start by asking the panel: how do current delays to connect renewable generation and electricity storage to the grid threaten to achieve decarbonisation of power by 2035? Mr O'Donovan, I see you nodding.

Kevin O'Donovan: I was nodding because our company has about 500 MW of fully permitted projects with strong viable business cases. We could go and invest and build those projects immediately, except for the fact that the grid connection dates are as late as 2030. How is it affecting our achieving net zero? It is pushing out more and more of these megawatts of projects to 2030 and later. That brings other issues because projects that have their permits are of their time. If a project is



HOUSE OF COMMONS

delayed by five, six, seven years, it brings other issues in continuing to secure the land and continuing for the planning to have permission for the best available technologies at the time. Therefore, there are all these knock-on impacts by getting these later connection dates.

The real challenge that we have now is if we start a new project, to go through that planning process and to come out of the planning process in the next 12, 18, 24 months, we are expecting that the connection offers that we get could be as late as mid-2030s. That is where the challenge is at the moment. There is development of renewable technology projects across the UK but we could have connection dates that are seven, eight, 10 years later than when we can deliver.

Q224 Chair: How much vision do you have? Is it tunnel vision? Is it just with you and the connection or do you know other people in the queue? Can you approach others and talk to others? Is this quite transparent or not?

Kevin O'Donovan: The challenge with the queue is that we know that it has built up significantly in the number of projects that are queuing. We all know that there are projects that are not in a position to use their capacity. That is why we are very supportive of the approach where the project that can build first can connect first. It is key now that we go to that next step where National Grid is able to apply a process that means that those projects that can connect are allowed to connect.

I do not believe that that is that challenging to do if there are sufficient resources in the National Grid that we can do this. That is one thing that I would like. My main message from Statkraft today—and I sit on our European management team, and we are developing in 10 different countries—is that the resources point is the real challenge.

Chair: I will come back to that point in a second, because that is an important point as well.

Mike Parr: We need to distinguish between transmission-connected renewables and those connected at the distribution level. There is a lot of talk by Grid that it is going to build out the network and this kind of thing. At the distribution level the preferred option of the DNOs is constraint. I have submitted evidence. It is a letter from NGED, which is the distribution operation owned by National Grid. To give you a few details of the project, with the 400 kW of rooftop-mounted PV on a factory that is going to absorb most of the cheap electricity, we have been told, "Sorry, you can't connect until the end of this year and you will connect to a constraint scheme". I have chapter and verse on this. The SSE, the strategy report of October 2023, on the grid supply point—this is where 132 connects to 400—is talking about a combo of reinforcement, which is fine, and flexibility. Flexibility is DNO code for constraint. It usually uses phrases such as "active network management", which means actively constraining surplus electricity.

Q225 Chair: Are you saying that at least 400 kW would be used quite locally?

Mike Parr: Yes.



HOUSE OF COMMONS

Chair: There is almost no grid or transmission required, or distribution required, they will be used onsite?

Mike Parr: The DNO will claim that it has so many projects feeding into its system. This is around Hereford. I do not mind identifying it. It is a grid supply point that supplies Hereford. It is saying, "We have so many PV projects or whatever that we need to constrain these off".

I am perhaps getting a little bit ahead here but one of the topics is technology. None of the DNOs, and certainly not Grid, is talking about having adequate storage, either at primary substations, which are the 11 kV to 33 subs, or the grid supply points. If you look at the grid supply points, most of them are in open countryside. There is no lack of space to put alternatives to constraint.

Q226 **Chair:** Ian Lawrie, do you want to come in with a comment at this point?

Ian Lawrie: There are two aspects to this. There is one about improving the connection offers and improving the grid, but there is also better use of the grid that you have at present. You have a situation where the local district network operators, if you apply for a solar connection, assume that the sun shines 24 hours a day. If you apply for a wind connection, they assume that the wind blows for 24 hours a day and that a battery can charge and discharge at the exact same time, which is physically impossible.

If you think about it, on a summer's day somewhere in the UK when you are on the beach, the wind is not going to be blowing if the sun is shining. A better use of the system would be to get some people in who are good at algorithms or something where you can have a better use of your system. They have done this in Spain and they have freed up something like 40 GW or maybe more connections from their existing stuff. It is not just a matter of concentrating on how to improve new connections, it is using what you have to the best of its ability.

Chair: It's not reinventing the wheel; it's been done in Spain.

Ian Lawrie: It is just getting someone to sit down and look at it better. The sun does not shine 24 hours a day. Therefore, solar is not going to be producing power into the grid, so why can't a wind farm use the same 50 MW connection?

Q227 **Chair:** Yes, you have made a good point there. The final point I want to put to the three of you is: is the grid connection queue making the UK a less attractive market for renewable investment than our main international competitors? I will come to you first, Ian, given what you have just said.

Ian Lawrie: The grid queue system—we are fortunate that we have a lot of grid connections already in place.

Q228 **Chair:** In comparison to foreign countries?



HOUSE OF COMMONS

Ian Lawrie: Not really, I wouldn't say. It could, going forward, if you were seen to be not doing anything about it. But if you are seen to be doing something about it, people will trust that the UK is going to do that and they will follow.

Kevin O'Donovan: From a wider context perspective of looking at other markets, the UK with its targets, its policies and what it is saying that it will do is good. The challenge and what could result in companies not investing in the UK is—

Q229 **Chair:** It is not a problem at the moment yet?

Kevin O'Donovan: No, sorry. All European countries now have really good policy targets, including the UK.

Chair: For the grid connection queue system?

Kevin O'Donovan: Yes. Each European country has this challenge of trying to get more renewables on to its grid system. What is vital for the UK is that we act quickly now on a change in the connection queue system. As Ian says, if that is clearly being implemented and over the next six months or so that decision is made—no further procrastination, connection queues are adjusted to be those who build first can connect first—that will be a very positive signal for investing in the UK. If that procrastinates and drags on for another year, which has happened in the past, that is where you will send a negative signal.

Q230 **Barry Gardiner:** To set the context here, if we are going to decarbonise, we have to build out four times as much new transmission network infrastructure as we have built since 1990 to today. As part of the process of trying to do that, in December the ESO, the Electricity System Operator, published its recommendations. Mr O'Donovan, you and Statkraft have been quite critical of some of the things that it published. You said that the capacity that ESO expects to release through its transmission entry capacity amnesty is less than 2.5% of the queue. You have also talked about the milestones. Why do you think that the proposals that the ESO has put forward are so inadequate?

Kevin O'Donovan: Because they are. As you have well pointed out, we are trying to have to put far more grid infrastructure in place to reach the targets that we require. From our perspective, that requires a difference, not a business-as-usual approach. That is probably the main complaint we had with what the ESO published. It was almost a business-as-usual approach. This requires a step change for all of us.

As politicians, I would say that you will now have to recognise that over the next decade we will have to build significant amounts of grid infrastructure across all your constituencies. It will need the political leadership to explain to people why we need this infrastructure, to the communities and to the regions where these will have to be built. Our concern is that we are not being ambitious enough in taking on the challenge of building out that grid infrastructure. It takes a long time to build grid infrastructure, whether it is overhead powerlines, underground



HOUSE OF COMMONS

cables, substations. The concern is that we are not being ambitious enough and clear enough on how we build it.

I will give you an example. There are major challenges in other jurisdictions as well with trying to build this grid infrastructure. This is not a UK-only problem. If I were before the equivalent committees in markets like the Netherlands and Ireland, which have quite a few problems, I would also be raising these concerns. However, what is helpful in those countries is that they have set out clearly their plans for the grid infrastructure—the total plan for what is required. The Irish one is Shaping our Electricity Future. That shows all of the grid upgrades and reinforcements.

Q231 Barry Gardiner: If this Committee were making a recommendation to Government, the first would be to have a plan.

Kevin O'Donovan: Yes, yes.

Barry Gardiner: That seems fairly high level.

Kevin O'Donovan: It does, but it takes a lot of work to set that plan clearly, because typically when people are asked to do a plan they want it to be the perfect plan and they want it to cover all potential scenarios.

Barry Gardiner: I am conscious that the Chair is going to be very strict with time.

Ian Lawrie: The multiple that you say is scary is four items, but is that more a reflection on the lack of investment in the grid since 1990 more than the huge demand that is coming now? If the grid had moved ahead and looked forward over the last few years and had been encouraged to do that—a lot of times the investment is constrained. If that were encouraged since 1990, we might be in a completely different position where the amount of additional capacity that we have to put on is nowhere near the scary amounts that we are talking about now.

Q232 Barry Gardiner: What could the Government do to get the ESO moving in the right direction and operators accountable for implementing connections at the sort of pace that is required?

Mike Parr: I am sorry to say it, but you are asking the wrong questions. The UK has got rid of most of its coal and it has a few nuclear stations, but basically the two energy vectors are gas and electricity. We have had a report from National Grid, which owns both gas and electricity, but the interest is in building out an electricity network, which at the same time ignores the fact that it has the huge gas network. The UK, as Germany, does not have a north-south energy problem, it has a north-south electricity problem.

I am sorry to say that we are not asking the right questions here. You have to ask, when we have all this offshore wind in Scotland, could we maybe turn it into something else and use the existing gas network to carry it? I have alluded to this as constraint in grid supply points. You



HOUSE OF COMMONS

could absorb the electricity as hydrogen. I do not have any interest in hydrogen; I have an interest in engineering an energy system. That is the problem.

Q233 Barry Gardiner: As an engineer, you would know that transportation of hydrogen, as opposed to the existing gas that goes through the networks, is a very different proposition because the molecules and the leakage from hydrogen is going to be much greater.

Mike Parr: I do not wish to contradict you.

Barry Gardiner: Contradict away.

Mike Parr: In the Government's own report, for example, 40% of the existing gas network in the North sea is ready to carry hydrogen; 100% of the Dutch gas network, intermediate pressure and high pressure, is ready to carry hydrogen. The UK itself has engaged in replacing iron gas mains and it will be finished by the end of this decade. That has the low-pressure network hydrogen-ready. I am saying that if you look only at the electricity system, the only answer that you will get is to build more network. I am sorry, to me as an engineer that makes no sense when you already have a huge energy network in the UK, the gas network.

Q234 Mark Pawsey: I want to understand how the lack of information about what will happen affects your ability to plan new energy generation. However, can I first ask you about baseline? Is there currently adequate, accurate information about the system as it exists today or are there deficiencies in the availability of information?

Kevin O'Donovan: I would say that we have part of the picture. We know in certain parts, based on the existing grid, of when and what capacity could be available there. Getting back to the previous question on the wider plan, it would definitely help if we had more clarity on the long-term plan for what we are going to do with our grid infrastructure. Getting back to the point of the overall masterplan of what we will do with our grid network in the UK is really important.

Q235 Mark Pawsey: The baseline is okay and we know what we have?

Kevin O'Donovan: Not necessarily. Our challenge at the moment is that we have a general knowledge of the grid network in the area and the capacity that could be available there, but we find as our projects go through development and we apply for grid capacity that we are getting later and later connection dates. It is not fully clear.

Ian Lawrie: Some people are getting grid connection offers for 2038.

Q236 Mark Pawsey: If you are given a date like that, you simply say that you are not going to do the development.

Ian Lawrie: There are two things. Maybe we would say that we will do the development, because we are relying on you and the Government to improve the actual grid so that that connection date can move forward. We have a sign in our office that says, "Get rid of the grid squatters".



HOUSE OF COMMONS

There are people with grid capacity and grid offers that are going nowhere, the projects are never going to get built, but we cannot get them off the grid to allow someone else who wants to build capacity. If that is done, that 2038 could move forward to 2033 and then we have a viable project.

Q237 Mark Pawsey: How confident are you, having been given a 2038 date, that you could go ahead and proceed with that development, hoping on a prayer that that date may come forward? If it does not, there is a substantial investment that is sitting idle.

Ian Lawrie: We have based our UK solar strategy on the British Government saying that they were going to close down all coal power stations. Therefore, we went around and got grid connections at all those coal power stations.

Mark Pawsey: You knew that there was a connection there already.

Ian Lawrie: The infrastructure was there already. Not only that, we mainly knew that we could rely on the fact that when the British Government say that they are going to do something, nine times out of 10, or maybe less, they do it. You have a great reputation for doing that. That is one thing that we can rely on.

We are sitting here in front of you. When we see a grid offer for 2035 or something, in our minds we are saying that maybe that will come forward five years, because this is the plan and this is where we are going. It may not be in writing yet, it may be all a pipedream at present, but you have a good reputation of turning pipedreams into reality. That is what we are relying on.

Mark Pawsey: If it does not happen, that is a massive bet on your part.

Ian Lawrie: That is a massive bet that we take.

Kevin O'Donovan: That unfortunately is the nature of our business as developers of renewables.

Mark Pawsey: You are gamblers, is what you are saying.

Kevin O'Donovan: I would not say gamblers.

Ian Lawrie: We are educated gamblers.

Kevin O'Donovan: We have a large team of people who have a lot of expertise on the grid. In fact, some of our people would have worked with the system operator or had very good knowledge anyway, and we are projecting where we see this coming. However, it comes back to the point that there are two things I hope that we can get out of this review. The first is to get the queue management thing sorted, get rid of the grid squatters. That will start to make this a lot clearer for all of us and take away the risk. The second is that we have an overall plan of what we will do with upgrading our grid infrastructure. That will make this less risky and allow us to develop projects earlier and quicker.



HOUSE OF COMMONS

Q238 **Mark Pawsey:** Are you comfortable with who makes the decision about who is a grid squatter and who is not?

Ian Lawrie: If they are given the powers. The DNO knows who the grid squatters are, it just does not have the powers to get rid of them. Give it the power to get rid of it.

Q239 **Mark Pawsey:** What about the business that you call a grid squatter? Maybe it is a business with an actual plan and intending to do something.

Ian Lawrie: It may have an actual plan but no funding. In Spain they shut down at a certain day—I think it was 22 December—and they said, “By 22 July you have to answer these questions on your projects”. If you could not prove X, Y and Z, you were out.

Q240 **Mark Pawsey:** You would have a checklist to determine who is a grid squatter?

Ian Lawrie: Absolutely. Then they said, “Right, on 22 July, they’re all out. What new capacity have we freed up by getting rid of them?” Then they made grid offers from the following December. They effectively closed down grid applications for one year.

If you say that to some developers in the UK they will say, “Oh my God! The Government are putting up a sign saying, ‘Britain is closed for business,’ because they’ve stopped grid connection offers.” However, if I am a developer and you are telling me 2038 is the connection offer that I will get if I apply today but if I wait one year you get to tidy up the grid, I make my application there and then I get a grid offer in 2030, I say, “Bring it on, I will wait”.

Mark Pawsey: It is the certainty.

Ian Lawrie: Yes, but it is using your infrastructure better.

Mike Parr: We have a project in south Wales. It is 10 MW of groundwork PV, 20 MW of electrolyzers to produce hydrogen to power buses owned by the local authority. The DNO has given us a date in the 2030s. It said, “This has an impact on fault levels.” There is no discussion about the fault-level problem that it has. It says, “What happens if you lose the electrolyzers?” There are 20 electrolyzers; we may lose one, but the entirety of the PV is feeding the electrolyzers. We will also take power from a fairly close onshore wind farm. The problem with the DNOs is that they start to give us synthetic reasons. You never see behind the numbers, behind the reasons that they give us.

Mark Pawsey: A lack of transparency.

Ian Lawrie: The DNOs themselves have complained that the interface between the DNO and the National Grid is not good.

Q241 **Mark Pawsey:** Does all this information need to be made public?

Ian Lawrie: The interface between those two organisations, which we do not see— I know that there are massive problems with the interface



HOUSE OF COMMONS

between the DNO and the National Grid. They have told us that themselves.

- Q242 **Mark Garnier:** Mark Parr, if I can come to you first, I am interested not in the regulations behind all this but in the technologies that can make a more efficient grid. We have heard a bit about how you cannot charge and discharge a battery at the same time. I want to pick you up on your hydrogen issue. You are right that there is a lot of work going on in the distribution network to deal with the tiny molecule problem. However, there is another problem with hydrogen, which is that every time you convert energy from one form to another, you lose energy in doing that. It is the cost of the energy. I want you to specifically address that point. You are an engineer, so address that point about how to convert electricity to hydrogen, ship it and convert it back to electricity. Your net energy in the thing is significantly reduced.

Mike Parr: Can I answer the question in two parts? The first part gives a little bit of perspective. I have been told not to do bridging answers or questions or whatever. Apologies if it sounds like it is; it is not.

About 10 years ago I remember meeting at Ofgem with the head of R&D at one of the biggest DNOs. We had a good discussion. Renewables were sticking their head above the parapet and we said, "What are we going to do?" The answer was autonomous networks. You would take network segments—in this case the DSO is a little bit different—and you would treat them not as an isolated lump but you would try to maximise the use of renewables generated in that network segment.

The network segment that we picked is primary substation 33/11 or its equivalent—there is some 66 stuff around. We both agreed on that and we have not changed our point of view. He is still head of R&D in the biggest DNO in the UK and we exchange emails regularly. Nothing has happened since that discussion. You have active network management. That basically constrains renewables off. I know the big stuff, the transmission stuff, will be important, but unless you are successful in embedding a lot of renewables into your distribution network, you will not succeed in the targets.

- Q243 **Mark Garnier:** However, you still have problem of inconsistencies—the still-night problem.

Mike Parr: In the case of hydrogen, we have a community energy project in south Wales with 220 houses. This does answer your hydrogen question. There are 220 houses built in the 1970s and 1980s. We have a project that started with Bridgend Council and now is supported by the Welsh Government. Essentially, we can decarbonise the electricity in its totality, using a combination of a 1.5 MW wind farm, 1.5 MW of batteries and something between 0.5 and 1 MW of PV. The problem is the surplus electricity. That will be absorbed by an electrolyser. The electrolyser will then produce hydrogen for injection into the gas system, to decarbonise the local tarmac quarry and to decarbonise diesel transport. You may not have heard of the company called ULEMCo based in Liverpool. It converts



HOUSE OF COMMONS

diesels to burn hydrogen, a great British success story that nobody has ever heard of.

On the efficiency, PEM—proton exchange membrane—electrolyser efficiency is around 70% to 73%. The 27% that is not turned into hydrogen energy is useful heat at 60°C. Our plan, given that there is an old people's home in this place, is to use that 60°C heat to heat the old people's home. However, it does not just need to be like that. If you had, for example, electrolyzers built next to a grid supply point—maybe you have 100 MW—if it was me, farmland, I would build a greenhouse.

Q244 Mark Garnier: What you are saying is that you cannot get away from that, but the energy is coming out in a different form and you use that energy in a different form.

Mike Parr: Yes.

Q245 Mark Garnier: This is fascinating but I am conscious that I have only seven minutes and we are going into theoretical stuff. Ian Lawrie, a bit earlier you were talking about the whole issue of how we stabilise the grid. What Mike Parr was saying sounds great on a small basis, but what are the technologies that you could use on a big grid-scale basis?

Ian Lawrie: Battery storage has to be one of the biggest to stabilise the grid. We originally started out with solar and now it is solar and batteries. We have 8 GW of solar in the pipeline and we have 12 GW of batteries. The batteries are going to be one of the big things to help with—

Q246 Mark Garnier: Let's assume you have a very, very bright day and you have fully charged those batteries and then it goes into night. How long were those batteries last?

Ian Lawrie: You can have either one, two, three or four-hour systems.

Mark Garnier: Not long.

Ian Lawrie: We are putting in our planning application now for four-hour battery systems.

Kevin O'Donovan: This is where I compliment the UK and DESNZ for looking at that bigger picture that you are getting towards, which is the long-duration electricity storage, LDES. There was a consultation paper that came out, I think early last week, and is an important next step in looking at that bigger picture. As Ian says, there is a lot of activity and our companies are developing two-hour and four-hour storage batteries. They play a role in the system. Then you need longer duration to deal with longer periods of no wind and so forth. We have a 450 MW, 10-hour storage duration pumped hydro project in Scotland.

Q247 Mark Garnier: Things like inertia wheels and generators and that kind of thing?

Kevin O'Donovan: Yes, we also built the first inertia—what we call zero carbon technology: it is a large flywheel that takes the power in from the grid to keep the grid stable. That is up in Keith, near Elgin in Scotland.



Q248 **Mark Garnier:** They used one of those down in Culham to power up the nuclear fusion centre. They used one of those to stabilise the grid down there.

Kevin O'Donovan: Yes, it is a technology that is being rolled out. National Grid did a good job there with its pathfinder scheme where it encouraged these non-fossil fuel technologies to provide the grid services. I would like to pick that as an example of how we be careful. We do not go into a very theoretical or hypothetical discussion about where hydrogen and other technologies can take us. What was quite good about the policy that came out was that it dealt with the here and now and the future. It had stream 1, which is normal technologies like pumped hydro, and then it had stream 2, which is longer-term flow batteries or compressed air storage.

My point on that is that this is good and we got the policy out. It was about nine months late coming out and now the consultation deadline is March and the aspiration is to put the scheme in place for stream 1 technologies by the end of the year. That is what we need to deliver on and that is what you as a Committee need to focus on in your recommendations—delivery on time and do these things so that these technologies can be built. We are making investment decisions—

Mike Parr: Again, I am sorry to be the dissenting voice. These are facts, so I am not giving you my opinion here. Surplus electricity from renewables increases non-linearly for any electrical system. It is very easy to prove, whether it is a primary substation or a country.

Putting this on a country basis so that you understand the scale of it, if Germany meets its ambitions for 2030, it will be trying to store surplus electricity of about 1.2 TW hours from time to time in May and September. If you hit 80% absorbed electricity from renewables—yes, I know, but it is a very important point. Batteries will not do it; it is impossible.

Mark Garnier: They are part of the solution.

Mike Parr: I am not saying that they are not but you are living in fantasy land if you think that you will get to 80% renewable electricity into the system and you do not have a viable form of bulk storage.

Q249 **Vicky Ford:** Before I start, Chair, I am very aware that I am the only woman on this Committee and we have all-male panels today. I do not have time to discuss this because we have some important issues, but it is not acceptable. The two Clerks who have been working on this are excellent, talented, experienced women and there are excellent, talented, experienced women in the energy industry. I would like to ask all of our panellists to write separately to me and to you, Chair, about what they are doing about diversity in the industry.

Ian Lawrie: Fifty per cent of our staff are women.

Vicky Ford: I do not have time to discuss it now and I do not want you



HOUSE OF COMMONS

to go like this with a statement. I have asked you to write formally. Thank you.

My questions are on barriers to renewable energy development, and I want to come up with specific recommendations that we can make. Before I start, Kevin, you cover Ireland as well. We have not discussed and our questions do not cover whether or not you can manage the demand of large users. There was a story in the press over the weekend about data centres in Ireland having to have renewable energy onsite so that that is their source. Should the UK be looking at that model from Ireland? Quickly.

Kevin O'Donovan: Partly. I do not think that it is the ultimate solution there. Data centres take a far higher proportion of the overall energy generation than in the UK. However, what is important is what they call demand-side management so that we can manage our system better with these large energy consumers when there are issues with the grid because of generation or faults or whatever, so that we can call on that extra capacity to be used.

Q250 **Vicky Ford:** The bigger point is to put high use close to where there is spare energy and finding out where you have spare energy to put users there, which is the point Mark keeps making, is an important part.

Kevin O'Donovan: This is the change in approach. It is not business as usual with system operators, whether at national or local level. They need to be given clear guidance that they need to start looking at outside-the-box solutions and not business as usual.

Q251 **Vicky Ford:** I am going to come on to my questions now. People have written to us saying that there are effectively three types of barriers—clearer planning policy, reforming community benefits and better resourcing of public bodies. Which of those three is the most important or are they all important?

Ian Lawrie: If you resource the public bodies better, the planning will come quicker. The timelines have slipped in a lot of the local planning and the national infrastructure planning.

Q252 **Vicky Ford:** Do the others agree with that?

Kevin O'Donovan: Yes, I would put resourcing as number one.

Q253 **Vicky Ford:** On the issue of community benefits, local government witnesses have told us that they cannot take into account community benefits in the planning decisions. The Supreme Court made it clear that payments of benefits to communities cannot, as a matter of law, be taken into the planning balance. Do we need to change that? Should we be asking the Government for primary legislation to change that?

Kevin O'Donovan: We need to be careful there. Community benefit is vital and it is the only way that we will be able to develop our projects successfully. However, it is dangerous to have a situation where maybe one project can bid more than another, because that is where problems



HOUSE OF COMMONS

come. I am far more supportive of, across the board, depending on the scale, there is a required amount of what they have to do for community benefit. It takes it away from being a controversial issue or a competitive issue and it is just what we do. That would work well, I would say.

Mike Parr: If you build a wind farm in Denmark, locals get 20% of the equity. Typically when you are building renewables there is a balance of about 80% debt to 20% equity. The locals get 20% of that equity by law. There is no tokenism, there is no little donation here or little donation there—build a bus station. They actually get a piece of the action.

Q254 **Vicky Ford:** Therefore, they have skin in the game.

Mike Parr: Yes, that is the way forward. Denmark has been very successful with renewables and the people support it because many of them have a piece of the action.

Chair: I can see Kevin is going a bit—but what I love is that you are giving us examples from other countries that we can look at.

Mike Parr: They like it because they have a piece of the action.

Kevin O'Donovan: No, no, it is not that. If we do community benefits or a community ownership aspect to a project, what we have found is: how do you set it up, who can invest in it or not, who in the community can own part of it, and at what stage do they own part of it? Is it when it is in development? As we were discussing earlier, ours is a tough game. They cannot and will not, and I do not think communities should have that risk. There is a strong chance that community ownership could result in even more controversy and splitting of communities. It is very dangerous.

Q255 **Vicky Ford:** I think that you are both agreeing that we do need to change the way that community benefits are looked at in the planning system. Community benefits can help to bring people on board; there is a lot of nodding of heads there. However, we need to be careful that it does not turn into a bidding war with adverse consequences. Mike has suggested looking at models from other countries where every provider would have to pay a similar sort of community benefit to stop that bidding war. Do you all agree on that?

Kevin O'Donovan: I do agree, and a community benefit has to be a benefit that the community can get at. If you give them equity in it, how do they realise the equity?

Q256 **Vicky Ford:** Or a share in the profits or whatever. The gentlemen ran a bit late, I am going to run a bit late, and I make no apologies for taking some time to talk about diversity before I started my questions.

In answer to Barry's question, you spoke about the need for the Government to have a clear plan. Kevin, you also mentioned the need to explain to the public more clearly what the plan is to try to bring them on board. Do we need to have a national information campaign to explain why renewables are so key to our future and to energy security, stability



HOUSE OF COMMONS

and so on? Are there any countries that we think we should look at to model that on?

Kevin O'Donovan: First, what you are suggesting—that big picture plan that we can explain to people—is vital, because decarbonisation is going to be tough. It will require us to build infrastructure that people are not going to be used to.

Vicky Ford: It is not just the plan; it is the communication.

Kevin O'Donovan: Yes. Why are we doing this? Why are we building lines here? Why are we building new wind farms and solar farms and battery projects? People need to be brought on the journey: this is part of the ultimate plan of decarbonising the grid system in the UK and achieving net zero and addressing climate change.

Ian Lawrie: There is a huge amount of consultation with the local communities when you get a planning application through a local area. As part of the answer, if a project is really well done, you have to put in a lot of tell, tell, tell.

Vicky Ford: That is local.

Ian Lawrie: That is my point. On the national level, we did a video with Martin Clunes, who is a farmer himself, taking him to some of our sites, talking to the farmer, explaining why he put the solar farm on it, explaining the benefits that have come to the farmer, why it is there and what it has allowed him to do. Farmers are putting solar on their land because it is another form of income that assures them against climate change when they lose a crop because of floods or drought. They rely on that income so that they can continue to farm. It is that information to get out nationally.

We did a lot of focus groups around the country at our own expense. One of the most amazing things we found was that people thought that solar was expensive because they were going to put it on their roof and how long it would take to give them a return. Comparing rooftop solar with ground-mounted solar is like comparing a pint of Guinness with an apple. They are not in the same business.

Chair: Which would you prefer to have?

Ian Lawrie: It is much cheaper to do groundwork solar—it is much cheaper electricity—but the perception of people was that solar is expensive because you put it on the roof. That is not the case compared with ground-mounted, which is what we are talking about here, and large-scale commercial solar. It is that sort of information. We have done the research and we can share it with the Committee, and those focus groups have been carried out.

Chair: I appreciate that.

Q257 **Derek Thomas:** Is the allocation of grid connections also adversely



HOUSE OF COMMONS

impacted by the skill shortages?

Kevin O'Donovan: Yes, I think so.

Mike Parr: I can give you some anecdotal evidence if that is helpful. I worked with Hitachi—not for it but with it—in 2012. We had a project running with one of the DNOs and it wanted to hire an electrical engineer. We advertised and interviewed a number of electrical engineers. There was one British guy who we interviewed. He graduated in the late 1980s and he said to us, “I was the only one that graduated and became an electrical engineer out of my cohort. Everybody else went to the City.” One of the problems that you are facing is that electrical engineers are absorbed by the DNO and National Grid, quite rightly. There are not a lot of people swimming around as electrical engineers outside of that, when we speak to suppliers. We build projects and we contract with suppliers to supply us transformers and cables and things. They have great difficulty speaking to the DNOs even when the DNO has a contract with them to supply equipment. They say, “They never pick the phone up”.

There is a serious shortage. All my cohort took early retirement. I still do it because I enjoy electrical engineering, believe it or not. However, everybody else retired at 60—I am 67. They have all disappeared off the map. Therefore, yes, there is a shortage. We are interviewing for an electrical engineer in Challoch now. We had 27 applications, one was a woman and all 27 were non-British.

Q258 **Derek Thomas:** Kevin, can I pick you up on something slightly different but the same subject? The Government have the upcoming green jobs plan. What specific outcomes are you looking for from that or commitments in that?

Kevin O'Donovan: First I would like to put this in a bigger context. There is a war for talent across Europe for the resources that we need to develop the grid system and our renewable projects. The example that Mike gave there is something that we see. There are not that many UK-based applicants going for some of those jobs, so that is something that we are seeing. However, quite a lot of what is required here—and it is going to take quite a while to happen—is to promote the need for younger people, male and female, to see the opportunities in the renewable sector and in the engineering sector that are there for decades. The green jobs plan has to have a strong emphasis on that. It has to have the emphasis that students coming out of second level and going to third level have the focus of wanting to work in the renewable sector.

I always go back to the student protests every Friday or whatever in all the different countries. All those people were roaring for change and they want change. I would love them to understand that the way they can make a difference themselves is by going into these careers. There is also a good opportunity for better gender diversity in that area if we work at that second level with the students now. The green jobs plan, for me, has to deal with all the current problems but one of the important things that



HOUSE OF COMMONS

it has to deal with is getting the generation who are there now who, as we know from the student protests and in general from research, are mobilised by the climate change piece. That is where there is an important piece of work.

Q259 Derek Thomas: My question is about diversity. I still want you to do what Vicky has asked and respond in writing. Ian, is lack of diversity a real challenge and a real problem in the skillset that you have, and what are you doing to try to address it?

Ian Lawrie: No, as I said, we are at least 50:50 male/female in the office. As a proud father of three daughters, I am very much for diversity. You feel my pain.

Chair: I am sure you are ambitious for them.

Ian Lawrie: They are very ambitious girls, all three of them. I am very proud of all three of them.

Our office is as diverse as you can get. We have 50:50, and probably more, male to female. We have a Latin quarter, as we call it, which is our design team, who are a Sardinian, an Italian and a guy from Uruguay. We have people from all over the world. We even employ Irish people. We do not have any from Mexico—we have Uruguay, so we are in the right neck of the woods. We even employ Irish people, and you know how difficult they are to deal with. I do not see diversity as a problem.

One of the things that we are seeing is that if you look at the universities and the courses that are filling up, a lot of the younger people want to get into renewables. I was having a pint after the match on Saturday in Dublin and my friend came along. His son is doing a master's in renewables and he was asking where he would go. His class is full to overflowing. Definitely in the generation that is leaving college now there is a big push to do that, so they are coming through. It seems a sexy place to be and it is where everybody wants to go. Therefore, the talent will come through but we have to give it time.

You asked about grid connection and were we struggling for resource. We are getting our grid connection offers and we are getting them at a speed that we would expect. There is a certain timeline and we are there delivering on time with the National Grid and DNOs. They may not be the offers that we want but we are getting the offers. We find that they are under-resourced when it comes to the point where we are getting ready to connect. That is where at both the National Grid and DNO level they are struggling with man-hours. It is because of early retirement and so on. There probably has been a gap where people did not get into that space and now they are. Younger people are going to move much more forward and it is good for them because they are coming in and they see that there is a genuine path to move forward very quickly and move up in seniority that they probably would not get in finance.

Q260 Mick Whitley: You said that you interviewed 27 people and one was a woman. Did the alarm bells start ringing about how can we get more



HOUSE OF COMMONS

diversity into the industry?

Mike Parr: Yes, but we already have a 50:50 split in the company. Yes, indeed. You start to wonder, "Where are all the women engineers?" My niece is a civil engineer. I am not in a position to do anything about it, but I can comment that indeed it is a problem. I have worked with a number of really good women engineers and they brought something to the party that sometimes the guys did not. That aspect is missing as well. We will get a more interesting solution.

Q261 **Mick Whitley:** On that particular example, what can the Government do to enhance women coming through more quickly?

Mike Parr: This is politically incorrect, but personally I would say, "Right, engineering is free at university. There you go—free."

Ian Lawrie: You are also in a situation where certain parts of our industry, from my own office, are predominantly female or male. You can try to fight the natural selection that females and males make about a career, but if the overall thing is that we have a good gender balance, that is more important rather than whether it is career-specific.

Chair: Lloyd Russell-Moyle, I will give you seven minutes.

Q262 **Lloyd Russell-Moyle:** Mike, we have seen some evidence around flawed connection decisions. You have talked about how sometimes it can seem arbitrary. How can we resolve this? Do we have an appeals process where you could challenge it, or does that delay things more? Do you need some separation of where the decisions are being made and the actual operator is delivering? How do we sort this out?

Mike Parr: I can respond in a phrase: what is sauce for the goose is sauce for the gander. The Government have made the decision that they are going to split National Grid into an asset body and it will be a Government-owned systems operator. The logic for that is very strong. That logic also applies to the DNOs. I am sorry to say it, but the DNOs are profit-maximising monopolies, as was National Grid. If knowledge is power, if you know what the network is doing, if you control that network, you control everything. The Government—I am dead serious—need to say that if they are going to split up National Grid on an SO basis, they need to do exactly the same to the DNOs. At the moment there is a synthetic split between a DSO systems operator and the asset part. The idea that these will not collaborate and—I will not say cook the books, but cook the system; they will.

Q263 **Lloyd Russell-Moyle:** Therefore, you think that there should be a separation like we have seen with National Grid. You said about information being power. Is it that we have to make sure that that information is held in the public domain so that a systems operator is in the public domain for every other operator?

Mike Parr: Yes, the network—once you are at the primary sub and above, there is plenty of data. That should all be publicly available, no questions about it. There is not even a competition issue about this. We



HOUSE OF COMMONS

are talking about de facto monopolies. Releasing their data has no impact on the monopoly status. A competitor is not going to use it.

Kevin O'Donovan: An appeals process, if done in the right way, could help. I still go back to the fundamental of the plan and the resources in the national system operator, but I do agree with Mike on the DNO level as well. That is the No. 1 priority here because, frankly, if we have an appeals process, that puts even more of a workload on to the system operator and the DNOs, it is going to slow us down more. Yes, it could be a good discipline to have there to ensure that some of the issues that Mike was describing do not happen, but it is still back to having enough people and a big enough commitment to turn things around faster and to look outside the box with how they do grid connections.

Lloyd Russell-Moyle: You need to get it operating right in the first place.

Kevin O'Donovan: Exactly. As someone who has developed renewables now for going on 24 years, as a developer I become a lot more worn down and less aspirational. One of the things that I have learnt is that the ideal plan and the perfect solution is admirable to look for, but at the end of the day we have to get going and keep moving forward. Therefore, as you say, if the existing systems, the existing functions that are there, are resourced better and given more direction on their obligations, that would be a very good first step.

Q264 **Lloyd Russell-Moyle:** There is something about obligations here and the formal mandate of DNOs. Do we need to look at that formal mandate so that they have a legal mandate to co-operate with developers and projects to find creative solutions?

Kevin O'Donovan: Yes.

Lloyd Russell-Moyle: We need to change that bit.

Kevin O'Donovan: I believe that strongly.

Ian Lawrie: It is already there. They have to give you the lowest cost to connection. That is in their mandate.

Kevin O'Donovan: No, but that is individually. What I am talking about is their overall targets and what they have to achieve. If their mandate is that they have to put the infrastructure and the connections in place to achieve the 2030 targets and the net zero targets, that changes the complete mindset. That is how it works with engineers. Give them a problem, tell them what they have to do and they will create solutions. The overall mandate is the challenge.

Ian Lawrie: As far as I know, the DNOs are on an agreed return on their capital invested, and that is the maximum that they can make. I do not think that the DNOs would have any problem in investing more money because they have an agreed capital that is greater than they would make on deposit, so I do not think that that is the problem.



HOUSE OF COMMONS

We have great connections for all our projects. We do not start into the planning process—we have focused here a lot on grid connection but we have grid connections and mostly we can get a grid connection. It is getting through the planning process that is our most difficult task. That is what is taking up our resources.

Q265 **Lloyd Russell-Moyle:** When you say the planning process, do you mean the local planning process?

Ian Lawrie: Both. If you check timelines on what it should take and what it does take, the local planning is taking much longer. It should take 16 weeks and it is taking a year. If they ask for an extension, the gun is held to your head—"If you don't give it, we'll just refuse planning." You want to keep the lights on—that is what this Committee and everyone's focus is. It is not just green; it is because there is a war in Russia—there is no gas and Britain wants to keep the lights on. That is why the whole idea of how we are going to get renewables has become more and more important. In doing that, we need to focus on how we are going to get it on to the grid, not just the grid connection. That is why we need the planning process to—

Lloyd Russell-Moyle: Mike, I will come back to you; you have about 40 seconds or a minute.

Mike Parr: It comes down to: if it is good enough for National Grid to split out the systems operator function, it has to be applied to the DNOs. If you want to see some honesty in the process, you have to do that.

Chair: Thank you all very much, and thank you, panel. That was an interesting, informative and useful session. The big question is still hanging: do we prefer an apple or a Guinness? We will maybe go to Mexico for the answers. Thank you, all. *[Interruption.]* "Sol beer," I am hearing from Mexico. I do not know if you prefer a Guinness or a Sol beer. We are getting too much on alcohol. We will stick with fruit for this time of the morning. We will come down on the side of the apple.

I thank Ian Lawrie, Kevin O'Donovan and Mike Parr very much for being with us this morning? I invite the second panel to come along next. Thank you.

Examination of witnesses

Witnesses: Keith Anderson, Professor Keith Bell and Barney Wharton.

Q266 **Chair:** We are back with the second panel. Please introduce yourselves with your name, rank and serial number again, starting on my left.

Keith Anderson: I am Keith Anderson, the Chief Executive of ScottishPower.

Chair: It is good to see you again, Keith.

Professor Bell: Good morning. I am Keith Bell. I am from the University of Strathclyde and am here representing the UK Energy Research Centre.



HOUSE OF COMMONS

Chair: Keiths are like buses here at the moment. Thank you.

Barney Wharton: Good morning. Barney Wharton. I am the Director of Future Electricity Systems at RenewableUK.

Q267 **Chair:** Thank you all very much. Before I get into the meat of this session, with ScottishPower here, I am sure you are aware that there is controversy with ScottishPower around the prepayment meters. You are one of three companies that are allowed to put prepayment meters in. Octopus Power said they are not. Will ScottishPower put in prepayment meters to people's houses against their will?

Keith Anderson: Prepayment meters are a very important part of the system. We have been through the process with Ofgem and have done all the checks with Ofgem. Ofgem have signed off all our procedures as being compliant, so we will look to start reinstalling prepayment meters.

Q268 **Chair:** What are the consequences for customers who cannot pay for these prepayment meters?

Keith Anderson: Part of the process we go through is an assessment for every customer. We go through a process for their ability to pay. We contact and speak to the customer. The biggest concern or issue we have is where customers will not speak to us or do not speak to us. We now go through at least 10 attempts to make contact or communication with the customer to understand their circumstances. There are then safeguards put in place in agreement with Ofgem.

Q269 **Chair:** Would you put them in for customers with mental health issues?

Keith Anderson: No, and part of the process has been agreed and signed off with Ofgem. If there is somebody over the age of 75 in the house, no meter is fitted. If there is a child under the age of two in the house, no meter is fitted. If there is a vulnerability listed, such as mental health or disability, no meter is fitted. There is a whole lot of safeguards built into the process.

Q270 **Chair:** These prepayment meters automatically disconnect people and people are left without power. What is the—

Keith Anderson: Anytime we install a prepayment meter, we put credit on the meter to help the customer to start with. The customer has the ability to contact us. If they look like they are about to self-disconnect, because we are installing smart meters now, we can see and trace the usage of the meter, we can see the amount of money on the meter, and that also allows us to contact the customer to help the customer as well.

Q271 **Chair:** The customers getting meters could be self-disconnected and could be without power, potentially?

Keith Anderson: We would normally, through contact with the customer, look at what is happening with them. We will help put them in contact with a whole lot of independent agencies as well. If necessary, we will put credit back on the meter.



HOUSE OF COMMONS

Q272 **Chair:** So nobody should be disconnected?

Keith Anderson: We would never allow somebody to be disconnected. For example, if the meter ran out after 8 pm or overnight we would not allow that to be self-disconnected. We would contact the customer again in the morning to work out what is happening and what is going on.

Q273 **Chair:** Are these meters being put into poor households? What sort of households?

Keith Anderson: We look at the payment history of a person. We do not look at the income category necessarily. It is not that the meters only go into poor households or middle-class households.

Chair: They could go into poor households.

Keith Anderson: They could go into poor households, they could go into middle-income households; they could go into any household. There are a lot of people who choose to have a prepayment meter as well. In fact, for the majority of prepayment meters we have, the customer has chosen to have a prepayment meter.

Q274 **Chair:** How much are you hoping to make back from these customers? How much are they typically in debt?

Keith Anderson: Prepayment meters, from our perspective, are predominantly not a great way of recovery. They are a way to help manage the debt not get any worse. The recovery through a prepayment meter takes years and years.

Q275 **Chair:** Final question. What were the profits of ScottishPower last year?

Keith Anderson: For the whole company or for the retail business?

Chair: For the whole company and the retail business.

Keith Anderson: For the whole company, the net income level, if I remember correctly, in 2022 would be about £700 million. Our retail business was loss-making. Our retail business was loss-making the year before that and also the year before that.

Chair: And in 2023?

Keith Anderson: We have not issued our accounts yet.

Q276 **Chair:** I see an article here from *City A.M.* saying, "The big six energy company, which is ScottishPower, home to 4.6 million customers, posted a 58% year-on-year increase in pre-tax profits, which rose from £481 million to £1.16 billion".

Keith Anderson: When was this, sorry?

Chair: This was an article from Thursday 3 July 2023 on *City A.M.*

Keith Anderson: Was that the half-year results?



HOUSE OF COMMONS

Chair: Yes, it was the first six months of 2023.

Keith Anderson: Yes. We had a profit in the first six months but our year-end results for 2023 will be published in February.

Q277 **Chair:** Okay, so the profits are hundreds of millions the power company makes annually.

Keith Anderson: Yes, but the majority of our profit comes from our networks business and our renewables business.

Chair: Quickly, Lloyd Russell-Moyle, do you want to come in at this? Be brief, please.

Q278 **Lloyd Russell-Moyle:** You do not install them for groups of people—pregnant, disabled, and so on.

Keith Anderson: There are very specific rules with Ofgem.

Q279 **Lloyd Russell-Moyle:** What if someone who has had it installed forcefully then falls into that list? Do you take it away or are they lumbered with that so that they are then suffering?

Keith Anderson: Predominantly the vast majority of meters we install now are smart meters.

Lloyd Russell-Moyle: They all should be, surely.

Keith Anderson: Yes. It would be very rare for us not to install a smart meter. Smart meters have the capability of being a prepayment meter or a normal meter.

Q280 **Lloyd Russell-Moyle:** If they ring up and say, “I now have a child or I am disabled or something has happened to me”, do you turn off the prepayment part of the meter and put them back onto billing?

Keith Anderson: We would not necessarily turn off the prepayment meter.

Q281 **Lloyd Russell-Moyle:** So it is a one-way track?

Keith Anderson: No. We have a conversation with the customer to understand the customer’s circumstances, what difficulties the customer has and if the customer has issues. We have to do this individual by individual. Although there are rules and guidelines, we look to treat each customer as an individual and understand their individual concerns and problems.

Lloyd Russell-Moyle: It would be nice to know if you ever do go the other way and to outline that process.

Q282 **Chair:** Moving on and moving back to the track, do you think the Government should encourage anticipatory investment in transmission infrastructure and a more realistic offshore co-ordination of that infrastructure as well? Keith, would you like to come in again?



HOUSE OF COMMONS

Keith Anderson: If you go back five years, there was a massive call to look at doing more anticipatory investment. Five, 10, 15 years before that, a lot of the investment was around care and maintenance into the grid system. We were one of the companies, along with others, pushing to say to the regulator that we need to start investing ahead of time because we need to get the network prepared and redesigned for the influx of renewables for the electrification of transport and the heating system.

Ofgem have now started to do that. It has changed the regulatory settlements for the future of the distribution system and also for the future of the transmission system. We have seen a big lift-up in the level of investment coming through that is now allowed to go into transmission and distribution. There was a huge review done last year, called “The Holistic Network Design”, that identified the most strategic future transmission assets and Ofgem have brought in a new mechanism called ASTI—the Accelerated Strategic Transmission Investment—that allows the investment to go into those assets. You now see huge investment into the HVDC subsea cables, and we are seeing a big investment come forward to look at building all these strategically important transmission lines.

The biggest challenge now is speed. How do we get this done and delivered quickly? How do we get it through the planning system quickly? How do we get community buy-in to do all this and build all this infrastructure?

Q283 **Chair:** Professor Bell, should that accelerated strategic investment framework be expanded more widely for a more permanent change in approach, do you think?

Professor Bell: Yes. The changes that Keith has outlined are long overdue. Let us at least give some credit that these changes have happened and we are in a much better place now than we were. We are still not without challenges. Ofgem is still reserving the right to have its own consideration of projects that will be developed post-2030. That is still not very far away, actually.

There is also still a lot of interest from both Ofgem and the Government in extending the remit of competition in the delivery—not just the delivery but also the design—of transmission network reinforcements. There is the potential for whatever mechanism is put in place for that to introduce more delay. I think that it is a crucial point that has been made already about the need for pace. I think it was someone from the National Infrastructure Commission put it quite nicely. We are in a position now looking for pace rather than perfection, noting that there is already competition in the delivery of network assets. It needs a lot of careful and rapid consideration by Ofgem and the Government about what extra benefits would come about from further changes to the competition arrangements.

Q284 **Chair:** Thank you. Barney Wharton, you are the Director of Future



HOUSE OF COMMONS

Electricity Systems at RenewableUK. With that in mind, how can Government leadership ensure that strategic spatial planning does not give rise to connection delays going forward?

Barney Wharton: The strategic spatial energy plan should resolve the connection delays. One of the primary causes of delays to connections is the failure to build the necessary network to enable projects to get the power to where it is needed. If we can bring forward a strategic plan that sets out what we will build, which assets we will build, where and when, that should give developers of projects an idea of what is happening and get those projects online and connected to much more quickly. Hopefully those two things go hand in hand.

Q285 **Mick Whitley:** What Government actions are most needed to support the implementation of the local area energy plans by local authorities digging holes in communities?

Keith Anderson: I suppose that at a high level the simple answer is that we need investment in everything, more action in everything and more speed in everything, whether that is speed through the planning system, at national assets, at local assets. We just want speed and we need momentum. Local systems are significant and important, whether those are local systems around heat management, energy usage and so on. Having that insight into what local authorities want to do, what local communities want to do and how that interacts with the distribution system becomes incredibly important.

In our distribution areas, we have been doing a huge amount of work with towns, local councils and local cities around what they need and they require. One of the things we constantly said to Ofgem was that the more we decentralise the decision making and involve the local community, whether that is mayors, town planning or local councils, in the design and delivery of the distribution system—so the more you devolve that away and get those bodies involved—the better. If you go back, traditionally this was a discussion and decision that was made between Ofgem, distribution companies, transmission companies and planning organisations without any real input at a local level. That is critical. The more we push down that route—the more the system gets designed for the needs of the local city and the local area—the better. That then becomes very important when you start talking about spatial planning and community benefit.

If you truly want community benefit from all this investment, we need to understand what local communities want and need. We should be getting economic growth. To me, that is one of the biggest benefits. Out of all this investment that needs to come forward in the transmission and the distribution system, as well as delivering net zero, it is critical for the economic growth of this country. If we want to have more housing, more factories, gigafactories, and data centres, that economic growth only comes if we invest in this network and build out the network system. It is absolutely vital.



HOUSE OF COMMONS

Professor Bell: I would like to comment on that. It is absolutely essential that the way the energy system develops is right for that local area. The geographies vary from densely populated urban areas where heat networks would seem to be a really effective solution but have their own regulatory and commercial challenges, to other areas where there is new housing being built that has to be built to the right standards from the beginning. Retrofit is much more expensive. Local authorities are a key party, obviously, in engaging in that and saying what the right solution is for that area.

What my colleagues in UK Energy Research Centre and I have heard myself in talking with various local authorities is that there is a wide variation in the capacity and the capability, by virtue of where they have come from and the level of expertise, but especially to do with the funding. A big challenge, as I understand, is the stop-start nature of funding. It is difficult to build up the capacity and plans and deliver on them with that degree of confidence.

A lot of local authorities have been developing local area energy plans, sometimes with funding from Government to facilitate consultants coming in and doing that. There is still then a challenge about how you deliver it. A lot of responsibilities are, of course, disaggregated. Private developers can do their own thing, private householders, social landlords, and so on. The incentive to coalesce around an energy plan that seems right locally is important, but of course the degree of choice comes up in this. I do not know if it was your Committee or a predecessor along with other Select Committees, but there was some good work on citizens assemblies a couple of years ago. A powerful, important message that came out of that was about people being able to exercise some choice about what energy solutions they have. However, something such as a heat network depends on a certain mass take-up—a certain kind of body—which means that maybe not everybody in the end does have a choice. What seems right collectively is not necessarily what individuals want. The democratic process is hugely important in giving legitimacy to that choice about what goes forward.

Q286 **Mick Whitley:** I have a couple of supplementaries on that—I am aware of the time. Should the UK Government formally adopt local area planning as a nationally endorsed model, mirroring the approaches taken in Scotland and Wales?

Professor Bell: Yes, in a nutshell. Yes, absolutely. Again, the means of delivering that is important.

Mick Whitley: I also say that because he is the Chair.

Barney Wharton: Yes. Taking an example from previous years, if you are planning for onshore wind, for example, one of the requirements is that the local authority has done an assessment of suitability for onshore wind. Very few local authorities have done that because they do not have the capacity and capability to deliver what is quite a detailed and complicated programme. I think that there is a case for ensuring that



HOUSE OF COMMONS

local authorities have the capacity and capability to do it and, if necessary, almost mandate it, but it needs to be supported with the funding and resourcing to deliver it. Absolutely, I think that is the direction we should go.

Professor Bell: By the way, I will just add, be careful of always thinking the grass is greener over there. It is not necessarily that this is all working very effectively and straightforwardly in Scotland. There are very similar challenges.

Q287 **Alexander Stafford:** The Government, Ofgem and ESO have made very detailed proposals for long-term reform of the connection process. What are the biggest risks to the implementation and the timescales?

Barney Wharton: It is a huge programme of reform. If you look at what the ESO has given itself to do over the next year, it is something like one milestone has to be delivered every week for the next six months. It is ensuring that they maintain the pace that they have already delivered and look at what has happened already in the past year. A huge amount has been delivered by DESNZ, Ofgem, and the ESO, but we need to maintain that pace because the programme of reform and delivery is huge. It is holding everyone's feet to the fire to make sure they commit to that and also that industry can support and respond to the consultations necessary.

Professor Bell: I would love to hear a comeback for that phrase "keep the feet to the fire", which Lord Deben was very keen to use when he was chair of the Climate Change Committee, but it is absolutely right. It all has to move forward. I understand from talking to people in the ESO or connected with it is that there is the potential for legal challenge to this process of weeding out the—what was the term used earlier?—squatter connection applications. I think Mr Pawsey or Mr Garnier made the point earlier that you might have a project that you regard as viable, it is a commercial asset and if you get thrown out, you will challenge that. It will be up for discovery how the appeals process will stack up along with whatever process the ESO will use for sifting that connection queue.

Barney Wharton: An important point as well is that in this process of weeding out squatters it is worth bearing in mind that the contract between the developer and the ESO is a two-way contract. While the ESO may be looking to weed out the squatters, if you are a squatter and you are not meeting your obligations to deliver your project on time, there are actions that can be taken. I think that is one of the routes that the ESO is looking at—identifying those companies or projects that will not meet their own obligations under this contract and asking them if they are going to be able to do it and, if not, you need to consider what you will do as a project. That is an important aspect to it. That legal challenge thing is critical but quite nuanced.

Q288 **Alexander Stafford:** I think that Professor Bell says the legal challenges are the biggest risks to this going out. Is that your feeling as well? You highlighted that there are so many milestones, one a week over six



HOUSE OF COMMONS

months. How realistic is it that this will be achieved?

Barney Wharton: I think that it is absolutely doable. I think it is realistic that it can be done, but it requires everyone to keep on it. My concern is that it is a marathon not a sprint and we need to maintain that steady pace.

Professor Bell: I think that you are right to ask the question. To be honest, the industry does not have a great record of working at pace. The connection reform should have come in a long time ago. It has been talked about for most of my career, actually, and we have not got around to doing very much. The modification of the "Connection and Use of System Code" was proposed in July 2021, I think, and was only approved by Ofgem in November last year. That gives you a flavour of how long things tend to take in the sector.

Q289 **Alexander Stafford:** What are the risks if timescales are not hit? What is the actual risk when it comes to going to our net zero aspects for the economy? What is the risk?

Professor Bell: You are quite right. There is a risk to meeting the target. The Government have a target of a fully decarbonised electricity system by 2035. The current Government also talk about largely decarbonising by 2030. These are ambitious targets that should be achievable if we get everything aligned in the right way. Of course, we have the possibility that we do not do that, that we do not meet the 50 GW of offshore wind by 2030, the 75 GW of solar PV by 2035 and so on—70 GW, whatever it is. We have all of that, but of course it knocks on into the whole supply chain as well. To deliver all of this new infrastructure requires investment in manufacturing capability and the construction capabilities. All the delays knock on and undermine investment in capacity. That is, of course, one of the things that as a nation we should look at. A lot of the supply chain benefits also accrue to communities in this country. It will be difficult to make that investment if there is uncertainty about the timelines.

Keith Anderson: Speed of planning and speed of the queue are the two most critical deliverable things. People often talk about the connection of renewables and it is incredibly important for renewables. Part of the reason that I think the Government have become more active in this is because they are starting to realise and understand the impact on economic development. If you have investors coming to the UK to say, "I would like to open a data centre, I would like to open a gigafactory," and they are told that they cannot get a grid connection until 2034, the money will go somewhere else. It is critical to get to net zero but it is also critical for the economy. We need to clear that queue out quickly.

Q290 **Alexander Stafford:** Have you seen tangible examples of investors coming to the UK looking to invest in the UK but because of the process, because they do not have faith in the rollout, they are moving back from investments, or is it still hypothetical?



HOUSE OF COMMONS

Keith Anderson: Some of it is hypothetical, but—I think this came up in the previous panel; somebody had asked—if I am looking at a connection for an offshore wind farm and get told the connection date is 2034, I will not spend any money now. If I am looking to invest £2 billion, the £2 billion will not be spent now. It will be spent in eight years' time. Everything slows down.

Professor Bell: There is an example. Was it the offshore wind farm from Vattenfall? There was some publicity in the autumn and then they pulled out from the development. There are some examples out there.

Barney Wharton: There was a data centre in west London that was looking to connect and I think they then saw that there was no longer any capacity on the grid or they were given such a long lead time that they have gone elsewhere. There are examples. I think the challenge that we have as a trade association is that if there are examples like that, they probably leave the country before they get in touch with us.

Q291 **Mark Pawsey:** Professor Bell touched on the issue I wanted to raise, which is supply chain constraints. Clearly, if we attend to the planning and we have a programme of upgrade, suppliers of materials can know that there is a market available. However, there is competition all around the world for these things. Other countries are doing the same thing. How serious is that as an impediment to getting an upgraded grid? Is it a real problem?

Professor Bell: Absolutely. It is totally a real problem.

Q292 **Mark Pawsey:** Where would you rank it among the other problems we have heard about?

Professor Bell: Crumbs, they have all been big problems. Pick your favourite daughter. I do not know how you will rank all of these things. They are all big problems.

Keith Anderson: This week we have put out a £5.4 billion tender for 10 years' worth of cable. The reason we have done it is because this is a worldwide competition, truly worldwide. I think this is where the UK could be better at attracting supply chain into this country by being more strategic. I will give you one brief example. The German Government, along with the regulator and transmission companies, pulled together a business plan, took it to the market and bought up and secured 10 years' worth of manufacturing of cable worldwide. That is a huge slice of the worldwide supply chain.

Q293 **Mark Pawsey:** Your company has demonstrated that foresight but our Government have not?

Keith Anderson: What we are still not doing very well as a country is taking what we need. We know what we need to do in the next 10 years. National Grid will know what it needs to do, SSE will know what it needs to do on the transmission system. What we are not very good at is taking that and selling it, getting companies to come and invest in manufacturing facilities. If all we do is buy up existing supply chain, there



HOUSE OF COMMONS

is not enough. We need to encourage more supply chain and more manufacturing.

Q294 **Mark Pawsey:** Is the industry generally following your lead and planning their purchases?

Keith Anderson: If we wrapped it together then took it as a country, along with the Government and the regulator, and said, "Here you go, now come and build a factory in this country to supply this cable". We are getting close to potentially getting two manufacturers of cable, but we need to push that because we need the additional capacity.

Q295 **Mark Pawsey:** Okay, but you say that is not currently happening here and it needs to happen.

Keith Anderson: No.

Professor Bell: It is not happening at scale. To briefly add to that, some of the issues sit with the Government and the regulator. I mentioned earlier the way they want to expand the remit of competition, let's say. That mitigates against the sort of thing that Keith talks about in Germany and in the Netherlands it is a similar sort of thing. You mentioned the holistic network design earlier. There are lines on a map for network connections offshore that should be built, but it is still not clear who will build them or if they really are the lines on the map. The ability to go out on contract—there is a contrast between us and the Netherlands. They have a similar exercise and they have gone out and bought up the capacity.

Mark Pawsey: That sounds like a recommendation for our report. Thank you.

Professor Bell: Yes.

Q296 **Vicky Ford:** Are we asking the FSO to do too much? Does that risk doing what they need to do in the timeframe we need it done?

Professor Bell: Good question. I have a lot of worries about the capacity of the FSO to do what they need to do. They are worried as well. To be fair to them, they are trying to hire people at a rate of knots—they are trying to basically double from what is now about 700 or 800 people to 1,600. We heard in the earlier session that it is difficult to find all the right people who have the right skills. There is big competition across the whole sector. If you are coming into the sector now, it is fantastic because the wages are going up and it is a tremendous place to have a career. However, in the short term, the people are not available. It is a big worry.

I find myself coming back and saying, "Well, who else will do it? Who else is in the right position?" They are not perfect. They recognise it and they are trying to tool up. I think that the key thing for the Government and a recommendation that might come out from your Committee is about giving them the resources that they need. There is a kind of penny wise, pound foolish situation that I fear could arise. They have to be allowed to



HOUSE OF COMMONS

tool up because it is an extremely important role that they are being asked to play.

Barney Wharton: I absolutely agree with that. We are going through a huge change to our system and there needs to be a guiding mind that does that and co-ordinates all of the conversations around the electricity and the gas systems. There was a conversation earlier about the whole system approach between electricity and gas. The FSO is exactly the right body to do that. I think that broadly the industry supports those ambitions. There is a question—how do you resource them? How do you scale them up at pace? Given that it is not just the FSO that is trying to grow, we are trying to build a lot more grid and develop a lot more renewables. There is an industry-wide challenge of getting the right people into the right places. I do not think it is just limited to the FSO. We need to think about our entire approach to the industry and how we improve skills.

Q297 **Vicky Ford:** Is it engineers, planners, legal experts, all of that?

Professor Bell: All of that.

Barney Wharton: All of that.

Keith Anderson: All of that, but the most difficult thing to recruit in this country just now are well-qualified, well-experienced engineers with design capability. I can go out and get apprentices, graduates and trainees. Getting 10 to 15-year qualified engineers who understand how to plan a network and do network design is phenomenally difficult.

Q298 **Vicky Ford:** Do you agree in principle that the FSO should take the responsibility for strategic network planning as well as operating the transmission system?

Keith Anderson: The role of having an independent system operator is critical. It is absolutely crucial, and the role that they need to deliver is absolutely critical to the future of the system more now than ever before, given the amount of change that needs to come through the redesign of the system and the number of things that need to connect to the system. It is absolutely vital.

Q299 **Vicky Ford:** Is it right that they should be planning what that network looks like as well as operating it?

Professor Bell: I think that you have to understand how the system operates and can be operated to know what sort of infrastructure needs to be put into place to enable that operation. There is a danger if those areas of knowledge are too far apart that they do not align, that the asset investors do not deliver something that is operable or they overdeliver.

We had this discussion earlier—which could have been a bit more informative, in my humble opinion—about the balance of operational measures and assets. It has to get the right balance and they have to have access to the right knowledge, but it also requires understanding of the local conditions on the ground, and that is what I worry the FSO



HOUSE OF COMMONS

might not have. For example, in the networks part of Keith's business, where they are working in the local communities, they understand—the hills are there and the rivers are there and whatever—where exactly you would be routing things. The FSO is unlikely to have that detailed local knowledge. If you build up the right kind of data sets and the right sort of geographical information, arguably they could get it.

However, I think that this reinforces Keith's point about experienced designers. There is an awful lot of knowledge and nous that you need to bring to bear in resolving those tensions and coming up with an acceptable solution, in the cost, what is acceptable by the local community, environmental impacts and so on.

Q300 Vicky Ford: We have clearly seen this massive ballooning in JRs and legal challenges. Are we seeing a lot of experienced engineering-type people being tied up in this sort of bureaucracy of the legal process? If that is sped up, will that free up some of the skilled people to work more on planning for the future? I do not know if that is simplistic.

Keith Anderson: The JR process is very legalistic and, yes, engineers feed into it, but the most important thing is that the planning system is all about speed. The Winsor report is good. I do not disagree with anything that is in the Winsor report. I have welcomed it and it is good that the Government have said that they will adopt it. If I have any criticism of the Winsor report, I would like it to have been even more aggressive and ambitious. It talks about halving the planning timeline for transmission lines to seven years. It takes me seven years to get an offshore wind farm through the planning process and takes me only two years to build it. If I can build it in two years, I think it should get through the planning system in two years. It takes me two to three years to build a big transmission line. Why does it take seven years to get through planning?

Q301 Vicky Ford: On speeding up the process, I know some of you have made comments about duplication in the process. What steps could the Government take to prevent that duplication, especially duplication by the RSEPs, of something that is already existing knowledge or existing functions of local authorities of other bodies?

Keith Anderson: We need to get things agreed much more quickly upfront. One simple example is an offshore wind farm. I got the seabed licence for it 10 years ago and I am building it today. Right at the last minute before the planning decision was made, Natural England came along and said it thinks that it is too close to a special protection area. The special protection area is in the same place it was 10 years ago. My wind farm planning application is in the same place it was 10 years ago. Why are we having that discussion 10 years later? It needs to be decided upfront and taken away.

Q302 Vicky Ford: Are there any thoughts on duplication?

Barney Wharton: We need more data. This is all about data. There is the potential for a lot of these things to be sped up if people have access



HOUSE OF COMMONS

to pre-existing data already. Keith and his business will be gathering data that will be commercially sensitive to start with, but once he has gone through that process, some of that could be released so that others who are looking to do similar things in the area, local authorities and statutory bodies, can access that data to make these decisions much more quickly. That is key and Nick Winser says some good things about that.

Q303 **Mark Garnier:** Keith Anderson, you mentioned it takes seven years to get planning. Is that a Scottish planning programme or is it UK-wide?

Keith Anderson: No, that is UK-wide.

Mark Garnier: It is a whole UK-wide problem.

Q304 **Chair:** So it is no better in Scotland and Wales?

Mark Garnier: Or worse.

Keith Anderson: No.

Chair: Fair enough. Lloyd Russell-Moyle?

Q305 **Lloyd Russell-Moyle:** On data, which you just mentioned, we heard in the earlier panel about data needing to be more available as well. The DNOs and the operators are doing it on our behalf. They operate our public infrastructure on our behalf. Is there not just a case to say that if you want to be able to continue to operate this on our behalf, you need to share all your information, even your commercially sensitive information, with each other? You are monopolies in that area and in other monopoly areas you just say, "You have to share it, maybe not on a public website but you have to share it with the systems operator and the Government, and you can't redact a second of it".

Professor Bell: In broad terms, yes, they should make a lot more data available and accessible. I totally agree with you. We do have to be a bit careful about what is commercially sensitive and on what grounds.

Q306 **Lloyd Russell-Moyle:** To each other, I can understand a little bit, but to the Government and to the operator, they are not in competition. They need to share everything.

Professor Bell: Sure, yes. I think that is a fair comment. As a researcher and an innovator, trying to work with the network companies and generation companies and so on, a lot of us have enormous problems with getting access to data to be able to test and prove our ideas. The network companies often cite the 1989 Electricity Act as preventing them from sharing much data. The key part of it, as I understand it, is they say, "Any data we have that is not ours we can't share." As an example, for some of the technical parameters of a generator that is connected to the National Grid they say, "That is not our data. We have it because we need it." There is sharing, as you have just talked about, to enable them to operate the system in a stable manner, but they say, "We can't share it with you." I think there is a legal problem there underneath this.



HOUSE OF COMMONS

Q307 Lloyd Russell-Moyle: There needs to be a legal change to allow—of course within certain parameters—a duty to share or a presumption of sharing. The proof has to be that they can't share it rather than at the moment, which is that, "Unless you can prove it, we are not going to"?

Professor Bell: Absolutely. That extends to data that is theirs, demonstrating their performance—for example, data on faults, how many outages there have been of lines, under what conditions. As you said, they are operating these networks on our behalf. We have an important stake in this. We need to understand how it is performing and how well it is performing, against the background of climate change among other things. It is absolutely crucial to share data on near misses, not just interruptions, to allow people to analyse and understand how that is going.

While I am on it, I will add that one criticism I have of the Winsor report is insufficient attention to adaptation to climate change. The assets that will be put in place have 40 to 60-year timelines. They have to be resilient to weather conditions that will arise over that period.

Barney Wharton: To go further to the data point, there was a lot of conversation earlier about the connections process. As a developer, you have very little visibility of the constraints, where you would be in the queue and what impacts that may have on where you would go and when you would be able to connect. I think that there is a lot more the network companies could do to share the data about what is going on their networks, where constraints are likely to be and where you might be in the queue, should you join. That would then inform where projects are developed and help to reduce some of these challenges we have in the queue. You see some projects making multiple applications to connection queues to connect in different places and see which comes up first.

Q308 Lloyd Russell-Moyle: The national policy statement provides the clarity and long-term certainty, apparently, to accelerate development of the network infrastructure. Is this actually the case? I guess a quick yes or no. Should the Government have made it a legal requirement to update the national policy statement every five years?

Professor Bell: I heard you had a discussion about this in one of your sessions in November and I agree with what I thought was the conclusion there that: yes, there are capacity issues—what is it, 17 different areas or whatever? However, the sector is moving so fast and we have to move so fast because climate change is not stopping. Mitigation has to happen. In a nutshell, yes.

Keith Anderson: The more we can share that data and get those changes put through, the better. As Keith Bell said, the system is moving so quickly just now and we really need to speed up everything.

Q309 Lloyd Russell-Moyle: The amendments to the national planning policy in September were meant to help unlock wind in England. Is that sufficient from your perspectives or should wind farms actually be treated as nationally significant infrastructure projects and, therefore, decided



HOUSE OF COMMONS

nationally in that sense?

Keith Anderson: If I speak from the part of our company as a wind farm developer, I am not proposing, planning or looking at developing any onshore wind farms in England. It is godforsaken.

Q310 **Lloyd Russell-Moyle:** Is that because of the planning restrictions?

Keith Anderson: It is that the number of sites available are not that great, the wind yields are not that brilliant, but the process is cumbersome, slow, difficult and fraught with uncertainty.

Barney Wharton: The changes are not sufficient. If you want to build onshore wind in England, we need to see some fundamental changes to, for example, the footnotes in the national planning policy framework, for the reasons, that Keith has just outlined. The vast majority of onshore wind in England will be smaller projects, smaller sites. If I want to put a small turbine on the roof of my house, I am subject essentially to the same planning requirements that someone building a 100 MW wind farm would be subject to. That is wild. We need to see fundamental reform of the national planning policy framework to allow those smaller projects to come forward. Those small projects do not need to be subject to nationally significant infrastructure requirements, but these are small, potentially community-owned, private farms, industry sites that could be building onshore wind in England that, at the moment, essentially cannot.

Q311 **Derek Thomas:** One of the ways to try to accelerate the whole process is to develop some community benefit or to carry on that kind of opportunity for our community. How should you as a developer be incentivised to propose benefits that are best tailored to local needs? Should I start with you, Barney? What do you need to get it right for those who live in the area and would benefit from the infrastructure?

Barney Wharton: It is about engagement and understanding what the local community needs from the outset. I think that some of the concerns around mandating community benefits within the planning framework or precisely exactly how much money should be given to whom and when means that you cannot tailor your community benefits as a project to the local community. We need very clear guidance about the sort of things that are expected, but also then the freedom and flexibility for the developer to provide whatever it is that the community wants.

The risk is that if it is just cash, people see that as a bribe. I think that you have seen that particularly in some of the conversations at East Anglia. It is, "You are bribing me to accept something I don't want". It is about how you have the conversation about what is happening and what can be done to support and engage with the community about both the development and the benefits from it.

Q312 **Derek Thomas:** With the local planning authority, would you go right down to parish council level for negotiation?



HOUSE OF COMMONS

Barney Wharton: I think that it would depend on the project. If you have a major offshore wind farm, that is very different to a smaller onshore wind farm, for example.

Keith Anderson: If I can come in just briefly. We have had community funds put in place for our renewables business for 20 or 25 years. We have put about £60 million through them. They are all structured in different ways and they are controlled by a trust fund, not by us. You have to be very careful. As Barney says, you have to be very careful. In some areas, we find that the local authorities demand that they take control of the fund, not the local community, and that causes issues. It can cause problems. Sometimes the local communities struggle to find people who are willing to run the trust fund or they run out of ideas as to what to use the trust fund for. That becomes a difficulty and can become a problem. You need to work closely with the local community.

Where this becomes more complicated—and it is a good thing that it is being debated and discussed—is how you do this for transmission infrastructure. This is in the Winser report about bringing in community benefit. You start getting into all sorts of more complicated issues around who the local community is if you are building a 300-mile transmission line. Is it the people right next to it? Is it towns and villages that can see it?

Where we find we get the best linkage to the local community, whether it is a wind farm or the stuff we are doing on the network, is where we are creating local economic benefit by getting people involved in the construction programme and in the work. We are putting money into local companies to encourage them to grow, whether we have put in money through a green investment fund to help them decarbonise their own business and investing in those businesses to allow them to do that. What people see coming from that are jobs, investment and economic benefit in the local area. That is far more effective as an engagement tool than sending a cheque to someone.

Q313 **Derek Thomas:** Can I quickly come back with one more? On a new community benefit framework for transmission infrastructure, how do you strike the right balance between the local community that may host the infrastructure and the consumers that ultimately will pay for the supply and those benefits? How do you get that balance right there?

Keith Anderson: It is very difficult. It is one of the things that needs to be debated or looked at again. The numbers you talk about can be scary and horrific as billions of pounds that are being invested in transmission infrastructure. On the upside, that is spread across 40 years, which minimises the impact on the consumer's bill at any point in time, which helps. Yes, it is about whether you split this by taking money off people's electricity bills for hosting the infrastructure or invest in their local area to create economic growth and benefit in the local area. I think that you have to have a balance of both.

Q314 **Derek Thomas:** I probably have half a minute, so who wants to have a



HOUSE OF COMMONS

last stab at that one?

Professor Bell: It is a good question. I am afraid I do not have any good answers. I think that experience on the ground from Barney's members and Keith's company is more informative.

Derek Thomas: What we do not want is trying to solve that question to delay the process any further.

Barney Wharton: It is important to bear in mind that there are two sides to the transmission piece. One is the infrastructure that is carrying power around the country. But this is also going to apply to the transmission of infrastructure developed by offshore wind farms to bring power offshore onshore. That may have an impact on the potential business model for that wind farm. Also, the CfD process could exacerbate the impacts. As Keith says, we need to think about the balance of this.

Derek Thomas: We are live to that. I am a Cornish MP and we are wrestling with floating offshore wind, and that comes up a lot. Thank you very much. I am grateful.

Chair: Thank you very much indeed. I thank the panel, especially the last comments made about the economic benefit, that it is better to do activity in the community rather than hand out cheques to people. I think that is an interesting and good message. Our meeting was an informative and useful session. Panellists, if you feel that you have anything else to add—because time is always our enemy here—feel free to write to the Committee. I thank Keith Anderson, Professor Keith Bell and Barney Wharton for being here and sharing their knowledge and expertise with us. Thank you, all.