



HOUSE OF COMMONS

## Welsh Affairs Committee

Oral evidence: [Grid capacity in Wales](#), HC 1092

Wednesday 16 March 2022

Ordered by the House of Commons to be published on 16 March 2022.

[Watch the meeting](#)

Members present: Ben Lake (Chair); Simon Baynes; Ruth Jones; Dr Jamie Wallis.

Questions 1 - 23

Witnesses

[I](#): Jon O'Sullivan, Director of Onshore Wind & Solar, EDF Renewables; Tom Glover, RWE Country Chair, RWE UK; and Robert Proctor, Business Development Manager, Community Energy Wales.



## Examination of witnesses

Witnesses: Jon O’Sullivan, Tom Glover and Robert Proctor.

**Q1 Chair:** Good morning. Welcome to this morning’s session of the Welsh Affairs Select Committee. We are joined this morning by a wonderful panel, Mr Jon O’Sullivan, Mr Robert Proctor and Mr Tom Glover, to discuss the grid and renewable energy in Wales. To begin, I will ask you to introduce yourselves for the record.

**Tom Glover:** I am the UK Country Chair for RWE. RWE is the largest generator in Wales and the largest renewable generator in Wales.

**Jon O’Sullivan:** I am the Director of Onshore Wind & Solar for EDF Renewables. I have about 16 years of experience across British and Swedish companies and now with EDF. Maybe I do not need to introduce EDF. We are the largest producer of low carbon electricity in the UK.

**Robert Proctor:** I am the Business Development Manager of Community Energy Wales. Community Energy Wales is a membership organisation representing the community energy sector. We have just over 50 members across Wales.

**Q2 Chair:** Wonderful. Thank you all for joining us. I will begin with a broad question and turn to Mr Proctor first. What is your opinion of the current energy generation sources mix in Wales?

**Robert Proctor:** Clearly we need more renewables. We are still too reliant on fossil fuels. We have a big job on our hands to get to the level of renewables that we need. The current energy crisis and what we have seen happening in Ukraine with nuclear power plants and the liability of those plants highlights the need for us to become more energy independent and focus on renewable energy.

**Jon O’Sullivan:** No surprises, I agree with Robert Proctor. EDF believes that Wales would benefit from a broad mix of all the different technologies. Onshore wind and solar are my area and we have several gigawatts of projects that we could bring online if things such as the grid were accelerated. That is where we believe maybe the biggest opportunities lie with the fastest, most scalable, most significant and cheapest forms of energy, the current low-carbon sources, which include nuclear. From my experience in Wales, probably the only source that we are less keen on is fracking.

**Chair:** Thank you. I am sure we will get into the issues in further detail as the morning goes on. Mr Glover?

**Tom Glover:** I agree with the previous comments—more renewables are required—but I think you also need to look at other sources of zero carbon generation such as hydrogen and CCUS so that we also make sure that we have security of supply right across the year. That is one thing that we need to look at. The other thing is to look at the export potential of Wales. At the moment, Wales generates about twice as much as it



## HOUSE OF COMMONS

demands and most of that comes from gas, but there is an opportunity to replace even the export with renewables and use that as an export opportunity.

**Chair:** Thank you very much.

Q3 **Dr Jamie Wallis:** I will start off with a broad question. How would you characterise the challenges facing energy production in Wales?

**Jon O’Sullivan:** On behalf of EDF, we see the biggest challenge and opportunity is to optimise the natural resources, the great wind, the land, and develop those win-win situations for communities and make Wales a leading exporter of electricity and also benefit from the jobs and investment. Some big opportunities are possible in Wales. The broad mix that we have just talked about—nuclear, onshore wind, solar and offshore wind—all have a part to play. By diversifying in such a way, the benefits are more spread out and diversified across Wales.

**Dr Jamie Wallis:** Thank you. I am sure the honourable Member for Ynys Môn will be delighted to hear you include nuclear.

**Robert Proctor:** The biggest challenge is first powering down. How can we try to use less energy or certainly less as much as possible? I recognise that there will be an increase in demand for electricity from things such as electric car charging and heat pumps, but in all areas we need to make our homes more energy efficient, to look at more energy efficient appliances and power down as much as possible to reduce demand as much as possible. The next challenge is powering up with renewable energy and at the moment probably the biggest barrier to that is being able to connect to the grid. We would see a lot more renewable energy generation in Wales if the grid was not currently so severely constrained in Wales.

**Tom Glover:** I fully agree with Jon’s point about exploiting RES but also not just onshore. On onshore, RenewableUK’s latest report said there are 3,000 potential jobs for Wales if you deploy 2.2GW by 2030, so there is a huge opportunity for onshore. There is a huge opportunity to fully exploit the Celtic Sea resource. That is your next big offshore opportunity and that would result in jobs in places like Port Talbot and Milford Haven as well, so not just in the renewables sector directly but in the ports sector.

On the big challenges, as well as the grid—and that is the main point of today’s meeting and we are all going to agree with that—the other thing is about how you decarbonise the existing gas stations. That is a big challenge for us at RWE with Pembroke where we have 2000MW. It is the most efficient and largest CCGT in the UK.

We have a target to help the Government meet their net zero target for electricity by 2035 but that is a huge challenge when we do not have an integrated plan for hydrogen and an integrated plan from CCUS. We cannot just say that is not a problem because we need that for the extended periods when the sun does not shine and the wind does not blow.



## HOUSE OF COMMONS

As well as the challenge of the grid, the engineering and systems challenges are also quite big.

- Q4 **Dr Jamie Wallis:** Mr Proctor, you mentioned in your previous answer that the grid was, in your opinion, one of—if not the biggest—challenges to unlocking renewables in Wales. Is that observation Wales-specific or is it UK-wide? Why does Wales have the lowest growth in renewables contribution relative to the rest of the UK?

**Robert Proctor:** I am not an expert on the rest of the UK, although I have heard from colleagues in Community Energy England and Community Energy Scotland that the grid is an issue throughout the UK. It particularly impacts Wales because we are on the western extremity of the network and the network was set up to provide big power stations that pump out lots of electricity to small networks because we are a relatively rural population. Renewable energy is being generated generally in rural areas where the grid is very weak because it is only sending small amounts of power there. The rural nature of Wales is a particular issue because Wales has huge amounts of renewable energy resource and if there were no constraints, there should be no reason for not doing much better. The grid is probably the biggest factor.

There have been issues with things such as planning and so on but they are all improving now. The situation is much better than it has been in those areas. The grid is still the one area where things do not seem to be improving.

- Q5 **Dr Jamie Wallis:** Mr O'Sullivan, do you have anything to add to that?

**Jon O'Sullivan:** I want to highlight that we have seen some progress on grid. There are some interesting positive initiatives around offshore grid and working together in the east of England, but I think as everyone on this panel knows, this is a particular issue for Wales and hence the biggest opportunity.

**Tom Glover:** Grid is a problem everywhere, not just in Wales and not just in the UK but in the world. In every market we are in—and we are in 20 markets—the opening speech from any senior person in RWE is “get the grid sorted out” because it is the enabler. It is like broadband is the enabler for the digital age; the grid is the enabler for electrification and net zero.

There are some particular issues in Wales. The way that the transmission system evolved was with a north transmission line and a south transmission line, so north to do the nuclear power station and the pump storage and south to do the industrial heartland and the gas stations. There is no transmission in the middle and the middle is probably the best place, as Robert said, for your onshore renewable resource. The answer is that if you have no transmission system there, it is very hard for the larger power renewables power stations to develop there because the cost of stringing lines to the transmission system is prohibitive. It is a little bit like the chicken and the egg. As a developer, you do not start developing there because you think you have huge connection costs and



## HOUSE OF COMMONS

then National Grid says there is no development so there is no point giving you transmission. How do you solve that?

On offshore, Jon mentioned there is progress on the east coast around holistic network design, which is due in June. Unfortunately an issue for Wales is that Celtic Sea is not included in that initial HND. The ESO has said that it hopes to do it in the next iteration. That would probably be in Q2 2023, although you would have to ask ESO the exact date. I think we need to do that for the Celtic Sea as well.

**Q6 Dr Jamie Wallis:** I read in the media recently about a project in south Wales, which I found fascinating. It was where a group of residents had almost formed a co-operative. They had come together to fund the building of a wind turbine and that electricity generation allowed them to get a reduction on their bills. I thought that was quite an interesting project because it was evidence of the community of residents, ordinary people, taking ownership of their energy production. Do you see a future for those kinds of projects in Wales?

**Robert Proctor:** Yes, I do see a future for that. Wales has set some very ambitious targets on community-owned renewable energy and has recently set a target of 100MW of community-owned and publicly owned energy by 2026, which is very ambitious. There is about 20MW or 25MW of community-owned energy in Wales at the moment so 100MW would be a significant increase. We are working in partnership with the Welsh Government to help to enable more of those projects to come to fruition, so there is support available to help communities develop them.

It is a very challenging market at the moment for the community energy sector because there is very little benefit for the community. Community energy projects are competing with commercial developers for land, for sites, they are competing to get access to the grid and they need to have the resources to be able to develop more significant projects because the smaller projects are not as financially viable as the larger ones. However, there is a community energy project in north-east Wales developing a 30MW solar farm, a significant scaling up in the ambition of communities in Wales.

**Q7 Dr Jamie Wallis:** I understand, Mr Proctor, that the model at the moment is that the electricity that is generated is sold to the grid and is used to reduce bills. Am I correct in assuming that those residents will be paying VAT and green levies on energy that they have put up the capital to fund? Is that correct? Is that the way it works at the moment?

**Robert Proctor:** Yes. At the moment, there are a few innovative models where communities are able to sell their power to their members or their local community for less or for a similar price to the market but because of the current market regulations, they are not commonplace and are very challenging to develop so most communities are not able to do that. It is also very reliant on finding a friendly energy company to work in partnership with. You can only do that with a licensed supplier, so it very much depends on whether you can find a friendly licensed supplier.



## HOUSE OF COMMONS

Unfortunately there are not very many licensed suppliers who are willing to work with us on that because it is challenging and it is challenging for them in the market to make it work.

We certainly support the Local Electricity Bill that is going forward to help look at how we can enable communities to benefit from the generation that is happening in their area. That is definitely a missing link in the community energy sector, in that most community energy projects just sell their energy back to the grid and the benefits for the community are different, such as community benefit funds and those sorts of things.

Q8 **Dr Jamie Wallis:** I understand. Thank you very much. Mr O’Sullivan?

**Jon O’Sullivan:** I do not need to remind everyone about the climate emergency and energy security crisis that we are in, but it is fair to say that we would like to see small-scale and large-scale developments; they all have a part to play and a place in this revolution. EDF Renewables is looking at rooftop solar through our industrial-commercial rooftop solar business and everything from community investment in our onshore wind farms and our utility scale and even there are some potentially very significant projects, several hundred megawatts, in the pipeline. We probably should look at how to enable all those different-scale projects. They are all opportunities.

Q9 **Dr Jamie Wallis:** Mr Glover, do you have anything to add?

**Tom Glover:** First, it is very important that communities are part of the process because they are directly impacted quite often. They are the ones that see the wind farm or the connections. We have a long track record of getting the community involved in all kinds of ways. You have to start with what is the benefit. It could be a benefit of a reduced electricity bill or a benefit of community funds. For example, RWE has just passed a great milestone, £10 million in 10 years in community funds in Wales, which is great. These are independent funds, normally managed by local community representatives who decide where the money goes. It could go to helping people with their electricity bills, investing in village halls, defibrillators, or whatever. The communities decide independently where the money goes, which I think is a great involvement for the local community.

On community ownership, as per Jon it is very important that people have opportunities in the right projects if they want to invest. We have two MOUs in our latest two wind farms about options for local councils and the communities to invest in. Sometimes it is also not the right thing to do. Take a large offshore wind farm, such as Awel y Môr offshore development. If it goes ahead, it will be the largest infrastructure project in Wales. It is way over £1 billion of investment and it is quite difficult to get community investment in there that gives them a real say in how the project comes. Instead, we consult on the community benefits. We are out for consultation at the moment, an initial consultation about how the community would like to use that money. Would they like to use it in the benefit funds that I have talked about or wider energy efficiency



## HOUSE OF COMMONS

measures or whatever? We consult with the community to see how it wants to be involved rather than necessarily just lowering electricity bills for everybody.

- Q10 **Chair:** Mr Glover, you mentioned the lack of grid infrastructure in mid-Wales. A quick question. Am I right to understand that one of the reasons for that is purely historic in that there was not that much generation in the past and neither was there much of a need to improve the infrastructure as there was in north Wales and south Wales? Is there just simply a historic reason?

**Tom Glover:** Yes. The simple answer is yes.

- Q11 **Chair:** Wonderful. Moving on to the grid infrastructure in north and south Wales, appreciating that it is inadequate in mid-Wales, what is your assessment on the capacity for both the north Wales branch and the south Wales branch?

**Tom Glover:** We look at this in quite a lot of detail and there are obviously mixed views. To just simply answer the question, we say it is inadequate in both but I can give you a bit more information as to why.

Looking at south Wales, on one hand you have the ESO in their networks options assessment saying there is no requirement for grid investment. On the other hand, a simple example, we have just applied for a grid connection for a 400MW Celtic Sea. We would like it to go into Pembroke because we own the land around the substation and we can optimise between gas generation, renewable generation, hydrogen and so on. Yet we have been offered a grid connection into Alverdiscott in Devon. When we challenged that with the ESO and National Grid, and asked why can't we have one to south Wales somewhere, we are happy to go into any of the big subs along the south Wales coast, ideally Pembroke, but we could go into Aberthaw, Swansea or whatever, we were basically told there was no grid capacity available on the south Wales lines. That is one thing.

If you also think about where Celtic Sea could go, the Crown Estate has announced 4GW of leasing but most people think the potential is somewhere between 10GW and 20GW. There are some very ambitious numbers, like 45GW, 50GW, but by the time you take marine spatial planning and stuff into account, that is probably not there. The high case in the great report that the Energy Systems Catapult did for the Welsh Government was 10GW in Celtic Sea. That would be our low case. In that case, it said that there was a requirement to do a new 400kV line on the longest stretch from Pembroke to Walney and yet currently, that is not in any planning cases. To be honest, that is a big engineering and consenting challenge so the earlier you start it the more likely that you will be able to deliver it. That is a specific example.

On the north coast, we have been quite lucky that our Awel y Môr offshore wind farm has a connection, quite a good connection—I think it is 2026 or 2027—but it is pretty clear that any other big project coming after that will require material upgrade in that area. I would say we are at our limit. Anything bigger needs significant investment.



## HOUSE OF COMMONS

Q12 **Chair:** Thank you, Mr Glover. That is very useful. Mr O'Sullivan, do you concur or have anything to add? We may have lost Mr O'Sullivan. Mr Proctor?

**Robert Proctor:** Yes, I do concur. I was aware of a project, not a community energy project, that was applying for 3MW of solar in south Wales that was given an offer by National Grid but said there would need to be upgrades on the transmission network that basically made that project unviable. That was only 3MW. That is a tiny project. I think that demonstrates the issues with the grid and the network in south Wales.

Certainly in north Wales, some of our members, particularly on the Llŷn Peninsula, have been trying to develop community renewable energy projects for years. Also, looking at car charging and things like that, there is not even enough capacity on the grid there to install rapid car charging. There are some severe issues on the north Wales network.

Q13 **Simon Baynes:** Thank you to all the witnesses for your very helpful comments this morning. I am picking up on the last point and looking at future projects with the question: does the current grid network represent an opportunity or a barrier for future renewable energy generation in Wales? In a sense, we have covered that already but I want to cite a specific example, if you will bear with me.

In my own constituency of Clwyd South is the Rhug Estate, which since 2012 has developed 11 solar schemes, two wind turbines, a variety of hydro schemes, heat pumps in properties, a biomass boiler and two electric vehicle chargers. The estate is mainly in Denbighshire but also in Gwynedd. so not far away from the Llŷn Peninsula, which we just touched on. The point that Lord Newborough, the owner of the estate, is making is that they currently generate about 3000MW of electricity per year and also 500MW per year of heat. While they continue to develop the company, they have been plagued by lack of grid capacity. I felt that was a very good example to slot into the discussion. I know you have cited other examples and I am not trying to be too parochial about it but this goes to the heart of what we are discussing.

With that particular example in mind, maybe we could go back to my general question about whether the current grid network represents an opportunity or a barrier. Could Mr O'Sullivan answer first, please?

**Jon O'Sullivan:** Certainly, and apologies, I think my connection may have dropped out for a few seconds there.

I want to make two points, please, in answer to your question. EDF Renewables is very much in a similar boat to Tom Glover and RWE in that we have a significant floating offshore wind project in the Celtic Sea, Gwynt Glas. At last count there was something like a £4 billion investment in that on the cards but we are facing the same challenges, so enhancing that south transmission capacity is key for us too.

My other point is to re-emphasise EDF's views on mid-Wales and the barriers there, the grid. I was just checking our projects there. We have almost 300MW of projects in mid-Wales that are entirely dependent on



## HOUSE OF COMMONS

these new transmission lines seeing some tangible progress. Currently, the projects are on course, fingers crossed, to achieve planning early next year and yet the earliest grid connection is 2032. I don't need to say more. Those are our examples to add to your example.

**Q14 Simon Baynes:** Food for thought. Mr Proctor, I know well of your commitment to community energy already and I know that you know of the Corwen hydroelectric community scheme, which I have spoken about in Parliament, but I put that general question to you as well.

**Robert Proctor:** Yes, there is probably an important distinction to be made, particularly for businesses like the Rhug Estate, and for Corwen hydro, both developing small-scale renewable electricity projects, as opposed to the very large scale. Where there are constraints, the small-scale projects are in complete limbo. There is a disparity there because they will never be able to afford the cost of the network upgrade so they will be reliant on waiting for a bigger developer or maybe a group of bigger developers to come in to pay for the grid to be upgraded and then hope that there is a bit of spare capacity for their small project. That is that. They are very much in a limbo situation where they have no control and are just waiting and hoping for capacity available on the grid for them, and it is clear that we are reaching a point where there is very little capacity on the grid. They are in a very difficult situation with very little control over their options.

**Q15 Simon Baynes:** Thank you. Mr Glover?

**Tom Glover:** To answer your question explicitly, is it currently a barrier or an opportunity, it is currently a barrier and it could be made into an opportunity. The grid is the enabler, as I said about broadband being the digital enabler. If you had grid in advance, people would come. Whether it is the small developer that Robert Proctor talked about or the large developers, once the grid is there, people will compete to connect. A very good example is the different way they do it in Germany. They built an offshore substation with three bays but only two projects, so they anticipated the extra bay, and now every big company is competing to be the one that connects into the bay. It is a different way of thinking.

You need to be a bit more visionary. You need to say that to get to net zero we need to electrify everything, whether that is small community schemes, large community schemes, demand, generation. You need to have that vision and strategic plan and say, "This is what it looks like in 2030, 2040, 2050". Bearing in mind that we are talking already—Jon talked about this—about connection in 2032 or 2031 and we are getting those connection dates as well but we want to get to net zero in 2035. Anything we don't do in the next two or three years means that we will not meet the target. We should have that strategic vision, a clear plan about what we think is a decent, no-regrets electrification of the grid, build that grid, build the local grid and the transmission grid. Then I think people will come, investors will come, we will get more projects and you will have created an opportunity rather than the barrier that it is today.



**Simon Baynes:** Thank you very much.

Q16 **Ruth Jones:** We have heard a lot about the constraints that exist on the ground at the moment. I am looking at the higher level, the UK Government policy and the Welsh Government policy. How confident are you that they mesh together and also that they are preparing for the future? You have highlighted very clearly the difficulties if we are going to get to our net zero target. Are you confident that the UK's current energy policy is sufficiently focused on the grid and is the Welsh Government's energy policy also focused in the same way?

**Tom Glover:** No, I am not confident although, as Jon said, we do see some kinds of shoots of the problem being addressed. Taking the UK Government policy first, I think it is now well recognised that grid is a big issue and they have started to make some very good progress on what we call the holistic network design and the offshore network transmission review. Holistic network design is trying to look into the future of the offshore and basically saying, "How do we design a more holistic system?" rather than bringing in all different connections and that is quite good in being a little bit more strategic about it. I think that is okay. That is a good development and we see some progress there. It is currently focused on the east coast. We need to expand that to the Welsh coast and into Scotland.

Where we get into a bit more detail is, for example, how Ofgem regulates the transmission companies. Ofgem does not have a net zero mandate. Ofgem's mandate is to make sure that everything is affordable and efficient for the customer. If you look through that one lens, what we don't think they are doing properly is asking what the overall lowest cost is to meet net zero. Ofgem is just asking what the lowest cost to the consumer is. Ofgem has a very minor carbon emissions objective but that seems to be met by reducing every year, which is not, to be honest, very hard to achieve.

What does that result in? We think it results in when Ofgem is approving spend for the grid, it has to have a very high hurdle and it is economic. In other words, National Grid will say, "We can only justify it if there are enough connection requests in that area, up front". For example, if we are doing an offshore wind farm, normally National Grid will not start the onshore investment until we have a CfD, which is quite late in the process. We say surely it is worth doing some anticipatory investment. That would mean you could do it holistically at the beginning, not wait to do it project by project, and mean you have less impact on communities because you are not crossing the same bit of land over and over again.

You would plan for the future, which basically means you can say, "We will get to net zero and that is the kind of grid we will need". However, that requires a different level of thinking by the regulator around how much it allows National Grid to spend in anticipation of something. It needs to take a risk-based view but some of this stuff is not very risky now because we know that the only place we can put offshore and onshore wind is in these certain areas. That is what we would say. We



## HOUSE OF COMMONS

say get Ofgem a net zero mandate. Get Ofgem to invest further, on a risk basis, to make sure it is not putting too much consumer money at risk, because consumer money is important. We need to be a lot more strategic about in.

Sorry to go back to broadband but when we decided to digitalise, we just rolled out broadband for every house. We did not ask them all if they wanted to use it. I think we need to have more of that kind of mentality.

Q17 **Ruth Jones:** Thank you for the Ofgem comment. That is very important, I think. Mr O’Sullivan, do you want to come in? I am looking at the UK’s preparedness and the Welsh Government’s preparedness.

**Jon O’Sullivan:** We agree with Tom’s comments, so far. We also welcome the net zero target. Only recently the Deputy Minister for Climate Change, Lee Waters, published the deep dive into renewable energy, which clearly raised the key barrier to more renewables—the grid in Wales. I think that the Welsh Government have been very active in this area, as have the UK Government, and we are all waiting with bated breath for the new national energy security plan, which should be announced shortly. We on this panel are all well aware that we will not be able to accelerate energy security without more renewables, which will need more investment in the grid. What we are all hoping for are some tangible dates, next steps and investment sums and for the mandate for Ofgem, BEIS and National Grid to do that anticipatory proactive investment.

We fully agree that the risk of having stranded transmission assets is pretty much zero whereas the risk of having stranded renewable assets, which could be contributing to our net zero target and energy security, is far higher. If we can be bolder here, now is the time.

Q18 **Ruth Jones:** Yes, that makes sense. Thank you. Mr Proctor, do you want to add anything from your perspective?

**Robert Proctor:** I agree and would probably even be a bit stronger. I think that Ofgem is not fit for purpose in the current market and needs some drastic thought on how it can be fit for purpose for us to meet net zero. From a Welsh perspective, the Welsh Government seem to be ambitious, to have ambitious policies and to want to work towards net zero, but some of the barriers and constraints are not within their powers to have any significant influence, particularly when you are talking about grid and Ofgem. Yes, they may be consulted but they have no real influence or say in that policy and that will limit their ability to deliver on their net zero ambitions.

I have touched on this before, but we are even talking about problems in putting car charging in. It is not about just huge wind farms; we are talking about just getting car charging in or air source heat pumps. The grid is even struggling with those things in certain areas. We are not talking just about big things but really quite small things. It is a major issue.



## HOUSE OF COMMONS

I heard another concerning thing. Ofgem often talks about innovation funding. I can't remember the exact figure but in a meeting the other day Ofgem was talking about £500 million-worth of innovation funding to hopefully try to resolve some of these problems. I asked what percentage of those projects were things that would be rolled out in the future if they were successful but Ofgem did not have an answer. What is this innovation funding for? What are we trying to get to with that innovation funding and how will we roll it out and scale up, working towards net zero? I have a lot of concerns.

**Q19 Chair:** It is quite clear from what the three of you have said that you think that there needs to be an important change in the approach and strategy when it comes to National Grid and planning for investment. Something that all three of you have mentioned is enabling more anticipatory investment. Can you clarify that? Are there any other tweaks or amendments that you would like to see made to the way in which investment in the grid and these decisions are made?

**Jon O'Sullivan:** On anticipatory investment, we all know where the best place is to build these new renewable energy wind farms, solar farms and offshore. We know and I am not sure why we need to wait. I think we can work together with Government, with Ofgem and National Grid and very quickly we could put something tangible in place.

**Robert Proctor:** I agree with Jon about anticipatory investment. Essentially, we should consider a certain percentage being made available to community energy projects so that they are able to access the grid. I am not saying it should be there if there is no grid project, that it should just sit there, but it would be good to give community projects the chance.

The other thing I think could be helpful when you are talking about rural areas with very poor grid, such as Llyn—and I was even thinking about my village, which is off the gas grid network and there is a WhatsApp group of people all worrying about the price of energy and electricity going up—is we could probably install solar and batteries in our village for less than what we are paying per unit of electricity currently. We could all have cheaper power and effectively provide most of the community's power.

Particularly in areas where the grid is poor, that sort of islanding where you are trying to match supply and demand in a local area, a sort of micro-grid—you are probably still going to be connected to the grid because there will always be times when that does not work, but when it comes to creating those sorts of opportunities, particularly for rural communities to take more ownership of their own electricity needs, we could look at how we could make that more possible. A lot of the reasons why it does not happen are to do with Ofgem regulation. The Local Electricity Bill could be an enabler for looking at those sorts of opportunities.

**Q20 Chair:** Mr Glover, you mentioned in an earlier answer that perhaps



## HOUSE OF COMMONS

Ofgem needs a net zero mandate. Would you like to elaborate on what that would mean?

**Tom Glover:** This comes back to anticipatory investment. Ofgem's main focus is on consumer affordability in isolation with everything else being a sub-mandate. The way they regulate transmission is by only allowing investments when they are very, very certain that connections are required. That is opposed to what we are talking about, which is an anticipatory focus. As Jon said, it is pretty obvious where a lot of this stuff is. The Crown Estate and we can tell you where we think all the offshore will be. The onshore is not so different in the Welsh estate and so on. We kind of know where it is and once you build the grid there, the development becomes even easier. You deliver the grid and we shall come and connect. That is what we mean. You need that kind of thinking.

For the moment, only a very small amount of anticipatory investment is allowed. Under the new RIIO-2 proposals, there is what is called the net zero investment, which is really small; it is very specific, up front development costs only and they are recoverable. It is not investment in the grid until you get that. Until you get a CfD, you do not start the onshore investment but onshore investment is very hard to plan, to deliver. It obviously affects a lot of people and so you need a lot of consultation and you need to do that in advance. That is for anticipatory investment.

I will point out two other things that are really important. One is about the way that connections are currently treated. A good example is that we have applied for a hydrogen electrolyser connection at Pembroke, 115MW. We were told by National Grid—we have not had our final bit; we wanted it for 2025-26—it will probably come after we have connected to Celtic Sea. That is a bit odd because it is a demand increaser, which means that if you match it with your offshore grid you need less onward grid capacity, whereas if you do the offshore grid first, you build the whole capacity and then we reduce it. That is thinking about it holistically, about what else may come in electrolysers, but also everything is kind of firm.

I have a gas station and I have a 2000MW connection and they assume that they need to have a grid where I am there for 2000MW and the offshore wind is blowing and my battery is discharging. The likelihood of those three things happening is not very high because if it is very windy, hopefully in future I will not put my gas station on and vice versa. If it is very windy and I have the gas station, there will be excess power so I am probably going to fill up my battery, not discharge it.

We need a lot more thinking about how we can maybe get non-firm grid capacity or how individual companies can trade grid capacity so that we can optimise better. The answer is not always just build as much grid as you can. You need to also think about how you optimise each connection. We may be happy, for example, to have certain projects that we are happy to go non-firm on to optimise it.



## HOUSE OF COMMONS

My final point, moving a little bit away from the Ofgem/transmission thing, is the planning side of the transmission wires. I mentioned before that if you take the new line that we think is required from Pembroke to Walney—it is 200 km long—it will be very difficult to engineer and to plan and the sooner we engage with local communities to do that planning, the better. But also we have in consultation at the moment the national policy statements for planning and currently we say that they need to be a little bit more in favour of net zero developments. At the end of the day, we are in a climate emergency and yet we are currently ranking all considerations the same. We are not saying that all those other issues do not need to be considered—of course they do. But maybe there needs to be a little more emphasis, a presumption in favour, if it is about net zero and people have to put credible arguments against rather than at the moment what feels a little bit like not really recognising what we need to do to deliver net zero.

**Q21 Simon Baynes:** I will put two questions together here, one on local ownership and one on decentralisation, because I think in a sense they are very much interrelated. The two parts are: do you consider local ownership to be an important aspect of a future flexible grid scheme and how can policy assist with tackling the institutional barriers to decentralisation? I will go to Mr Proctor first, please.

**Robert Proctor:** You will not be surprised to hear that, yes, I feel that local ownership is important. To build on that, what we are asking the British public to be involved with is a big ask. The transition to net zero carbon is a big, big ask. It is a big change to the way we do things. There will be changes, like new power lines, new onshore wind projects and so on. It is important that people are brought along in that process and it is not felt that it is being done to them. It is being done with them and they are given the opportunity to be involved in that process and can see the benefit to their community of those projects. I do think that is really important.

I think that there is a real lack of trust in the energy market, and in energy supply companies—a huge lack of trust. Some of the challenges we saw when we had some energy efficiency retrofit were that it was done largely by fly-by-night companies that were set up to go in and install some measures. Now, because they were not done well, a lot of properties are suffering the consequences, rather than it being delivered by local people, local trusted tradespeople, and so on. I think that is really important.

Thinking about the opportunity, because it is a challenge and we will have to do things differently, there is an opportunity to do it differently and involve people much more than we have done. I am pleased with the Welsh Government's commitment to local and community ownership and that sort of thing. I hope that can be translated into things like energy efficiency and renewable heating and to create opportunities for the community to get involved.



## HOUSE OF COMMONS

Also, as Chris was talking about, there is some almost like high lending, very large size infrastructure in offshore wind, gas, hydrogen electrolyser and so on. That could be done at a community level as well, so communities would have much more control over their energy and benefit from those developments more directly. I think that there are real opportunities there.

**Tom Glover:** I agree that it is important to bring communities together so that the community thinks, “It is our power station” rather than “their power station” or “their lines”. I think the only way you can do that is by ownership or through benefits. It might be that they want to own a bit of it and get cheaper electricity, or it may be, “We have this village hall because we accepted that into our community” but it is really important we have that. All of our companies, I know EDF ourselves, have a massive track record of doing things in the community, in various stuff, so I think that is good.

On the challenges of decentralisation, you can take the challenge I just talked about, the transmission level, which is mainly where RWE operates, exactly as the distribution. The distribution operators also need to know and invest in all the stuff that is required to mesh all these decentralised options together and get them to work efficiently together. I think we also need to make sure that every single house is equipped to be able to do air source heat pumping, EVs and so on. We fully believe you need the full deployment of decentralised electricity and you need the big stuff on top. We are talking—depending on the estimate—about doubling or even quadrupling electricity demand. It is not going to do just the big stuff and it is not going to do just the small stuff; we need to do all of the stuff, so I think it is really important.

One thing we need to be careful about is, as Robert talked about, some energy companies are seen as the bad guys and then we ask customers to accept them into their houses to do stuff. I quite often get asked by a family friend, “Should I put a smart meter in?” They are already thinking it is a bad thing because the energy company is coming in to do it, and yet we want them to put EV chargers in and heat pumps and everything else. We need to change this narrative about energy companies being the bad guys to being the enablers of something really good.

That is where politicians can also help. It is easy to suggest—we are not into supply—that some of the suppliers are the bad guys with excess profits, but you are then making them bad when they try to do the good stuff, like the energy efficiency and all that kind of stuff. We need to change that narrative a little bit.

**Jon O’Sullivan:** We also welcome the Welsh Government targets on local ownership, so no surprises there. The goal is to find those win-win situations working with communities. We already offer the genuine chance to invest in our projects. On our Garn Fach project we are looking at up to 10% community ownership. We have plans to evaluate that and do more with the communities.



## HOUSE OF COMMONS

As Tom said, there are community benefit funds that are significant. Personally, I have spent some significant time on the Pen y Cymoedd wind farm because I have seen first hand, in my team working with the local community, the benefits that these renewable energy projects can bring. We are very supportive of finding the right place and working with communities to develop renewable energy wind and solar farms and new sources of generation in Wales.

I don't have a lot to add on your other point on the decentralised grid except that we also support that we need all those types of connections at all levels. The decentralised, yes, but also the centralised, and they have to work together to enable the growth and transition acceleration that we are talking about.

**Q22 Ruth Jones:** I want to finish on a practical point with electric vehicles. We are pushing the message on net zero, "Go to electric vehicles". Our constituents are telling us, "That is great but I live in a terraced house, I am on a hill, I have wires going up the street", whatever. A classic example is one of my constituents, the Very Reverend Ian Black, who is the Dean of the St Woolos Cathedral, decided that he wanted to go in his electric car from Newport to Bangor. He had to go via England, because obviously he couldn't charge up in the middle of Wales, and it was going to take him, on the standard charge, 21 hours to charge halfway up, because the fast charging points are few and far between.

These are real, practical issues that people face. What are your suggestions and easy wins for this? How are we going to solve the problems?

**Jon O'Sullivan:** EDF Renewables has made some significant investments in these areas in the last few years, and we are very keen to enable electric vehicles with the charging infrastructure in homes and in the more commercial charging structures as well. It is no secret that in EDF Renewables we have Pivot Power, which is the name of part of our business, and we are focusing on developing what we call energy superhubs. I think the most advanced one of these projects is in Oxford, where we are looking at grid connections and supporting electric vehicles but also buses and that side as well.

We are trying to do an awful lot to optimise grid connections, and I am happy to say that we have a pipeline of these and we have at least two projects in Wales in the pipeline. We are talking good scale, 50MW in battery connections. That is very exciting but, again, difficult without increasing investment in grid and those nodes.

The other point I want to emphasise is that we have, in addition to the energy superhubs, Pod Point, which I think I have mentioned a little bit. Pod Point is one of the leading UK home charging providers, and that is another part of the EDF family. I think we have over 40,000 of those home energy charging points, so we are actively trying to reduce the costs of those and to roll those out into homes wherever possible.



## HOUSE OF COMMONS

**Robert Proctor:** I think it is an important issue. I go back to one of the initial points I made about powering down. We need to try to look at ways we can use less energy—making homes more energy efficient, looking at better public transport—so that people do not have to rely on a personal vehicle, looking at better active travel. If you could cycle into the city centre that is the best use of energy. It is no energy at all to do that. An electric bike also takes much less energy than a car.

We are specifically looking at things like shared car clubs. We have some funding from the Lottery to develop seven electric car clubs across rural parts of Wales so that people are sharing vehicles rather than necessarily having to own them. That helps people who do not have parking at their house and things like that but want to be able to access electric vehicles.

Other communities have also recognised the problem of rapid car charging and car charging in mid-Wales. It is a massive problem, so one of our members set up TrydaNi to try to develop a community-owned car charging network for mid-Wales. Often the problem is that when you are reliant on the market to deliver, the places that have fewer people, less of a market, will be the last places to get the infrastructure and they are possibly the places that need it most. I think a community shop had the first rapid charger in Wales because it recognised the need for the community and it was focused on that. Those are what we should be looking at as well. It is not looking purely at energy, it is: how do we reduce that? How do we enable people not to have to drive a car in the first place, which is a pretty inefficient way of travelling generally?

Q23 **Ruth Jones:** Thank you very much. Mr Glover, the final word with you. What is your solution to this problem?

**Tom Glover:** First of all, don't rely on the private sector to co-ordinate this. There is a real danger that the private sector will go to the areas of high population, high affluence, which is exactly Robert's point. Those are the areas that already have good public transport infrastructures. In a way, we should be encouraging them more to get off the roads rather than going to EV. I live in a rural area and the big issue is rural areas where it is not economic for the private sector to put the chargers. Those are the people who don't have the public transport to be able to swap to something else and quite often they are not very affluent areas as well. Number one is: do not get the private sector to co-ordinate it.

What I am going to say for transmission and distribution applies to EVs. You need a strategic plan, national rollouts and some co-ordination of it. The private sector can deliver it. Once you have the plan, if they get the funding they are probably the best to deliver it into the streets, but you need a co-ordinated plan and it needs to be fair. It needs to be like broadband rollout where you just say, "It needs to happen and we need to fund it". Even if it may not be economic, as I see it today, the number of EVs in that village, if you put the charger there, hopefully the EVs will come. I think it is the co-ordinated plan again.



## HOUSE OF COMMONS

The only other thing is—and this is something we are looking at—we talked about community funds and community benefits on wind farms. We are looking at that as something we could offer. Rather than ownership or benefit we could say, “We will put the wind farm there and we will put in some EV chargers”, as a kind of co-ordinated approach—and then you can feel you are part of that wind farm because you can charge your car “there”, in inverted commas, as Robert discussed. Whether it is actually there or it is going via the grid chargers is a bit of a regulatory nightmare, so I think you could also look at it linked as a community fund.

**Ruth Jones:** Thank you very much. Thank you, gentlemen. That is very helpful.

**Chair:** Thank you. I echo Ruth’s thanks to the three of you for your time this morning and for your very useful answers. You are very welcome to stay to listen to the next panel, but we will need to suspend momentarily to allow the new panellists into the session.