



Scottish Affairs Committee

[Oral evidence: GB Energy and the net zero transition, HC 459](#)

Wednesday 22 January 2025

Ordered by the House of Commons to be published on 22 January 2025.

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Members present: Patricia Ferguson (Chair); Harriet Cross; Stephen Flynn; Lillian Jones; Mr Angus MacDonald; Douglas McAllister; Susan Murray; Elaine Stewart; Kirsteen Sullivan.

Questions 1 - 28

Witnesses

I: Emma Pinchbeck, Chief Executive, Climate Change Committee; Owen Bellamy, Head of Energy Supply Decarbonisation and Resilience, Climate Change Committee; Aameena Camps, Commissioner, Just Transition Commission; Richard Hardy, Commissioner, Just Transition Commission.

II: Professor Paul de Leeuw, Director, Robert Gordon University Energy Transition Institute; Hannah Corbett, Senior Knowledge Exchange Fellow, Centre for Energy Policy, University of Strathclyde; Fraser Stewart, Just Transition Lead, Regen.



Examination of witnesses

Witnesses: Emma Pinchbeck, Owen Bellamy, Ameena Camps and Richard Hardy.

Q1 **Chair:** Good morning, and welcome to our witnesses who are here this morning to speak with us about a number of issues around the agenda of GB Energy and the just transition. We are very interested to hear what you all have to say this morning. In opening, could I ask you to briefly introduce yourselves and how your organisations seek to support the UK and Scotland's progress towards net zero?

Emma Pinchbeck: Good morning. I am Emma Pinchbeck. I am the chief executive of the Climate Change Committee, which I began doing in November 2024. The Climate Change Committee's remit in reference to Scotland is to support the Scottish Government with advice on its climate change targets. We will be publishing our advice on the fourth carbon budget for Scotland on 21 May this year. We also offer progress reports or ad hoc advice to the Scottish Parliament and Government on progress. We also obviously produce the UK-wide carbon budgets, and offer advice and progress on those.

Owen Bellamy: I am Owen Bellamy. I am head of the energy team in the secretariat at the CCC.

Ameena Camps: I am Ameena Camps. I am a just transition commissioner. In my day job I am a manager at UistWind. I am also a trustee of Community Energy Scotland.

As a bit of an introduction to the Just Transition Commission, it provides independent scrutiny and advice on ongoing development of the Scottish Government's just transition work, including the just transition plans, and carries out engagement with people impacted by the transition to net zero. We also take a holistic approach across sectors and places; for the Scottish Government, a just transition is both the outcome, which is a fairer, greener future for all, and the process that must be taken in partnership with those impacted by the transition to net zero.

Richard Hardy: I am Richard Hardy. I am a just transition commissioner like Ameena. I have been on both iterations of the Scottish Government's Just Transition Commission, and I do not intend to repeat what Ameena has just said about what our work does. In my day job, I am the senior officer for the trade union Prospect in Scotland and Ireland.

Q2 **Chair:** My first question is to Emma and Owen. How would the Climate Change Committee rate the ambition and feasibility of the UK and Scottish Government's plans for clean power in Scotland?

Emma Pinchbeck: I will start, and then Owen, who has definitely been in post longer than I have, can add anything that I miss. The nature of energy policy is that some matters are reserved for the Scottish Government—for example, planning, which is important for building energy infrastructure. Therefore, to state the obvious, you do need to



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have very good joint working between both Governments. In general, because Scotland reports on the NDC as part of the UK, because so much of what is important to the Scottish economy is also important to the UK economy on climate change, you do need coherence in what goes on in the Scottish carbon budgets as well as in the UK carbon budgets.

It is worth noting that the way we do the methodology at the Climate Change Committee is that we run the numbers for the whole of the UK economy, and then we run the devolved Government reports thereafter, which is why we will be reporting on the whole of the UK economy to Government at the end of February, and then doing Scotland in May.

For us as a committee, the UK and Scottish Governments really do need to work clearly together. There needs to be clear agreement about roles and responsibilities, and better co-ordination of actions, particularly on reserved matters. Policy related to electricity supply is reserved to the UK Government, but substantially influenced, as I said, by devolved policies on planning and consenting—for example, for offshore sites for new renewables generation. It is clearly also important for oil and gas, because of where the industry is located.

Some of this is beyond the committee's remit, in that we publish the pathways on decarbonisation but delivery of the policies are for Governments, but we have said the Scottish Government need to work with institutions in the UK, the UK Government overall and the energy regulator, which works right across GB, national and local government, and, increasingly, regional energy strategic planners such as the new National Energy System Operator, which will be putting together this plan for the grid infrastructure for the whole of the UK and GB market.

The Electricity Networks Commissioner's report, which was produced by Nick Winser for the whole of the UK grid, also noted that, because planning is important both for grid infrastructure and for power plant and energy infrastructure, that planning process is outdated right across the UK. Both the Scottish and the UK Governments need to take a bit of a holistic review of how that works. That is as much as we have, apart from a ringing endorsement that both Governments need to work together to deliver on their climate change targets. Owen, have I missed anything specific?

Owen Bellamy: The main thing I would add is that the Scottish and the rest of GB electricity systems are quite joined up, so it is really important to work together, because the Scottish electricity system is not a completely separate electricity system from the rest of the GB market. It is very interlinked; in Scotland, more electricity is generated than is consumed, so a lot of the electricity is exported south to where the demand is. As Emma says, working together is very important because those systems are too interlinked.

Q3 **Chair:** Just to follow up on that, do you have the impression or the view that they are doing the right joint working on those important areas?



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Emma Pinchbeck: Fortunately, I have only been in post since November, which gives me the excellent get-out clause to say it is too early for me to tell you. At the Climate Change Committee, we have a very good Scottish champion in Professor Keith Bell, who does a lot of work in Scotland. I have been to Scotland once already to see the Scottish Government and I will be coming back again before May.

So far as I can tell in Government, the decision to locate GB Energy in Aberdeen means that the relationship looks good, or at least there is an understanding in Westminster that they need to work with Scotland to deliver some of the key things in the Government's policy agenda, but also in climate change targets more broadly. Other than that, I have only been in post since November so it is a bit too early to tell you. I will save Owen from answering that question.

Q4 **Chair:** That is fine. I understand. I will address this question to all of you. The UK Government are expected to launch a consultation on new North Sea oil and gas licences in the near future. What outcome would you like to see from that? I will start with Richard, as Emma started the last round.

Richard Hardy: I think I would like to pass that down the table. Our job as a commission is to advise the Scottish Government. It is a UK Government decision on those licences. We were set up to advise the Scottish Government on the way forward in relation to workers and their communities, and the way that we would want to see a just transition taken forward. That is a bit of a political question for us as the Just Transition Commission. I am getting the nod from Ameena too. Sorry, guys; that is coming your way.

Emma Pinchbeck: There are two parts to that question, not to pre-empt something you might ask us in a moment about our own trajectories for oil and gas. One is what the trajectory is for oil and gas in the CCC's pathways or in the North Sea Transition Authority's pathways. What is the future of the basin in that context? I might allow Owen to answer that one.

There is also the piece on where we are trying to get to and how you do the transition well. In our view, in terms of GDP and growth, the economy is better under a net zero trajectory than an economy that is still dependent on fossil fuels. That is for a couple of reasons. One is that the energy transition is gathering pace globally; electrification technologies, in particular, and renewables are looking set to be a very dominant fuel in the future energy system, with the industrial and economic benefits that come with that. They are also more efficient, so using electricity in that way across the economy reduces our dependence on imports, which in turn reduces the risks from fossil spikes in the future. There are a number of economic benefits from the transition for the macro economy overall.



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However, we are talking about particular industries also changing significantly in the carbon budgets, and one of those is oil and gas. We draw that out specifically in the advice. Again, some of this is beyond the committee's remit, but we think there should be much more thought about how we support workers with moving over into renewable industries. A report from the NSTA and from the Just Transition Commission said something like 90% of oil and gas workers could work in the renewable sector or in clean technologies. Making that straightforward—actually talking to workers about how they want to do that and identifying opportunities—is really important. The committee has been up with the Just Transition Commission to talk to workers in Aberdeen. It is very clear to us that the Government could do more in that regard.

There is also what to do about communities and workforces where it is not possible to transition. There needs to be a plan for how you invest in those communities and what you do; it is important that we essentially do not repeat what happened with coal in the 1980s.

Just to give you a highlight, there are opportunities in Scotland. Sumitomo has confirmed a new £350 million cable factory in the Scottish highlands. There has been the creation of more than 17,000 new jobs from SSEN, which is one of the transmission and network companies in Scotland, and 1,000 new homes to do this build-out. There is a question about how you make sure energy policy is also considering industrial policy. Again, while that is beyond the committee's remit, that is something that we have said in order to capture those benefits.

Lastly, we are talking about the power sector in this hearing and the role of things like GB Energy, but we would note that a lot of the change and opportunity in the carbon budgets over the next decade are coming from what we call the demand side in energy; it is essentially buildings, heating and other areas of the economy where we are electrifying, so jobs for things like heating installers and so on. We have to consider the energy transition in the round, rather than narrowly focusing on one bit of the system.

Owen, did you want to say anything about where we see oil and gas going?

Owen Bellamy: There are probably two parts of the oil and gas story in the future. There is the consumption of fossil fuels and the production of fossil fuels. In the pathways that we have made, the consumption of fossil fuels falls very significantly by 2050. In our sixth carbon budget, which came out a few years ago, under our pathways the consumption of fossil fuels falls by nearly 90% by 2050 compared to current levels. The best way to reduce exposure to the volatility of fossil fuel prices is to reduce consumption, so you are no longer dependent on those.

The other part is the production side of things. The North sea is a mature basin. The production in the North sea has already fallen very



significantly compared to the peak, which was in about the year 2000. If you look at the projections that the North Sea Transition Authority makes for how oil and gas production could change in the future, because it is a mature basin, even if you expand the production in some fields, that is not enough to compensate for the fact that the overall resource is falling. In the NSTA's pathways, production of fossil fuels also falls by about 90% by 2050.

Overall, there is a story that, if we are tackling climate change, consumption of fossil fuels has to fall, but, even if we were not doing that, production of fossil fuels would be falling very significantly anyway in the long term.

Q5 Chair: I could guess, but I do not want to put words in your mouth: what do you think that should then mean for the consultation on the licences? Should there be any? Should there not be any? Should there be a restriction on them? What should happen?

Emma Pinchbeck: I will take this, because I did a Select Committee last week where I annoyed a previous group of parliamentarians with this answer. The seventh carbon budget advice is coming at the end of February. We have previous positions as the committee out there on oil and gas licensing, but we are in the middle of updating our advice to Government. It is sufficiently close to us announcing that advice that I can tell you that some of our advice is changing, but I also cannot tell you which advice and what is exactly in it, because we have not yet advised Government, and under the Act we have to advise Government before we can then inform Parliament and everyone else.

After that, I would be very happy to come back and give evidence on specific committee views, but all I can do now is point you to what has previously been said under the sixth carbon budget, but just note that we are about to advise Government again.

Chair: We will look out for that with interest.

Q6 Mr MacDonald: Emma, you spoke about the move to renewables basically stopping us being so vulnerable to spikes in fossil fuel prices, for example in gas, but, due to coupling, that is exactly what is happening: the price of gas goes up, and the price of renewables, which cost no more to produce, goes up as well. Do you think that should be decoupled?

Emma Pinchbeck: This is wholesale market decoupling, which is the idea, if others do not know, that in the UK system the price of electricity basically tracks the gas price. There are a couple of things on that.

First, for the committee, we are not making and have not previously made very specific recommendations about energy market design. That is because these are policy choices that are really for Government. What we have said is, because of the overall efficiencies of renewables and their cost to build versus fossil plant, that they are a cheaper technology and the economy overall benefits. We can also see, against the baseline, that



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bills will be lower in 2050 if we deliver net zero than they would be if we keep a fossil system.

How those costs then flow through the market are choices for Government. Under the current market arrangements, even if the market design does not change at all, first, the presence of renewables on the system avoids imported gas, which helps overall on bills, because you are just having to import less for gas generation. There are estimates that the presence of renewables in the UK market saved consumers a couple of hundred quid on their energy bills at the peak of the crisis, for example.

Q7 Mr MacDonald: We are paying four times the price of the United States for our energy, and we are paying twice as much as they are in Europe. Everything that is being done about moving to renewables seems so sensible, so I do not understand why this country is being so hampered by these huge energy prices.

Emma Pinchbeck: We are not making specific recommendations on REMA, which is the actual market design—things like the contract for difference, the capacity market and market coupling—although that is not to say we would not look at it if the Government asked us to, but one of the things we are saying as a blanket recommendation is that electricity can and should be cheaper.

It is absolutely essential that the Government look at how they can make electricity cheaper for consumers and businesses as soon as possible. It is absolutely clear that renewables are cheaper than fossil on this end of the system. We should be able to pass those costs through the system. How the Government choose to do that is reserved for Government rather than the Climate Change Committee, but we are very clear in our advice that they should be looking at it.

One thing we have said previously that we will stick to is that, for domestic consumers, if the Government chose to not levy the policy costs of electricity bills, the price difference between gas and electricity would be far less, and electricity would be cheaper. That is a relatively straightforward thing to do.

I said this at a Committee I gave evidence to last week, but there was frustration from me and our head of net zero, Dr Emily Nurse, that lots of organisations have been making this recommendation to Government. The private energy industry, where I was working before, has made this recommendation to Government. Everyone thinks that, from an economist's perspective, it would be sensible to have your future fuel as cheap as possible, and the Government are less advanced in thinking on this than they should be, as was the previous Government. It is our primary recommendation in our progress report to Government last year, and one that I am very happy to repeat here, but how it is done is definitely for parliamentarians and for Government to debate.



Q8 **Elaine Stewart:** Do you think the UK Government and Scottish Government plans for the Scottish energy sector are aligned at this moment in time?

Emma Pinchbeck: I would be interested in what colleagues think in terms of just transition. Again, we are about to advise on the carbon budgets both for Scotland and for the UK, so there is an element of not being able to tell you fully the detail, but as a committee we welcome the opportunity to offer advice on a carbon budget system that has been broadly good for the UK in offering a predictable, long-term approach to delivering emissions reduction, while also allowing quite a lot of room for policymakers to set out their own delivery pathways. In these terms, that means that Scotland can prioritise things like just transition for the oil and gas community, industrial policy or things that are perhaps not reserved matters, while also working together on things where there is alignment on energy policy.

As Owen said earlier, electricity supply is one of those areas where we need to see a lot of alignment, because so much of the natural resource for the UK-wide energy market sits in Scotland; there is all the lovely wind power that is north of the border. How we move it around the country is important, so you need alignment in things like planning and consenting. You need those energy markets we just talked about to work for the whole country, as well as for each nation. More than ever, you need to see real co-ordination between the Governments of the UK and Scotland to get that done.

The UK Government's clean energy mission will also require this plus-plus, because they are setting quite ambitious targets on the build-out of renewables. Some of those projects are in Scotland, as is the grid infrastructure we will need to deliver the clean power mission. As far as I can tell, having started in November, those conversations are happening, but you should ask me back in six months or a year, and I will tell you in real terms what we think. We will write progress reports for the UK Government and the Scottish Government as well, so you will get more when we do that.

Q9 **Elaine Stewart:** That brings me to my second question, which is probably similar. Do you think both Governments are working together to prepare for the energy transition?

Emma Pinchbeck: They are in the context of conversations on things like UK-wide auctions. The new Energy System Operator's plans for the clean power mission considered both Scotland and the UK. The advice that we have been asked to prepare as the Climate Change Committee for the Scottish Government considers the UK-wide NDC—the international commitment we make; the nationally determined contribution—but also the UK-wide carbon budget. In that context, yes, conversations are happening.



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To come back to oil and gas, in advice we have previously issued we have specifically said there needs to be more work from the UK Government and devolved Governments on local impacts, particular communities and particular workforces that will be affected by the transition. Just to be clear, only about 1% of the workforce are in industries that we cannot see moving over to net zero industries or new opportunities when you look at the UK overall, but if you are in Aberdeen, that clearly feels different. There is a real need to have better conversations there.

We were grateful to get to go up and speak to Aberdeen workers as part of the work we have been doing on the carbon budget as the committee, and it was clear that those workers need to have much more detailed conversations at local level, at Scotland level, and then apply that UK-wide. This is also a question where my colleagues down the bench would have a real view.

Richard Hardy: Thanks, Emma. If you look at the approach that devolved Governments are taking, Scotland has had a Just Transition Commission since 2018. The Northern Ireland Government are creating a Just Transition Commission inside the British Isles. The Republic of Ireland Government have just created a Just Transition Commission. The lack of a UK-wide approach on this is disappointing, particularly given that a lot of the things that we are talking about today are reserved to the UK Government.

There are still issues in terms of progress within Scotland, despite the fact that we have been, in our two iterations, in place for seven years. Those conversations are happening at a worker level, a community level and a business level in Scotland much more so than they are in the rest of the UK, so there are definitely lessons that can be learned for the UK Government on how it approaches transition.

Our view as a commission has long been that this should be something that people feel is being done with them rather than to them. I lived through the coal-mining closures of the 1980s and 1990s in Yorkshire, and that felt very much like it was done to us. It leaves a legacy of hurt. That is the best way of looking at that.

Just to pick up on Mr MacDonald's last question, the commission's position on how you pay for decarbonisation is that a flat levy on bills is the least progressive way of doing it and impacts those who can pay least the most, so we would support a change to the way that that is done.

Q10 Elaine Stewart: Ameena and Richard, the Just Transition Commission mainly advises the Scottish Government. What role would you like to see the UK Government play in delivering that transition?

Ameena Camps: Although our remit is to advise the Scottish Government, we have been engaging with the UK Government. We send our reports to the UK Government, and the co-chairs will be meeting Michael Shanks next month. As Richard has just alluded to, we would



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obviously like to see a stronger focus on a just transition at a UK Government level. As has already been mentioned, there are critical interdependencies between the UK Government and Scottish Government, particularly in the energy space, where very little is actually devolved. There needs to be a stronger focus on a just transition, both for Scotland and UK-wide, by the UK Government.

There are certainly signs of improvements in the working relationship between the Scottish Government and the UK Government, which the commission has noted that it is pleased to see, but we have also highlighted there is a need for urgent action at the UK Government level.

Some of the areas that have been noted to UK Government that are required are based upon the engagement we are doing across Scotland. These include mandating a community right to shared ownership, renewable energy developments and grid connection reforms, both to reduce the connection costs for community energy generation but also reserving a proportion of the grid due to a lack of grid space. There has already been a conversation on that market reform that is really needed, because of the exacerbated costs in Scotland.

In terms of the engagement we have done, we went to Shetland, for example. There are some very large-scale renewable energy developments in Scotland, such as Viking. We spoke to the local communities, and they discussed with us some of the impacts that they are feeling. It is not just the wind turbines that are going up; it is the associated infrastructure that has been going up across Shetland.

We spoke to some fishermen who have been impacted by them. A scallop fisherman had not been able to utilise his grounds for a considerable length of time, to the point where it was on the edge of whether he went bankrupt. It just shows there is still that disconnect. This is UK-wide infrastructure; this is not Scottish infrastructure. This is benefiting the UK, and the community were very clear that they were not seeing a strong enough beneficial impact for their community.

For numerous years in Shetland they have had that benefit from the oil and gas industry as well, so it is even more prevalent where they have had that benefit, and now they are switching to the renewable system. It is always important to ground it in real examples as well, where we are out there speaking to people. It actually became quite emotional. People are really upset about what is happening. It is important for the UK Government to also experience some of that so they understand the impacts.

Richard Hardy: As we move towards GB Energy becoming a major player in the energy transition, who is it that is going to be advising Great British Energy on the just transition elements of what its remit is going to involve? If we are talking about Great British Energy becoming a stakeholder, an owner or a developer of projects, how is that going to play out? How is it going to interact with those people who are going to



be impacted by those decisions? What we would like to see is more organisations setting out just transition plans, strategies and targets for what they are seeking to achieve, rather than just saying, “This will deliver”.

It is great if this delivers lower energy prices—that is a just transition outcome—but it should not be the only just transition outcome, because there will be winners and losers in relation to where the jobs are and the impact on communities. We would like to see more engagement from those people involved in the sector in relation to their just transition outcomes, and GB Energy seems like a really good place to start.

Q11 Harriet Cross: Thank you all for coming. Investment is clearly going to be key to driving this forward, but it is about investment and delivery. Those two things have to line up if we are going to make sure that skills and energy security are secured as well. As nice as it may be for all our energy to come from clean sources, if people are asked if they want clean energy or if they want the lights to turn on, they are going to choose the lights turning on. Investment is something that we need to make sure is coming through. How is this keeping up with the pace of decline in the oil and gas sector? How is investment that is or is not—open question—being lost from the oil and gas sector impacting the levels of investment that we are seeing into clean energies?

Emma Pinchbeck: Just on the capital, to give you some global figures, the acceleration in investment into clean technology away from fossil fuel is gathering pace. In 2015, which was just before I went to work for the energy industry, the ratio of investment in clean power to fossil fuel investments was roughly 2:1. In 2024—this is International Energy Agency figures—it is now 10:1.

In my previous job I was chief exec of the cross-technology energy trade body, and I will tell you from personal experience that by far our biggest problem over the last five years from the energy sector was trying to convince investors to invest in the UK as opposed to growing other markets, such as China, which has the biggest offshore wind market in the world, and is growing markets for batteries, electric vehicles and the technologies of the new energy transition, or India, which has a 500 GW clean generation target for the 2030s.

You need ambition here because of the competition for that infrastructure investment and because of the increased ambition from other countries. It is a big concern about how you get private capital into the UK. It is very clear that the global move in the energy sector is away from fossil fuels in general and into clean technology. It is far outstripping the need in that regard.

In terms of keeping the lights on—what was the second part of your question?

Q12 Harriet Cross: Investment is one thing, but investment comes and then



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there are deliveries afterwards. There is a gap in the middle. If we are investing in green technology, it is great, but these projects do not come online quickly. In the meantime we risk losing other investment, skills, supply chains and all the things that are actually going to deliver the projects in the end. Where is that sitting in a balance with the decline in the oil and gas sector?

Emma Pinchbeck: On the energy security piece, we are certainly building projects fast enough to deal with the removal of fossil gas plant from the system. In the Climate Change Committee's remit, our pathways include having to look at economic social factors, which includes running a secure system.

The job on security of supply and how you bring power plant off and put new power plant on is really the job of the new National Energy System Operator. The margins in the UK are good; they are better than many of our counterparts. Reliability on the transmission network is world-leading; it is 99.9% or something, in terms of security and keeping the lights on, so there is no issue there in the pathway we are outlining.

In terms of industrial strategy and your question about how you make sure that you keep supply chains, workers and previous investment into those things in this country and move them over into new projects, some of that is outside the Climate Change Committee's remit. We have said—I have said in this evidence, and these guys have said—that there has not been enough thinking about the industrial strategy piece of this over the last 10 years or so of energy policy. Skills and supply chain have certainly become bigger factors in project delivery and pace for the energy sector and other bits of the economy.

By that, I mean you need the available workers in order to build things quickly. You need to have the cable manufactured on time to build out your network. There is more competition for those things and so, regardless of climate change, from a sensible energy strategy point of view, you need more industrial strategy. The Government have plans for an industrial strategy, as well as the clean energy mission. We would be encouraging them to try to bring those together and make sure that you can easily move workers over from oil and gas on to new projects.

This is a hackneyed anecdote that I always talk about, but it should be possible, for example, to move over marine divers from offshore oil and gas rigs into the renewables industry, to dive and do environmental and O&M assessments for the renewables industry straightforwardly. Historically, they would have been certified by two different bodies and the training would have been different. Those bits of the industry would have been siloed. I know that the wind industry is doing lots of work to align things such as certification standards and training. The Government as a whole need to do a lot more work on skills and thinking about moving workers over. In general, the Climate Change Committee has said that we need to do more on industrial strategy and local impact planning for workers, as well as energy policy.



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Richard Hardy: This is our bread and butter. Emma is absolutely right: the investment is coming in in green technology, but what is it buying? It is not buying jobs in the UK. It is buying things that are made outwith the UK and then are brought to the UK, and it is creating some construction jobs. The lack of an industrial strategy on the part of both of the Governments that we deal with is telling. It is really important that we transition workers and that we skill up workers for the future, but there is no point in skilling up and transitioning workers if there are no jobs for them.

I do not want to steal anybody else's thunder, but unless we start making things, there will not be enough jobs for people to transition into. Emma is right that very highly skilled, specialised people can transfer between the high-carbon sector and the net zero sector. A colleague of ours on the commission, Rachel McEwen, was on an SSE podcast yesterday where they were talking about the success that they had had in doing that. That is really great but, if you go out on to a platform and you look at production workers, the catering staff and the people who are operating that platform, they are not going to be needed to run a wind farm in the Firth of Forth. Where are those people going to transition to if there are no supply chain jobs for us to move into?

That is the key. Investment has to be in production in the UK, rather than, "We are going to build an X-billion-pound wind farm, and we are going to spend X-minus-most-of-it on turbines that are made in Malaysia, the UAE or China". That is the key question. It is not just about the level of investment at a macro level; it is where that investment is being spent and what bang for the buck we are getting as a country from that.

Ameena Camps: One thing the commission has highlighted is that there has been a lot of public investment in the transition to net zero, but not necessarily the just transition delivery. I mentioned earlier that as a commission we take a holistic view so, when we are talking about just transition delivery, we are not just talking about jobs; we are talking about housing, education for the skills piece, social infrastructure and health and wellbeing. All that needs to be considered for that fairer future.

We are creating a very different type of workforce. We have had conversations with people where you are getting these big build-outs but then they have nowhere to stay for that time period, and then they will migrate out of that area and move somewhere else. That creates a very different dynamic for housing, for example. We know that there is a housing crisis. That needs to be connected with the whole public investment piece. It is that strategy that is really key to everything, and that is what we are lacking.

Emma Pinchbeck: Very quickly on timing, because you were asking about timescales underneath all of this, there is a time lag on these projects. They take a long time to develop, consent and then build. One



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of the things that is in the NESO's plan that it produces for the Government on the clean power 2030 mission is to note that all of the projects that it has listed in there are already in the development pipeline and consented. A lot of those projects have already identified things like critical worker need and so on.

On what you are talking about in terms of where the skills gap is, in the power sector it is projects beyond the early 2030s. That gives us time—

Q13 Harriet Cross: Sorry, can I just jump in? We will look at skills later. It is not necessarily skills; that is a very important part of it that I am very interested in, but it is about the investment, where the investment is going and whether we are putting the investment that is coming in into the right place at the same time.

You mentioned earlier about bills. It is fabulous that they will apparently come down at some point under cleaner energy, but they are not going to come down in the meantime if we are paying out curtailment payments or if we still have to keep going back to relying on fossil fuels because of the energy mix—66% of the energy today is coming from fossil fuels because we do not have storage.

Emma Pinchbeck: Do you mean clean energy? That is not the statistic for power.

Harriet Cross: The energy mix today.

Emma Pinchbeck: You mean energy as in heat and electricity, rather than just electricity.

Harriet Cross: Yes.

Emma Pinchbeck: In the electricity sector, it is 40%, which is the big thing for bills.

Harriet Cross: Yes, of course, but in terms of how the country works as a whole, everything has to be seen very much together. That comes into more of it. A lot of the energy policy is quite disconnected at the moment. This whole thing together has to be seen as a holistic thing, because, as a country, as households, as businesses, we need to take this as a big approach all together. It seems very siloed.

For example, I understand you have been in since November, but a lot of it is, "That is not in our remit. We have not come to that yet", and vice versa along the line. It feels like there is not much that is joined up in so far as where this investment is coming from, where it is going to and whether it is being put in the right places.

Emma Pinchbeck: The reason we say it is not in our remit is because some of these decisions are for Government. If price is your priority and if you want to do more on getting the price of projects down, using energy policy to drive down project costs and capital infrastructure costs and project development flows through to bills, in that we currently levy fund those off bills. If you are building cheaper projects, it is a smaller



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amount to levy, and that infrastructure then produces cheaper power, which overall then impacts energy bills.

That is a policy decision for Government, which I would argue has delivered those outcomes, but what that market arrangement did not focus on so much is a wider industrial value. For example, do we want to build slightly more expensive projects but be able to have skilled workers or more supply chain in the UK? These are policy decisions for Government.

The Climate Change Committee's job is to advise you on the roadmap in the macroeconomy to delivering the net zero target. Government then make decisions on the relative balance of things like energy bills, where they are levied from, whether it is done in taxation or on bills, the benefits in the economy, whether you are looking at regional investment, industrial strategy, or indeed electricity prices overall. We are a statutory independent body, but we are unelected. Some of these decisions are very much for you guys.

What we can tell you on the macro-economic point is that overall bills benefit from investing in low-carbon technologies, and the macro economy looks to benefit too. That is because the electricity that renewables produce is cheap. We are looking at a more electrified economy, which is more efficient. You just make savings across the economy from a more efficient energy system, as is the case in the economy since the year dot. It is a bit like moving from coal to oil and gas. We are moving to electrification.

Chair: Before we go on, we are fast running out of time, so it would be very helpful if questions and answers could be a little bit more focused.

Q14 Stephen Flynn: Thank you all for your comments so far. In relation to the balanced pathway to net zero, there is obviously still a need for some oil and gas consumption. Do you believe that is an argument in favour of or against domestic production? In relation to the decoupling of electricity on the price of gas in relation to energy bills, do you believe that would be a help or a hindrance to the delivery of renewables projects going forward?

Finally, in respect of the communities who perhaps matter most here—for those of us who live in the north-east, we live it and breathe it on a daily basis—what they want is certainty. They want certainty that there are going to be jobs; they want certainty that there are going to be opportunities. Do you believe that the current Government's plans are adequate in respect of providing that supply chain certainty for key industries such as carbon capture and storage, and others? We still lack clarity from Government as to whether there is going to be investment in projects in the north-east of Scotland.

Richard Hardy: I will pick up the last question first. I will be as quick as I can. In our annual report from 2024, the answer is no. Our advice to



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the Scottish Government is, "If you keep doing things the same way that you are doing things, you will not deliver a just transition". Things need to change. We have not given advice to the UK Government. I might step outside my role a little bit, but we would probably give the same advice to the UK Government as well.

All communities matter, Stephen. Some have more investment today in it than others, but high energy prices impact everybody across Scotland. We have to make sure that we do not deliver a postcode lottery outcome for Scottish communities that are impacted by this. We have been very clear that just continuing to try to deliver an energy change the way that it has been delivered for the last 25 years will not deliver a just transition. What we will have is communities that are just reliving the hell of the decarbonisation of coal.

Q15 **Stephen Flynn:** Forgive me, Richard; I do not necessarily want to disagree with you, but I was talking about carbon capture and storage. I was talking about the likes of offshore wind, where two years ago there was not even a single bid put in place for the offshore wind leasing round at UK level. I was more interested in that aspect with regards to the delivery of projects that are going to drive that supply chain in the north-east of Scotland.

Emma Pinchbeck: On oil and gas, that was the conversation about UK production and oil and gas. Again, I know this is vexing for anyone that we are giving Committee evidence to at the moment, because we are right before a carbon budget. As Owen did, I can repeat what is in our pathways. We have oil consumption falling in the sixth carbon budget by 52% for 2035 and 85% by 2050. The range in our pathways is 46% to 62% by 2035, and 84% to 98% by 2050. That is almost all the oil coming out of the economy.

Gas is highly dependent on the Government developing carbon capture and storage technology. In our pathways, as in most pathways that look at the energy transition or decarbonisation, once you consider economic factors and social factors, we think that we need to have some abated gas in the system. The range for that means that total UK gas consumption, including CCS, falls by 41% to 59% by 2035, and 50% to 91% by 2050. As Owen said, we can see a big decline in the need for oil, significantly, but also gas in the economy over the next decade and a half. The basin is already declining, and the NSTA would say that. There is a need to plan for reduced UK production.

One of the things that came back from the visit that the committee made to talk to workers in Aberdeen, just to put this on the record, is that the workers in Aberdeen did not think that oil and gas was going to decline. There has been a failure of communication to those workers about the transition that is coming, and what we need to do to help them prepare. That is a role for Government that the committee is on the record as saying is necessary, with very clear information about the condition of the basin and then the likely changeover to clean technology.



On licensing, there is an existing position out there that I can point you to. I cannot tell you anything more about the advice for the seventh carbon budget, because we have not advised Government yet.

Owen Bellamy: On decoupling, that is something the Government are looking at as part of the REMA programme they are doing—the review of electricity market arrangements. It comes back to some of the discussion earlier as well. One of the key ways they are looking at doing that is moving more towards contracts for difference, which are a natural way of decoupling the price of renewables from the price of electricity more widely. As you move towards a more renewables-based system and you have more renewables projects that are on contracts for difference, that will naturally lead in that direction anyway, which would be supportive for low-carbon projects.

Emma Pinchbeck: There is a big debate going on about markets, but one thing we have not mentioned is infrastructure build-out. A colleague mentioned constraint costs in Scotland. You need to build grids and build infrastructure, and one thing about that on the question of investment is that market stability can help move that investment in.

Government are weighing the need to send clear signals to investors by keeping market stability—I would argue that carbon budgets can help you with that, by the way—but also the need to reform markets so that consumers most benefit from the technology. It is both, not either. At the moment, there is a need for a significant amount of infrastructure build-out, including some of those big cables moving power from Scotland to the UK. Once those are built out, that will help relieve some of the constraint costs that were mentioned.

Richard Hardy: It is fair to say that not everybody sitting and giving evidence thinks that more CfDs is necessarily the best answer in relation to generating investment and supply chain jobs.

Q16 **Susan Murray:** I wanted to ask about the UK's energy infrastructure and what needs to happen in order to maximise the potential for clean power. A lot of that has been touched on in what you have spoken about in the industrial strategy. I am really interested to hear what was said about how we keep the jobs in the regional areas by perhaps looking at different ways of developing these projects. What do you think needs to happen to maximise this? Also, what do you think the impact of regional supply might be, and the effect that that would have on the infrastructure that was needed?

Emma Pinchbeck: Unusually, I will do this relatively quickly. I will try to be brief. I almost just covered it: the big thing is that we need to build a lot of kit. We need to build a new power plant in the form of renewables—all kinds of renewables. We need new forms of storage technology: batteries, pumped hydro—the full range. We need grid infrastructure to support that technology and move power around.



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I would argue you also need digital infrastructure so that we can manage the system smartly, understanding where technologies are on the grid and being able to understand energy use in homes. We need technologies in homes to best use that energy from the grid, such as electric heat pumps and electric vehicles. From the carbon budget's point of view, that is actually where we could do with seeing a lot more attention, including the workers that we need to do that transition.

In order to facilitate that building, we need planning reform and consenting reform. We need to be able to work out where we are putting kit as fast as possible to strategically plan it, but then also to get it through the planning consenting system. We need grid connections to be there to connect it, which means connections reform, because the pace is extremely slow at the moment. We also need the markets that facilitate the investment into those technologies, so that we can finance them in the most efficient way possible for the British public.

It is that collection of things. Those all exist at the moment in energy policy. There is work going on, because of the Government's clean power mission, to accelerate some of that. It is too early to tell what the effect of that will be, but there is a lot of work going on in that space.

The thing I would add—we have all touched upon it—is that that is not the same thing as delivering you regional jobs or assessing local impacts. The Scottish Government have consulted on things like community benefits, and so are the UK Government. That is welcome. As the Climate Change Committee, we have said you need to do a lot more thinking about local workforces, particularly impacted workforces such as oil and gas, and regional benefits. I will leave the regional question, which is about community energy, for just—

Susan Murray: Not the need to move it all the way across the country.

Emma Pinchbeck: How much you can do locally.

Susan Murray: Yes, so you are not generating in the north of Scotland and using it in Kent—I know it is not as literal as that.

Emma Pinchbeck: Some of it is innately geographic, because you obviously get the best efficiencies and the most returns from building your renewable energy plant where you have the most renewable energy resources, and Scotland is very windy. The further we have gone out to sea with offshore wind, the bigger the yields and the cheaper the projects. There is an advantage in putting things in particular places, which is hard to avoid in these systems.

What you can do—and this is the part about investing in decent digital infrastructure and decent system management, as well as physical grid—is try to match demand and supply more accurately. Once people have electric vehicles and heat pumps in their homes, that also becomes something you are doing on the grid as a whole. That is why we think there are such big savings: because it is just more efficient to use your



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power that way. You can locate batteries with power plants and all of that kind of thing. Some proposals for market reform look at more local power markets, so the committee does not have a view on that.

Owen, do you want to add anything on the energy system?

Owen Bellamy: The only thing I would add is that there are potentially some benefits from having those smaller local projects, for example, where there are constraints on the electricity network. If you can build some smaller, local projects, you may be able to avoid some of those grid upgrades that are needed. On the balance of that, smaller-scale projects are typically more expensive than larger, big projects because you cannot get the economies of scale that you could otherwise get in a larger project. There are balances between both angles, really.

Ameena Camps: They perhaps could be more expensive but the socioeconomic benefits would also be greater. A game changer that we have noted as a commission is the community right of ownership of renewable energy assets. Community-owned projects greatly enhance community wealth building. They have been doing it for a long period of time now. You are talking about a small percentage of community benefit, or you are talking about 100% of profit going to local communities for local benefit and local jobs.

There are limitations in local supply. It is very difficult to do that at the moment, which is why there are calls for a local electricity Bill, which I am sure you have seen, which would enable that local supply and, like you said, be less dependent on the grid. I am based in the Western Isles; the community would like to be able to have local supply from the turbines that are in the Western Isles, but it is very restrictive at the moment. The policy levers and the legislation to do that would be beneficial for those communities.

A good example in the Community Energy state of the sector 2022 report is that an average of 70% of a community group's expenditure is spent locally. That shows the massive difference. A lot of the industry-based renewable energy developments are still maintaining that extractive model of taking it outwith those communities. GB Energy has a role to play, or could have a role to play, in overcoming some of the key barriers to enhancing community energy projects, and just rolling those out further across communities in Scotland, including support—capacity is a big issue, as is access to finance.

Richard Hardy: Other countries have taken a very different approach on community energy. In Denmark, 16% of their wind projects are community owned. A benefit is a benefit, but community ownership is transformational. Our view is very much that community ownership will deliver a just transition, whereas community benefit is more about just ameliorating the edges of the change. We say that quite strenuously in our latest report.



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Emma Pinchbeck: It is important to distinguish ownership from the location of the asset, and that is because the GB system is going to have nuclear on it, amongst other examples. We have offshore wind on it, and this is big infrastructure that is located far away from most communities in many places.

You have two questions in terms of fairness. One is the cheapest system overall, so that—picking an example—someone in a city tower block where they cannot have a solar farm or an onshore wind farm near them can still benefit from the overall cheap prices of renewables.

The second is the minimum cost of transforming the system as a whole. It is true that community projects do cost more, because they are smaller and often more bespoke. It is about £140 per MWh on average for a small solar project; it is about £50 per MWh for large scale. In the committee's modelling, which is responsible for looking across the whole economy, we have quite a lot of large infrastructure for that reason, which is not to say that there is not a role for community.

On ownership, that is a slightly different question. There are consultations out on community benefits, but there are lots of different models you could use for that. We would not have a view on it as a committee, but it is certainly worth looking at the question about how you get public support.

Ameena Camps: It is important to distinguish between community benefit and community ownership. It is very different. There is community ownership, where it is grassroots, community-led developments. You have meaningful shared ownership, where the community has a stake in that project and is fully participating in that project. You also have community benefits, maybe in projects such as offshore wind, where it is more difficult for a community to develop. They are paid, usually in funds. It could be other benefits, but it is usually a fund.

The community benefit rate at the moment is only £5,000 per MW, and it is voluntary. That is another thing that the community sector has called for: a mandatory community benefit where community ownership may not be possible, and also an increase in that community benefit rate, because it is not proportional. It has not increased with the cost of living. They are calling for a base rate and a ramp rate. The base would be similar to what it is but higher, something around £7,500 per MW, and then a ramp based on generation, so those communities are benefiting from these very windy areas with high availability.

Chair: We are actually out of time and we have another panel. We still have a lot of questions we want to ask, so can I ask questioners and the panel to keep to the focus, please? We will be directing questions to specific people to answer. If we could try to keep to that, it would be very helpful.



Q17 Kirsteen Sullivan: A lot of my questions have already been answered around skills, the need to align with an industrial strategy and the need to ramp up manufacturing in this country. I am going to ask my question around a very live issue, which is Grangemouth. What should the lessons for transition be for both the UK and Scottish Governments, given the situation at Grangemouth refinery with the impending closure?

Richard Hardy: We have done a lot of work on Grangemouth. We have worked quite closely with the community and with the workers at the plant. It is a shining example of how not to do anything. The key lesson to learn from how we do change in the future is not to do it like it has been done at Grangemouth. It is fair to reflect that lots of promises have been made by various people in various different roles, none of which seem to have come about. Honesty is a good place to start.

In our view there needs to be conditionality around the provision of public funds to people, particularly very rich people living in tax havens who own football teams, who take public money and then spend that public money divesting jobs in communities that are very precarious. This is not the first time that that community has gone through industrial change. It was obviously at the heart of the coalmining decline as well.

The commission's view is that high-carbon organisations have to have an exit plan. They need to bring forward those exit plans, so that what we are not doing is making a decision in January and then telling people that their jobs are going to be gone by the end of November. That is what happened at Longannet, which was a much more controlled process.

I am not here to speak on behalf of ScottishPower, but they had a long-term plan. When Longannet closed, of the 350 people that worked there, everybody who wanted to remain economically active did so, but that was a five to eight-year closure programme; it was accelerated as a result of a technical issue at Longannet. That is what we say in our report. High-carbon industries need to start to come forward with, "This is how we are going to exit from this business", or, "This is how we are going to change our business. We are going to engage with carbon capture and storage", and whatever. I went on "Newsnight" and said Grangemouth was a litmus test for just transition, and I am afraid it did not do particularly well.

Q18 Mr MacDonald: I adore every word you say, although I do have one slight bone to pick. Emma, the highlands is basically generating the electricity for Britain, to a significant percent, and we have a very high level of fuel poverty up there. We are paying much higher connection fees. None of us can get mains gas, which is a third of the price of getting kerosene or electricity. The energy price is fixed on gas or the electricity price, rather than the other way around. We are facing the industrialisation of the highlands, but with only downside at the moment. We talk about the voluntary £5,000, but actually I think it should be 5% of gross revenue. I have worked very closely with Highland council.



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We are making no way with the Energy Minister on this. Under GB Energy we have twice put forward amendments calling for community benefits to be considered, which have twice been taken out in the House of Lords and the Commons. I just do not know if the Government are taking those community benefits seriously, or whether you think that we can actually make it legislation that community benefits should be a legal requirement at Westminster.

Emma Pinchbeck: The committee does not have an established view on community benefit, and that is because our mandate as the CCC is to look across the macro economy. What we can tell you about that is we know that building out the system, locating infrastructure where it is most efficient and moving it around the country to where there is high demand means the UK-wide energy system overall benefits from this move to renewables and building them in efficient places. UK consumers then benefit from being able to use cheap electricity in their homes. We can see that in the overall model. What we cannot do, and what we are not mandated to do, is to dial down in what that means for each area of the country, apart from the advice we offer for devolved nations as a whole.

What the committee has said, though, is that there is this need to take local impacts more seriously across the piece. What we are on the record talking about—and have existing advice on—is the communities that are particularly impacted by the transition from high fossil-intensive industries into clean energy industries. In particular, we have said something about oil and gas in Aberdeen.

We have also said cheap electricity is absolutely necessary, and we are frustrated at the lack of progress on this. I suppose, by extension, cheap electricity is low bills for people. At the moment, we all acknowledge that we are in a world where we are building a large amount of electricity infrastructure, and telling people, completely accurately, that it is the cheapest form of power, and then people are not experiencing that on their bills. There is a need to accelerate that.

There are issues about how you do that, with the balance between investing in jobs, local industries, manufacturing and cheap market mechanisms overall, and the balance between what you want to do in the UK in terms of supply chains or globally, and what you do for local communities that are hosting the infrastructure. Those issues are literally outside our mandate as the Climate Change Committee, though Government could ask us to look at any of them as ad hoc advice, and we would. We acknowledge the issue, though, and have said we recognise the Scottish Government consultation on community benefits. We recognise that the UK Government have previously consulted on it, and we see the challenge.

The last thing I would say is that this is not a new problem. This is not a committee view; this is an Emma Pinchbeck view. I have said it in previous evidence sessions in my last job. When we did the great grid



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upgrade in the 1960s, there was pushback from communities that felt that they were hosting infrastructure. At that time, it was English constituencies being angry that they were hosting pylons to move energy to the Welsh; we now have a similar issue where we are building infrastructure in communities that have not seen it before, and we are moving power around the country.

What happened then was a very big communications programme. We rolled out footage in cinemas, we engaged with communities and we looked at particular benefits, but we also talked to people about why we were doing it. The committee does have a view that Government should be doing far more of that. That is working with impacted communities, but it is also talking to the country as a whole about what we are doing, why we are doing it and why we are building the infrastructure. We would certainly like to see more of that.

Q19 Lillian Jones: What could the UK and Scottish Governments learn from other countries on how best to manage a transition from fossil fuels to clean power?

Emma Pinchbeck: This is a nice plug. One of the things I have discovered since taking the job is there is a network of 25 other climate change committees internationally, and other countries that have carbon budget systems or approaches on climate targets that differ slightly from the UK. Some of them, such as South Africa and Australia, are more thoughtful about climate adaptation and just transition than the UK system is. It has been a pleasure learning from them about how they advise Government in those areas. I would encourage you all to look at the International Climate Councils Network and the way that it structures its advice to Governments.

In terms of UK progress against Europe, there is a good story to tell in terms of how fast UK emissions reduction has been achieved. I would obviously tell you that is because the carbon budgets are a very good system for decarbonisation. They are not the same as hard targets. They offer a five-year range. The independent advice from the committee can then be taken by Government and adapted in terms of a delivery plan that works for Governments of different colour and inclination if they are more interested in industrial benefits or more interested in private investment.

There is scope in the carbon budget system for a lot of room, while also offering predictability about general direction of travel, which unlocks private sector investment and helps you deliver and plan your transition efficiently. While Germany and Ireland have followed a similar trajectory to the UK, the Netherlands has been a slower pace of decarbonisation. Other European countries are broadly behind UK progress to date, so that is the good news.

Just to refer back to a previous answer I gave, what has changed over the last five years is that internationally we are facing much more



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competition from other countries that I would say are going faster. We have yet to see what the new Trump Administration means for on-the-ground delivery of the Inflation Reduction Act in the US, but that moved a lot of private capital over to the US into energy industries over there. We also have competition from India with their 500 GW target for fossil fuel generating capacity by 2030.

Over 130 countries have pledged to triple global renewables capacity by 2030. That was done at COP28. There is this huge move towards the energy transition. The overall message on this is we are in a very good place with our climate governance. Scotland will have our advice on its fourth carbon budget shortly. There are lessons to be learned, particularly on industry, on this question of planned transition, on adaptation and on things from the other climate change committees and other Governments. Overall, the world is moving very quickly in this direction; the main message is not to get left behind, rather than to be worrying about how far we have been ahead over the previous 10 years. Is that fair, Owen?

Owen Bellamy: That is a good summary.

Ameena Camps: Richard briefly mentioned Denmark as an example. Their 2008 legislation introduced a requirement for all wind farms to be 20% community-owned, which is related to the topic we were previously talking about. Ireland also has a good example of the small-scale renewable electricity support scheme package, which included a feed-in premium for community and SME projects, with a higher rate provided to community projects due to the additional barriers to support them. It was to help meet EU targets for community energy projects.

I also referenced the ZCC Act 1974 in Shetland, so we actually have some good UK examples of what we can achieve, and we are looking at what additional powers might be required to help maximise those social and economic benefits in the UK and Scotland.

Richard Hardy: In conclusion, Emma has already raised the point of communication, and very much over the last 15 to 20 years Government have not seen a role for themselves in communicating. They have left change very much to the market. If you look at how the Germany-Belgium-Holland triangle dealt with de-coaling the Ruhr, there was much more communication.

Ameena has mentioned Ireland as one positive outcome, but I would also say Ireland got it wrong when they shut Bord na Móna, having agreed a just transition plan with the unions and with the communities, and then overnight ripped it all up and closed Bord na Móna a week after we had agreed a just transition plan with them. There are good things out there to learn from, but equally there are some really bad things to learn from in terms of how not to do stuff. Genuine conversation with people, and co-design of an approach to decarbonisation where possible is the way forward. That is what we have been providing evidence and guidance to



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the Scottish Government on. Co-design is always better than just telling people.

Q20 **Lillian Jones:** Is there a risk of investment in clean power going overseas if the UK and Scottish Governments fail to maximise Scotland's potential?

Emma Pinchbeck: Is that on investment, did you say? Sorry, I missed the first bit. There is broadly a good story to tell on electricity decarbonisation. Overall, the UK's emissions are about 49.2% down. I always look at the team now to make sure I get this right.

Owen Bellamy: It is just under 50%.

Emma Pinchbeck: It is just under 50%. I hope it is 49.2% and I get a gold star. We are just under 50% down on emissions since 1990 levels. That has made us world-leading in terms of emissions reduction, but a lot of that has come from the power sector and the move from coal to renewables, rather than through gas, which is how everyone expected the transition to go.

A lot of that has come about because of the carbon budget's clear system of governance. That gives confidence to the private sector. I know that because I have come over from the private sector and they like the carbon budget; you can see a clear trajectory without them being so restrictive that the market cannot do what it does well in terms of innovation and financing.

It is also because our electricity market arrangements up until this point have delivered what they were designed to deliver, which was pushing the costs out of new large-scale infrastructure. The Government's projections for offshore wind were that the industry was supposed to get offshore wind down to below £200 per MWh by 2030, and in the latest auction rounds it is £56 per MWh. The electricity market arrangements brought in the best of the private sector with the state to solve that price challenge. What they did not do, as we have discussed, are broader things like industrial value, thinking about workers and skills and the rest. It is not to say they are perfect, but there is a good story to tell there. Where we have not delivered as effectively is on on-grid infrastructure, planning and speed. You have heard ad infinitum from all of us about plans for workers, plans for skills, and wider economic questions in terms of manufacturing and industry.

There is huge potential for Scotland, without question. You have wave and wind and tidal resource coming out of your ears north of the border. That is a very good thing. We will say more on how the Scottish Government choose to deploy those technologies when we advise Government in May from the committee's point of view, but we would also encourage the Scottish Government to be working with the UK Government and the other key energy bodies like Ofgem and NESO, to make sure you do that roll-out as efficiently as possible, with the best



benefits for Scotland as possible. There are then questions that are outside of the committee's remit, on what you do to make sure there is the maximum industrial benefit for Scotland in particular.

Chair: Thank you very much. That is the end of our questions, you will be delighted to hear. Thank you very much for your contributions this morning; it has genuinely been very, very interesting. I am sorry if it was a little bit rushed, but I am afraid we are trying to hear as much as we possibly can. Thank you very much for co-operating with us on that, and we will no doubt hear from you at some point again. Thank you very much.

Examination of witnesses

Witnesses: Paul de Leeuw, Hannah Corbett and Fraser Stewart.

Chair: Good morning, everyone. Welcome to our second panel this morning. We are very much looking forward to hear what you have to say.

Q21 **Harriet Cross:** Thank you all for coming. I will keep the first question relatively brief. It is to do with the ambition and feasibility of the two Government schemes for looking at the transition of the energy sector. In your answer, could you refer to the NESO report as well, and your take on how it plays into and sits beside the two plans of the two Governments?

Fraser Stewart: I will take that first. Both the clean power action plan and the subsequent plans are certainly achievable; they are ambitious but definitely achievable. The Scottish Government's plans and some of the core plans we have been looking for have been delayed for a little bit of time. The energy strategy and just transition plan was meant to be this big unifying document, which has been an ongoing process, so we hope to see that really soon. From engagement around that, we did feel that it was ambitious, again, but deliverable.

Where the rubber meets the road on this is around the next steps, specifically from the NESO plan, which is the strategic spatial energy plan. The NESO plan sets out, "Here are the things that we want to do and the key decisions that we need to take". The spatial energy plan then sets out, "Here is where we are going to build everything, or where we think everything needs to go and how we are going to work to deliver those things". That was co-commissioned by the UK Government, the Scottish Government and the Welsh Government. Speaking to your earlier question around collaboration, that is quite a positive signal.

From personal experience in being involved in Scottish Government and NESO engagements through the clean power plan process, the vibe has been broadly positive. It is definitely achievable, and it seems like there



is practical working together. We will find out for sure, as this will all come out in the wash through the strategic spatial energy plan.

Q22 Harriet Cross: From your point of view, Scotland and the UK are quite aligned at the moment. Are there places where they are diverging, or does it seem like we are working together?

Fraser Stewart: They are certainly working together, but the previous panel pointed out well that the just transition plan is currently a much bigger deal in Scotland, Wales and Northern Ireland than it is at UK level. It is not miles away; the general tone of the conversation around the energy transition has been broadly positive about the need for social and economic value and benefit, and the need to make sure that people are not being unfairly harmed or penalised through that process.

What we do not have at the UK level, as was pulled out previously, is a formal panel, commission, or way of embedding that into policymaking just now. We would certainly like to see that be brought through, not just because we think it is a good or a right thing to do—I am sure most of the people around the table would agree on behalf of their constituents—but also there is this crucial point that we cannot get to net zero, full stop, if you do not have everyone with the ability to get to net zero within that process. We would like to see that branched out as well. There is good collaborative working on the nitty-gritty energy system stuff, but more broadly that is something that we would like to see pulled across.

Q23 Harriet Cross: Looking at the feasibility in terms of timescales, I assume we are looking at 2030 as an immediate timescale for decarbonising grid, and then obviously the 2050 longer stop. How feasible do they feel relative to the current plans?

Fraser Stewart: They still feel feasible. I do not think there is any major concern. Again, there is acknowledgement that clean power 2030 action plan in particular is an ambitious plan and does not necessarily lay out all the details for how to get to where we need to get to for 2030. I am not going to say there is full consensus, but there is a general agreement that it can be done. It is absolutely what we should be aiming for.

The only slight concern, not necessarily in terms of the clean power 2030 action plan, is that the Scottish Government—pragmatically, you could argue—rolled back on the previous climate change commitment. I do not think it is necessarily a terrible thing to be able to be pragmatic with that type of process, but it makes that net zero 2045 commitment all the more prescient, and it makes 2030 in the interim an important stepping stone to collaborate on to get there.

Professor de Leeuw: Can I add an overlay there, building on Fraser's comments? I am Paul de Leeuw, of Robert Gordon University. I like the ambition of NESO, the NESO plans and the clean power. It is great, but it is about what sits behind it. What is the investment? What is the activity? What is the durability? I will give you a very practical example on a wind



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site. There is currently about 15 GW of offshore wind installed, plus or minus a bit. We want to get to over 50 GW in a very short period of time. That is 35 GW over five or six years—6 GW a year, by my calculation. If you have an average wind turbine, which is 15 MW, you would install 400 wind turbines a year, or just over one a day.

We are not installing a wind turbine a day for the next five years. We do not have the plans or the activity to do that stuff. The same is true for substations, cabling and grid connections. The activity needs to back up the ambitions. The plan is critical, delivery is critical and visibility is critical. That is what we look for. There is nothing wrong with the ambition, but it is turning ambition into investment activity and reality. That is what I am looking for.

Hannah Corbett: I am Hannah Corbett from the Centre for Energy Policy at the University of Strathclyde. Just to build on Paul's point, the ambition is definitely great, but we are going to be building a lot of stuff in a condensed timescale. How does that play out in terms of worker and skills shortages, which the first panel talked a lot about? How does that impact on business and households? How do we make the most of oil and gas supply chains?

There is going to be a lot of demand and understanding of where that demand is going to fall in terms of the worker and skills; that is not just the types of workers and skills we will need, but whether we can fulfil that demand in terms of the demand that will come on the construction sector, and how that plays out with all the other infrastructure demands that will be placed on building schools, hospitals etc.

The ambition is great. As Paul and Fraser have mentioned, my impression is that there is a lot of co-ordination between the two Governments, but that co-ordination now needs to extend to local government. It needs to extend between NESO, Ofgem and GB Energy. It is about thinking, if there is so much coming on board at one time, how do we plan and sequence those projects to make the most and to manage the demand spikes for particular skills and construction? That planning point is really important. That is not just about spatial planning; that is about planning for how you time and sequence those projects to get the best economic and community benefits, which we have been speaking about a lot this morning.

Q24 **Lillian Jones:** Is investment in clean power in Scotland keeping pace with the decline of the oil and gas sector?

Professor de Leeuw: My specific area is offshore energy, which includes oil and gas, offshore wind, carbon capture and storage, and hydrogen. Let me give you a little bit more, building on the previous panel, because context is everything. If you look at what is happening in the oil and gas sector, it peaked in production in 1999-2000 at 4.5 million barrels a day. We are already down 75% at the moment. There is already a quarter of a century of decline. Decline is nothing new. The basin is actually very good



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at declining. The choice we now have for the basin is between a managed and orderly decline, or an accelerated and not so orderly decline. That is the choice we have in front of us.

The reason this is hugely important is that, if you look at the supply chain, up to 80% of the oil and gas supply chain can actually help to accelerate the renewable sector, particularly with the carbon capture and storage. If you look at hydrogen, it is about 80%, and if it is wind, it is about 60% of the supply chain that can transfer straightaway. By our work, over 90% of the workforce has transferability. Managing the decline in the oil and gas industry allows you to accelerate the renewables agenda, which is the element we want.

This is a hugely important conversation to get right. It is not about the destination. The destination is clear: we need to get to net zero. It is about how you manage the journey in between. This is why this is so hugely important. What we see there is a Goldilocks zone. The Goldilocks zone is between now and the early 2030s, where we need to manage oil and gas decline and coincide the job decline and the supply chain decline to go straight to the renewables sector. If we do it right, we have a fantastic opportunity. If we get it wrong, we lose the supply chain, the workforce and the skills, and we end up importing more. This Goldilocks zone is absolutely critical, and that is why this is really important.

Why is it relevant? It is because a lot of the workforce is actually based in Scotland. Roughly half of the offshore energy workforce is based in Scotland. That is a really important element to manage. If we do not get it right we will see a huge impact. It is therefore really critical to get the alignment between these sectors done really well.

It is really important that we see this as an energy workforce rather than an oil and gas workforce and a wind workforce. In the end, the vast majority of people work for the supply chain. If you work on a vessel, you are completely agnostic if you are going to go to an oil and gas platform putting a cable down or you are putting a cable down for wind. This is a cable that is on the vessel. The vast majority work in the supply chain. This is a supply chain management and skills conversation, and we have a choice to get it right. We are not there yet.

Hannah Corbett: Just building on Paul's point, it is about making the most of those oil and gas infrastructure and supply chains that have been embedded across the UK over the last 50 years? There are real opportunities to take advantage of those and capture UK competitive advantage in areas such as CCUS, where some companies are already reorienting activities.

Just thinking about the co-ordination point, it is not just going to be oil and gas workers where there might be job losses, but it is in other sectors such as retail and wholesale sectors. How do those people get retrained? How do skills and training programmes factor into that? Some of our research has also looked at oil and gas capacity and labour jobs



perhaps being freed up and looking to move to other sectors, but oil and gas production is still going to be continuing. There is not necessarily going to be the oil and gas workers freed-up capacity in sufficient quantities to service new industries, renewables and CCUS.

There is a real role for Government in thinking about that co-ordination point—about when skills and workers are available. How do you tailor training programmes for those working not just in oil and gas, but in related supply chains who might be at risk of losing their jobs? It is a just transition piece as well.

Q25 Elaine Stewart: Just on the back of some of the stuff that you were saying, I know there is no simple solution to the transition for jobs. What skills do you think the workforce will need going forward? How would we encourage employers and investors to take that on? Also, what lessons should both Governments learn from Grangemouth?

Professor de Leeuw: I am happy to give it a go. I have spent a lot of time on job skills. I will start with the jobs, because it is really important. By my count, 67 million or 68 million people live in the UK. About 33 million or 34 million work. If you look at how many people support the offshore oil and gas industry, the wind industry, carbon capture and hydrogen, roughly one in 220 people working in the UK support the offshore energy industry; that is both onshore and offshore. In Scotland, if you do the same calculation, it is roughly one in 30. If you are sitting in the north-east of Scotland where I live and where Stephen lives, it is one in five, and if you take the induced jobs, it is one in three. There is a different conversation about what is happening depending on where you sit in the country.

Again, there are direct, indirect and induced jobs, but if you look at the jobs in the industry, roughly half work in Scotland and the other half work in the rest of the UK. Most people currently in the industry are actually operating platforms, terminals and pipelines, but the future of work is not like that. The future of work is building things. You heard it in the previous panel and you heard it from my colleagues as well. It is around building new wind farms, building new substations and building the grid. We need a different type of workforce, and it is going to be far more location based and place based rather than in one element. There is a very different type of work coming up, with different skills requirements.

There is a trick to manage that Goldilocks zone in a really smart way. If you are HR, you can move from one industry to the other industry. It is still HR. If you are finance, it is finance. If you are procurement, it is procurement. If you are supply chain, it is supply chain. Where this gets more challenging is around some of the more bespoke functions such as technicians, operations, project managers—people with that more technical background. That requires mindful mapping around this. What does the demand in one industry or the client demand in other industries look like?



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The role for Skills England and Skills Development Scotland is really critical to make sure we understand what the demand picture looks like. If you know the demand picture of how many people you need and by when, then you can worry about the second part, which is the supply, and then think about the skills we need to meet that demand picture.

In the earlier panel, you heard from Richard some really important things. This also depends on how much of the new activity we are going to execute in the UK by UK supply and workforce. If you look at the oil and gas industry in the last 50 years, roughly 25% to 30% of capital activity was executed by the UK supply chain and the UK workforce. If we do the same for wind, carbon capture and hydrogen storage, we are going to import a lot, and a lot of the jobs will actually disappear to other countries for us to import the final product.

Local content is going to be a huge part of what links into the workforce we need and the skills we need. We actually already have most skills; 90% of the workforce is transferable from one sector to the other. It is how we use it and how we develop them. Training is measured in weeks and months, not years. We actually have all the ingredients for an incredible energy transition. We just need well-integrated planning and co-ordinated action to make it happen.

Hannah Corbett: Can I add something on industry investment in skills training? We did some work with the industrial clusters in Scotland such as HyNet and East Coast, which looked at carbon capture and storage in particular. One of the recurring messages was around providing industry and business certainty, and that was about making final investment decisions. With the example of CCUS, there has been some delay to those. We talked about the Scottish cluster example earlier.

That is really critical in terms of providing industry the level of certainty so that they invest in skills and training and we have bigger companies investing. That ripples down the supply chain for them then to make the decisions about upskilling and retraining staff—investing in skills programmes. That is really important, and that is certainly a role for the UK and Scottish Governments.

Fraser Stewart: Can I add one final thought in terms of capitalising on that opportunity of the transition? I am another proud north easterner—a Forfar loon—with friends and family in the oil and gas industry, and have done bits of work in this space as well. There is still no dedicated nationwide transition fund pipeline process. There is no one obvious place where this happens or service that you can point to. It is still quite complicated. It is still quite up and down and in and out. In a lot of cases, to a certain point it is still self-funded. We could be a lot clearer on the opportunities and on those pipelines. As Paul says, the role of Skills Development Scotland in particular has increased over the years, and is likely to only become more important.



If we want to add just another point on to this, we are not just talking about oil and gas communities going into offshore wind. We also have a massive heat transition coming up over the next 20 to 25 years, if we are looking at the current timelines for that, which is also an inherently local problem and also requires inherently local planning and solutions, because the buildings in this part of London are different to the buildings in Forfar, which are different to the tenements in Glasgow. These all require very localised action and planning, as well as the transition plans for the North sea, for Aberdeen, for Grangemouth and others.

How do you then ramp up? What new skills do we need? What new people do we need to bring into the workforce longer term? While we discuss the 2030 timeline—and even the 2045 timeline—this is a much longer perspective that we need to be taking to make sure that we learn the lessons of previous transitions, and that we are geared up to capitalise on what is a big opportunity in front of us.

Q26 Kirsteen Sullivan: Fraser, I appreciate your background in delivering Glasgow's first ever community energy project. I am going to ask you what role you think community ownership of energy assets can play in Scotland's path to net zero, and whether you think both the UK and Scottish Governments could and should be doing more to support community energy. What do you think about the role that GB Energy could play in that sphere?

Fraser Stewart: This is my favourite question. We set up the Glasgow Community Energy project with a load of other incredible people. Community energy is an incredibly powerful thing, often in spite of a very challenging system that is weighted against it, in terms of the policy support that is available and in terms of the previously mentioned lack of economies of scale. There is also a lot of reliance on volunteers in the community energy sector to get projects off the ground. That can be a burden of one to two years, just to get to the point of having a feasible project that is ready to go.

The role that community ownership—including shared ownership where developers have their big projects and a community buys in, either to share the revenue of that project or to take a full or part-ownership stake in that project—is threefold.

First, there is immense social and economic value that comes from full ownership or shared ownership compared to just community benefit. It does a lot, in terms of the fact that the majority of community energy organisations also have fuel poverty support arms within the work that they do. Plymouth Energy Community alone reached 11,000 people over the course of the energy crisis to provide support, to link them up with available Government support, and to make sure everyone was claiming the things that they were due.

We have other really good examples of places like Staffordshire, where Staffordshire Community Energy has worked with the local NHS trust to



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put solar panels on the buildings there, which directly funds the local fuel poverty charity that does outreach, to make sure that those most vulnerable and most harmed are supported with a role to play through the transition.

That is the second point. The first is that they bring a lot of social and economic value and also create jobs in local areas. The second is engagement. They are often far more trusted as regular community members and organisations than, in a lot of cases, even local councils are at this point. They have a good role to play within that space, particularly for reaching those groups that are typically excluded, particularly in the clean energy transition conversation.

The third side of this—if we can be a bit cynical and political about it as well—is that, with community ownership and with that value, you naturally build a broader base of support for that overall clean power mission. Now, that is not to say that we should buy communities off with benefit or with ownership, but when communities have a stake in it, the general perspective—not just within the community members involved in the project, but more widely in the community—tends to also be more positive, which means you can ultimately get more done more quickly, if that is part of your interest. Those three key roles is where we would see them having a role to play.

On the final point of GB Energy, we have a couple of support schemes, such as CARES in Scotland, the Welsh Government Energy Service in Wales, and the Community Energy Fund covering England. Where GB Energy can layer in on the local power plan more generally is, first, in building capacity, where they are still relying on volunteers and broadly still cannot pay staff.

The second is in low-cost finance. Community energy projects tend to get grant money down to do the feasibility, they just about have a project ready, but then traditional finance will not touch them because they are seen as risky organisations or the projects are seen as too small, which goes back to economies of scale. For GB Energy, in the interest of maximising public value from the energy transition, community and shared ownership should be high on their priority list when they come to spend that local power plant money.

Hannah Corbett: The committee is in further exploration around this issue; we are doing some work in Shetland, looking at the impact of green energy development, Sullom Voe Terminal and other things, and how they are going to impact on the economy and society there. We went up back in September. There is a really interesting example in North Yell around community ownership of a wind farm, because obviously you have the Viking development on Shetland, which has an associated community benefit fund. You have the shared ownership model, but then you have the community benefits. I am happy to talk to the committee or



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one of the specialists to point them in the right direction of people that it might be worth talking to.

As frameworks get developed for how communities benefit from different energy developments, there is a real crucial role for the UK Government, the Scottish Government and GB Energy to really co-ordinate around this and to ensure that there is consistency and coherence between these different frameworks, which, in the Scottish case, are voluntary at the moment. That creates a level playing field as well, both for communities but also for investment and industry players.

Professor De Leeuw: I am just going to add a few things to what Fraser and Hannah said. Collectively, we need to be very clear about what we ask GB Energy to do. It is covering a huge range of activity. If we want to set it up for success—and I am sure that they will want that as well—it needs a really clear, focused and defined agenda with deliverables in terms of what they are going to do. We are asking them to sort out the energy system, which is all about planning and consenting. There are lots of things happening. We need to be really clear about what the role of GB Energy is in the next so many years, and where the focus is, so that we have clear expectations, and no surprises or disappointments either.

Q27 Douglas McAllister: Is there an argument that switching from the single national wholesale market for electricity to several local markets would immediately cut electricity bills across Great Britain, and most of all in Scotland? For instance, the electricity network balancing costs push bills up, where we pay curtailment costs. As I understand it, we pay local wind farms in Scotland at peak times to, effectively, stop producing energy. Surely, regional or zonal pricing would drive down bills, and the most dramatic reductions in household bills could be in regions that have the most abundant clean power generation, such as Scotland. Surely, we could have the cheapest bills in Europe if there was regional pricing.

Hannah Corbett: I do not have all the answers for you right now, but we are part of the UK Energy Research Centre, and there is going to be some research looking at that. We are happy to keep in touch as the findings emerge from that. I do not know if Fraser has anything to add.

Fraser Stewart: I will wade in. We understand the draw of locational pricing. It is important to be clear about what it would mean in practice in terms of the delivery of it. As it stands, from the extensive REMA consultations, which we still do not have decisions on, the earliest possible implementation, as we understand it, of a zonal model of pricing would be 2032. That is the current intel. In terms of immediately reducing bills, there is not an awful lot that it can do in the short term.

The challenge that it poses is that, while I sympathise entirely with the argument, particularly as someone interested in Scottish energy and Scottish consumers, there is still no real clarity on what potential models of locational, zonal or nodal pricing would be coming forward. It did start



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to narrow down towards the end of the REMA consultation process, but no decision has been formally released on that yet.

That is having a bit of an adverse impact in terms of investors and developers holding back final investment decisions in renewables, which we hope can bring down bills in the shorter term, until they know exactly what the outcome is. They have a current market regime and, if that potentially goes under fundamental overhaul, that can completely change their business plan for five, 10 or 15 years.

While there are arguments on both sides of it, if you have been across the debate, as I am sure some members of the Committee have, it has been a very confrontational debate in many ways. The critical thing here is that Government take the decision on REMA and publish that with as much detail as they can possibly give, because, as we have said already, we cannot afford to stall investment further on the 2030 timeline. 2032 for locational pricing is almost an academic discussion at this point. It is post 2030. There are things that should be and need to be implemented in the meantime that will better serve 2030, but also better serve households and people struggling with bills today.

Professor De Leeuw: Can I make two additional comments? The first thing is that it may be quite interesting for all of us—and I did it this morning—to look at our gas and electricity bills. Currently, I pay about 25p or 26p per kWh for electricity, and about 6p per kWh for gas. Electricity is four times more expensive than gas. If you use gas to generate electricity, you question what is happening.

The reason that it happens is because there are quite a lot of charges in our electricity system that are going to go to the consumer. They are transportation charges, charges for policy, and green charges, all coming to the consumer.

When you think about it, when we build the new grid—re-plumb, re-wire and re-purpose the electricity system—we should not load it back on to the consumer, because we will end up with what we have now, where our electricity price is four times as high as the gas price per kWh. That is really quite an interesting one, because that really does not make any sense.

The second question is, of course, that we have a national system of moving electricity. Other countries have regional elements. It does not go anywhere. It just does not connect to the grid. There are other ways of doing it and, as we design the future of our energy system, a national system is critical. A backbone is superbly important. There are other ways of doing it, where we are saying that there might be regional community elements. Where it does not benefit the community, we do it in a very different way.



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Have a look at your utility bill, because, again, it is really insightful in terms of what makes up the cost of what you have, and it might get under the skin of what the issues really are.

Fraser Stewart: I will just add one last note on that as well. That is a good point. There are other ways to do it. There are ways just now in which we send locational signals through the energy market. Those network charges are one of them, particularly when it comes to investment. The use of the transmission network is massively high in Scotland, because we have lots of wind up there. Lots of people are using the network, so you are trying to shift people to think about plugging in in different places. That is also causing delays for developers, because it is too high and blows a hole in the side of the business case as they see it.

There is a point that has been raised a couple of times around curtailment, which is an interesting and important point. Emma Pinchbeck picked up that building transmission is the best way to deal with that for curtailment across the board, but the headlines have been dominated by paying wind farms to turn down—76% of curtailment payments go to gas generators, not to wind turbines.

There is a more complex picture at play there. All of it points to the need to build more and get renewables online, but also to think about those configurations of the market that ultimately pass value on to consumers at a critical juncture in the socio-technical history of this country.

Q28 **Mr MacDonald:** I am loving this whole conversation. What happens internationally? In Denmark, 20% of renewables are owned by the community. In Heligoland, in Germany, they have three offshore wind farms, which generated more for the community there than all the community benefits for Scotland as a whole in 2023. Can we learn from what is happening internationally and make that happen in Scotland?

Professor De Leeuw: Yes, absolutely. We replicated the model that we had, which has been very successful for decades, but the world of energy is different. It is far more distributed. It is far more place based. It is far more localised. It has very different characteristics. Everything—our cars, our houses and our gadgets—is going to be connected to the system. We need to make sure that it works, that there is a backup, that we always have energy security, and that we can make sure that the whole system is okay.

There are very different ways of doing it and having distributed energy in a way that we have not had before. There are great models out there, and there are great ways of doing it, but it requires careful planning. We still need the motorways to make sure that we can move the electrons around the country. We also need to think about the fact that not every community needs a motorway and that sort of solution. There are different solutions for different problems at different points in time. Island



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communities can do it very differently, and we have seen very successful examples around the world where that happens.

Hannah Corbett: There are also interesting international comparisons and examples in terms of just transition and also industrial transitions. The Committee might be interested in—you might have already been to it—the Michelin Scotland Innovation Parc in Dundee, which is a public-private partnership repurposing the Michelin tyre factory that happened over a number of years. That was planned activity and now has a skills academy based on it, which is training people to service heat pumps and electric vehicles and so on, but also hosting spaces for start-ups to innovate sustainable products. There are all sorts of different activities. It was done, as far as I understand, in consultation and close collaboration with the community.

There are also examples at a European and EU level. France and Italy are looking at understanding skills supply and how that could be matched with available candidates. We mentioned Denmark before in terms of flexisecurity and using the social security system to support retraining and reskilling. The international landscape also has some interesting just transition learnings.

Chair: Thank you very much. That concludes our questions to you this morning. It was very interesting, so we thank you very much for coming along and no doubt we will be in touch at a later date. Thank you.