HOUSE OF COMMONS

Business and Trade Committee

Oral evidence: Industrial policy, HC 440

Tuesday 21 May 2024

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Watch the meeting

Members present: Liam Byrne (Chair); Douglas Chapman; Jane Hunt; Ian Lavery; Julie Marson; Andy McDonald; Mark Pawsey.

Questions 292 - 326

Witnesses

II: Alistair McGirr, Head of Policy and Advocacy, SSE; Duncan Clark, Head of Orsted UK and Ireland, Orsted; Carl Arntzen, Chief Executive, Bosch Thermotechnology Ltd; James Graham, CEO, Digital and Energy Services, Equans.

Examination of witnesses

Witnesses: Alistair McGirr, Duncan Clark, Carl Arntzen and James Graham.

Q292 **Chair:** Welcome to the second panel of today's Business and Trade Select Committee inquiry into the industrial strategy that we need for the transition to net zero. Thank you so much indeed to our witnesses for joining us from across British industry. I am going to kick off, and we are going to try to move through the questions quite quickly.

Carl, perhaps I could start with you. It will be the same question to each of you, if you would not mind just answering as briefly and as concisely as you can. In your view, is the transition to net zero going to create jobs? Do we need an industrial strategy from Government to help navigate this great shift that we have to make?

Carl Arntzen: It will definitely create jobs, because we need to upskill and retrain a lot of the sector, although not so much on the manufacturing side. From a manufacturing perspective, we have that capability and that competence in-house.

My comments are more directed towards the installer section of the industry. We have something like 130,000 registered gas installers in the UK, employed by 55,000 companies. That tells you that they are very small microbusinesses in the main. Therefore, getting to them in order to upskill them is a challenge.

Our company and many of the boiler and heat pump manufacturers are training installers all the time. We are currently training 2,000 or 3,000 installers on heat pumps a year, and that number rises to 15,000 when we talk about boilers.

Q293 **Chair:** From your view, it is good for jobs.

Carl Arntzen: It is definitely good for jobs.

Duncan Clark: It is good for jobs. Offshore wind, as an example, has already grown to 30,000 jobs. This is an industry that did not exist that long ago. We can see it growing to more than 100,000 jobs by the end of the decade. When you look at what is happening to offshore wind around the world, there is an even bigger opportunity to go beyond that. If we can attract and be successful in competing for more of the manufacturing, those numbers can be higher.

Q294 **Chair:** Does an industrial strategy help you navigate the future?

Duncan Clark: If we want to have a competitive offer for our global supply chains to make their investments here, we need a holistic approach that looks at skills at reasonable cost, at the business environment and at the infrastructure. One example is that offshore wind needs ports, so port and infrastructure investments are the sorts of things that make those a decisionable opportunity for a global manufacturer.

Chair: James?

James Graham: Broadly, yes, with a caveat around UK supply chain and what and where those jobs are. As an EPC installer operating across hydrogen, solar and a variety of other clean energy sectors, a lot of our supply chain is based outside the UK. We may talk about it later, but competition from the IRA in America and from European investment means that some of those supply chains and skills are establishing themselves outside the UK. Therefore, there is a need for an industrial strategy that focuses on the development of a UK supply chain and UK jobs.

Q295 **Chair:** That is interesting. We just heard from Professor Hepburn that retrofitting buildings will probably be the biggest single sector of job creation, and you are saying that we may need some help just onshoring some of that supply chain.

James Graham: In part, yes. There are a larger number of UK jobs and skills that will come from retrofit. Professor Hepburn was talking about sunset industries. If we do not reskill and invest in the UK supply chain quickly, we may find that some of those jobs are offshored outside the UK. I am thinking particularly about hydrogen and CCUS. For example, the hydrogen supply chain is starting to establish itself in the electrolyser market outside the UK. There are UK start-ups, but they are typically not well placed to take on industrial-scale schemes.

Alistair McGirr: I agree with everything that has been said already by the panel, but, to answer your question directly, yes. The point at the end of the last session, where they talked about the transition for work, is going to be particularly important for where the winners and losers end up in that space. We need to make sure that there is a plan in place for that, and that any mitigations are put in place. To Duncan's point, ensuring that all levers of Government policy are pointing in the right direction is going to be critical to making the most of the opportunity that is coming for the UK.

Chair: So it is good for jobs, but we need an industrial strategy to help steer the path.

Q296 **Andy McDonald:** James, to a large degree, you have already touched on how the global competitive nature around these technologies has changed following the IRA and the European green deal. Does anybody else have any thoughts on what evidence they have seen of that shift? We are trying to get a handle on how effective it has been.

Duncan Clark: As the momentum has been building to decarbonise electricity around the world, we have seen massive growth in the competition for capital, skills and supply chain. That has led to some constraints. When we look at the IRA in the US and the green deal in Europe, those have added to and amplified these things. We have seen that that can really work. It intensifies that competition.

We have also seen that you can get it wrong. If you put in a really strong and attractive mechanism like that, it can be a massive draw for investment and attention, but you can also get it wrong if you do not have a realistic pathway to actually make physical things happen. If you want to create new manufacturing and new supply chains, that needs to be visible. Otherwise, neither the investment, nor the infrastructure that relies on it, will happen.

Q297 **Andy McDonald:** There are some warning signs there. You are touching on my next question, really, around the design and implementation of these plans. Are we seeing things that you think will definitely work and, on the contrary, things we should not be doing? Are there any things that we could pinch from these structures?

Alistair McGirr: The reality is that—it was touched on before as well—the US, Europe and China will be coming at this from slightly different contexts. As has been mentioned a few times, we are not going to compete pound for pound with the US in terms of a direct subsidy, and nor should we. We need to lean into the strengths that we have here in the UK. I think we have stable, investable policy mechanisms in place that have drawn in a lot of capital, but it is about how we make sure that those policy and regulatory frameworks that we have in place can be reorientated to support industrial strategy. There has been a bit of a trade-off at the moment around an over-focus on near-term cost over long-term value.

Carl Arntzen: When you start looking at electrification of heat and heat pumps, I doubt whether we will particularly be manufacturing the outdoor units locally in the UK or even locally in Europe. They are already being supplied and sourced from China and the far east. They are effectively an air-conditioning unit running in reverse, and the typical Chinese air-conditioning manufacturers are dominating that market. We are looking to secure manufacturing context for the UK market in the rest of the system we need to add to that outdoor unit. We will focus our attention on all the equipment inside the property.

Duncan Clark: In the last five years we have bought major contracts with more than 230 UK companies for our offshore wind farms. We have then taken a quarter of those overseas, where we are building offshore wind farms around the world. It can be done, and we do have a foundation. The policy framework we have here in energy is respected. It gives us a strong, relatively mature supply base to start with, but we are looking at a trebling, or even quintupling, of the size of that supply chain in the decade to come. That is an enormous opportunity.

We should be looking at where we have a strong enough foundation that we can be competitive and make an offer to supply chain companies, so that they make the choice: "We have something here. There is a stable environment. It is predictable and it is inviting. We can be successful here and make a fair return for the investment we are going to make."

We can identify the areas where we can be attractive like that, and there are some. We have seen good examples of everything from turbine blades through to high-voltage cables. If you are a manufacturer, the lowest-risk, best proposition for making your next big investment in capacity is often where you see a track record.

James Graham: I will just make two quick points, if that is okay. I generally agree with what Carl was saying. If you look at UK manufacturing, 9% of GDP is associated with manufacturing output. That jumps to close to 18% when you look at specialist technology-led manufacturing. It is that rest of the system, and those specialist components, that we think is where industrial strategy will drive jobs in the UK supply chain.

The part that underpins that, which I would then reference, is these skills. We may come to this later, but in order to make that industrial strategy land, we need access to the right skills in the UK to support the growth of those innovative supply chains.

Douglas Chapman: I have a question on the back of the Chair's initial question. Duncan, I think you mentioned access to port facilities and infrastructure. From Alistair and Duncan's point of view, in the absence of an industrial strategy, as we have it at the moment, does the introduction of freeports or green ports in Scotland make any difference to the availability of infrastructure and to some of the tax incentives around those areas? Is that enough, or would you like Government to have that underpinning industrial strategy as well to give you a real clear vision of what the future might be for your industry, especially in offshore wind, for example?

Alistair McGirr: It is one of many levers that the Government, and devolved Governments, have at their disposal. Ultimately, if we are talking about a coherent industrial strategy that is going to deliver the best outcomes for UK plc, we are going to need all of these pulling in the right direction.

Scotland clearly has a whole range of opportunities in the energy transition. We as a company are planning to invest £40 billion over the next decade, and £20 billion of that is due to be in Scotland. We see a huge opportunity, but how do you deliver on that? Freeports are obviously one element where there are direct incentives, but how is there the direct investment in the port infrastructure that is going to be needed to deploy the future of offshore wind turbines, notably floating offshore wind and ScotWind? How are the networks going to be built to connect those assets into the system? What are the flexible technologies that are going to be needed to do that?

Ultimately, the deployment of all of these is going to need a whole range of levers all pulling in the same direction. If we look back in terms of how the UK has performed, it has performed well in certain areas, but it has maybe not captured the maximum opportunity from the investment it has

taken to date, because it has not had all those levers pulling in the same direction.

Duncan Clark: I would agree with that. Green ports and freeports are a really good measure, and I think we have seen quite a few measures. We saw a sector deal for offshore wind a few years ago, and we have seen a number of rounds of grant funding, but this next phase is more intense. The competition is more intense. The stakes are bigger; the tickets are bigger. We need to do something different and something more here.

All levers need to be aligned in a more holistic approach, with a mindset that asks, "What is the decision that a manufacturing investor is going to have to make to put something here. What are they going to need to see?" They need skills, a workforce and infrastructure. It might be planning permissions. It is, almost certainly for offshore wind at least, a deepwater quayside. We can help make that an easier decision. We can take risk away, and we can show the pathway for what is needed physically.

Q298 **Douglas Chapman:** Is there anything you specifically need from Government to allow that, to make your job easier or to make that investment decision easier? What would it be?

Duncan Clark: I would start with ports. Get the port investments going and get that infrastructure invested so that the deepwater quaysides, access to power and skilled workforce are there. That would be a great platform to start with.

Chair: We are going to come back to that question over the course of the next questions.

Q299 **Ian Lavery:** How is international competition across your supply chains affecting the delivery of projects in the UK?

James Graham: Equans looks at supply chains that cover solar, EV charging and hydrogen electrolysers. Over the last 18 months to two years, we have seen some significant challenges in availability in all three of those areas. That is starting to improve, but all our supply chains for those key bits of kit are coming from outside the UK. We are seeing demand and, particularly for hydrogen electrolysers, we are having to try to place orders well in advance of achieving final investment decisions. This is having an impact on the ability to deliver projects as planned. The answer is yes, there is an impact on project delivery.

Alistair McGirr: The supply chain in certain components is tight. That is driven by ambition here in the UK, as well as elsewhere, but one person's supply chain tightness is another person's supply chain opportunity. To deliver on the ambition needed in the UK and elsewhere, there is going to need to be new supply chain capacity. The particular plea that we would make to policymakers is, "How can we help enable developers of UK infrastructure to have early and at-scale engagement with the supply

chain in order to trigger those new supply chain capacity investments here in the UK?"

When we look across the GB energy policy and regulatory framework, there has been a lot of success over the last 10 to 15 years in deploying offshore wind and phasing out coal. In terms of capturing that supply chain, we have not done as well as we could do, primarily because the frameworks that have been put in place have effectively fragmented our ability to have those early and at-scale engagements with the supply chain.

I would maybe point to one area where there has been recent success—as recent as last week—which is electricity transmission. To meet the Government's 2030 offshore wind ambition, the electricity system operator put a strategic plan in place that then enabled a scalable plan for investment for the electricity transmission owners, of which we are one in north Scotland. This has then enabled the supply chain to have visibility of that pipeline, but also to see firm, contractable orders that it can invest against.

That is why we have seen the recent investment from the Japanese industrial conglomerate, Sumitomo, in high-voltage manufacturing capability at the Port of Nigg, up in the Scottish highlands, that will create 300 good green jobs.

Carl Arntzen: From our side, supply chains have settled down now. Immediately post covid, we had big issues with electronic semiconductor availability, but that has all calmed right back down now. As I speak today, touch wood, we have no supply chain issues.

Duncan Clark: There are definitely constraints. We are coming through a very difficult period since the invasion of Ukraine, but I agree with what Alistair was saying. It is really about opportunity now, and we should maybe just remind ourselves that success will not mean us winning in all parts of this. There will be areas where we can get a foothold and where we have a very strong foundation as a starting point, and that is what we should build on. That will be success. We do not have to be in, or dominate, all parts of all chains. You need part of it where you can add value.

Not all of it will work out. Let us be realistic. We will chase more than we actually succeed with, but where it works out, we have to help it through its whole lifecycle. Getting a new bit of industry up and running is a challenging phase. It needs help with managing risk. It needs help with managing, getting started and making investments. Getting a new manufacturing facility up and running is hard work and can take years. It then needs sustaining as well. It is a very dynamic situation, and we need to be ready to be dynamic in response.

Q300 **Mark Pawsey:** I want to follow up on the line of questioning that Douglas Chapman started, on the impact of the United States IRA and

the EU green deal, and the challenge that that poses. In many ways, we have been getting the message that this has been something of a game changer.

My question revolves around how the UK should respond. Duncan, you spoke about investment in skills, which we have traditionally had difficulty with. Getting apprenticeships under way has not been brilliant. You spoke about the planning system, and we hear about project after project being bogged down in it. Those are frankly not great advantages that we have.

You were very positive about the investment in ports, but what do our other witnesses think we should do in the face of this challenge from the US and Europe? Carl, if you were in government, how would you respond to that challenge?

Carl Arntzen: The main issue to focus on from our side is that manufacturing is a long-term investment game, and we therefore need an industrial strategy that gives us that guidance and that framework to work in on a long-term basis. Particularly in recent times, we have had so many changes in Government, changes in officials and changes to policies. Manufacturing is a long, long-term investment, and we need that long-term thinking.

Q301 **Mark Pawsey:** So it is stability of policy.

Carl Arntzen: Correct.

Q302 **Mark Pawsey:** Duncan, I have yours as ports. James?

James Graham: I am largely with Careful. Stability in policy will encourage investment and give confidence in establishing industries in manufacturing.

Q303 **Mark Pawsey:** Do you see any sign of that emerging?

James Graham: There are clearly areas of positivity. We are involved in the HAR1 funding rounds, and we can see a really clear hydrogen policy, but that does come with risk if we do not ensure that that support flows down through the supply chain.

Q304 **Mark Pawsey:** We are not going to make a decision on hydrogen in heating until 2026. That is hardly certainty of policy.

James Graham: From our perspective, there will be a focus on industrial decarbonisation, where we do see a route for hydrogen, but less so for domestic. That is just one area where I can see there is Government support that is working, with a comparison to Europe.

Q305 **Mark Pawsey:** There is a strong route from Government.

James Graham: Correct. If you look at the current strike price for hydrogen in the HAR1 round versus Europe, we have come in at a higher price, which will likely give us success in terms of more projects than we may see across in Europe.

Q306 **Mark Pawsey:** Alistair, how should we respond?

Alistair McGirr: I made that first point around embedding strategic energy infrastructure and making sure the policy and regulatory framework align to that, addressing delivery barriers—planning and consenting is creating all sorts of delays and issues for infrastructure projects—and removing overhanging uncertainty that is feeding into investments.

Mark Pawsey: What are we good at? What are our strengths in this area, and why would people invest here? Are there areas where we have missed out on investment? What might we do to deal with that? For example, we have heard about our equivocal approach to onshore wind. We have not invested in onshore wind. What are we good at? Where are our strengths?

Alistair McGirr: If we are talking purely about technologies, there are opportunities in floating offshore wind, high-voltage direct current cabling, CCS and hydrogen. Focusing on those four—in particular, the components and manufacturing parts of that sector are going to be pretty important for delivering those, and we have a comparative advantage there—will be an important thing to do.

I would also echo the point around the service economy. It is not just about jobs here in London that are servicing the green transition. There are actually a lot of jobs in the central belt in Scotland around the renewables industry, be it in finance or legal professions, that are going to be critical to delivering this. We need to lean into those. Those are the four technologies that I would call out as particularly important.

Q307 **Mark Pawsey:** James, I have the same question to you. I was going to ask you to respond to the point that we are brilliant at developing new ideas, but not always at seeing that through to volume manufacture. What else can we be good at? How can we really seize the opportunities here?

James Graham: I agree in terms of technologies, and I think the UK has faced a challenge in bringing those through to that volume manufacturing stage. I made the point earlier about investment in areas where we have that comparative advantage in the supply chain. I think it was Duncan who made the point that we do not need all of the supply chain; we need part of it. That technology-led manufacturing of the component parts of each technology, whether that is CCUS or hydrogen, will deliver strength. That is where I think we can gain some competitive advantage.

Finally, if we look at solar, we have a very strong capability to design, build and install solar, but we do not own or deliver much of that supply chain, apart from labour, in the UK. That is an example where something has perhaps got away because there was not early enough investment in the UK to create that supply chain.

Q308 **Mark Pawsey:** Why did that early investment not take place?

James Graham: To be honest, I suspect that it was probably down to policy uncertainty. There were a large number of broader distractions in the economy at the time that meant that the rest of the world accelerated. Some of that was also down to raw material availability for the panels themselves, but, clearly, mounting structures and other capabilities could be formed within the UK.

Q309 **Mark Pawsey:** Duncan, what is your assessment of the strengths and weaknesses of the UK, and the challenges?

Duncan Clark: I would recommend the industrial growth plan that was recently published by the Offshore Wind Industry Council, together with Crown Estate Scotland, Crown Estate and RenewableUK. They did an item-by-item analysis of where we have the capacity, the capability and the starting point, and made those selections. They made five recommendations. It does include some of the smart stuff—smart in the operations phase—and some of the turbine components, such as blades and cables, but it is actually an item-by-item analysis. It is a road map for targeting our efforts.

Q310 **Mark Pawsey:** You told us about the sector deal. Did that help and is it still helping now? Does it need revising? Does it need updating?

Duncan Clark: We are in a new world here. We are just entering a totally different phase. We talked about the IRA and just the scale of it globally now. It is absolutely ballooning.

Q311 **Mark Pawsey:** Should we forget about the sector deal?

Duncan Clark: No. It is something to build on, and I think this IGP does build on that.

Carl Arntzen: I just have a couple of comments. You have already said we are really good at innovation, and transforming that innovation into industrial—

Q312 **Mark Pawsey:** That has been a long-term industrial problem in the UK.

Carl Arntzen: It has.

Q313 **Mark Pawsey:** We are not going to change that overnight, are we?

Carl Arntzen: We took a very early lead with hydrogen, and we were showing that innovation. Those opportunities are starting to diminish now, but there is still an opportunity. If we take some key decisions, based on this long-term thinking, there is still an opportunity for us to show some leadership. Other countries are starting to catch up.

Q314 **Mark Pawsey:** As a manufacturer of boilers, do you see an opportunity for hydrogen in the domestic heating area?

Carl Arntzen: We see it as a multi-technology approach. We believe that hydrogen has a part role to play in domestic heating, alongside other technologies.

Q315 **Chair:** I am just going to take a moment to play a quick game now. I am going to give you £960 million. I am trying to get to net zero by 2050, and I would like you to tell me how you are going to spend that £960 million. Just give me a sense of how you would cut the pie up in order to help me maximise investment and general progress towards my goal. Carl, do you want to start?

Carl Arntzen: Thanks for coming to me first.

Chair: You are welcome.

Carl Arntzen: I have partially said it. This is a multi-technology approach. This challenge is not favouring one technology or another. We have to develop and move forward with that multi-technology approach and apply some long-term thinking. The part that we sometimes do not talk about around decarbonisation challenges is the energy security element of what we need to achieve. When you then think about that as we move forward, it takes you down that multi-technology approach because it is too risky to put all your eggs in one basket.

Q316 **Chair:** So I should be investing in a portfolio of technology.

Carl Arntzen: Absolutely.

Q317 **Chair:** How much should I be spending on skills? Of my large billion-pound pie, how much should I be putting into skills?

Carl Arntzen: A good chunk of it, probably 25% or 30%.

Duncan Clark: I think you could invest another 25% or 30% in really targeting a small number of high-profile large investments.

Q318 **Chair:** Do you agree that about a quarter is going on skills then?

Duncan Clark: Yes, and probably a similar amount in attracting a relatively small number of high-profile anchor investments in new manufacturing. It is going to need cultivating over a period of time. It is going to need developers and investors in energy assets working with the manufacturers over a period of time, helping them future-proof the investments they are going to make, and helping them de-risk that. National Government, local government, local authorities, the suppliers and the buyers all have roles to play over an extended period of time.

We know it is competitive, so it is not going to be free to attracting some really big anchor investments, but we can do it. Once we can anchor some of those, I think a lot more will follow.

Q319 **Chair:** That is very useful. Those are anchor firms, right?

Duncan Clark: Yes, plus clusters. You end up with clusters.

James Graham: We have already gone a third, a third, a third. You put a third on high-profile projects, but where there is investment through the supply chain. The point I would make there is that it does not stop at

developer level. It moves through the contracting chain because you need those lower parts of the supply chain to have traction and to see reward and benefit rather than just accepting risk.

The second third would be investing directly in that manufacturing and supporting the UK supply chain. That might be actually accepting that we have to pay more for UK supply chain in support for specific projects. When we are looking at assessment criteria, value for money may take a different meaning when we look at the proportion of UK supply chain.

The final third is developing skills in the right areas for us to support that transition.

Q320 **Chair:** You would put in local labour market content conditions.

James Graham: Yes, absolutely, but there needs to be a glide path to get to that point because, if that was the criteria today for certain projects, you would not be able to meet it.

Alistair McGirr: I largely agree with the comments that have been made, but I will maybe counteract the perception of what we may be asking for. I work for an offshore wind developer, an electricity and outputs provider, but I would suggest we put more of the pots that we have available for manufacturing into things like CCS and hydrogen, because they need more of a kick-start than those other sectors do.

It is about how you make sure that you are leveraging all the opportunities from offshore wind in electricity networks through the other routes that you have available to you, through those stable, investable frameworks, to get the biggest bang for your buck. We are not here saying, "We need taxpayer money to do this, this and this." We actually need to do our fair share of the skills development. What we are asking for is that longer-term certainty so that we can then invest in our skills pipeline to deliver on our investment plans going forward.

Chair: That is very useful.

Q321 **Julie Marson:** We have covered a lot of ground, particularly on supply chains, but we have such a good range of sectors here. I want to make sure that we have really drawn out what you consider to be the key constraints and vulnerabilities, if you like, in your sector-specific supply chains. Without going over ground that we have already covered, can I go down the line and make sure that we understand that, in the supply chain from your industry?

Alistair McGirr: Looking across electricity systems—and Duncan will be looking at offshore wind as a component of that—it is about making sure that policy and regulation can enable us to have early and at-scale engagements with the supply chain to trigger that supply chain investment capacity here in the UK.

James Graham: We occupy a slightly different part in the supply chain because we are physically delivering a lot of these projects on the ground. I would raise the point around that risk flow-down. As an EPC contractor, we do not always benefit from that top-level investment and funding, but we are asked to carry the risk of success of a delivery of a project. Ensuring that that support is there throughout the supply chain, so that there are roles and organisations there that want to deliver innovative technologies, is important.

Duncan Clark: I think it has been said that a framework of stable regulation creates a risk environment where you can make those investments. Those investments can be partly growth of what we already have. We do have stuff, but it partly needs to be able to attract new players in our marketplace. I think we have talked about it. It is the platform, the people, the infrastructure, the business environment and then the physical infrastructure as well.

Carl Arntzen: The guys have already said most of it, but from my point of view, again, it is this long-term perspective and this multi-technology approach, because we are dealing with the product that goes into consumers' homes. We have become so reliant on one fuel vector and one fuel type, and we need to take a much more multi-technology and multi-vector approach as we go through the next couple of decades on this transition towards net zero.

Q322 **Julie Marson:** To what extent is the UK overly reliant on a single country for products, components and materials? For example, 35% of polysilicon comes from Xinjiang, with the obvious concerns about forced labour. To what extent is that a key issue for the UK sourcing those components?

Alistair McGirr: I will go back to my point that there is a tight supply chain. There will be challenges to compete for that available supply chain. How we then focus on encouraging the onshoring of that supply chain capacity, as and when we can, is going to be important.

In terms of delivery of the projects we are involved in, we will be competing in the same space for a number of those components and may not be able to scale. Where we have been able to secure supply chain capacity, it is because of the real-world realities of what supply chain contractors want from a company like SSE. They want a long pipeline of projects that they can invest against themselves.

It is about how you move from, "Are you going to order a couple of turbines for three years' time? Are you going to order any more?" or, "Are you going to order 250 or 300 turbines in three years' time?" to, "Are you going to order 100 turbines a year for the next 10 years?" That is how you hook in supply chain investment here in the UK.

Q323 **Julie Marson:** To what extent, in your sector, for example, is there a capacity to reuse and recycle components and product in your supply chain?

Alistair McGirr: It is going to be a really important part of what we do. The wind industry is doing a lot of work on the circular economy to make sure that the turbines that we install are able to be properly recycled. Duncan might be a little bit closer to that. Not only is it going to be critical that what we install has circularity built in at the start, but a key point we are considering in terms of how we deploy infrastructure is making sure that our impact on the environment and on communities is a positive net benefit to them, and that we are not coming in and putting infrastructure in at the expense of communities, but doing things with their consent and sharing the benefits with them.

James Graham: I think you referenced the one area, silica, where there is a very narrow market, but with the IRA in America we are starting to see some solar supply chain developing. There is not anything specific I would draw out apart from what Alistair was saying about that investment. The challenge is that that concentration of supply chain is where you see value for money. Solar panels from China are the cheapest available on the market.

That procurement decision comes back to how we value procurement and value for money at the start, to make sure that we are broadening that and giving opportunity for long-term certainty for scale of investment and a large amount of equipment, whether it is solar panels, turbines or electrolysers.

Duncan Clark: As an investor and buyer, we always want to see a vibrant, competitive, multi-party supply chain that we can tap into. Today we have some areas where there is a bit too much concentration, but the bigger issue is that we have loads of areas where there just is not enough capacity. We are at a special moment in time, where the world is changing and we need major investment. It is about that, more than concentration, I would say.

I will just emphasise the circularity. A lot of energy assets are very long-term assets. Given the phase we are seeing now, with exponential growth in some new technologies, it will be in 20 or 30 years' time when we see the growth in volume of the circular element. For example, in a wind turbine, 85% plus can be of the steel and copper, which are eminently recyclable, and it is valuable to do so when it comes to it.

Carl Arntzen: I do not have much to add. Sustainability is a really big topic. From a supply chain point of view, we are part of a big multinational group, but with that sustainability comes the question whether we start to onshore more activity, with the precise target of reducing carbon emissions throughout the whole supply chain. Those are some of the areas we are looking at at the moment.

Q324 **Jane Hunt:** I have a quick question on skills, which we talked about earlier. I can understand this working big business to big business, but the majority of this work that we do—heating systems and that kind of thing—is with small businesses. It is very often one-man bands and that

kind of thing. We will need to be able to rely on those people in order to ramp this thing up.

Carl, I think I have been on one of your seminars, about 18 months ago, where you were talking about Worcester Bosch setting out apprenticeships and training individual heating suppliers, for example. Is that the kind of thing you could ramp up and scale across the country?

Carl Arntzen: Yes, and that is what we are planning to do from an electrification of heat point of view. We have five or six training centres around the country, and we train 25,000 installers every year on our equipment. We are well set up. It has been part of our DNA for 20 to 30 years. We are now transitioning that to training them on electrification of heat, on heat pumps, but it is about getting that timing right, because the upskilling they need is more on the electrical side, not necessarily on the heating and the heating system design side.

The timing issue is because most of them have very little demand at the moment for that type of product and that type of work. We are training them, and then they do not use those skills for quite some considerable time. We are then going round loops of retraining and retraining.

Jane Hunt: It is absolutely chicken and egg, and yet we still have to get to 2050 with all these people transitioning.

Carl Arntzen: That is correct.

Q325 **Jane Hunt:** It is very difficult. What is SSE doing about this?

Alistair McGirr: In terms of reskilling work?

Jane Hunt: Yes.

Alistair McGirr: We do a lot of direct training from apprentices through to graduates into the company. We are going to need people to able to deliver on our investment programme. We are employing 1,000 people a year as part of our 12,000-people workforce entirely to deliver on our investment plans going forward.

In terms of making sure that we can contribute to the wider ecosystem, we have put in place a pretty robust just transition strategy. We were the first energy company to do so, in 2020. It is about how you phase people into these new low-carbon opportunities, but then also how you ensure there is a pathway out of the high-carbon activities.

I will just use one example around CCS and hydrogen. A couple of years ago, there was a lot of focus on what we would do with the gas power stations that remain on the system and that are there to keep the lights on. We took a clear decision to say that, while we could move on that asset to private equity companies, quite happily from their perspective, we saw ourselves as the best owner of that asset to be able to transition those important sites for communities around the country.

Our power CCS projects and our hydrogen power projects are going to be critical linchpins for the deployment of CCS and hydrogen infrastructure within the UK's industrial clusters. Reskilling and ensuring that there is a transition plan for people in communities is at the heart of what we try to do. I can share our just transition strategy with the Committee in a bit more detail.

Jane Hunt: Yes, please. Thank you. James and Duncan, is there anything else you would like to add?

James Graham: Equans has 600 apprentices across our 15,000 employees. Where we operate, for example in Birmingham, across the SHDF funding for retrofit of social housing, we use a local supply chain wherever possible. As a strategic supplier to Government, we see it as our role to invest not only in skills for our own organisation, but also in the environments in which we work.

Duncan Clark: We are an example of retraining ourselves. We were a high-carbon energy company—coal, oil and gas—and we have spent a number of years converting ourselves to clean and retraining our workforces. We are now developing bespoke apprentice programmes and bespoke partnerships with education institutions and other partners.

Where we find we do not have the scale in a particular discipline, we are starting to twin up with others who are in the same position, so that we build enough scale to do a programme together.

Q326 **Chair:** Thank you very much indeed. This has been an extremely useful session. Let me just wrap up by asking you all one question that came up in our earlier panel. We had the head of the ABI, and she is helping steward a group of investors that are looking after all our pensions. They are committed to investing £100 billion over the next 10 years, but one of the big problems is just the lack of projects coming through the project pipeline.

You have all highlighted problems around that long-term demand curve: skills, planning, and skills, skills, skills a lot—*[Laughter.]* Just give us a top line on why those projects are not coming forward at quite the pace that might meet the investment appetite.

Alistair McGirr: On the electricity transmission, they are coming forward. A lot of progress is being made in deploying the electricity transmission grid out to 2035. We have hit a number of road bumps on offshore wind, in that we have had a failed auction. The parameters for the upcoming auction are unambitious, let us say, and we do not have a clear plan about what we are going to do for the next few auctions. We are at AR6 now, but after the election, it will be AR7, AR8 and AR9, which will be the critical ones for whether the UK meets its 2030 offshore wind target. We have also had slow progress on the support frameworks for CCS and hydrogen to deploy the infrastructure, which companies like SSE are going to need to connect into.

Chair: That is useful. Thank you.

James Graham: Building on that, planning is a challenge. If I start with solar, it is the ability to get projects through and to get consent quickly. If I then take hydrogen, it is the alignment of funding with the real-world project delivery. I alluded earlier to where you are forced to make commitments in terms of cost before you fully understand design in order to get your funding. It is about alignment of Government intervention with real project delivery and enabling consent to happen quickly.

Duncan Clark: For the bit of the investment that is in infrastructure that will produce energy, we have the tools and the frameworks. We have the long-term contracts, allocation rounds and the regulatory ecosystem. As Alistair said, it is about making it clear, ambitious and foreseeable enough to drive that.

Most of the rest of our discussion today has been about the other bit, which is the supply chain side and the industry side that will support that infrastructure. I think we have covered that.

Carl Arntzen: It is certainty. Compared to my colleagues here, we are at the end of the supply chain. They supply the stuff to the house, and we burn it and transform it into heat. There is so much uncertainty about what that future energy system looks like. We just need that medium and long-term certainty so we can all make those investments. It has been lacking for the last 10 years, and it continues to lack now.

Chair: It sounds like, from across the board, policy haze is the No. 1 problem that is getting in the way of investable projects.

Thank you very much indeed. This has been a brilliant session. The Committee is very grateful to you for your evidence. Please feel free to submit anything further to us as we draw up our conclusions about what the industrial strategy for the UK's transition to net zero should look like. For now, that concludes this panel and this session.