

# Episode3

[00:00:00] Hello and welcome to the Workforce Foresighting Hub. My name is Emily Brennan. I'm the communication manager and host of this podcast series. Today, we are fortunate to be joined for our third episode by Jack Lockhart and Andrew Esson. And we'll be looking at a practical case example of the foresighting cycles that we run, why we do it and what the impacts are.

[00:00:25] we are starting to see. So first of all gentlemen, if I could get you both to [00:00:30] introduce yourself, Jack. Yeah, of course. I'm Jack Lockhart. I'm a workforce foresighting coach and I've spent around 10, 11 years in the learning and skills space in multiple different industries, but that's where I've developed my craft.

[00:00:43] Excellent. And Andrew. Hello, I'm Andrew Essin. I'm future skills lead at the offshore renewable energy catapult. Based up in Blyth. I was lured out of retirement into that role. And before that, I've spent about 40 years in manufacturing and [00:01:00] engineering across various sectors. Fantastic. Thank you very much.

[00:01:04] Okay. I'm really excited about this particular episode because we're actually we're moving away from the theory and now we're starting to talk about actually how it works. If we could start off with Andrew, if you could talk to us about why you saw this as an important opportunity, why foresighting is important in your sector.

[00:01:20] Workforce foresighting is important in our sector because we, like many industry sectors, are facing significant skills challenges. OHWIC, Offshore Wind Industries Council's Skills [00:01:30] Intelligence Report, published last summer, identified that there are currently 32, 000 people employed in the sector.

[00:01:35] By 2030, if all planned projects go ahead, that will increase to 104, 000. people. So we need to bring 72, 000 new entrants into the sector across a variety of job roles, and some of those are quite critical. So workforce foresight enables that forensic investigation into what specific skills are required and what capabilities will be required to underpill, [00:02:00] underpin the new job roles.

[00:02:01] Brilliant. That's excellent. And you talk about that's a huge number, 72, 000 people are required. Um, what's effectively the impact if we don't

prepare for that scale up? So if we don't prepare for that scale up, then the likelihood is that we don't achieve our national challenge of achieving 50 gigawatts offshore wind by 2030.

[00:02:25] Okay. Yeah. And that's significant. It's a government target, but it's [00:02:30] also really important for, the UK as a whole, its economy and and generally net zero targets. Absolutely. Yeah, we really need to think about how we attract people into our sector, but to do that is about identifying what are the capabilities that we need?

[00:02:46] What are the future skills we're going to need, which I think is where workforce foresighting. Brilliant. And Jack, what was your sort of reflection when you worked with Andrew on this cycle as the hub's representative, as their coach? What was [00:03:00] your sort of anticipation in this? I think the thing that really stands out with this topic and the topic in particular is there's a real strategic clarity around, like I said there, it's a government strategy.

[00:03:12] We've got clarity around the direction of travel. And I think the other interesting thing is And me and Andrew have had conversations around the setting up of the cycle, etc. This helps us move from, how do we, we just need X thousand more people and we'll steal them from over there.

[00:03:28] It gives a real [00:03:30] sort of tangible path to how do we upskill? How do we re skill? How do we attract people in as well? So it gets away from that sort of old challenge of, we're just going to, Borrow 5, 000 people from somewhere. Yeah, it's that strategic clarity and it's that ability to really independent with something else that really helps.

[00:03:48] Okay, that's super. Okay. So in terms of we've talked a little bit about people moving from one industry sector into this renewable sector and, that's one place there's obviously a lot of the next [00:04:00] generation of the workforce coming through as well. What's the sort of impact on them with this change that we're seeing?

[00:04:07] So there's obviously, on the one hand, fantastic opportunity. On the other hand, the offshore wind sector is not dissimilar to many other sectors that they would much prefer to recruit experienced people. So there's always a view of, yeah, we're going to go into another sector and borrow their people for a few years.

[00:04:28] But the reality [00:04:30] is currently that all major industrial sectors. And you think about the sectors that the catapult network covers, every

sector is facing significant skills, growth opportunities. So there isn't an industrial sector that's falling off a cliff, like in the eighties or nineties with coal or steel.

[00:04:49] So I think it's important that industry needs to take responsibility for developing its own talent pipeline for me. And I think the work we've done in the [00:05:00]

[00:05:01] It's a combination of how do you re skill existing workers, how do you cross skill workers from other sectors, and how do you bring fresh talent into the organisation and flow them through, progress them to the critical job roles. Good example in offshore wind is there's a role called a senior authorised person in high voltage engineering, which requires significant experience.

[00:05:29] If you use a [00:05:30] medical analogy, it's akin to being a surgeon. Okay. If you want to be a surgeon, that's the sixth form that you need to go to university, study medicine, do your internship, be a junior doctor, a registrar, and eventually in your thirties you'll become a doctor. A surgeon. It's the same with a senior authorised person.

[00:05:47] This role, it's a role that, that is literally one of life or death, that if you make a mistake, there are major health and safety implications. So you've got to be mature, you've got to know what you're doing, but you've got to start [00:06:00] from somewhere. So it's about identifying these progression pathways.

[00:06:04] So how do you get somebody from school to a senior authorised person role in 15 years? *Yeah, that's a really interesting analogy. And I know previously we've talked about Andrew apprentices, so growing that talent before. And I remember you, you spoke about in a previous experience you had that you really had to convince in industry or the sort of senior board that you were working with that the apprenticeship was a good route to take and the right [00:06:30] route to take.*

[00:06:30] *Can you elaborate a bit more on that?* Yeah we've had a challenge of it, if I answer it another way. Yes. I've spent a career, at least 30 years of my career, training and developing apprentices and graduates. So for me, it's a sensible thing to do, that if you're going to grow your business, achieve your objectives, you need to bring talent in, you need that pipeline of talent, because people do move on.

[00:06:53] In the UK, if you go back to the 60s, 70s, 80s, the large businesses used to overtrain. [00:07:00] So they'd recruit more apprentices than you need, they'd keep the best, and the rest would feed into the supply chain. That stopped in the 80s and 90s, and it's never really been replaced. And smaller businesses never really got to grips with that.

[00:07:13] And we're still fighting that battle of convincing businesses that they need to invest because so often the answer you'll get is well, if we train them up, they'll just leave and go and work for someone else. Actually, if you look after them and give them a good experience, treat them with respect, they are more [00:07:30] likely to stay with you, but you've got to accept that.

[00:07:34] So it is critical and I think an offshore wind sector, what I've seen is we almost have an artificial barrier just now because we've got, key targets 50 gigawatts offshore wind by 2030. I talked to many businesses who say we don't have time to bring in graduates and apprentices and recruit them.

[00:07:51] But the reality is that the major offshore wind projects coming on stream today will still be operating in 25 years time. So the people who will be running [00:08:00] those projects in 25 years time are currently at school or university, some even in primary school. So we need to remove that artificial barrier and ensure we have that.

[00:08:11] pipeline of talent flowing from schools through colleges and universities into the sector, as well as bringing more mature people in and re skilling people from non skilled sectors and from other industry sectors. And I think on top of that, Andrew talks there around the different [00:08:30] provisions for education that are out there.

[00:08:31] We've talked to apprenticeships through higher education, further education, sometimes these products, if we call them, educational products, it take two, three, four, five years to to come to life. So there isn't an argument that, the degree that you enroll on today or the apprenticeship you enroll on today is two or three years out of debt, or it's two or three years of work ago.

[00:08:51] So if we can look far enough ahead, we give education and those skills. That ecosystem, that framework, the time to [00:09:00] develop really timely, really relevant pathways, support options to upskill, reskill. And that's a, an important part as well. It's often being caught lagging. And you want to close that, you want to close that gap.

[00:09:13] Yeah, that's yeah, that's really a good observation there, Jack. And I think it leads into the next kind of question I have for you guys is about the actual cycle that you were involved in. Can you just detail sort of how that came about. So obviously we don't understand the challenge, but how you came to the particular topic or [00:09:30] technology area that you wanted to focus on.

[00:09:33] Yeah. So I guess for us, we started with our national challenge of 50 gigawatts offshore wind and then we thought that's a huge it's a huge challenge there's so many different technologies involved in achieving that. We then thought a subset of that is a sub target of five gigawatts floating offshore wind by 2030.

[00:09:53] We thought that's getting a little bit smaller and then we looked at the technology challenges around achieving [00:10:00] five gigawatts floating offshore wind and in effect there are several potential single points of failure. Which, if the technology doesn't work, you don't produce 5 gigawatts. And the potential single point of failure that we chose was high voltage dynamic cables for inter array operation.

[00:10:17] Basically the cables that connect the wind turbines together on a wind farm. Which, in floating offshore wind, have to be Turbines bob up and down. Of course. And the cables have to flex repeatedly. So [00:10:30] we thought that would be a good topic. For us as well because I and my colleagues are based in Blythe and we have high voltage cable partners based in the region.

[00:10:41] We thought it would be a good one to start with, a good one to get our feet wet with because we had a number of technologists and employers and educators in the region that we could quickly corral on to get the Project up and running. Brilliant. Okay. So quite a narrow focused technology [00:11:00] area, but that's what we have to start with these cycles.

[00:11:02] And then we can build out from there is my understanding. Yeah, narrow, narrow as a technology, but quite significant in terms of the future value of high voltage dynamic cables. Because there's not only the UK supply opportunity, there's the global supply opportunity. Of course. Okay. And I suppose the role that I certainly played in that, inside Hub, we're not the technical experts [00:11:30] on these technologies.

[00:11:31] It's for us to work with the Andrews of the world to help understand where that sits in that sweet spot. Is it? Close enough, but not far enough. Is it, has it got the scale? And like you said, the UK supply chain opportunity behind

it. It's our job to work and ratify, make sure that it's something that we can help bring to life.

[00:11:49] At the end of the day it's the right thing to do. It's focused and bounded enough. That might be another way of saying, it's a narrow opportunity. It's well focused. It's well bounded and it's an [00:12:00] opportunity to really go. I think that's the, that's the role that we play in the as well is to.

[00:12:05] Yeah, not be the technical experts, but to ratify and make sure that we can deliver the best for that technology, that solution. Yeah. And I guess the other factor was that when I spoke to our director of technology development, I applied to say, where should we start with foresighting? He said, cables.

[00:12:18] Interesting. And then when we engage with our sponsor, Renewable UK, and said, we're running foresighting, they immediately said, can you start with cables, please? Okay. Okay. So it's quite a critical technology [00:12:30] within the sector. Yeah, and everyone was in agreement that's where we should, where it needed to start.

[00:12:35] And so in terms of the participants and getting people involved, Andrew how did you find that? Because it's obviously we're asking people for their time and their insights, but how did you motivate them to be part of this process? Thanks. I guess through informed conversations, so I'm a great believer that you need to invest the time, the more people understand, the more people feel valued, the more likely they are to get involved, so in both [00:13:00] cycles we, we have run so far as ORE Catapult, we've taken the time to, to identify the organizations we want to get involved, the individuals within the organizations, and then we've invested time to meet with them one to one to explain what we're doing.

[00:13:13] the project because workforce foresighting is quite a complex process. It's quite detailed. It can be difficult to understand. So we spent the time to explain how the process works, what their role would be and what the outcomes that we were seeking were. Okay, [00:13:30] brilliant. And from the outcomes of your first cycle, what were some of the highlights for you?

[00:13:34] What did it give you that you were expecting or weren't expecting? For us, we were fortunate, fortuitous that we had a number of quick wins. So one was a developing conversation with our lead educator in Newcastle University to collaborate to develop a new high voltage engineering degree apprenticeship.

[00:13:53] And that's a project that's in, in development which fits with that criticality of high voltage engineering. [00:14:00] We also engaged with one of the organizations who supported us was OPITO, the industry training organizations who are now operating in offshore renewables as well as in oil and gas, and we've supported them in a project to develop a new competency standard for high voltage engineering.

[00:14:19] And it also led to conversations between the ORE Catapult and a commercial training provider looking at how we could leverage the technology and facilities [00:14:30] which exist in Blyth, which just as an aside, the reason I was lured out of retirement into the ORE catapult was that our Blyth facility is the largest engineering playground in the northeast of England.

[00:14:42] And we test full scale turbine blades and full scale drivetrains and oodles of high voltage equipment. So it's a great place for me to see out my days. I Conversely, what we're now looking at is how we can flip that technology and that expertise to support the onboarding of [00:15:00] new expertise into the sector, whether that be school or graduate entrance or upskilling or reskilling.

[00:15:07] Okay, brilliant. So you, This cycle has already started to produce results and that impact that you are already causing action, which is one of the steps in sort of the skills value chain. That I'm aware of and we talked about last in the last couple of episodes, but that's really been driven by yourself and the people involved to get behind this.

[00:15:26] Is, would you, what would you say to [00:15:30] other sort of catapults that are looking to do this in terms of that causing action piece? Yeah, I think the catapult and the force hiding champion has a responsibility to ensure that action occurs. You can't rely on others to, to do that because there are, if I'm being cynical, there are so many skills initiatives around it.

[00:15:53] If you bring a new skills initiative to the table, produce a nice report with a few recommendations and then step back, [00:16:00] it will just fall into a black hole. So I guess my experience gained over many years has been if you're going to make change, then you need a change agent. So as far as the Offshore Renewable Energy Category are concerned, in any foresight and work that we undertake, we will be that change agent.

[00:16:17] We will drive the conversation forward with industry. Yeah, that's brilliant. And Jack, you obviously involved in this cycle. And it was one of our first cycles. Yeah. From your experience, with the [00:16:30] participants and

facilitating, what was some of your highlights? So I think it goes back to something we talked about at the start.

[00:16:38] People were there because they had a real clear idea of what they were participating in. It wasn't, it might be a bit of cables. It might be a bit of operation, man. It might be a bit of this. It might be a bit of that. There's a very clear strategic direction. There's a clear red thread that comes through, not just from the catapult, but like you say, from the sponsors as well.

[00:16:57] So we hit on something [00:17:00] that wasn't just us having a nice time over, over nine or 10 weeks, the involvement. And the energy and the motivation that people had came from feeling that they're really solving a challenge. It, like I say, it really meant something. There was a, an understanding between all of them that, yeah, this is what we're here to do.

[00:17:23] This is what we're here to solve. And that clarity just cuts through. It allows you to really get to the heart of foresighting quite quickly and get [00:17:30] the information you need from. So I think that's a. That's a really strong point. It makes a difference, across cycles. I think the other parties and Andrew talks about it while there is really engaging with participants, not just, send a hundred invites out and, let's hope we get a 20 percent return rate that the people that were, that came through the door were invested.

[00:17:49] They understood they were the right people, um, to be in the room. And it just makes a difference. It makes that facilitation and the journey through. A lot smoother, a lot easier. And the outputs hopefully reflect [00:18:00] that as well. Brilliant. That's excellent to hear. So what are the next steps for you, Andrew, with this process?

[00:18:07] I know you've already completed your second cycle already. And the report is imminently expected. We're looking forward to that. What's next? What do you see for the role of foresighting for you? Going forward. So for us, and I touched on it earlier, in the offshore wind sector, there are many potential single points of failure within the sector, and our big challenge is scaling up.[00:18:30]

[00:18:30] Going from, we're currently at about 11 or 12 or 13 gigawatts offshore wind, and we need to get to 50. So that's a massive ramp up. And there are so many different building blocks, whether it be drive trains, blades, structures, cables. transformers and switchgear where they are all equally critical.



[00:18:52] If one of those elements goes down, you lose your energy production. So we're quite fortuitous in the [00:19:00] offshore wind sector in that in April we produced or published the offshore wind industrial growth plan, which has been across government and public private sector partnership. And that industrial growth plan identifies five key technology areas where the UK can aim to have world leading capability.

[00:19:23] Okay. Which are broadly advanced turbine systems, electrical systems and cables, [00:19:30] structures, smart O& M and environmental systems. Okay. Our two forward sliding cycles we've conducted so far, high voltage dynamic cables and remote and autonomous systems for use in operations and maintenance sit within that framework.

[00:19:49] But in effect, that plan, it in effect, it supports one of the key recommendations that we put in our first report, which was that for Foresight and have value in our sector, [00:20:00] we need to do not one, not two cycles, we need to roll on through all those key building blocks. So what we're looking at now is putting together a cohesive program, where we go to industry and say, yeah, this is what we're going to do.

[00:20:14] Let's work together and let's identify which are the key technologies where we need to undertake foresighting to support our national industrial growth plan. Excellent. So it's a fundamental part of your strategy for growth in this sector. [00:20:30] Yeah, and pleasingly, the offshore wind industrial growth plan actually references the work of the ORE catapult in workforce foresighting and also references a sponsor, Renewable UK.

[00:20:43] And then at the next level down, the offshore wind industry council, people and skills plan. Also references support for our workforce foresighting activities. So we have successfully embedded foresighting within the future plans for the [00:21:00] development of the offshore wind sector. The trick is to capitalize on that and keep the process rolling.

[00:21:04] Yeah, and I think what we hope we see after a program of work like that is each cycle can stand alone as a data set or an insight of that forensic look into what's needed for a specific take. technology or solution to be adopted. But when we run five, six, whatever that might look like, that gives us a potentially gives us this sort of meta set to look across and actually, [00:21:30] for the total adoption within this industry, where are the crossovers, where are the gaps, where are those things?

[00:21:36] So I think we will begin to see this individual data sets to actually, how does this become like a meta, a large set that allows us to look holistically across an industry. And that's pretty exciting. It's, it'll be a way. Down because we've got to deliver the cycles, but that's exciting to look forward to.

[00:21:52] Excellent. So maybe finally to to round up let's have a chat around what advice have you got for the [00:22:00] catapult network or for centers of innovation looking to, to participate in foresighting. Andrew, if we come to you first, I guess the first thing I always say when I ask that question is embrace the opportunity.

[00:22:12] Who else? Foresighting is quite a complex process. If it's approached with enthusiasm, it can generate some really interesting outputs, so embrace it and take commitment. You're going to take ownership, not only for carrying the process out, but also for taking action, [00:22:30] and then you'll get something out of it, and it'll be worthwhile at the end of the day.

[00:22:35] And Jack? So it comes to some of the lessons that we've spoken about. Today. So have really clear strategic intent in terms of the area that you're looking at. It's very easy to focus on. I want to go and foresight this technology. But actually, if there is that strategic, it becomes easier to set your cycle up to bound what it is, but to get people in.

[00:22:56] So I think that's a I think that's a really [00:23:00] important part around it. And Andrew talks about embracing it. The only way we will ever know if we've foresighted the right topic is by foresighting a topic and he's getting out there. So it's very easy to be caught up in, are we doing the right thing?

[00:23:12] There's a balance of how do we move towards that? Maybe a level of imperfect action, but how do we get out there with something that's in the right space and make it happen that should allow people to embrace it. Brilliant. And Andrew, you were talking earlier about the a recent meeting you had where you were talking about.

[00:23:28] innovate UK and [00:23:30] technology and how technology is realized and adopted. Can you refresh us on that? Yeah. So we've had a number of discussions over the last couple of years about why are we as a recatable involved in skills? And in fact, that was topic for discussion last week, as I was presenting our skills strategy to the catapult board.

[00:23:50] For us, what it boils down to is in 2021. Bays, as was Innovate UK, gave the Catabolic Network a skills strategy [00:24:00] alongside the innovation strategy and it's quite straight forward if you think about it. If you're investing hundreds of millions of pounds in developing new technology, if you don't have the people in the country with the skills to exploit that technology, then you're wasting your time and your money.

[00:24:15] And then the other factor, which has become evident at, or eCatapult, as we've developed a conversation, is that Catapult sit at a unique research in academia. So we're in a position where [00:24:30] we have the ear and the engagement of all those sectors. So it puts us in a great position to understand, to develop conversations and to convene interesting partnerships so we can start to do something different.

[00:24:45] And I guess, flipping back to why should catapults do it, I guess the other thing to reflect is that, from my experience over decades now has been that industry often approaches skills and adjusts too late. Perspective, by the [00:25:00] time they realise they need a skill, it's too late, and There are none available and they don't have time to develop them.

[00:25:07] So to an extent I think what we're aiming to do with workforce foresighting is to flip that just too late to just in time. So we ensure that the right skills are in the right place at the right time. **Brilliant. Thank you very much. So thank you both for joining us for this episode. It's been really interesting.**

[00:25:24] Next time we will bring you our fourth episode, which is called Coach's Corner [00:25:30] and we will interview some of the coaches who are involved in the facilitation of these workforce foresighting cycles. And we will have a guest host. One of my colleagues, Sachin, will be hosting. So thank you again for your time and we look forward to seeing you next time.