



SEASON 1, EPISODE 2 Kick Starting Offshore Wind in Australia

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SPEAKERS

Andy Evans, CEO, Oceanex Energy
Robyn Johnson, Director, Blend ESQ

Andy Evans 00:00

I think at the highest level, it's about having a mindset to be able to do these sorts of things. I don't think there are many places you can walk into and say, look, we want to build an \$8 billion dollar project, which really hasn't been built in Southern Hemisphere before, if you haven't at least done some large projects previously. So, there's a lot of activity obviously, going on now. But there's been industry setup for over 100 years. You only look obviously at the steelworks to start with to show that there's been a background and a legacy of working hard and big vision. So, for us looking at the Illawarra region, it's a mindset first and foremost.

Robyn Johnson 00:35

Hi, I'm Robyn Johnson, and welcome to Wollongong, Let's Get Salty! For 20 years I've advised industry and business in environmental management, with leaders from community, environment, and industry, we'll deep dive issues that impact us all, and discuss how we as a community can take action to move towards a sustainable future.

"There are strong reasons to believe that we might be about to launch the most transformative movement in history, a movement that redefines our extractive relationship with the planet, lightens our footprint and improves our lives. It might just be the luckiest time in the luckiest country".

This is a quote by Saul Griffith in his book 'The Big Switch - Australia's Electric Future', released mid Feb this year. Saul is a Wollongong local and inventor, entrepreneur, engineer, and author. He is also co-founder and chief scientist at Rewiring America and Rewiring Australia, which are non-profit organisations dedicated to decarbonising those countries, and the world through electrification.

Today, I have with me another leader in electrification, Co-founder and CEO of Oceanex Energy. Welcome. (Andy - Thanks, Robyn, thanks for having me). Together with Peter Sgardelis, a team of passionate individuals and international investors, they are responsible for kickstarting the offshore wind energy in Australia. Well done! Andy and Peter were Co-founders of Star of the South set to be Australia's first offshore wind farm. They have also been instrumental in advocating for an approval pathway,

achieving a huge milestone last year with the Commonwealth Offshore Electricity Infrastructure Act. Andy is the Chairman of New Volt Infrastructure powering Australia's transition to electric trucks. He's Co-founder and Director of Neuro Sports Lab helping to understand, minimise and manage the impacts of concussion and mild brain injury, and a Non-Executive Director of the JMB Foundation established to raise public awareness of the needs of young sufferers of acquired brain injuries. He's also Co-founder of the Irvine Club, a non-profit built on a passion for life, sports, mateship, and the greater good, which has raised nearly 3 million since 2004, for various charities.

So, what I find really inspiring about your story is that you show up in the world, bringing fresh eyes to solve social, economic and environmental problems. I'm just really interested to hear what inspires and motivates you?

Andy Evans 04:07

Thanks, Robyn. I think it's for me mainly about trying to do new things. I think I've always had a fairly curious mind from a fairly young age, and I think it wasn't really in the CV that you read out there, but I was a lawyer for about 14 or 15 years, and I think maybe the sheer boredom during that period is probably raised a lot of inertia that was there for a long period. So, look certainly the last 10 years in particular, I'm very focused on new innovative ideas, but certainly those that have whether it's social justice, or means of creating benefit and impact for people is probably the key driver for me. So, I can't sit still. I do sound really busy, I am really busy when you hear all that read back, but I think anytime you see a new idea or something that can be done better, it's almost you're uncharged to act.

(Robyn - So why wind energy?) Well it started, I got involved when the industry started onshore about 16 years ago, with a big Spanish company, Acciona came to Australia, and I think at that time, it was the newness of everything that really caught me. And from there was about five or six years later, once it became a little bit more mainstream, I started looking at different things, particularly with Peter and another of our partners to Terry Kallis on the Star of the South. So, I think was the newness, and I think the global nature of everything. I think, one of the traps here in Australia, and we've probably seen it during COVID the last two years, is that we can have a little bit of an island mentality at times, and I think the challenge for us now and the quote you read earlier is a great one. I think we've pulled ourselves and retracted a lot more from the world and we're realising that we need to and want to be part of a bigger global thing. So that means not just the physical things but also how ideas evolve.

So, I think offshore wind taps into a number of those different areas, it's very much a global industry. We won't be doing pilot projects here because the world's already gone ahead and developed a lot of the technology. So we really need to embrace the opportunity, and I think what we've seen the last week, certainly with the sudden closure of Eraring or it being brought forward seven years, shows that we need to be ready to adapt, it doesn't mean we need to physically do things straightaway. But we need to be thinking about the next things and how we can do things in a better way.

Robyn Johnson 05:25

Yeah, we'll talk more about the global wind industry in a minute, but I read a lot of biographies and listen to a lot of people's stories of, you know, what's the inspiration? Where do you draw your inspiration? What sort of things do you read and listen to?

Andy Evans 05:41

I'm exactly the same look, I love reading biographies, and probably more recent biographies. I don't want to sound like a business nerd, but I find it fascinating reading around whether it's Uber, Netflix. I'm reading around Peter Thiel at the moment, who was one of the founders of PayPal, and other businesses.

Just looking at their journeys and how basic they really are when they start, when I look at what we've done with offshore wind, it was very similar as well, it was driving down to an area and Gippsland,

standing up on one of the cliff tops and looking at and thinking I can see where the electricity comes in here, look at that disused port there, look at all the new opportunities with coal, will be coming off. So, I think it's looking at some fairly larger issues, but taking some very basic first steps, and I think a lot of people get overawed by how much work you think you need to do, and you do need to do that work. But if you're fairly passionate and have a vision about it, you can get things going. So, anything that starts with a fairly basic premise, but looking to solve an issue, that's fairly obvious. Look, I get inspired by that, and people spending time doing it.

We've been through it all, the buying the staples, the catching the 6am flight and the 10:30pm return flight for a one-hour meeting, putting yourself right out, but understanding the bigger play, and probably an example for me, look, setting up a concussion business 10 months ago, came from nowhere. I played AFL at a lower level than what I wanted to, but reserves and never quite made it but saw a lot of players go through career ending having issues with concussion as well. So, when I saw some of the so called CTE issues last year with a couple of prominent ex-players, it sort of got me going to think well, you know, I've read about, I've lived that you can set things up and get things moving rather than relying on others. So, we set up a company, it's very small, there's about three of us involved, I still don't really know that I've got enough time for it, but really passionate about it. So, I think any other stories or readings that show that ability to have an idea and not get overawed by the apparent obstacles, which often are very small, and obviously very mental for a lot of people. I think once you get through that and you draw inspiration from others, you can really proceed quickly.

Robyn Johnson 07:51

Yeah, and I think what you have done is you've taken a vision and a need, and matched it with your values, and then surrounded yourself with people who are experts.

Andy Evans 08:00

There are so many great people out there that I think probably 98% of people maybe get caught in their own way of doing things for a long period and don't realise they can get out and try some things. And there are a number of other like minds looking for that same sort of thought pattern as well. So certainly, I mean that the concussion business really came out of my reading of setting things up and the ability to make change, if you put in some time and find the right people.

Robyn Johnson 08:25

Yep, and tell me more about the Irvine Club?

Andy Evans 08:29

Well, it started very innocently around 20 years ago, just with a group of guys who were, I'll say late 20s at the time, I'm 48 now, so we were late 20s, we'd realised that our sporting ambitions had got beyond us, we either didn't have the talent or the perseverance. So, it started out as just a lunch club, and we just determined on the first lunch that we raised any money that would go to a charity. So, I think we raised the grand sum of about \$500 for Beyond Blue at the first lunch in 2004, and since then we've had two lunches, usually in Melbourne, we usually have Sydney lunch as well, and just looking for different charitable groups, I think probably our most successful ones been the most recent with the McGrath Foundation, based up here out of Sydney.

So that's really opened up a lot of eyes and opportunities for a number of people just to be able to give. I think the challenge we have and why we set it up, is that people want to get involved in charitable pursuits, but think they need to go way beyond the time requirement to actually contribute, and if it's just money, well, does it mean anything? But we've had lunch groups, we obviously have a nice lunch, we always have a speaker from the charity, often someone who's been impacted by the benefits of the charity, and it's just grown its own sort of leg, we usually have about 450 people at each lunch, you know, and most of them are there in a very giving manner, and I think giving of their time as much as anything.

We hit our 20-year anniversary actually in two years' time, so that's sort of been an achievement. We've made it through COVID. I was president during COVID, so I sort of claim that whilst other world presidents and leaders fell by the wayside, I was still there during COVID. So, we did have zero events, but that's okay, I was still there at the end.

Robyn Johnson 10:02

Yeah, no, it's awesome. I think that, you know, people come to those things for some inspiration, some social connection, and giving, giving of something to a need that they can, you know, see the transparency of where that money's gonna go and the lives it will affect, so it's amazing work.

So, let's move on to talk about offshore wind, because in Australia, we only have onshore wind. I must admit, when I heard of this project, I went through the standard set of questions, well how do they float? What are they? You know, so it's not a new industry. Tell us a bit about the history of offshore wind?

Andy Evans 10:39

The offshore wind started, Denmark was the real leader in the early 90s. They had a much smaller offshore industry that they developed, and a lot of it is based around the closure of fossil fuels, a lot of land limitations as well, where you've got built up populations, but you have not enough space to have land based power generation. So, it really evolved from there from about 1982 was the first Danish offshore wind farm and it was decommissioned about two or three years ago.

From there, it's really spread, and the leading countries now are really the UK, a lot of the European countries, so Germany, Denmark, the Netherlands, Norway and Sweden are developing quickly, Poland, through to Asia, particularly South Korea, Taiwan and Japan, and now the East Coast and the West Coast of the US.

So, when we looked at it first here for Australia, I think a lot of people overlook the real drivers for offshore wind, and it's what we've seen, I think the Eraring announcement last week really proves why you look at offshore wind. Our projects had really developed around the understanding that there will be large coal, large power generation exits around Australia, a lot of people don't realise that look at 5% of our population live within 50 kilometres of the coastline. Most of our power is based around coal, which is all within 100 kilometres of the coastline. So, we've got very large what are called load centres where all the electricity goes into, so you really need to be close if you're going to generate electricity to those load centres, because that's where all the infrastructure has been built.

So, most people particularly travelling say, Australia, you've got plenty of sun, and plenty of coal. The problem with the solar, look, it's a great resource for us, but most of our population don't live in the middle of the desert, where most of the sun is, so we don't have all the transmission infrastructure. So, when we looked at our first project, the Star of the South, Peter and I, 10 years ago, it was very much based around the recognition that Latrobe Valley coal generators would come off, over it was 2012. Hazelwood was looking like early 2020s, and that came off in 2017 on five months' notice. So, what we're seeing with Eraring was the whole reason why we set up in New South Wales.

Formally, we made announcements two years ago about projects, which was very early, but we've been looking at projects for a number of years. So, very much the projects going forward, which we hope to get up should be based very much around looking at where you can actually send the power to get it to the people, and to the businesses that need it. Certainly, we would look at the Illawarra, in particular, there are many reasons and I know we'll talk about a good bit today. But certainly, it's the ability to tap into a Dapto, we've got a great connection point. It's incredible round here with the amount of industry and support for industry, whether it's engineers, project managers, environmentally based advisors, and the like, on top of all your manufacturing blue steel and the like.

So, the Illawarra, Wollongong, Port Kembla and surrounds is an incredible place globally to be looking at offshore wind. The wind, we've done some wind resource studies off the coast of Wollongong and Port Kembla, is really strong, probably not as strong as some other areas like the Star of the South and down at Eden, but it's a really good resource. But the great thing is that you've got incredible industry and skill sets here, and the ability to connect into the grid.

Robyn Johnson 13:51

So, what I'm hearing is, we've got a bunch of coal fired power stations that will go offline over time, and we have our infrastructure built around these coastal locations, and that we need not only access to port and electricity infrastructure, but the skill set to sort of take those industries along for this offshore wind ride. (Andy - Yeah, beautifully summed up). The scale, I read in the Forbes magazine that China last year did something like 17 gigawatts of offshore wind farm in 2021. So that's an incredible, that's about 75% of all of our existing coal fired power stations. We're not necessarily moving at that pace, and for them, it's small fry, but it just shows that possibility and the technology is there. It's happening and has been happening for 21 years.

Andy Evans 14:53

It's really a race on not just the technology, but look, investor attraction. It's a real race to the moment, we people don't realise how much money is tied up in large superannuation funds and infrastructure funds that needs to be deployed and spent, and there aren't enough quality projects, particularly in those with the decarbonisation benefit. Shareholders, members of superannuation funds are starting to want to see their money in things that have an environmental or public good. (Robyn - Yep). So, the opportunities are certainly there and there, alongside hydrogen, offshore wind is really the large, sort of greener decarbonised industries that create opportunities for investment.

Robyn Johnson 15:33

Yeah, and something you know, I've been in environmental management for 20 something years, this ESG, which is environment, social and governance metrics that now listed companies need to report on is new, you know, it wasn't there 10 years ago, and so people are really kind of being held to account, and there's community and investor sentiment that wasn't there before.

Andy Evans 15:59

Yeah, it's really changed. If you look at a company like Exxon Mobil, they've now got three Directors that represent, I think, point 2%, of the shareholding. So, there's been really big sort of public changes in some of those companies as well, which are probably more renowned for obviously, oil and gas. They're really looking at newer opportunities, and we certainly see offshore wind is fitting within what we would call large scale heavy industry. It has all the decarbonisation benefits, we recognise there are a lot of inputs, as well, but steel manufacture and the like that rely on heavy industry, but you get a really good balance in the early stage of being able to transition existing industries and skill sets for a long-term benefit of environmental benefit by reducing carbon emissions.

Robyn Johnson 16:41

It's not completely replacing the industry because you're tapping into transmission that exists, and so it's fast in that way, once it's there, it can be fed straight into the grid essentially.

Andy Evans 16:53

That's part of the optionality that we're providing, with offshore wind, it does blow a lot more consistently and stronger out at sea than on onshore, there is still some intermittency, it's not always blowing, so it needs to provide part of the solution for a broader energy mix with, you've got more dispatchability with coal and gas, so will always have a role for a good while. But offshore wind provides that little bit more certainty and regularity around generation.

Robyn Johnson 17:19

Yeah, I think that's a really good message. It's not 100% offshore wind that we're gonna be going with, that Australia's solution is going to be a mix of offshore and onshore wind and solar and hydrogen and other technologies, and as you say, gas and coal even for you know a while longer. So, let's bring this conversation down to Wollongong. Let's get salty, and before we dive into why Wollongong, let's just talk about Wollongong, it's a great place and we've had chats previously about that, so yeah, I'm keen to get your perspectives on this place and its people.

Andy Evans 17:58

It's almost embarrassing, I've got two good mates who live up here and as soon as I get here, I always text them with some photos saying how good is the gong? And I've just been out at Corrimal Beach, just having a look there at the sea baths, and coming from Melbourne, which is not renowned for actually a lot of things at the moment the last few years.

Oh, look, I'm always blown away when I come up here, it's just picturesque, people are for me really friendly. Maybe I've got a bit of the Melbourne paleness about me, they feel sorry for me, but there's just a fantastic mix of the beach. I love looking at industry and seeing that there as well. Particularly if you, look I usually stay around North Beach and you look down to Port Kembla and the like, I love this real mix of different views and attitudes and vistas as well. There aren't many places where you have such a beautiful coastline, and even the escarpment and on land and then you have industry sitting there seamlessly as well as almost like a further gift to allow people to live a really good life. I haven't mentioned the Dapto Dogs, which I also enjoy as well.

But you know, there are a lot of great things up here as well, and look, it feels a very distinct place from Sydney as well. And I think you're really blessed up here in New South Wales, with some of the other places as well, which I won't mention, but for me Wollongong, look, the people have been fantastic. You don't feel like you're anywhere different from where you've grown up, so you settle in very quickly. So, look, I love The Gong.

Robyn Johnson 19:18

Yeah, it's a good point you make, so for me living in Wollongong, I have the beautiful beaches and the bush, and I can enjoy those spaces with my family, my kids go to school, we have, you know, less traffic than our sister city in Sydney. But it also brings that opportunity to do meaningful work that industry has here. So, producing products that people need and services that people need, without necessarily having to travel to a city centre all the time. So, for me, living here brings the opportunity to swim regularly. So, the ocean is somewhere I draw a lot of my energy, and that's where I get my me time, and that's where I create and get my inspiration. One of the themes of this podcast that I'm going to ask all guests, is like what is your favourite way to immerse yourself in nature?

Andy Evans 20:15

Certainly, when I come up here, as you said, it's getting into the water, getting into some warm water with waves is something I'm not used to and feels like a totally new experience every time I do it. So, I always try and carve out at least an hour, every afternoon that I'm up here, usually from 4:30 I try not to do too much and just wander over just at North Wollongong at the beach there, and you only needs to be in for 5 to 10 minutes, and it's just great to feel the sand under your feet, but just to ride some waves, look a little bit embarrassing as a middle aged man, but you know the waters actually warm, you don't have to grimace every time you get in and jump straight under the water.

Look, I live pretty much on St Kilda Beach in Melbourne. It's flat. It's cold, not as many syringes as what there used to be, but it's not really a desirable place to go in and have a swim and just have a different sensation yet you feel when you've got the water on you. I walk a lot, so I love walking along the foreshore and the coastline here. Been less up the escarpment, which as I have mentioned to you separately is a

great word, which you don't hear as much outside of Wollongong, but you know, it's just a beautiful bit of scenery. Even when you come in over the Bulli Pass, and the like, you feel like you've moved into a whole separate metropolis which has been set up.

Coming in today, just on the other side of the escarpment, it was really dark, and we were worried about thunderstorms which had been predicted, and then you come over the top and all of a sudden you see the beach there, you see the industry, houses, it's just an incredible vista. Again, I use the word when you come in, it's like a whole new embrace to a new world.

Robyn Johnson 21:51

Yeah, it is, we've got our own little bubble here. So, I looked up the word escarpment after we had our last chat because I was interested in what it meant. So, the escarpment here is called the Illawarra Range, and it's basically steep cliffs that run for about 92 kilometres. So, the term is, it's a steep cliff, but it's a steep cliff that goes a bloody long way, is how you would describe an escarpment, so I thought that was interesting.

Andy Evans 22:19

I am overly fascinated with the word, but it's a unique Wollongong, Illawarra word. Because we all know generally what an escarpment is, but until you get here, and it comes into the lexicon of conversation all the time, it's just a fascinating word, and I continually say it every time I'm here.

Robyn Johnson 22:35

Yeah, I waste a lot of time looking at that escarpment. So, moving on from the escarpment, where we met was i3net, an Innovative Industry Group. Tell us about your interactions with that group, and why that was somewhere that you come for information and to meet people and get to know the industry here?

Andy Evans 22:55

Yeah, that's been a really introduction into the whole region, and again, it's like you're catching up with a group of friends. I think we held a breakfast, which you were at, in May, here at the Grange, and I think half the introductions were actually hugs, with males and females. So, you do feel like you're not so much going through a whole networking process, using the old sense of the term networking, which was I'll meet someone and push my skills, rather than actually listen to them.

I think i3 has been great for us, because you just meet people who are who are friends. Really, that's what it's like, the next few days, I've got three coffee meetings with people which are more friend catch ups, rather than them being around work opportunities. Particularly with what we're doing. We're about six years away from really commencing construction process, well we've got work coming up, but most of the catch ups are more friendly catch ups to see how people are going. So, that's the thing I really like about i3net, it's very different to other areas we've been involved in certainly down in Victoria nothing like that exists, and I'm a very social person and go to a lot of things, there's nothing like it in Victoria.

Robyn Johnson 22:55

Yeah, I've done a lot of networking groups over the years, and for me, this is definitely, the word warmth is a word I would use, I feel warmth when I'm in that room and I feel supported. People are really genuinely interested in what you're doing and in creating opportunities for you to, hey chat to this person about this and sitting there brainstorming ideas with you. So yeah, I've really benefited from being involved in that group, and like you have created some great friends.

Andy Evans 24:30

It is different when you're doing more individual pursuits that we do. Oceanex is a small company at the moment, 4 people. You do your own thing, you really need to reach out to people, it can get isolating

at times when you're beavering away thinking does this actually really work? Are people really interested? To get into a group where people want to catch up with you, just for you first and foremost, as well as what you're doing is a fantastic thing.

Robyn Johnson 24:54



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Staying broad before we dive into the infrastructure of it, you said before Wollongong was great because of the port, and the electricity transmission, but can we dive through those factors of you know, that sort of regional selection for a site so that people can really understand what an opportunity we have here, as people of Wollongong for supporting an offshore wind farm?

Andy Evans 25:53

I think at the highest level, it's about having a mindset to be able to do these sorts of things. I don't think there are many places you can walk into and say, look, we want to build an \$8 billion project, which really hasn't been built in the Southern Hemisphere before, if you haven't at least done some large projects previously. So, there's a lot of activity obviously, going on now. But there's been industry setup for over 100 years, you only look obviously at the steelworks to start with to show that there's been a background and a legacy of working hard and big vision. So for us, looking at the Illawarra region, it's a mindset, first and foremost.

There are very few other places around Australia, you can do this. That's why we've looked at Newcastle and the Hunter, really is the other flagship project for what we're doing. Because there's that mindset of, yeah, we've seen this sort of stuff, we think we can do it, we've got the right mindset, it doesn't mean that everything's going to be sourced locally and done locally. These are huge projects, and particularly when they're relying a lot on international technology and know how to start with that.

I think that the real thing that's going for Wollongong, Port Kembla and the whole region is that mindset of we can do this sort of stuff, and we can embrace it. Once you sort of get through that you break it down into a lot of the industry skill sets, and individual skill sets of people. And it's not all the tangible stuff. So, it's not just the steel making, steel fabrication, port logistics, engineering, it's a lot of the other support a broader work that goes on for years and years. So environmental is a key part of what we're doing, a lot of stakeholder work, the finance side of things, looping through to all the operations and

maintenance, which goes for another 30 years or so. So, there's that real cross section of skill sets, and I can go through it. I think on our website, we've got about 69 different skill sets, which only is the tip of the iceberg, a lot of those already exist here. Or people can be trained to adapt their skill sets. And that's one of the key things we're seeking to do as much work particularly in the schools. When I look at our first project in Victoria, we spent a lot of time with some of the secondary schools, getting people ready. So, we're doing a lot of work with TAFE at the moment as well, to start developing, what sort of training and apprenticeships needs to be done to allow the workforces of the future to be ready.

Robyn Johnson 28:04

Yeah, wow, that's really interesting that you're upskilling and identifying talent that you're going to need.

Andy Evans 28:11

We need to and I think obviously the future generations need it as well, a lot of the jobs that we do, what I'm doing now just didn't exist probably even 10 years ago. But when you look at our kids coming through, I can't say I'd really recommend my kids or my daughter to be a lawyer, she knows that enough, so a lot of those traditional skill sets, our kids don't want to do them. And I think we just need to embrace that and sort of see what future requirements we have as societies and start adapting and training our kids, rather than sort of forcing people into certain areas, which they may not be equipped for, or really their heart may not be in. So, it doesn't mean everyone's going to be doing glamorous jobs. But we just need to start tuning our mindset to what may have worked for us in previous generations may not be the best way to do things going forward.

Robyn Johnson 28:56

And the quest for meaningful work, it's really important.

Andy Evans 28:59

It's a thing, we all went through it, I'm happy to say that I really didn't enjoy being a lawyer, I changed, my first four jobs all lasted about two years each. Until I started going to work for myself as a lawyer for a few more years, then got sick of my own company. So looked at doing something else.

Robyn Johnson 29:14

But those skills have transferred, obviously into allowing you to do what you're doing now.

Andy Evans 29:20

Absolutely, they have. Yeah, I think that's the key thing there for people. I mean, obviously, you need a base skill set. But you know, I think we just need to become more aware and we can shape where we direct people into their futures.

Robyn Johnson 29:31

Yeah, my kids are 9 and 11, to girls, and, you know, we have these conversations about you know, what do you want to be when you grow up? One's really interested in ecology and wildlife caring, zoology, that sort of thing. And I'm always really careful to say to them, you don't have to choose one thing. I didn't choose one thing, I've followed opportunities and interests and I've come out a generalist, I know quite a lot about a lot, and that's given me opportunities to sort of follow what I'm passionate about and what I value. So that age old doing work experience in Year 10, what do you want to do with the rest of your life, even when you get to Year 12 and Uni, it's hard, so my message there is you don't need to pick one, you may not do it forever, and the cumulative effect of all of your experiences will land you where you need to be.

Andy Evans 30:30

I think it's the ability to adapt really is the skill set we need, and we're seeing it as a country at the moment. You need to adapt to different things, adapt to COVID and adapt to obviously energy closures and other threats or opportunities.

Robyn Johnson 30:44

Yep, so let's talk now about the infrastructure. This is large scale energy industry. What does it look like? Where would it be located? Let's give people a picture of the, I guess, parts of the infrastructure, and what that looks like.

Andy Evans 31:01

A key driver for what we're doing is seeking to reduce a lot of the visual impact of wind turbines. We understand onshore, they may not be to everyone's desire. So, certainly one of the reasons for looking at offshore wind is reducing a lot of those land based or human issues. So, we're looking at placing the just over 100 turbines, over 20 kilometres from the coastline. So, they'll still be some visibility, but we're seeking to take them out as far as possible.

The challenge we have with most of the New South Wales coastline is that it falls away very quickly, and it's very deep very quickly. So, we've been looking at it 20 kilometres plus, which there will be visibility, but not a great deal. You're looking at least at 500 metres water depth, which is really the new technology at the moment. So, a lot of it's been used in offshore oil and gas, so it's not brand new. But we're taking it out as far as we can, once it gets beyond 1000 metres of water depth, it's really the technology is just not there for a good while yet. So, we're looking at just over 100 turbines, these are called floating turbines. Because once you get beyond 70 metres water depth, you can no longer have rolled steel and just bang in a foundation into the seabed. So, you have to go out and think of it as anchoring and mooring. So, you've got thin, usually metal or other sort of fiber cables going down to anchors in the seabed. So, you're not penetrating the seabed like you are with fixed or rolled foundations which go in about 30 metres into the seabed.

With anchoring and mooring, you've usually got four anchors or more that they're fairly small by comparison, and you have cables that are floating, their fairly taut, up to sea level, where you've got foundations, which are quite large, so a lot of steel involved in the foundations because you don't want your turbine swaying too much. You've then got towers, which go up about 130 metres. So, what's called the hub where the nacelle is which has a gearbox, and then you have blades that can be over 100 metres at the moment. So, if you've got it very tip height of a blade, once you've got one of the three blades at its apex, it's around about 230 to 250 metres.

So, they're very large structures. They'll be fascinating to see, usually you assemble them at the port, and tow them out with three tags and then install them out in the sea. So, it will be fascinating seeing them assembled. They'll be like very large buildings, there's all the protocols and safety around that as well. So, they get taken out you have cables in between each turbine unit, which takes it to an offshore substation, which does the conversion of the electricity to then send back via two to three, what we call export cables back. They'll come on shore, be underground, and go into a connection point, which look if we're looking at the Illawarra it'll be at Dapto. And when I talk of the export cables, people are always fascinated by them, they're really only the size of a large, very large coaster. Actually, they've got bigger over time. But when you look at the diameter of the cables, they're not that big. (Robyn - It's tiny).

It is, but look, there is obviously a lot of opportunities for industry around it's steel making, steel fabrication, so there's obviously a lot of steel involved in the early stages of the process. That's why we always refer to these projects really as large infrastructure projects, rather than strictly energy projects. They really lend a lot from offshore oil and gas, steel making, a lot of similar supply chains to hydrogen, which is why it's such a great opportunity here in the Illawarra, and also in Newcastle, very similar to

hydrogen, you have large investment by often similar parties, and there's a great chance for use of green electricity as part of powering operations or as part of the hydrogen production process. So, we get excited by hydrogen equally as much with what we're doing, and certainly the electrification of transport, whether it be cars or trucks. I don't think people quite realise how much electricity will be used to power big fleets if we're all driving around in EVs. New South Wales have got a great policy around EVs. Victoria seeks to penalise and tax you, but it's different up here, looking at promoting that, that'll create a number of other opportunities as well for industry.

Robyn Johnson 35:08

Yeah, I saw last week, the ARENA put out their Future for Fuels - Round Two. I think round one gave them something like 420 fast charging EV stations around the state, one of which got built in November. So, this is the round for big fleet to kind of get involved and set themselves up for electric trucks. So, can you tell me more about that?

Andy Evans 35:33

Yeah, well, I mean, we're looking at some great companies here. Obviously, with Coregas in the region, doing some work with Hyzon Motors as well, another Australian company. So, there's a lot going on that area. If people read a lot of the international press, there's a Queensland based company, Tritium just listed over on the NASDAQ, so they've got some incredible charging infrastructure. And I think a lot of that doesn't really get out into the general populace about the capability of companies here. I mean, Coregas have obviously been very vocal locally, which is great. They're a great i3net member as well. So, there's a lot of really good work, which really start accelerating in the next three to five years, and I think, again, harking back to the Eraring announcement, I think everyone's sort of a lot more on notice now that we really need to start pushing things forward now rather than sitting back.

Robyn Johnson 36:18

Yeah, so Coregas, for those who don't know, they've had a hydrogen car running around for a long time now. And two hydrogen trucks, if not already delivered very close to being. So, we manufacture electric trucks already in Victoria. And yeah, I think the message here is use your car till it dies, and then buy an electric vehicle, yeah?

Andy Evans 36:43

Yeah, look certainly that's what's happening overseas, and there will come a time where you just won't be able to source internal combustion engine motors, so petrol driven cars, because look, a lot of the key manufacturing countries are banning it from 2030 onwards. So, there'll come a stage where, we don't have car manufacturing here anymore, it's only really going to be electric vehicles that will be on the market, when you're looking. Well beyond on 2030, if you're looking at new cars, it's invariably going to be an electric vehicle.

Robyn Johnson 37:13

So, most of this wind farm would feed initially into the New South Wales electricity grid and out to homes, I think you've said to me before, it's something like 1 million homes could be fed from the 2000 megawatts capacity. And what about access to that electricity for industry to operate from renewables and tell me more about hydrogen?

Andy Evans 37:35

Yeah, we'd certainly seek to mix up, in the industry you call behind the meter opportunities, so rather than putting it into the central grid, and then having it go out to houses or industries, you'd seek to plug in a certain amount of the capacity directly into businesses, whether it's using the obvious examples, at the port, whether it's a BlueScope, or AIG, AIP, and the like, those large electricity users, There's also opportunities with your corporate power purchase agreements, so whether it's your large companies, your Amazon's, Cokes and the like, look at opportunities, but that's more on the financial side of the

market, rather than the physical side. So usually, the electricity goes straight into the grid, it doesn't go specifically to those companies.

The hydrogen opportunity is very similar to offshore wind. I mean, at times we think that offshore wind is well ahead of hydrogen, a lot of the technology has been proven. With hydrogen, there's a great opportunity domestically, particularly internationally as well, you may have read over the weekend, Japan have come out with some big tenders around ammonia sourced from hydrogen. So, there are huge opportunities, particularly on the east coast as well, I think New South Wales has really seized the initiative incredibly well. There are grants, obviously, at Newcastle, and there's a lot of work here in the Illawarra as well.

We've been members of the Illawarra Hydrogen Hub, or Port Kembla Hydrogen Hub for the last 18 months, almost two years or so now. There's just some great activity going on with a number of companies and they're companies that are willing to share information, which is the key thing. Yeah, I think with a lot of newer industries, everyone can be a little bit secret. But I think everyone's fairly open around the hydrogen opportunities, because they are really large projects, like offshore wind, there's, they're not small projects. To make a lot of sense, you have to get the economy of scale right up. So that's heavy investment over a long period, and investment where you won't see revenue or creation of money for quite a bit of time. So, it's always an interesting thing, people are a bit loathe around international investment, they think about taking profits out of Australia. But invariably, there are a lot of losses that go in, particularly in the first decade or so. We'll have a real mix of international investors and local investors for hydrogen and offshore wind.

Robyn Johnson 39:48

So, you talk about sharing information and you know, combining as a team, essentially to get these industries out of the ground, often with a lot of hard work and investment of money upfront. What's happening in Wollongong to sort of look at those supply chains and all the industries that will support not only offshore wind, but hydrogen?

Andy Evans 40:09

We've got a report coming out in about two weeks or early March, a supply chain study, and we've had a lot of i3net members and other members of the community contribute to that. So, that's been a six-month labour of, I'll say love, but it's been hard work. So look, we'll be sharing that with the public, it's quite a long read, it's about 250 pages, but it goes into a lot of the different skill sets required and the work that's typically involved in getting an offshore wind farm, even to the start of construction, like we're looking at a process now about a five year development process where you spend over \$200 million dollars, before you even get to a decision about whether you can actually build the project or not, so that report will be critical. Look, it's the first of its kind in Australia. So, it has been really hard work. We've had a great advisory group, MBB Group, drive that and do most of the work and coordinate it with local supply chain and the global supply chain. So, I think that'll be good reading and hopefully get people excited about the opportunities.

I think the key thing we find you go to into great regions like the Illawarra and up into the Hunter, and everyone's so settled about their day-to-day business, they actually don't realise from the outside how much they've got going for them. and particularly, you know, when you come to the Illawarra, when you do look at some of the key businesses that have been here, I don't think people, they probably do, look the iconic nature of a BlueScope or the like, is known not just here, but overseas. So, when we have chats with global supply chain, they're all aware of key areas, so when we talk of new projects, such as our Illawarra Offshore Wind Farm, there's already a recognition of key, particularly industry members, such as a BlueScope, globally. So, I think we're not just about picking the really easy opportunities. BlueScope, of course, will be critical to our projects, and have been a great supporter so far, but it really goes beyond

that, and I think our report will really hopefully give a little bit of life and optimism for a lot of people around not just a lot of work, but it creates a lot of social opportunities.

You know, people don't have to travel to work, if you've got great projects like this, people can keep playing cricket or keep playing the sports they play, they can be with their family. I know from the Star of the South, the early days, one of the key issues raised was that the teenagers and young kids, particularly in the Gippsland area probably only saw a few options that was either leave for Melbourne or be unemployed. So, you get these projects come in, and I think our report will show this, now all of a sudden, you've got your family here, you've got your friends here, you can actually stay here and do some really enjoyable work.

Robyn Johnson 42:38

And then with big renewables here, it's the flow on to building that industry and making Wollongong really a leader in that sustainable city thinking, a clean energy hub if you like. So, it's not just the construction of this project and then there's only 300 jobs, it's the flow on into other industries and all the supporting supply chain, that those opportunities then lend those businesses to be able to show the rest of the world, we can become leaders, or if not just early adopters.

Andy Evans 43:11

We haven't really touched on the benefits from more floating foundations, like New South Wales, with our projects and the other projects that have now come out of the woodwork, New South Wales is one of only seven jurisdictions globally, that is on the map has been a floating foundation leader. So that's, Scotland's the standout leader at the moment, but you've also got South Korea, Japan, Taiwan, Norway, Sweden, and California. So, we've now got New South Wales on all the emerging markets for floating foundation potential. That gives us a lot of innovation opportunities.

I've done a lot of work with the University of Wollongong where we'll opened an office later this week. Finally, we've taken our time. There's a lot of IP creation, and a lot of smarts as well, and it cuts across a number of different areas. So, we're excited about that, because it's got a global application. I think for a lot of existing workers and those coming through, there are going to be global opportunities. You know, if you do want to live in Wollongong and surrounds for a good while you can do it. But equally, if you do want to go overseas and use your skills, offshore wind is going to create those opportunities and skill sets you need.

Robyn Johnson 44:14

Yeah. So, my business does work in integrated management systems. So, we look at Environment, Health and Safety and Quality, mainly in certified systems where you're doing work for government or work for big industry, and they need to kind of go yep, we know you've got your documentation and your processes in place and that you're complying with the law and managing your risk. And, you know, we talked about building risk aware organisations. A few years ago, that risk terminology got changed to risk and opportunity, and it's about not just making people aware of risks but making people really aware of the opportunities. So, it's kind of, here's your business in Wollongong, are you, not just managing your risks, but are you looking up and out, at what the opportunities are coming from renewables, from sustainable business, from what's happening nationally and globally, so that you can position yourself for this transformative phase that we're gonna go through in industry? So, this Supply Chain Report sounds super interesting. I think it will take a little while to read through by the sounds, but it's almost a blueprint, isn't it? You know, what are the opportunities? How can we move forward?

Andy Evans 45:37

It's been really hard work as well. I'd like to say we had 10 years background with Star of the South in Victoria, but we didn't do that work down there because it was very early, but it's a more disjointed region. So, it's harder to pull together everything. We've been really lucky with this report, we've targeted

it very much on opportunities for the Hunter and the Illawarra. So, we do refer to the broader New South Wales and also Australia and globally, but we're very clear and it's even on the front cover, talking about the Hunter and the Illawarra opportunities. Because they are standout regions, and I think if you even look at New South Wales policy, most has driven around the success of the Illawarra and the Hunter as key regions outside of Sydney, because they drive a lot of other regions.

So, we're also looking at projects on the south coast further down at Ulladulla and Eden, we're really using Illawarra as the blueprint for those further projects, and I think other Australian projects will likewise refer to this report. We're looking at projects in New Zealand, it will be the same thing as well.

Robyn Johnson 46:36

Yeah, so the scale of these turbines will be the largest infrastructure that Wollongong has ever seen. I think Wollongong will get behind this and see the benefit, want to be part of this transformation to renewables, but we'll be concerned about seascape and vistas. So, understanding that there will be a process that whichever investors pick this up and move forward to the development application phase, that they will understand those drop offs that you're talking about in terms of how far out you can go, and you know, visual impact assessment reports with photo montages from key viewpoints, so people can see what this is going to look like. So, I imagine that's an ongoing part of stakeholder engagement. But it's also I guess, there's not very many places in Australia that could do this is what I'm hearing, it's that balance, isn't it?

Andy Evans 47:37

Yeah, certainly having a mix of all the skill sets within the grid accessibility is fantastic. But we're aware, first and foremost that we need to fit into the broader community. It's not the other way around. So, we've been out fairly early for these sorts of projects. We've been out in the public domain for about 12 months or so now, but we've been speaking more broadly for about two years. So, we know there's a little a lot of work in front of us, and the project has to stack up for everybody, it's not just a financial or political win, it's got to stack up for the community, and we've seen that everywhere we've gone. I used to be involved in onshore wind, so it's exactly the same story. We think the opportunities for offshore wind are great, because you've got a lot of, not just the industry, but more the social benefit flow throughs as well. Of course, there's environmental benefits, there'll be financial benefits for regions.

But I think a lot of the social benefits of being involved in a newer industry, which hopefully everyone's proud of, with well-paying jobs and ability to be global leader, I think something comes with that. It's not like you can go everywhere and see an offshore wind farm, and they look amazing. We've seen quite a few, particularly off the coast of Denmark. They look incredible.

Robyn Johnson 48:48

So, what's next, what are the challenges you're opening an office this week? What are the key things that are lying ahead of you for the next few months, on this journey?

Andy Evans 48:57

We do a lot of work, we're reliant on government to put in place the regulations we need. So, we do a lot of work with the government, it's good to see you know, Angus Taylor's in town, around a roundabout now. So, it's very important that we get government support, which we have, and I mean, in terms of just putting regulations in place, and allowing us to apply for feasibility licenses, they'll be called, but a lot of what we need to do is find out community views on things, how we can set up an industry, how it's going to benefit the most people with most minimal impact. We're doing a lot of work with the international market and investor markets. These are expensive projects. One of the benefits, as I said earlier, is there's a lot of private capital out there. So, you're looking at building it with private capital. So, I think that's an important thing to acknowledge, and we've got the whole market globally, really looking at these projects. They're bench markable globally, so they're not, have a hit and I hope it works out, they've been

done globally. I just sort of hope that Australia is very adoptive and accepting of the opportunity it really creates for us, we're pretty much the most natural place on earth to build offshore wind farms. We're surrounded by coastline, surrounded by an offshore wind resource. We all live by the coastline, so I think there's some really good opportunities ahead.

Robyn Johnson 50:15

Yeah, and how much of a race is it? Because obviously, this is not the only project that is being talked about here, I believe there's two others in Wollongong. Do we have capacity to take on more than one project here is, is it a race?

Andy Evans 50:28

Not so much a race, I think it's just a matter of getting the right projects. I think every other developer out there just wants to develop a project that works best for the region you're working in. So, we think around Australia, we've identified five sites with we think in our minds, they're the best sites going around. But I think you'll find with every other developer, they'll have a similar mindset of wanting to produce the best project for the region, and that can mean different things. If there's more than one project, I think that'd be great, as long as it stacks up well for the community, and they're accepting of it.

Robyn Johnson 51:03

And we didn't get to this before, but when you're at home, and you're with your family, what do you guys do as a family to connect with nature and each other? And what does that next year look like for you, because obviously, you're human, and this is just part of keeping that drive going?

Andy Evans 51:22

I walk a hell of a lot, so personally, my sort of escape to nature is usually walking. I walk most places, I try and do about at least about 10 kilometres a day, and that's not just wearing a bad kit and going for a middle-aged man walk, that's walking to meetings, and just having a look at your surrounds. I tend to spend most of my time driving my daughter around either to school or particularly netball. I'm excited she's playing Aussie Rules, as well. So, the AFL W sort of really taking off particularly in Victoria. So, I get excited about that.

Hopeful to do some international travel this year, because we need to with what we do, all the markets generally in Europe or Asia, so we need to be over there to understand what's going on and bring back a lot of the skill sets and knowledge. Connections with nature for me primarily is walking because you can do it anywhere, anytime. I used to always be a runner, but I tend to walk more these days. There're just great podcasts, like Let's Get Salty and the like out there, so there's just so much great material to listen to, and a lot of it's relaxing as well, it's not necessarily information overload. But maybe that's one thing, particularly in the southern prison of Melbourne, being locked down for 260 days, the last few years, you got so used to walking everywhere. That you really take a new appreciation of those simple things.

Robyn Johnson 51:22

Yeah, and I love that, you know, you've said you've walked to meetings and, building that kind of active lifestyle is something I think we all seek.

Andy Evans 52:00

You just see a lot, and look, I like talking a hell of a lot, so you run into so many more people, when you're out and about, and you're just learning about people's lives by having the most innocent inane conversations, I think, yeah, there's a lot of a lot of good fun just being out and about.

Robyn Johnson 53:05

Yeah, awesome. Well, thank you so much for coming here and agreeing to do this, this has been fun. And for sharing your information and your journey, I certainly look forward to watching it continue. And yeah, thank you for your I guess, vision, and going after something that you believe in, for seeing the opportunities in the world and you know, being that sort of optimistic, persistent person, but also, I get from you that you really value social connection and you have interests in life beyond your own and giving back, so that's really inspiring for me, too.

Andy Evans 53:46

Well, thanks for having me along, and I've just feel lucky that I get to come to a place like Wollongong and somehow call it work.

Robyn Johnson 53:51

Yeah, me too. Thanks again.

Andy Evans 53:56

Thanks, Robyn.

Robyn Johnson 53:57



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