



TRANSPORT AND RESOURCES COMMITTEE

Members present:

Mrs MF McMahon MP—Acting Chair
Mr PT Weir MP
Mr BW Head MP
Ms PE Pease MP
Mr LA Walker MP
Mr TJ Watts MP

Staff present:

Ms M Telford—Committee Secretary

PUBLIC HEARING—INQUIRY INTO THE ENERGY (RENEWABLE TRANSFORMATION AND JOBS) BILL 2023

TRANSCRIPT OF PROCEEDINGS

Friday, 2 February 2024

Cairns

FRIDAY, 2 FEBRUARY 2024

The committee met at 9.03 am.

ACTING CHAIR: Good morning. I declare open the Cairns public hearing for the committee's inquiry into the Energy (Renewable Transformation and Jobs) Bill 2023. My name is Melissa McMahon. I am the member for Macalister and acting chair of the committee. I want to respectfully acknowledge the traditional custodians of the land on which we meet today and pay our respects to elders past and present. We are very fortunate to live in a country with two of the oldest continuing cultures in Aboriginal and Torres Strait Islander peoples, whose lands, winds and waters we all share. Other committee members with me here are Pat Weir, member for Condamine and acting deputy chair, who is substituting for Lachlan Millar, member for Gregory; Bryson Head, member for Callide; Joan Pease, member for Lytton; Les Walker, member for Mundingburra; and Trevor Watts, member for Toowoomba North.

This hearing is a proceeding of the Queensland parliament and is subject to the parliament's standing rules and orders. Only the committee and invited witnesses may participate in the proceedings. Witnesses are not required to give evidence under oath or affirmation, but I remind witnesses that intentionally misleading the committee is a serious offence. I also remind members of the public that they may be excluded from the hearing at the discretion of the committee. Media may be present and are subject to the committee's media rules and my direction at all times. You may be filmed or photographed during the proceedings and images may also appear on the parliament's website or social media pages. The committee will have about 30 minutes from 9.30 am today for additional witnesses who would like to comment on the bill in an official capacity. I believe that some have registered already, but if there are others please make yourself known to Margaret Telford, the committee secretary, and she will provide further information.

BROWNIE, Ms Jennifer, Coordinator, Queensland Electricity Users Network

ACTING CHAIR: Welcome. We do have a submission from your organisation, but I invite you to make a short opening statement, after which committee members may have some questions for you.

Ms Brownie: Thank you for the opportunity to be a witness at today's committee hearing. The electricity system exists to serve the energy needs of residential and business consumers. However, there needs to be much more focus on business and farming consumers, as it is they that consume about 70 per cent of grid supplied electricity. If your boss cannot pay his power bill, chances are you will struggle to pay your home power bill. The National Electricity Objective supported by the National Electricity Rules aims to make electricity affordable, reliable and secure. Recently, a fourth element was added to the NEO: a consideration to decarbonise. The Queensland Electricity Users Network would argue that another element needs to be added: resilience—resilience to climate change, geopolitical tensions, supply chain issues and technological advances in generation and storage.

The Queensland Energy (Renewable Transformation and Jobs) Bill 2023 seeks to go around the NEO, putting decarbonisation above all else by enshrining in legislation the Queensland SuperGrid Infrastructure Blueprint. The blueprint was published in September 2022. Much has changed since then. Should this bill be passed, Queensland will build yesterday's grid today, resulting in electricity in Queensland being unaffordable, unreliable, not secure and not from a resilient electricity system. It will be not just energy workers losing their jobs; there will be widespread losses across multiple industry sectors, particularly tourism and our trade exposed industries of mining and agriculture.

We thank the committee for taking the time to hold hearings in regional centres as it is regional Queensland that is being misled about the jobs boom and the economic prosperity that hosting wind and solar farms will bring. Primarily, they are short-term sugar hits. They are tearing apart neighbours, families, friends and towns. In the wrong location, renewable energy can cause irrevocable damage to our wildlife and biodiversity.

In his opening statement the deputy director of the Department of Energy and Public Works stated that the blueprint provided transparency and certainty around the pathway to get there, the 'there' being the energy transformation. As per our submission, there are too many things that are

not clear and are left to some later date. The bill legislates renewable targets with no clear understanding as to how to get there or how it is measured. As far as we are aware, the Queensland Audit Office is yet to receive an answer on how the renewable energy targets are currently being measured. We believe there is a pathway to a renewable energy future where the pace of the transition is not at the expense of the economy, jobs or reasonable living standards. This bill will not provide that pathway.

With climate change a major concern, this bill will even jeopardise our water and our food security by making the essentials of food and water dependent on whether there is sufficient wind for desalination plants to operate. Sadly, countries around the world have already experienced wind droughts which have lasted for weeks. This bill will not make Queensland resilient to wind droughts. Queensland needs water to survive and affordable and reliable energy to thrive. This bill may allow Queensland to survive, but it will not allow Queensland to thrive.

Mr WEIR: Thanks, Jennifer. As we have gone through this process, and listening to your address now, there has been a suggestion that not enough focus has been placed on actual storage. Is that what you are alluding to? You were saying that you believe wind is not so reliable. What about the storage aspect of it? I notice you made comments around Borumba.

Ms Brownie: Because of the intermittency and unreliability of wind, storage is the critical part to the whole Queensland and national electricity plan. When we talk about storage, we need three levels of storage. We need the shallow, we need the medium and we need the deep. The federal government's Capacity Investment Scheme is trying to get more storage into the grid. It is looking to get 9,000 megawatts into the grid by 2030. The problem is: when they go out looking for that storage, all they are getting is the shallow—that two- to four-hour storage. What we need is to get overnight, because, as we know, overnight the sun does not shine.

Just to give you an example of how bad it is, I came past the oldest wind farm in Queensland this morning. It has small turbines. Some of them were spinning—what they call unscheduled—and so you do not pick them up in the normal types of ways that you can check on things. So it was going, but the newest one, Kaban wind farm, of which CleanCo, the Queensland government owned gentailer—they have a capacity purchase agreement—was hardly moving. In fact, just before this hearing started we had 30 megawatts in the whole of Queensland, so that shows you. It was 30 megawatts. It is the beginning of the working day and over 6,000 megawatts is what we are needing right at this point. When we get to the evening, that is when our real peak demand happens. Usually 10,000 will cause us a lot of troubles. We actually went over 11,000 last Monday, 22 January.

We can have deficits in wind, not just at the peak time, which is usually Monday to Friday from 4 pm to 8 pm, which goes for four hours; it can go overnight when the sun is not shining. If you have hydro like we have up here at the moment, one of them is out due to a problem with the intake. The one that has been absolutely a solid workhorse is the 88-megawatt Kareeya hydro. When Callide C4 blew up, it ran for two months solidly to keep the lights going, but even though it has water there it is like a bathtub: every time you generate, you pull the plug out and down it goes. Hydro can help you and it is a great renewable, but it has limitations, so we are back to storage again.

If all we are getting in the federal government Capacity Investment Scheme is foreign owned, privately owned, short duration lithium batteries, that is not going to balance the problems that we have at the moment, and they are very real. We need deep storage. I congratulate the Queensland government for taking on what private investors had no appetite for, but, unfortunately, the two pumped hydro storages that the Queensland government wants to build are exorbitantly costed. In fact, for Borumba at the moment, before we actually know the cost, the estimate is \$14.2 billion. Snowy started at \$2 billion. It is up to \$12 billion and some people think it will end up being closer to \$20 billion by the time you add in transmission as well as storage.

Our fear is that the big thing missing here is that people think energy storage is a generator. It needs excess renewable energy to charge. Going forward with the Queensland government's current policies of a green hydrogen industry, those electrolyzers are going to be a very expensive, multibillion dollar operation to kickstart. They will have to get offtake agreements. Those electrolyzers may be able to, to a degree, ramp up and ramp down depending on what the wholesale price is doing, which will be related to how much sun and solar there is in the grid. However, it is a fallacy to think that going forward there will be excess renewable energy in the grid to charge Borumba, to charge the 5,000-megawatt pumped Pioneer-Burdekin. It has not been done anywhere in the world and there is a reason it has not: you need to charge it. So we go back to the story that you have to charge these incredibly huge, deep storages with excess renewable electricity primarily overnight, when the sun is not shining.

Even though I congratulate the Queensland government for looking at deep storage, the ones they have chosen at the moment are going to be one of the biggest infrastructure projects in Queensland history, and when we need them the most they simply will not be available. That will cost us. On 1 February 2022, AEMO realised that we were going to run out of power. They activated Reliability and Emergency Reserve Trader contracts. Three hundred and thirty-one megawatts, out of a peak demand that was just over 10,000, cost Queensland consumers \$50.1 million for a few hours of power. What could the Queensland government do with \$50 million—although they did not have to spend it; consumers did. It ended up on every power bill in Queensland, power bills that already we cannot afford. That cost is likely to escalate multiple times. In fact, we fear that during February we could have multiple RERT events, because at the moment we have Callide down and that is 10 per cent of our reliable dispatchable generation.

Mr WEIR: On your comments around the hydro, you are a supporter of the Koombaloo Dam project. How would that operate differently to Borumba and Pioneer-Burdekin? What is the difference?

Ms Brownie: It can operate when there is no or low solar and wind. That happens because, as I said, at the moment it is an extension of an existing Queensland government owned facility. I think things are not just tight with households and businesses at the moment; it is tight with the government. The government has to find another \$11 billion for road infrastructure on top of the natural disasters we have just had. Your grandma will tell you that if things are tight you look at the assets you have and see if you can possibly make them work better for you.

The Queensland government owns the Koombaloo Dam, which is the water storage for the 88-megawatt run-of-the-river Kareeya. Since Cyclone Jasper it has done what it did after Callide C4: it has run 24/7—absolutely amazing. Thankfully, we have had a lot of rain so Koombaloo Dam has remained full. What we would like to do is keep Kareeya going. We need to keep Kareeya going because it supports a world-class rafting industry. We had the world championships there a couple of years ago. They can only raft on that river because of Kareeya. It gives that stable flow so keep Kareeya going.

Nineteen kilometres downstream from Kareeya we want to put in an underground 1,000-megawatt pumped hydro. We need to build a lower reservoir that would be off the Tully River and outside of World Heritage. Obviously that operates a lot like Borumba and Pioneer-Burdekin. It is a pumped hydro. When the prices are high you drop it and when the prices are low you bring it back up again. However, as we go forward and the coal retires, we will have the intermittency of renewables. You cannot expect that when you have dropped it down at, say, four o'clock tonight, when the prices are high, you will be able to pump it up at a lower price the next day or if there is even sufficient energy to pump it up overnight.

To get around that, 30 years ago the Queensland government did a very extensive study on what they called the Tully-Millstream hydro project. It was controversial at the time. What we are proposing is, with the Koombaloo Dam energy and water project, we take out the controversial part of that, which is the Nitchaga Dam. It is a dam of around 300,000 megalitres and three-quarters of that is in World Heritage. We are not proposing that you build that. The Wooroora Dam is predominantly outside of World Heritage. It is in what people would describe as cattle station country. It is where Korea Zinc currently wants to build their Wooroora Station Wind Farm. It is cattle station country where this dam would go.

Our proposal is that the water would flow from the Wooroora Dam, underground to Koombaloo Dam and it would then be available if there is no solar and wind. The types of turbines that you would put in can go in run-of-the-river mode, which means out to river or out to sea, or they can pump it back up again. Basically, what you are doing is a pumped hydro with a run-of-the-river joined together. The beauty of this project is that this dam is already engineered, ready to go.

We will argue that those studies were done 30 years ago. We need to update those studies. We need to do more Indigenous and we need to do more environmental studies. We think this could be a way of making sure you are able to keep a 1,000-megawatt pumped hydro deep storage. It will be cheaper than anything else that ever was built in Australia because of the energy component. Remember I said that the turbines will be able to operate either as a pumped hydro mode or run-of-the-river. Instead of putting it into the river and letting it run out to sea, what you will find—the Cairns Regional Council put out a press release at the end of December that they are running out of water. By 2026, if they do not get a permit from the Queensland government to extract water from the Mulgrave River, they will be out of water by 2026. Their water security plan says that they need another reservoir by 2035.

Here you have an opportunity to use a Queensland government asset—one footprint, energy and water, and built in time. The bill that we are talking about today seeks to make 50 per cent by 2030. I would argue that this is the only deep storage that will be possible to be built in that time period. I am not suggesting Wooroora Dam. We probably need an extra year to do the studies on it to make sure everything is covered there, but the pumped hydro, which is stage 1—easily, with all that we have done, all the geological work. The only thing we need to do, really, is a bit more engineering work. Look at the bottom reservoir. Just to give you an idea on that bottom reservoir, to give you a concept of the size, you are looking at basically five Olympic sized swimming pools stacked three deep. That is what the bottom reservoir is. At the moment, Borumba's bottom reservoir is 220,000 gigalitres. We are thinking we are at around, at most, 220 gigalitres versus 35 gigalitres. It is vastly different capital expense. It can be done in time to make the renewable energy targets. We need to make our energy and water assets work together for the benefit of everyone, including the environment.

Mr WALKER: I want to clarify: how many pumped hydro systems are in the world? What did you say earlier?

Ms Brownie: No.

Mr WALKER: Did you say there were none?

Ms Brownie: No, I said in relation to Pioneer-Burdekin that there is no one that is the size of 5,000 megawatts. It is by far the biggest. Even Snowy 2.0 at 2,200 megawatts is massive, but this is double that.

Mr WALKER: Wivenhoe has been operating for 10 years and it sat idle for some time. It has done very little work since it was constructed. In the past 10 years it has been working to its optimum and actually returning on the investment for the people of Queensland. What is your idea of storage?

Ms Brownie: I think you need a mix of storage. Like I said, you need the shallow, you need the medium and you need the deep.

Mr WALKER: Can you explain shallow, medium and deep?

Ms Brownie: Shallow is two to four hours, generally. Medium is more the four to eight hours. Anything over eight hours—deep is really 12 hours plus. Those are the sorts of levels that you look at. When you are talking deep, you are generally talking of pumped hydro, but when you are talking about the shallow and medium, you are generally talking about lithium batteries.

I just participated in an Australian Energy Market Operator webinar on their *GenCost* report. They are there to tell everybody what the cheapest form of renewable electricity would be and to be firmed with energy storage. I asked CSIRO, who is the consultant for this, 'Did you only look at lithium batteries?' He said, 'Yes, because that is what AEMO asked us to look at.' The reality is that there is a new technology on the market. I find it incredulous that our peak scientific organisation is not feeding that information into AEMO. That is because the technology, which is already commercially available in Norway and China, is sodium-ion batteries.

Mr WALKER: Flow batteries.

Ms Brownie: No, sodium-ion batteries.

Mr WALKER: Yes, they are called flow batteries.

Ms Brownie: They do not require lithium, cobalt, nickel—all the sorts of things that Queensland says is our minerals bonanza. It means that batteries will be cheap around the world. Many countries will be able to build them. But it is not just that that changes things. What really changes is that at the moment renewable solar and wind farms are not putting in the firming capacity. They are relying on somebody else to put the battery in. If you have a sodium-ion battery—not a lithium-ion battery—that is giving you that storage and then you can put sodium-ion batteries, which are very cheap, beside your renewables.

It is not just renewable solar and wind farms that are using batteries; you also have household batteries. At the moment, lithium is causing enormous house fires so we are in a situation now that, instead of in the integrated system plan that AEMO has put out, we have really heavily relied on behind-the-meter consumer energy resources. That is wrong. We should be planning something that gives people the ability. If they want to have their own, fine, but if they do not or they cannot because they do not have enough roof space or they live in an apartment or whatever, they should be able to rely on the grid to supply the power. That can happen if we have sodium-ion batteries that are part of the in-front-of-the-meter system and they are cheap. That changes the whole integrated system plan.

Mr WALKER: I will stop you there because those batteries are already in use in Queensland. At Stanwell they have in operation now flow batteries, and they are doing the electrolyte manufacturing in Queensland. Both of those are in manufacture mode now—vanadium and flow. That is at Stanwell. We have just been there and looked at them. Can you give us your definition of what a secure electricity network really is? You talked about wind and solar, but is security about the whys as well—the infrastructure—or for you is it just wind and solar?

Ms Brownie: Electricity is a supply-and-demand market. It is as simple as that. We need sufficient supply to meet demand. The other problem the Queensland grid has—again, I congratulate Queensland government entities; they have been willing to talk about the Queensland Electricity Users Network’s proposed traffic light system of demand response—is that we should not be chasing the last megawatt of power. Last Monday, when we hit 11,000, we should have been sending messages to people’s phones. Those messages should be telling people, ‘We have a situation where we may need to load shed. We would like you to reduce your power, if it is safe to do so.’ The message has to be worked out with energy consumer advocates so that we make people alert and not alarmed.

You ask, ‘What is a reliable system and what do we need to do?’ We do not need to overbuild it. At the moment, that is what we are going to do. We are going to overbuild for the intermittency of renewables. We are going to overbuild because we have a rising peak demand that we have made no real effort to curb. Controlled load tariffs that have been in for 30 years or something. Another smart program called PeakSmart, which operates in the Energex and the Ergon area, only controls about 180 megawatts of load. Between those two, we have about 900 megawatts that we can control to reduce that peak demand. Nine hundred megawatts when you are trying to keep below 10,000 is great, but last Monday we went to 11,000 and we just managed to hold it in.

Mr WALKER: Just to recap, we are going to overdo the infrastructure but we are running short because we should have got people to cut back on their power; is that right? We are doing too much in the green energy space—overbuilding—but we should have told people to shed or cut back on their power use; is that correct? I am just recapping what you just said.

Ms Brownie: I am saying that we have to have sufficient supply at all times and renewables need to have enough excess to charge the batteries. If they do not have enough excess to charge the batteries then once they are discharged we will really have only two options—that is, send a message to consumers to ‘please reduce voluntarily if it is safe to do so’ or reliability and emergency reserve trader contracts, which we cannot afford. We could not afford the \$50 million, but our fear is that that is coming on a regular basis.

Mr WATTS: In your submission there is one section where you say—

Exorbitant new transmission costs—the final straw ...

The submission states—

The Bill appears to allow the cost of new transmission necessary for the green hydrogen export industry to be passed onto residential and business customers throughout Queensland.

I would be interested in your comments in a bit more detail around that.

Ms Brownie: That relates back to December 2021, when the Queensland government put out a consultation regulatory impact statement on the North West Minerals Province. It had three options. One of those options was business as usual—this is to supply electricity to Mount Isa. Obviously, we had a situation over 10 years ago where CopperString 1.0 was put as a possibility to supply Mount Isa. It lost out to a gas-fired power station. Then came CopperString 2.0. The government in that consultation regulatory impact statement was asking, ‘Which of these three options would you like?’ We went for business as usual, because the other two options were looking to pass on to consumers the cost of that transmission line without going through a Regulatory Investment Test for Transmission which is done by the Australian Energy Regulator. If those other two options avoided the RIT-T test, those costs would be smeared across every consumer in Queensland. It actually allowed, I think, in one option that a transmission line is a 40- to 60-year investment. After 40 years we would have picked up a \$1 billion debt for a 40-year-old transmission line.

What we said in our submission is that we do not think it has ever been publicly put out by the Queensland government or the other submissions that went into that CRIS process. The submission we put in advocated that they should look at a transmission line between Townsville and Hughenden, to look at picking up renewables there. May I say that when they were looking to avoid the regulatory investment test done by the regulator, the cost of CopperString at that stage was \$2.5 billion. That was December 2021. It is only two years later and we now have a \$5 billion project. We have no idea what the costs are, but history tells us that anything that is not a regulatory asset base when it is built

does not maintain that. It is a guaranteed return, so sooner or later they will go to the Australian Energy Regulator and say, 'We would like to make this a regulated asset so that we can force consumers to pay.' Consumers do not mind paying for transmission lines as long as there is a positive economic benefit, but in this bill it clearly says that you can have a negative economic benefit and consumers will pay. That to us is very scary, because there is a process in place and it protects consumers.

Mr WATTS: Would we be able to get a copy of that submission?

Ms Brownie: Yes.

ACTING CHAIR: Thank you very much, Ms Brownie, for coming in this morning. We did not have any questions on notice, but I note that there has been a request for a document. We will get the secretariat to have a chat to you about forwarding that document to us.

Ms Brownie: I have copies of a document on the Koombooloomba project and the perilous state of the Cairns water supply at the moment. They could run out by 2026 without a permit for the Mulgrave River. Could I table these?

ACTING CHAIR: We will have the tabling of those documents. Thank you very much. The document that the member for Toowoomba North referred to is a separate one. We will have some correspondence from you at a later time with that information. Thank you very much for coming in this morning and for your submission.

GRAHAM, Ms Lucy, Director, Cairns and Far North Environment Centre

ACTING CHAIR: Good morning. I invite you to make a short opening statement, after which committee members will have some questions for you.

Ms Graham: Thank you. I would like to start by acknowledging the Gimuy Walubara Yidinji and Yirrganydji people, whose land we meet on today. My name is Lucy Graham. I am the director of the Cairns and Far North Environment Centre. I have also, for over a year now, been on AEMO's social licence advisory council and have had a fairly active role in the energy rollout, particularly for our region. CAFNEC, the Cairns and Far North Environment Centre, was a signatory to the submission put in by the Queensland Conservation Council which I think you would have had reference to. I want to apologise for the late appearance here. I got an email from Craig Crawford yesterday. Until then I had not actually clocked that this was happening today, but I do want to really thank you for coming to the regions. It really does matter that you are here and it is a really good indication of the commitment of this government to the regional impacts of this bill.

The Cairns and Far North Environment Centre has been around for about 43 years now. We are a peak regional conservation group for our region, from Cardwell up to the Torres Strait and across to the border. For many of those decades we have been campaigning for this transition to renewable energy. Our region is pretty different from a lot of Queensland. One of the reasons is that we have huge tracts of pretty intact nature that have not been exposed to large industrial development or even urban development. On top of that, our second largest industry outside of health is tourism. That tourism relies on our environment. Although this is an energy bill that we are talking about today, this energy bill is essential for the protection of our environment up here if you look at climate change as one of the biggest risks to the protection of those environments.

Today I am going to focus on the importance of this bill for protecting our economy and our incredible natural areas that are recognised globally as the oldest rainforest on earth, with the oldest surviving culture on earth and the largest reef system on earth. You have come to a pretty special place. Probably what you have had is a lot of discussions about the technical aspects of this bill and the rollout of renewable energy, but I think we have to stay grounded in the fact that this is an essential step for a livable planet and for the economy that we have here. This has been a long time coming. We really celebrate the step that the government has taken.

The other part that I want to emphasise is that we are probably coming to the transition a little bit later than other places around the world, and that means that the emphasis on doing this quickly and at scale is important, but it does come with a lot of hard choices and a lot of sacrifices along the way. That is the part that will be where the hard decision-making comes and why this bill has important elements to it.

I am sure you will have questions that will pull out the detail of why this legislation is important in the way that it is rolling out renewable energy across our state. I want to acknowledge that we will continue to ask for higher targets for emissions reductions. While this bill does lock in some good ambition, it is still not going to limit warming to what will protect the Great Barrier Reef or our rainforests. I went out to Fitzroy Island last weekend and I have in my lifetime never seen such severe bleaching. That is because corals are bleached at lower levels when they are exposed to sedimentation and nutrient loads, which have happened because of the one-in-100-year flood we just had as a result of Tropical Cyclone Jasper. We are on the front lines of what not doing this looks like already.

The last thing I will say is that our region is at the end of the line when it comes to the SuperGrid. When I look at Cardwell to the Torres Strait, while the SuperGrid and the transition to renewable energy on the SuperGrid are essential for the protection of our environments and of our natural areas up here, there is also a large part of our region that depends on energy that is produced outside of the grid. The regional partnerships framework that has come alongside the Queensland Energy and Jobs Plan is essential to servicing our remote Aboriginal communities, our rural communities and all of the people who live off the grid.

As you can see in our submission, we really welcomed the changes from the draft bill that included distributed energy systems, but I think there is still some work to be done in ensuring that there is good community consultation and also that we are seeing the regional partnerships framework element of that come into our statutory setting, because we need to transition the grid but we also need to make sure we do not leave our vulnerable communities behind. That is particularly important because—I do not know if you have been outside today, but the heatwaves that are happening up here kill. Heatwaves kill more people than any other climate hazard that we have. We do not have enough energy options off the grid for our communities to survive those health impacts

and heatwaves. We can see the government doing good work, and there are elements of this bill that address the regional partnerships framework, but we would like to acknowledge in this hearing that we would like to see more work done to make sure we are looking after those communities as well.

Mr WEIR: I suppose it has been more in the earlier hearings further down south, but now that we are up here in Cairns—and I am predominantly looking at wind farms—wind farms are located in areas that are generally covered by vegetation regulations and here in Cairns reef regulations. This was highlighted in Rockhampton as well. How do you see that process working? The landowners feel there is an inequity there in that these developments are doing things that they would face serious charges for doing. Do you believe there is enough scrutiny around that? What are your thoughts on that, particularly the Chalumbin wind farm?

Ms Graham: Yes, this has been a huge area of our focus, predominantly because of the proposed—I cannot remember the new name—Chalumbin wind farm and its proximity to World Heritage areas and its impact on really significant natural areas. That prompted us to really have a look at how the rollout is happening, because we know that if we do not roll out renewable energy we will lose all of our biodiversity. All of the areas that we have not cleared are our hilltops and mountains in Queensland. Anywhere where there is economically viable wind for wind farms is on hilltops, where we have not cleared. What we know is that wind is an essential part of our energy mix for this transition and it will happen in areas of high wind and, as a result of that, we are going to lose some of our biodiversity. We have come to this too late to not be in a position where we do not do that.

What we have been looking at with the Queensland Conservation Council, with scientists from the University of Queensland, and working with the Queensland energy department on is: how do we look at and what is the biodiversity that is essential for the future? What is it that we cannot afford to lose and how do we plan our renewable energy rollout that looks at that? It is an incredibly difficult conversation, but we are working with the University of Queensland to develop a methodology for identifying those areas of high biodiversity that we cannot lose, and we are seeing this roll out in the bioregional planning that is happening between the federal and state governments in the memorandum of understanding for the EPBC Act changes.

The reality is that this is a big change in our system and there are going to have to be adjustments made that come from landholders, from farmers, from people who are working for biodiversity conservation. What is essential to that is that we are planning with input from those people—that it is clear about how we are making those decisions and what sacrifices communities at a local level are willing to make for this transition. The majority of people understand that this transition is essential—we need to do it—but that it is going to radically change our landscape. I would say that in our region the majority of people, even though we have a number of hydro-electric stations, would not consider themselves a part of the energy industry. That is not an understanding people have here, so we have to do a lot of cultural change with our communities.

This bill offers an opportunity for the government and the community to work together on that, and I think that is going to be really challenging. That is why the renewable energy zones and having those bodies at a local level that include local government, local scientists and local industry and community being really able to plan at a local level what the rollout looks like are really important. Because Queensland is so big, every region is different. If you look at the difference between Gladstone and Cairns, it is just such a different rollout that needs to be planned.

Mr WEIR: In terms of the discussions you have been having, as you just mentioned, with local government, you have some transport network challenges in this area. Has local government talked to you about how they would be able to create access for these projects and what roadworks or bridges would need to be undertaken?

Ms Graham: To be totally honest with you, there is the Chalumbin wind farm and the Upper Burdekin wind farm. If either of those are approved, there is not more capacity in our transmission in the north. Unless we are upgrading transmission into our region, the need for large-scale development here is going to be different in that constricted area around the Wet Tropics. If you go west of Cairns from Townsville—you come up the western routes—and go up into Lakeland and up into the cape, there are really easy access routes into areas that have large areas that could be appropriately developed. We have seen that solar farm go in at Lakeland which has been a really positive outcome. What our conversations with local government really have been about is how we are putting in social and environmental checks in their power purchase agreements with existing producers to make sure they are investing in ethically resourced power.

In terms of new developments and travel access and road access, I think we are really confined in this Cairns area. We are going to grow by 70,000 people in the next 10 years and we just had half our town wash away. How are we going to do that well? I think the answer is that this region centred

around the Wet Tropics is not the place where large-scale development for renewables is going to grow, but there are large areas out west to the border on CopperString 2.0 and those opportunities that are there.

Mr HEAD: For the protection of the environment into the long term, and especially at end of life, I am after your input on what should be required of these projects from their original development through to the end of life and what should happen—that is, end of life and whether up-front they should be paying bonds et cetera that go into a rehabilitation fund.

Ms Graham: This is a big question, with decommissioning and full life cycle. I would say that in our other energy production that we have already we have not done this well. There is not an example of, I think, a good shutdown of a coalmine or all of those kinds of things and we are seeing major issues with the rehabilitation of mines and different energy production in the same way that that is going to be a problem for renewable energy projects.

There are two things I would say on this. One of the big issues is where—and Ark Energy is an example of this—you have one company propose a development and make commitments around how they are going to be the best new thing with all of the best ESG and everything and then they sell that on to another provider and none of the commitments they have made are actually in the regulated requirements and, therefore, it is only goodwill that holds the new buyer to that. There is not a mechanism for holding the new proponent accountable to the commitments that the original proponent was putting forward, so I think we do need to create a mechanism that holds those commitments through any entities that come into the life span of that project.

As far as bonds go, in the same way that our environmental offsets have a lot of issues, the bonds programs that do exist in our areas of development have issues that I think we need to examine. I am not an expert in those, but I think we need to look at that with a good lens to see how it works. What is probably also really important is thinking about how we proactively invest in those things so that it is actively happening through the life span of the project and not something that just gets left to the last minute. For example, there is a lot of rehabilitation and different activities that can happen while the project is still producing energy.

The last thing I think we really need to look at closely in our environmental assessments of these proposals is that wind farms actually have a short life span compared to some other projects, like 30 or 40 years. They can be extended out, but in the example of Chalumbin they have a wide clearing area to bring the turbines in and then they have to rehabilitate all of that area, but then if they decommission they have to clear all of that rehab to bring it out again. You can helicopter them in, but it costs more. What we are seeing, particularly in the case of things like Chalumbin, is this question: what are we now willing to pay? Are we willing to pay the economic cost or are we willing to pay the environmental cost? That is what Chalumbin is a really big example of. I think that is the biggest challenge for this bill. We have to transition or otherwise we will lose everything, and now we have to be really clear about how and why we are making the choices between economic and environmental costs. I think we are acknowledging that the environmental cost we have paid so far as a country has been too high and we need to create systems that lower those environmental costs in this rollout.

ACTING CHAIR: Thank you very much, Ms Graham, for coming in this morning. We were happy to accommodate you. Thank you very much for answering the committee's questions.

Ms Graham: Thank you so much for coming.

ACTING CHAIR: I do not believe we had any questions on notice, so thank you.

ALLAN, Ms Lucy, Advocacy Director, Renewable Energy Alliance

ACTING CHAIR: Ms Allan, I invite you to make a short opening statement, after which committee members will have some questions for you.

Ms Allan: Thank you to the committee for allowing me to speak today. It is good to see the diversity of regional MPs coming up to Cairns to talk about this important bill. I work for the Renewable Energy Alliance, or RE-Alliance as it is commonly known. I live here in Cairns. Our organisation supports and advocates for a transition to renewables that places regional communities at the centre. We welcome this bill and Queensland's ambition around renewable energy. We signed on to the submission lodged by the Queensland Conservation Council, and I want to highlight that submission and in particular the points that it raises about community engagement.

My role as advocacy director is to work with our team of staff living across regional Australia to talk to regions about their experiences in the energy transition and help demystify various state policy frameworks and development processes so that communities can be more included. I also work with the renewables industry to improve their community engagement practice, environmental practice and benefit-sharing practice. We know that regional Australians, broadly speaking, want renewable energy. However, there is a deeply felt frustration that there is no plan for how renewable energy is being rolled out. State and federal government policy frameworks are quite complicated and scarcely get covered in the media.

Let's take the concept of a renewable energy zone, so it is an area that is marked out on a map suitable for wind or solar development and proximal to transmission line capacity, whether that is existing capacity or new capacity that is being brought in. By the time this is announced, developers have already identified the capacity and have multiple projects in the region—some in pre-planning and some in the planning system. More projects join the renewable energy zone over time and there quickly become more projects than the transmission line capacity will support, at least according to current plans for grid upgrades. However, this competition for capacity between developers is invisible to communities and they hear from developers much more than from the government. Developers naturally will always try to build confidence in their project success, as they should—that is their job—but you can see how the cumulative impact of this approach creates a deeply complex information environment for local councils, for First Nations groups and for communities to make sense of what is happening and when. When communities are not included as participants in the transition, project delay will become increasingly likely—risking billions of dollars of public and private investment, risking our climate targets and risking the wellbeing of future generations.

Community engagement practice around large infrastructure projects is an established discipline requiring expertise. It is not specific to the energy sector. Governments can learn from recent rail project delays and successes from around the country—for example, the level crossing removals in Melbourne—to see the kind of investment in community engagement that is required to actually do the job properly. Sadly, we are seeing that governments, including New South Wales and Victoria, have significantly underinvested in community engagement around renewable energy builds and are now playing catch-up. The benefit of Queensland being the newest state to legislate its renewable policy architecture is that you can learn from these other states. Our main recommendation to the Queensland government at this time is to take seriously and invest in the work of community engagement, for example, by opening an office in each renewable energy zone staffed by outreach officers who will work with councils, First Nations groups and communities to make the most of this fantastic opportunity for regions to make sure that communities are being consulted and to ensure that development is delivered appropriately to meet local needs and aspirations on time to meet our critical climate and energy goals.

Mr WEIR: In relation to your comments about the line of sight of these renewable development applications in an energy zone, there are a number of boards that are proposed to be set up in this bill. You do not believe that any of those will give you that line of sight of what projects are being proposed, where they are going to be proposed, what the transmission network is going to look like or how many are going to go on there? I am assuming you feel that the bill does not go to that.

Ms Allan: Absolutely. It is my job to be across this type of information and I struggle to be across it in any given region. It is complicated and there is a lot of information to convey and there is not that big-picture narrative that is being told about why we need certain pieces of infrastructure and where. We know that communities want renewables, but there is not that understanding that to get renewables we need transmission lines. For example, we have spoken to multiple landholders who are in option agreements with developers who are really keen for their project—a wind farm or solar farm—to get up. They really want that income for their farming business. They are excited about it.

However, they are very concerned about the transmission line and in some cases are opposing it, even though that is the infrastructure that will enable their project to succeed. There is that fundamental disconnect about why certain pieces of infrastructure are being built and how they all work together to create the system that we need.

Mr WEIR: We are also hearing that it is causing a bit of friction amongst landowners because there are those who are going to benefit enormously from projects and those who are not going to benefit at all, and local government is struggling to maintain the infrastructure that is needed. There has been some talk of perhaps a levy, whether that be on megawatt power or whatever. What would be your thoughts about that, to support those local government areas and communities in a meaningful way?

Ms Allan: I agree that investment in community/regional development is a big part of it. We are seeing that there is coordination around electricity generation, but it stops there. The coordination does not extend to spatial planning and it does not extend to looking at the environmental impacts to rights, to regional economies, to workforce, to construction time lines. We are not seeing that any state has really been able to demonstrate that they are going to look at coordinating that in a meaningful way. Communities are looking at all of this happening and are confused about when different projects are being built and wondering how it is going to be coordinated. Different regions have different requirements. Some are really struggling with roads in the context; some are really struggling with housing. They are just not going to be able to house the workforce. There is going to need to be support in regional development for many of these communities, whether that is a levy or another mechanism I won't comment on.

ACTING CHAIR: I am looking at reporting in today's paper, where there has been a call for a national day of action against renewable energy, specifically in relation to the rollout of the grid that is required to support it. Everyone wants the electricity and everyone wants it reliably and cheaply; they just do not want the lines to connect the sources of energy. You did comment about the disconnect between the communication that government is doing to inform. As someone who works with renewable energy agencies and in that social licence space, how do you see that the government needs to be positioning itself as part of this bill and this plan going forward around discussions with these communities, whether it is in relation to financial compensation or the fact that there is going to be the high-voltage power lines—and let's face it, they not pretty but they are a necessary backbone—for supplying the entire state with power, albeit renewable energy which is meant to be the better environmental outcome? Where, as a government, do we need to be focusing on this social licence in order to counter other interest groups taking hold of the renewable energy space?

Ms Allan: We see social licence as being made up of a lot of different activities and responsibilities that different parties have responsibility for. Developers have their own responsibilities to build social licence, but, in the context of this rapid transition that we are doing, governments also have a really strong responsibility when it comes to social licence. That means being incredibly clear with communities about what needs to happen and why and why things need to happen where they are happening. It also has to involve consultation and engagement that is genuinely two ways. Communities need to see—they want to see—that they have had input into a process and they are seeing how that is reflected back to them and that it is contributing to their local aspirations for their regions and solving the local challenges that they have in their regions. There is an opportunity in the transition to do that. I believe that is the responsibility of government. In particular around transmission, it is a difficult piece of infrastructure to build. Landholders benefit immensely from hosting wind farms and solar farms, but it is not necessarily so for transmission. Queensland has announced an enhanced landholder payment system for landholders of transmission lines that is the most ambitious of any state and we welcome that policy. It is the only state so far to be compensating neighbours of transmission lines for the disruption and visual impact of those lines. We welcome that as well.

Mr WATTS: I am interested in some of your comments around the REZ areas and the management and control. I am interested in end-of-life and I am interested in rehabilitation. I am interested in the location of those zones and whether there should be some areas of biodiversity where you just go, 'It is just not happening here. Go away,' and identifying areas where we can go, 'Okay, we can put a REZ there,' but to put it there it needs some sort of governance structure, in my opinion, that deals with some of the potential conflict between individual landowners, individual use of the land and local government and infrastructure and access and things like that. Could you give us some sort of comment as to how you might see those zones being better controlled, administered and chosen?

Ms Allan: It starts with working very closely with local councils. We hear from local councils that they have not heard from government departments about how renewable energy zones are being rolled out. Local councils generally are very aware of the challenges that are faced in each region. It is going to be different in each context what the priorities are going to need to be, whether it is roads, housing, environment or whatever. It is about building that relationship with the local councils and also being prepared to actually invest in solving some of those challenges. Housing is an expensive and difficult challenge to solve in many places and it is not a committee; it is actually being able to work across government departments to be able to resource solutions to the gaps that are going to come up in this process.

Mr WATTS: In terms of end-of-life rehabilitation in a zone, what should we do to ensure it is left better than it was when we started?

Ms Allan: I think it is about incentivising rehabilitation or extending the life of wind farms and solar farms so that you are replacing the blades and the turbines where needed and that that project continues for as long as possible so that we do not need to shut it down and build another one next door, basically. I think that is definitely where we need to go. It is about providing that certainty to communities that they are not going to be left with the responsibility of doing the clean-up. I do not think there has been enough certainty provided around end-of-life, so we definitely advocate for that responsibility to be made clear in the landholder agreements. I think there is a lot of variation in landholder agreements across the country. Having some kind of standardisation so that there are basic things in each of those agreements would be a useful way to make sure there is at least a minimum bar for things like decommissioning and rehabilitation of sites.

Mr WATTS: What about the physical equipment: an old solar panel, an old wind blade? What should we be doing at the start to ensure that is getting reprocessed, re-used and then entering a circular economy in an appropriate way?

Ms Allan: I am not an expert in recycling but, from my understanding, solar panels have a high level of components being able to be taken apart and re-used at a high value. Wind turbine blades are not as easy to recycle; however, there is an emerging practice that involves using more recycled materials in the blades themselves. The recycling question gets very complicated when you look at how much energy is actually required to recycle as well. I think there is a lot of panic around images of blades being left in fields, but if you look at the energy use and our current ability to recycle turbine blades, leaving them untouched is not necessarily bad. Per person I think I have seen that you can use more waste as a cyclist just on a bike that you hold than the wind energy that you consume in your house. I am sorry if I was not clear with that. It does not look pretty, but I do not think at the end of the day it is a huge environmental issue.

Mr WEIR: In the approval process, is there any stipulation put on end-of-life and how you deal with end-of-life?

Ms Allan: I am not sure about the current process.

Mr WEIR: I am using Chalumbin probably as an example.

ACTING CHAIR: If you cannot answer that question, we can defer to Ms Graham. Ms Graham, you heard the question. Are you able to provide an answer for the member?

Ms Graham: I am belligerent in always correcting people that it is an assessments process, not an approvals process. In that assessments process there is currently a requirement if it is referred to the federal. Under state legislation it is code assessable currently—wind farms—and there is some reference to decommissioning, but it is not thorough. When it gets referred to the EPBC Act it does ask about the decommissioning, but all the proponent has to do is indicate that they will have a decommissioning plan. Those plans are usually as simple as, 'We will decommission this wind farm.' There are not any detailed requirements or objectives that have to be met within that decommissioning process.

The feedback we have provided through the review of the EPBC Act and the Samuel process is that there need to be standards that decommissioning has to meet. There is another thing we have been talking to Powerlink about. That is, currently we have an open access market for getting onto the grid, and we do not think that should change because that is an important part of a competitive market, but there is not any environmental or social standard that you have to meet to be able to connect to the grid. We have been suggesting that if proponents are looking to the end of that tunnel—at the moment, whoever gets there first gets on the grid—they should demonstrate that they have worked with community and that the community is satisfied with that consultation and that they have met a certain standard of environmental practice; otherwise they cannot connect. That will prompt

people to be more thorough, and that could include standards for decommissioning. I think there are a couple of mechanisms, but certainly the review of the EPBC Act is an essential part of this bill succeeding as well.

ACTING CHAIR: Thank you very much for joining us and thank you, Ms Allan, for attending and answering questions this morning. That concludes this hearing. Thank you to everyone who has participated today. Thank you to our Hansard reporter. A transcript of these proceedings will be available on the committee's webpage in due course. I declare this public hearing closed.

The committee adjourned at 10.15 am.