# T R A N S C R I P T

## LEGISLATIVE COUNCIL ENVIRONMENT AND PLANNING COMMITTEE

### **Inquiry into Climate Resilience**

Wangaratta -- Wednesday 4 December 2024

#### MEMBERS

Ryan Batchelor – Chair David Ettershank – Deputy Chair Melina Bath Gaelle Broad Jacinta Ermacora Wendy Lovell Sarah Mansfield Rikkie-Lee Tyrrell Sheena Watt

#### **PARTICIPATING MEMBERS**

John Berger Ann-Marie Hermans Evan Mulholland Rachel Payne Aiv Puglielli Richard Welch

#### WITNESSES

Ben McGowan, Managing Director, and

Heath Shakespeare, Project Manager, Indigo Power.

**The CHAIR**: Welcome back to the proceedings of the Legislative Council Environment and Planning Committee's Inquiry into Climate Resilience in Victoria. I welcome reps from Indigo Power.

All the evidence that we take is protected by parliamentary privilege as provided by the *Constitution Act 1975* and the provisions of the Legislative Council standing orders, so the information you provide during the hearing is protected by law. You are protected against any action for what you say during the hearing, but if you go elsewhere and repeat the same things, those comments may not be protected by this privilege. Any deliberately false evidence or misleading of the committee may be considered a contempt of the Parliament.

All evidence is being recorded, and you will be provided with a proof version of the transcript following the hearings for review. All of those transcripts will ultimately be made public and be posted on the committee's website.

My name is Ryan Batchelor. I am the Chair of the committee and a Member for the Southern Metropolitan Region. I will ask our committee members to introduce themselves.

Gaelle BROAD: Hi. I am Gaelle Broad, Member for Northern Victoria.

Wendy LOVELL: Wendy Lovell, Member for Northern Victoria.

Sarah MANSFIELD: Sarah Mansfield, Member for Western Victoria.

The CHAIR: And online we have -

Jacinta ERMACORA: Jacinta Ermacora, Member for Western Victoria Region.

David ETTERSHANK: David Ettershank, Western Metropolitan Region.

The CHAIR: If I could ask each of you to state your name and the organisation you are appearing on behalf of for the purposes of Hansard, and then invite you to make an opening statement.

**Ben McGOWAN**: Great. My name is Ben McGowan. I am representing Indigo Power, and I am Indigo Power's Managing Director.

**Heath SHAKESPEARE**: My name is Heath Shakespeare, representing Indigo Power as the Project Manager.

The CHAIR: Over to you.

**Heath SHAKESPEARE**: Indigo Power are a community-owned energy retailer, and we are a certified social enterprise with the purpose of creating a society powered by 100 per cent renewable energy in a way that supports and empowers communities. Indigo Power has delivered large energy resilience projects. Following the Black Summer bushfires many of the sites critical for emergency response and evacuation were without power for up to three weeks in the Upper Murray on the Victorian side and the Snowy Valleys region of New South Wales.

Working with the community we identified those sites that the community requires to have backup power. These included health facilities, recreation reserves, showgrounds, public halls and pharmacies. We installed 500 kilowatts of solar PV, along with 1.4 megawatt hours of battery capacity. To add to this, when AusNet Services repowered the grid with generators overnight the hot water systems tripped the grid when they came online, causing a subsequent power loss. As part of the project we installed 88 super-efficient heat pumps, which were timed to consume power through the middle of the day when solar generation is high, and this also reduced the overnight electricity demand.

In terms of our model, our experience working with bushfire-affected communities underscored the importance of having backup power for critical community facilities in rural areas. Indigo Power have created a community battery delivery model that provides backup power as well as energy cost savings to critical and emergency sites, supplies low-cost, shared renewable energy to local communities and delivers significant emissions reductions. This also generates revenue sufficient to recover a meaningful proportion of the project costs.

The Australian Renewable Energy Agency is also funding a project with Indigo Power to deliver 10 community batteries at emergency relief centres and other important communities through north-east Victoria and southern New South Wales. Indigo Power is contributing \$1.5 million to this project, which it expects to recover through the project revenues. We are also working with 20 regional Victorian councils to create business plans for community batteries on council facilities associated with emergency response. Many of these sites have submitted applications to the Victorian Department of Energy, Environment and Climate Action's 100 neighbourhood batteries program. In the long term we expect solutions to be delivered commercially as battery costs continue to decline. However, in the short term funding for energy resilience and battery delivery is required to support the delivery of this model. Thank you.

The CHAIR: Thanks very much. I am really interested in your comments about, effectively, the resilience projects and strengthening the grid in times of blackout. We have heard a lot of evidence over the course of the inquiry from parts of regional and rural Victoria but also in outer metropolitan areas. We had a hearing out in Emerald, where there were pretty severe power outages as a result of essentially trees falling on powerlines. There is not much we can do about that. How have you found the process of these resilience projects using batteries for localised resilience? What has been the experience, and are there any lessons you have learned from that?

**Heath SHAKESPEARE**: I think in my experience of delivering the projects, there was a focus on utilising traditional diesel generators or fuel generators by fossil fuels of course and the change to putting in batteries as a source of an alternative way to back up sites. There was a little bit of, I guess, hesitation, and we really needed to walk the community through what that would look like and how that would be presented.

**The CHAIR**: Can you talk to us a bit more about that process of community engagement – where the community were when you started, where they were at the end and how you went along that journey?

**Heath SHAKESPEARE**: Yes, certainly. In terms of delivering that part of the project, that was key to the early stages, so it was a matter of getting out and about myself, being front facing to local community members. As you go into these communities, they are isolated and there are different pockets of how they operate, who they are and who these community groups are at the same time as well, and delivering that message was welcomed once I was able to get through the door, if you like. And then ongoing throughout the period of the work, which was over a two-year period also, the confidence and the acceptance of the technology was pretty strong.

The CHAIR: What is the goal for the batteries in circumstances where disasters take the power out? What is supposed to happen when the power goes out?

**Heath SHAKESPEARE**: When the power goes out, the battery systems will kick in almost seamlessly, and they will back up a select arrangement of circuits. So that would be power, lighting, maybe some air conditioning also, but it might not be the full site in its operation as that would draw a heavy load on those batteries and therefore you get a reduction in the use of that battery.

The CHAIR: So not everything comes back on line.

Heath SHAKESPEARE: Yes, it is separate.

**The CHAIR**: And the picking and choosing, I suppose, of what circuits come back on – how does that process happen?

**Heath SHAKESPEARE**: Part of working with the host site is key to that, and meeting the expectation that this is what needs to take place, because you are not saying that there is an endless supply of power that comes through. Of course, when the sun comes up the next day, there is going to be solar energy coming back into

some of those systems and the like, but it is one of those situations where you need to walk through the host site and meet their expectations and understanding.

**The CHAIR**: So the power goes out, your batteries kick in. In a typical set-up, how long are you providing power?

**Heath SHAKESPEARE**: The goal would be anywhere between maybe two to five days, depending on the conditions that come through. And it is seasonal as well, so if the solar is able to be in action at those times, you are going to get a system that lasts longer than one that does not have solar available to it, which might be, as I say, a winter period or when there is smoke in the air.

The CHAIR: So the panels kick in to recharge the battery during the day and take over the power?

Heath SHAKESPEARE: They can do. Correct, yes. Not in all circumstances, but certainly that arrangement can be available.

The CHAIR: How did the implementation go? How has it been received?

Heath SHAKESPEARE: Sorry?

The CHAIR: How did the implementation and the rollout go, and how has the project been received where you put them in?

**Heath SHAKESPEARE**: We were able to provide a successful project under the time constraint that we had around the delivery of the project as well as bringing that in on budget at the same time too. We have found that after the project completion you do have a couple of technical issues that arise from the systems operation, but that is not something that is out of your expectations, because you have got a newer technology that is being somewhat trialled but there are a few things that might happen with the site that you need to attend to as well. So certainly the operational and maintenance support is a key factor for keeping these batteries on line.

**The CHAIR**: Last question from me: funding arrangements for the project – what was the source of funds, and how much?

**Heath SHAKESPEARE**: That came from federal and state governments for both the Upper Murray and Snowy Valley projects as a part of that one, and that was fully funded after the Black Summer bushfires.

The CHAIR: So this was part the Black Summer response?

Heath SHAKESPEARE: Correct.

**Ben McGOWAN**: The funding for these was 100 per cent funded, for these bigger energy resilience projects, by the Victorian and federal governments, and the conversations with the agencies have been, 'That's great. The community were devastated after the bushfires; that's what they wanted.' We put in applications, got the funding to deliver 100 per cent of the project costs, but that is very expensive. So the conversation with agencies has been, 'Is there a more commercial way of doing these?' And that is kind of the concept that we are working on now with ARENA, to say, 'Well, Indigo Power invests a little bit and the government subsidises a little bit, and we can recover some of the costs in trading the market, selling power to local customers and those sorts of things.' But it also has this equal benefit to the community in the resilience – back-up circuits and those sorts of things. And battery costs are really declining – on a really significant decline at the moment. So the concept, the idea and the use of batteries for this purpose is becoming more and more possible.

The CHAIR: Okay. I might go to Mr Ettershank.

**David ETTERSHANK**: Thank you, Chair. This is a fascinating concept that you have developed, and I wish I had known about it – we just went through getting a battery installed, and it was a nightmare. My consumption supposedly went up from 25 kilowatt hours a day to 630 kilowatt hours a day, and I was successful in persuading the power company that I had not actually used that much electricity. In terms of the sustainability of this model – and I take on board what you said about the level of government funding – is it viable to actually look at a sort of co-contribution approach with local communities, and if so, how do you think that would work?

**Ben McGOWAN**: That is the proposal we took to ARENA, that we were going to test this model out. There is a proportion of the project which is definitely commercial, but it requires a pretty sophisticated back end, I guess, which is to say it needs to be able to trade different markets, Australian Energy Market Operator markets. It is a heavily regulated industry and so on and so forth. So we can do that, and we are working with the communities to do that, but it is not straightforward. It is not easy. It is not a matter of going to the community and saying, 'Do this yourself.' It needs a fair bit of support, is I guess the first thing to say. The second thing to say is it is about trading those revenue streams, but the resilience component has no commercial value at the moment. People forget, I guess, so it has really big, huge, immediate impacts for communities, but two years on that memory fades a little bit. So there is not a sense of anyone besides the government being willing to pay for what might be that community or public good; there is not someone to charge that fee to. So there is probably always going to be a component that is not commercial, but the gap, I guess – the first Upper Murray project we delivered was 100 per cent government-funded.

This next one we are doing with ARENA – I think we are contributing 27 per cent of the project costs, and those contributions I think will continue to become more equal as battery costs decline. So that is probably to say in the long term maybe it is a 100 per cent contribution by someone like Indigo Power working with the community or the community working with Indigo Power, but in the short term I think what we are aiming for is to demonstrate the model and perhaps bring that co-contribution amount, the government contribution, down and the community contribution up. But at the heart of it there is a commercial model that delivers the resilience outcome, delivers an investment outcome for community shareholders and delivers an environmental outcome to the host site. It is all renewable energy generated onsite, which can be sold to the host site and the excess exported to local people, local customers.

**David ETTERSHANK**: Can I ask you: given that this is a state government inquiry, are there particular elements of state regulation that hamper the ability of Indigo Power to deliver its services, and if so, what would you like done about that?

**Ben McGOWAN**: No. I think as soon as you lift the lid on the regulation of the electricity industry it is very complicated. And really it is set up for a lot of purposes other than delivering resilience outcomes. There is probably nothing really to argue on the regulatory side of things. Probably the point I would make here is that rural communities really – when they are thinking about battery storage they are thinking about backup power. They are thinking a little bit about renewable energy, but mainly it is how many days of backup power, how many hours of backup power – that sort of thing. But there is not yet willingness to pay for that, even though they recognise it is important. I think increasingly there is at the household level. We are getting more and more extended outages in rural communities on these long lines, so I think households are more likely to invest to secure that, but at a community level there is no-one who pays for that service. The councils are not I think ready to pay for that service. So I guess the ask would be – it is more about subsidising that non-commercial component as opposed to any regulatory change.

**David ETTERSHANK**: I am sure Minister D'Ambrosio would be very happy to hear that response. Thank you.

The CHAIR: Thank you. Ms Lovell?

Wendy LOVELL: Yes, just a few general questions. What are the cost and the size of the batteries?

**Ben McGOWAN**: It ranges. I think the ones we are looking at now with ARENA are what we call community-scale batteries. A 250-kilowatt-hour battery unit might cost \$200,000 or something like that, and there are economies of scale as you get larger and larger. We are probably ranging from batteries that are about 250 kilowatt hours up to maybe 2 megawatt hours at the high end.

Wendy LOVELL: What is the size of a battery? Is it shipping container size? Is it -

**Heath SHAKESPEARE**: The physical footprint, say, if we are looking at a 250-kilowatt-hour battery, might be something like 3 by 4 metres of space that we would need on a concrete pad.

Wendy LOVELL: Okay. So a shipping container.

Heath SHAKESPEARE: Yes, something in that range, but it is flexible in its arrangement as well.

Wendy LOVELL: Did you say the cost for that?

Ben McGOWAN: It is about \$200,000, \$220,000 or something.

**Wendy LOVELL**: You talk about kilowatt hours. But for a community, what does that mean – how many hours of power?

**Heath SHAKESPEARE**: It is site specific, yes. We look to try and gauge what electricity is being used and then also take into account those backup circuits and the types of things that might be on there, and that is where you get your range of maybe anywhere between two and five days as a part of that one. And it depends on how that is going to be used, that facility, in a power outage as well. Is it going to be an intense usage with 100 people, or is it going to be something that has maybe got 40 people going in and out and rolling through? There are a lot of variables to take into account.

Wendy LOVELL: What is the lifespan of a battery?

**Heath SHAKESPEARE**: Warranted lifespan for a battery is heading towards 15 years. In turn the battery should last further on from that. It could be 20 to 25 years but at a reduced state of health.

Wendy LOVELL: And end-of-life plans for the battery – what does the disposal look like?

**Heath SHAKESPEARE**: Yes, certainly. All the components that can be recycled, such as the battery cells themselves, would go off to the recycler that is in that position. In terms of the metal enclosures, that type of thing, again, they can go to a scrap metallist to be recycled. So we would expect that most parts would be able to be recycled as a part of it and/or the potential is that they could be refreshed, but opinion would say the technology is changing so quickly that it is a difficult task to keep up with that. However, the site in situ is able to be refreshed itself with a larger battery on probably what will be a similar footprint.

Wendy LOVELL: What percentage of the battery cannot be recycled or repurposed?

**Heath SHAKESPEARE**: I do not have exact percentages on that, but I would expect it to be fairly high and potentially higher or in line with what a solar panel recycling position might be as well.

Wendy LOVELL: Thank you.

The CHAIR: Thanks, Ms Lovell. Dr Mansfield.

Sarah MANSFIELD: Thank you. Thank you for appearing today. I am interested in whether these batteries have been through any extreme weather events and how they have supported the community, if you have got any stories to tell about that.

**Heath SHAKESPEARE:** Yes, certainly. On smaller levels in isolated incidents where the batteries have kicked in for a certain period of time – not in all locations all at once, as a part of it – we have certainly seen trials of 8-hour power outages and maybe 24-hour power outages to a degree. In terms of a significant event, so four or five days long, we have not tested that at this point, which is a good thing, but also we will know about it when it occurs.

**Ben McGOWAN**: The other thing to say is it is a new concept. The community is coming forward and saying, 'We want to provide backup power at all these sites,' but they are not, I would say, at this stage fully integrated into emergency response plans and so on and so forth. So we have prepared with the community as part of the project a sort of guidebook to say, 'Hey, the community – these are where all the sites are across your region. This is what's at each site. This is how you can use each site.' We also did – Heath did not mention it – communications. There are certain sites even if everything is down that have secure communication. People can go there and communicate with friends and family who might not be able to contact them and that sort of thing. So there is a guidebook we have prepared, but in terms of councils picking it up and including it all in their emergency response plans and that sort of thing, the government agencies doing that, that has not quite yet happened. It is still an early concept. I think the second thing to say in terms of how we were to respond to an emergency is we are currently maintaining them. Things go wrong pretty regularly. It is a community site, and people can switch them off. There is a whole lot of stuff that happens on the site where it probably does need an eye over it – that the system is operational when it needs to be. So we are currently doing that. There is some

ongoing operational stuff that we collectively need to think a bit more about with the people who participate in this resilience space.

**Sarah MANSFIELD**: When you say you distribute information about where these are and other information to the community, who are you giving that to if it is not the government agencies that are taking it on board?

**Ben McGOWAN**: We have done that, but it is still a QR code. It is trying to be accessible. You can do a QR code at these sites and see what is there, for instance, and link to the handbook that we have got. We have tried to put that QR code in places that the community wants.

**Heath SHAKESPEARE**: We delivered flyers and those types of things as part of it for the local community who had access to those. As you could travel 30 kilometres from one site to another, a lot can happen in the 30 kilometres between them, so there is a need to be able to see where that sits at a certain part of the day and time when you might be there when an event happens. So we try our best, but you cannot take it around to all corners, unfortunately.

**Ben McGOWAN**: I think it reflects a little bit that this is a community-led project and we were, in a sense, invited in by the community because we are community owned and that sort of thing. So our values aligned, but we also have people like Heath, who is a registered electrical contractor, and these sorts of things. It meant we could design the project for them and deliver the project for them. But basically it was on the request of the community that one of the things they absolutely noticed when the power went out for three weeks was that they could not evacuate the way they wanted to, they could not respond the way they wanted to and all these sites that they expected would have backup power in fact did not did not have backup power. So there was a lot of scrambling around for generators, and people could not evacuate because they could not get fuel and people could not evacuate because they could not get cash out of the bank and all these sorts of things. It does not have to be everywhere. They need power at their homes and that sort of thing, but there were a few critical sites where the community absolutely wanted power. So it has come from there, and it has not quite got all the way yet up the chain.

**Sarah MANSFIELD**: Earlier in the hearings we heard from companies and regulatory agencies involved in transmission and power distribution on some of the lessons learned from the big storm events that have occurred recently. There are additional, I guess, expectations now around maintenance, attestation and all of these sorts of thing related to that infrastructure. Are you captured by those same responsibilities?

**Ben McGOWAN**: Not as a retailer, no; it is more the people who distribute the power. In truth, we work closely with AusNet Services, for instance, who are pretty integral to what we do, but again it is sort of – AusNet are also working with the Victorian government up in Corryong, which is in the Upper Murray where we were working. There are opportunities to work and have a really big impact up there because we have installed, as Heath said, a 1.5-megawatt hour system, and they are doing a microgrid up there. But there is often the gap between the community and AusNet. It is hard for the community to engage with AusNet in a meaningful way, I think.

**Gaelle BROAD**: I am interested – when you first began you said you were involved as a community grassroots kind of initiative, but what were you doing prior to that? How did you get the funding to start with a project that had not been done before?

**Ben McGOWAN**: Indigo Power actually started from a group. You are going to hear from, I think, some of the sustainability groups. There is one in Yackandandah called Totally Renewable Yackandandah. It had an aspiration of 100 per cent renewable energy for its town, but as an incorporated association it needed a different bit of corporate infrastructure to sell equity and raise capital, so that is what Indigo Power was set up to do. It is really about supporting those community groups to meet their renewable energy aspirations. We have got a retail function, we have got a project management function – which is Heath and an electrician – and we are also now increasingly installing and managing these community-scale community batteries, public EV chargers and those types of things, so it is in and around the community, supporting communities that are interested in pursuing a renewable energy objective. That is our purpose: renewable energy in a way that supports and empowers communities.

Along the way communities have said to us, 'Renewable energy's great, but there's a great alignment here with what we also need, which is energy resilience.' In the country battery storage means as much renewable energy as it does backup power, and it has made sense to combine the two. For instance, a lot of the sites we are using for these 10 big community batteries are relief centres but they are also big community sites with a lot of roof space. They have often got a really big transformer that you can connect to at a showground or something like that. Once a year they need a lot of power, but other times in the year you can export a whole lot of power and participate in these different markets. I would say there is not perfect alignment between the two objectives, but it is really strong that you can do both without compromising.

**Gaelle BROAD**: So how much funding did you receive initially, and then, is it individual projects you are applying for now?

**Ben McGOWAN**: Yes, so the Victorian Upper Murray project was about \$3 million all up. The Tumbarumba –

#### Heath SHAKESPEARE: \$1.5 million, \$1.4 million?

**Ben McGOWAN**: Yes, \$1.4 million. The ARENA, this community battery one, is I think \$6 million. We are contributing \$1.5 million and the government is contributing four point something. So yes, they are big projects, and the one we are delivering at the moment is the ARENA one. My sense of it is that those have been pretty specific funding tranches, but there is often a facility that supports either renewable energy, often in the country, resilience based – lots of stuff about microgrids, lots of stuff about energy resilience.

**Gaelle BROAD**: I know David spoke to it a bit earlier, but at this point it looks like it cannot become selfsustainable; it does rely on government funding. Is that where you are sitting at the minute, or do you see –

**Ben McGOWAN**: I think at the moment we are practicing. It is early days for batteries. The cost still has not gone through that efficiency curve. So I think the position we are taking is we are practicing, and what you do when there is lots of risk and uncertainty is you build in a contingency, and so all the projects have that contingency built into them. But as you become more confident in the cost to deliver (1) that cost to deliver declines and (2) you become more confident in the revenue streams, then you can see a pathway there to delivering this commercially. And we have been able to secure the opportunities to do that practice, and we are doing that practice. But everything progressing well, our goal would be: we can do the complicated bit in the back end, which is about trading the energy markets and managing risk to operate and maintain the facility, but the community might choose to own and invest in that facility and do so on commercial terms so that the pathway there becomes easier for communities to walk, and commercial.

**Gaelle BROAD**: Wendy did talk a bit about the recycling of batteries. I am interested; yesterday we heard from Bendigo Sustainability Group, which are really involved in putting solar panels on a lot of homes. We have heard about the life span being 20 years and they did say they have not thought about – well, there does not seem to be much work being done in the recycling space or on what happens at the end of life. Just from your perspective, looking at the energy – and I know just coming here we passed huge solar farms – what capacity does Australia have to recycle, or what happens at the end of life?

**Ben McGOWAN**: It is fair to say that what you can do is write a really neat section in your report about 'These are all the options that are there' – and they are there; you can visit the website and see. But personally we have not walked those facilities. We have not taken off a battery pack and tried to ship it down to one of these facilities. It always comes down to practice. That is where you learn the most, and we have not had that experience yet. When the rubber hits the road, that is when you work out whether you have a functioning system or not, and the truth of the matter is we have not taken anything off and we have not sent anything down to Melbourne and had it cycled yet, so we do not know.

Gaelle BROAD: Okay. We will find out soon enough.

**Heath SHAKESPEARE**: And solar panels themselves, there are not many that recycle that, so they reach their limits quite quickly at the same time for what they are going to intake and be able to process. So you have got some limitations that come with that with the amount of solar panels there are; batteries probably less so, and we are not necessarily seeing failure rates coming through from the legacy of 2010, if you like, as well.

The CHAIR: Ms Ermacora.

**Jacinta ERMACORA**: Good afternoon. Thanks for taking the time to come along and share with us your experiences. I just want to ask you sort of a broad question. We have got this massive transition underway around energy across the whole state of Victoria at a large-scale level. What role do you see community projects fitting into in that bigger picture in the statewide transformation?

**Ben McGOWAN**: It is a good question. There are two things to say about that. One is that the public documents from the integrated system plan and all those sorts of electricity-related national documents have a space for I think what used to be called distributed energy resources and now is called consumer energy resources or something like that. They have this role for the community in an aggregated form to play a role in the transition, and that was optimistic four or five years ago and is less optimistic now. There are definitely the difficulties of integrating lots of small people as well as their equipment. But that is there, that opportunity is there, and that is really the space that we would like to work in as a trust thing as much as a technology thing. So there is that. This conversation in terms of the transition is all about these distributed energy resources and how they can (1) yes, deliver this resilience objective but (2) also play that role in delivering that 30 per cent required for the transition, say. So that is the first thing.

The second thing is more of a community engagement and community participation piece. Just to give an example, a lot of what we are talking about today is a really neat way of giving back to the community. We are starting to have some early conversations with some of the utility-scale developers to say, 'You've got this community benefit fund. It might have \$500,000, it might have \$1 million in it. There are only so many sets of basketball jerseys you can give to the local team. What about if we were to provide backup power to the local emergency relief centre?' I think there are ways of meaningfully integrating the community with these larger players in a way that is more meaningful than what currently happens and has a genuine community impact.

**Jacinta ERMACORA**: I guess at the moment with this transition, inevitably it is like standing on a tightrope and being halfway across and looking back at the fossil fuels and that is not very good – it is running out and it is expensive and it is causing climate change – and looking forward you could say that it is not yet very good as well. Can you see a point in the future where there are enough batteries distributed either through community or through grid-scale set-up – I am just talking about batteries – to balance out the grid in Victoria?

**Ben McGOWAN**: Yes is the answer. I mean, the grid is one thing, but another is electricity management, I guess. We are doing a whole lot of work at the moment to see if we can supply our 800 retail customers using these community batteries. And the answer is basically yes, but it relies on surplus renewable energy at times, which is wind and solar, basically. So the risk you take is if you do not have generation – we do have generation on most of these sites, but we are delivering some that are just storage only – it relies very much on the surplus of solar that exists at the moment and the low market prices. And you take the federal government's capacity mechanism, for instance, which is pushing more de-risking of just the renewable energy generation, and you hope that that carries that generation through to the market and keeps the prices down and that sort of thing. So in that scenario, just so long as there is wind and solar still being supported – and I think the government does have an important role to play in terms of de-risking that for these utility companies – we as a smaller player can do the rest with batteries and work with our customers to help them understand that the way they use energy is really important. So there is behaviour with customers but also the battery storage, and for us, we see that pathway there to managing our retail risk through batteries, provided those government programs remain in place to support renewable energy developers.

#### Jacinta ERMACORA: Thank you.

The CHAIR: Ben and Heath, thank you so much for coming along today. It is a fascinating project. It is really interesting and useful for the committee to understand where it came from, how it is going and how it stands the test of time. You will be provided with a copy of the transcript over the course of the next week to review.

With that we will take a short break to reset for the next witnesses.

#### Witnesses withdrew.