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THE JOINT SELECT COMMITTEE ON ENERGY MATTERS MET IN COMMITTEE ROOM 1, PARLIAMENT HOUSE, ON MONDAY 28 OCTOBER 2024

The Committee met at 9.00 a.m.

CHAIR (Ms Forrest)- Welcome to both of you, Richard and Lachlan, to this public hearing for the Energy Matters Inquiry.

As you would be aware of everything you say while you're appearing before the committee's covered by parliamentary privilege that may not apply once you leave the hearing. I'm sure you're aware of those matters. It is a public hearing, everything you say will be there will be broadcast and transcribed as part of our public record unless you make a request for information to be provided in-camera. We have both your 2023 and updated submission and we've read those. We appreciate the work you put into those it's quite an extensive amount of material provided to the committee in a fast-moving area. Do you have any questions before we start?

I will ask both of you to take the statutory declaration and then invite you to speak to your submission and we'll have questions for you.

Professor RICHARD ECCLESTON, DIRECTOR, AND Dr LACHLAN JOHNSON, RESEARCH FELLOW, TASMANIAN POLICY EXCHANGE WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED

Prof ECCLESTON - Thank you, Chair. Thank you for the opportunity to prepare a submission for the committee and to appear before you today.

We speak as academics and policy experts that don't represent the views of the university. I'd also like to acknowledge and thank our two amazing graduate colleagues, Judith Mutuku and Kimberly Brockman, who are PhD and Honours graduates in economics who have supported a lot of this work on both energy and climate. Very happy to discuss our submission before this important inquiry. They are extensive submissions, but it's an incredibly complex area of tremendous importance to the state and to the country.

The other complicating thing that's taken us a couple of years to get our heads around is just what is distinctive about the Tasmanian energy system and energy market, because there are real opportunities and challenges there. In terms of some introductory remarks, and you've read our submissions, I will provide a broad overview of the context. The fact that if we're looking at the efficiency of the energy system, contributing to and hopefully meeting emissions reduction targets, ensuring that electricity in particular and energy generally is both accessible and affordable, we need to think about the overall structure of the energy system. That is in part determined by national and sometimes international policies and forces. Then I guess perhaps more at the level of regulation and price determination and what we can think about doing here in Tasmania.

As you are aware, we're at the beginning of an energy transition as we move towards a low and, hopefully, zero emissions economy in the future. That's incredibly challenging and disruptive because our entire economy and society is built on widely available cheap energy that historically has been provided by fossil fuels. It is both an environmental imperative. Irrespective of politics in Tasmania or nationally, the reality is that this transition to a low

carbon economy is inevitable. The science will dictate that. It's not going to be a smooth or linear path, but it will happen. Part of the challenge for Tasmania is how can we prepare, plan and capitalise on it.

We've got lots of strengths. We hear it on a weekly basis in terms of electricity for historical reasons, we're almost 100 per cent renewable, but part of the challenge and the argument we've tried to promote through our work on climate and energy is that's a great starting place, but Tasmania isn't even at 50 per cent renewable in terms of overall energy.

How can this be right? The reality is that more than half of the energy we use on-island comes from gas, diesel, petrol, and, in some cases, coal from the Fingal Valley. If we are going to truly decarbonise and futureproof our existing industries - before we even think about exports - we are going to need to think about alternatives there. I'm happy to share this. I think this was in our report 12 months ago, work that Lachie did, trying to map how energy is used on this island and where it comes from. I'm happy to hand that out.

Some observations that were really clear across the submissions that I know you, as parliamentarians, deeply engaged in these issues, are aware of is that, notwithstanding our strengths, there have been challenges in the energy market in Tasmania up until 2023 in particular. Retail prices increased by around 30 per cent in the five years to 2023. As our work has hopefully demonstrated and submissions from individual Tasmanians, the community sector, and TasCOSS demonstrate, the unfortunate reality is that it's the lowest income households that shoulder the heaviest burden in terms of electricity prices. Proportionally - this is Kimberly's work looking at the detailed Hilda analysis - a low-income household spends three times the proportion of their income on electricity than a high-income household. Energy poverty is real. Notwithstanding the work that's going into concessions, levels of energy debt in Tasmania are among the highest in the country and seem to be increasing based on the evidence that we have seen.

What can be done? Tasmania's energy market is distinctive. We have a dominant generator in hydro. We have a contestable retail market that the established state-owned retailer Aurora is dominant in. We have limited interconnection - that creates opportunities, but also challenges. A lot of these complex issues, I guess we can identify the key questions and perhaps, as a committee, you can probe developers, generators, and some of these businesses about what it means.

There are questions there about to what extent we should be increasing interconnection with the mainland and with the national energy market. This structure seems to create barriers in terms of incentivising new generation. Given both the challenges of supply and generation that we're facing as we try to decarbonise - also the reality that over the longer term hydro is an incredibly valuable source of energy. It's much more valuable now than it was 10 or 20 years ago because we can store it, dispatch it, and use it when wind and solar is in short supply. When we consider maintenance, I'm sure Hydro would agree with this, the need to upgrade what is a relatively old and ageing hydro fleet, to use the energy jargon - it is a relatively expensive source of energy.

In terms of simple analogies and metaphors, my view about hydro is it's like a classic car. It's really valuable. It's a really nice thing to have. You want to use it sparingly and you don't want to drive it to work every day. That's where, in terms of the structure of the market,

increasing wind and solar in the mix will not only increase capacity, but should put a downward pressure on costs.

Some broad conclusions. I don't know whether I should jump to conclusions or whether the committee would like to ask questions at such a broad area. I'm of the view that to support decarbonisation nationally and to futureproof existing industries, we do need additional generation on island, but that's a choice. We clearly need to think about the best ways of ensuring that there is new and appropriate generation on island and that's been a huge challenge.

In the short term, there are some opportunities to remove cost pressures, but we're of the view, and Lachlan might come in here, that there are no quick fixes. As part of this energy transition, we do need to invest significantly in new generation, particularly transmission, to reconfigure the grid, and also storage both short-term battery storage and deep storage. As everyone around the planet is doing this - the aftermath of the pandemic - cost pressures are high. Just about all major transmission projects, for example, are coming in at almost twice the cost of what they were originally forecast to be five years ago. Marinus is no exception. There's a big national question about whether consumers should pay for the full cost of transmission or whether the Commonwealth should. I've got a view on that, but that's sort of beyond the remit of the state government.

CHAIR - Do not be afraid to express a view on it.

Prof ECCLESTON - I'm happy to express that now. Should we talk about Marinus?

I am cautiously supportive of Marinus in principle for a few reasons. For the right price, it will give the NEM access to the sort of deep storage we need to ensure energy security and reliability across the grid as we phase out coal. There's been a range of modelling done in terms of what the emissions benefit of that is, but basically, if we are phasing out coal over the next 10 years, in the early 2030s, without Marinus, we need a lot more gas generation and gas peaking in the system, so that's a choice.

In terms of Tasmania, clearly improve energy security and potentially provide an extra source of capacity and generation. I should disclose, and this is on the public record, I am a member of the Marinus Link Advisory Council, which is required by the national energy regulator as an independent group providing feedback on Marinus, in particular, its impacts on consumers and that's all documented in our reports and representations to the Australian Energy Regulator (AER) as a group.

At the margin, the modelling probably puts a downward pressure on prices in Tasmania, but perhaps the biggest dividend, going back to my hydro analogy, is that it should allow us to use hydro generation when it's most valuable, rather than using hydro to run base load, when wind and solar generation would be much cheaper.

The question becomes: what is the price? We know that the cost has doubled and we're talking about one 750 MW interconnector. There's a changed-ownership model in terms of equity - that's pretty much irrelevant for consumers and that's not widely understood and often misrepresented.

I like to use a kind of housing analogy: Marinus Link is a rental property. We thought about doing a massive extension, we have the builders' quotes in and it's going to cost twice as

much as we thought. What we've done now is change who owns that rental property, so 49 per cent Commonwealth, 33 per cent Victoria, and 16 per cent Tasmania. But they've got no risk because under our current national model, once the regulated price has been determined, there's a fixed return on that investment. What hasn't been decided, of the three or four tenants who are renting this house, is how much each of them pays. That's the cost allocation decision.

My view is Marinus is critical for the national grid in terms of reliability and decarbonisation, but it is a national project. They've done the work on which consumers benefit and once you weight it for the size of the population, the benefit to Tasmanians is about 8 per cent. The rules around this haven't really been fit for purpose, but a new determination process has been established. My understanding - and you can ask the Tasmanian government and Marinus on this - but it's essentially a negotiation between the Commonwealth, Victoria and Tasmania around that cost allocation.

CHAIR - The books have been changed to enable a different process.

Prof ECCLESTON - That's right and that's the one thing that we need to be really mindful of, that the cost to Tasmanian consumers is broadly proportional to the benefit and that's still the risk that that we face.

CHAIR - Can I ask you a question about the cost as proportionate to Tasmania. You said 8 per cent would be a reasonable thing. How do you arrive at 8 per cent, bearing in mind that if we didn't have the interconnector, they wouldn't have access to any of our base load energy? We have through Basslink, but let's say for the purpose of valuing that as 8 per cent, can you tell me how you arrived at that number?

Prof ECCLESTON -That's work that was done by EY. Energy modelling is incredibly complicated. We've spoken to people nationally about how it works. As a part-time economist, I can understand what they're doing, I think. That's been pushed fairly hard and it is credible modelling. It is based on how it will affect wholesale prices - it's not the whole benefit. The argument is, consistent with the point that I'm trying to make, that Marinus should give Tasmanian consumers access to more low-cost wind and solar during the day.

To my understanding, what it doesn't capture is the potential benefits to Hydro by being able to sell the electricity that it generates at a higher price. This is the kind of arbitrage trading strategies. There is a parallel discussion around the new regulatory framework for Basslink and this is potentially good news - I think we mentioned it in passing. Some of the work that COTA has done is good. There are potentially benefits there, but they accrue to Hydro and this is a policy decision within the Tasmanian government's remit. We do have this commitment to return Hydro dividends back to consumers, but we do need to make sure that changes in the National Energy Market and through Marinus and the regulation of Basslink as a regulated asset, any windfalls for Hydro are returned to consumers. We need to be vigilant about that, particularly given some of the financial and budgetary challenges in the state governments after -

CHAIR - Is that the only way that Tasmanians can reasonably expect to have cheaper power prices, if it flows back through increased dividends to Hydro overall with taking the super profit off the top and giving that directly to consumers rather than back into the consolidated funds - the public account?

Prof ECCLESTON - I think that's the way. We can talk about the way the regulated price is constructed in Tasmania. Under the existing framework - wholesale prices - we mentioned this in our submission - the regulated price in Tasmania is the wholesale proportion of that benchmarked against the Victorian wholesale price and the swap rate. Some people have argued that we should just be setting the regulated price based on Tasmanian cost of production. My view is that that may be beneficial some of the time but it's probably problematic in the long run and we need to be careful what we wish for there.

Dr JOHNSON - I might add one quick thing there, which is as Richard says, there's an element of swings and roundabouts in how any kind of windfall or profit gained to Hydro from either Marinus or the regulation of Basslink returns to consumers. Obviously, that coupling to a kind of derivative of the Victorian wholesale price means that can't necessarily just be returned in the form of lower power prices per se or development of a lower wholesale cost input to the price determination method.

One of the key trends in the NEM that we've talked about in our submission is this increasing number of five-minute price intervals at a negative price. So there is this two-way thing here as Richard mentioned, this sort of arbitrage element to all of this where not only is it the ability of Hydro to sell base load power to the NEM and to the mainland, but ours to capture really cheap or even negatively-priced wind and solar at times of the day when it's really abundant. The increased interconnection allows us, particularly if things like pumped-hydro at Cethana proceed, to really capitalise on very cheap or negatively-priced power in the NEM as well. Again, this kind of roundabout way does potentially reduce price pressures on Tasmanian consumers as well.

Ms FINLAY - If there's an agreed way to apply those profits, there needs to be the agreement on how the profits are shared then those benefits. We have had a submission already in terms of what you referred to as the Victorian model and some people feel that maybe we should be using the Tasmanian costs processes. Is there a third way which might be, as it was described to us, that there's some elements of that Victorian link that are no longer relevant, it's based on old models and old ideas, is there a way of tweaking that agreement so that it may still be used but used in a more contemporary calculation?

Dr JOHNSON - There are ways to adjust that. The thing with the linkage to Victoria is that the utility or value of this to Tasmanian consumers fluctuates a lot through the year. Over the years the on-island generation cost relative to wholesale costs in Victoria fluctuate and there's quite a bit of volatility there. Our view long-term is that (a) the current model going forward is probably a pretty good way for us to do things just because wholesale prices in Victoria are probably likely to come down faster than ours. Over the coming decade or so, it's probably likely that will return to be in favour of Tasmanian consumers, the current model, even if it hasn't been at times in the last few years, it probably will be in the longer-term. I had something else to add there, but it will come back to me.

Prof ECCLESTON - In principle, are we part of the national energy grid? I think we already have been de-facto for the last 15 years. Going back to that question about energy mixes in 10 or 15 years' time, and hopefully we do get through this energy transition with our energy electricity system approaching being 100 per cent renewable nationally, if we're not connected to the grid it could be that Tasmania has perhaps some of the highest renewable electricity prices in the country.

Historically, the Victorian smoothed wholesale price has been lower. It wasn't in 2021 and 2022, but this year we all know we had a very dry autumn and first part of winter. Hydro had to prudently manage dam levels and cut back generation. The Tamar Valley gas power station, as Janie knows, was running fairly hard up until midwinter. Not a great outcome in terms of Tasmania's emissions, which highlights the need for more capacity. It did push Tasmanian spot prices up - Tamar Valley is not only carbon-intensive but expensive to run - but because the reference price for next year's determination is going to be based on Victoria, we won't be fully exposed to that.

There are swings and roundabouts but, overall, I think we are locking in the idea that Tasmanian regulated prices should be based on the cost of production just in Tasmania, given the fact that we are connected and part of a national grid. I don't think that makes sense and it's probably a risk to consumers in the long in the long run. It's really hard to convey how the national energy market works.

The other issue - the wholesale prices as part of it - are there are other opportunities for reducing the regulated price perhaps at the margin? I think one thing we could do as well as the big national advocacy pieces around who pays for large transmission projects, are really around more targeted and effective and sustainable concessions.

Dr JOHNSON - If I could just add one more thing to Richard's answer there. The coupling to the Victorian wholesale price, particularly in the context of increased interconnection, obviously benefits Hydro, but it also potentially benefits other new generators. There is a real potential there for that arbitrage element in the ability to sell into the NEM at the Victorian wholesale price to benefit the business case for potential, new on-island generation as well, which I don't think we would want to lose.

Mr BAYLEY - On that, Chair, presumably that new generation is largely going to be wind and/or solar. That'll be being tapped into the NEM, it'll be susceptible to those negative price periods as well, presumably. I guess there's a question there around the benefit of the interconnector - it'll have to take negative prices as opposed to what it could sell direct into the Tasmanian market without it and without a connection to the market.

Dr JOHNSON - Yes, that's true. There is this difference to be mindful here of the spot price versus the wholesale price. On the whole, it does potentially make new generators more vulnerable to volatility in the national market, that's also true. I think our view is, probably on balance, that it's still beneficial for new generators rather than being stuck in a quite small market with a big dominant incumbent generator, but there are absolutely considerations there.

Mr BAYLEY - On the price issue, there's significant uncertainty obviously in hooking ourselves into the Victorian price, you said it probably puts down pressure on prices. The final decision of the energy regulator has identified potentially a $56 per annum increase in electricity bills through TasNetworks, so there's significant price pressures.

I'm interested in your table of concessions, the various Commonwealth and Tasmanian government energy bill relief. The Chair just asked the question on whether price reductions are largely a figment of the super profits that Hydro can expect being redistributed. All these are aimed at either households or businesses, which is obviously appropriate. They're two parts of the market. I'm really interested in what is your knowledge of, and how does it work, in relation to public institutions? Schools, hospitals, the public service, for example, all need

significant volumes of power as well. Are they attracting any kind of concessions at the moment, or is that part of the conversation that you're aware of? What can our department of education within DECYP expect in terms of power prices over the next decade or more and concessions?

Prof ECCLESTON - I hadn't thought about that, Vica, but I think in terms of government agencies any sort of concession is going to be kind of circular. It's just an allocation of which agency and budget line bears the costs. In principle, all organisations should be paying a comparable rate. Two things in terms of on-island - and I know Craig will have an interest in this - on-island generation interconnection does make it more likely and more attractive. Part of the reason for that is having access to a bigger market. This is why we need transmission. It's diversifying where the energy is coming from. At a time when you've got a wind drought in western New South Wales, we're probably more likely to have some wind on the west coast of Tasmania. That's part of the diversification strategy.

Generally speaking, the inconvenient truth is that electricity prices and energy prices are likely to increase over the next 10 or 20 years. We've got to get ourselves off the sugar hit of cheap fossil fuels and that's the environmental imperative. That is a cost and we need to plan and ensure that it's equitably distributed. In Australia, we don't have a cost on carbon pollution, we don't have a carbon tax or emissions trading system, but investors and consumers nationally and internationally are becoming much more carbon conscious. In a sense, that's the opportunity.

It is complex, Vica, as you, I and everyone in this room knows; there's a massive amount of uncertainty. I don't think the status quo scenario is viable or in the best interests of Tasmanians. There will be risk. The critical thing is that those that have the greatest capacity to manage that risk do so, which is one reason why I get nervous: retail consumers and small businesses, and particularly low-income households that are really struggling, can't be exposed to the risk associated with this energy transition.

Mr BAYLEY - The Budget also identifies the risks around Marinus as well. Costs of wind and batteries, you mentioned batteries in your opening, they're coming down pretty rapidly. Do you feel as if the work has been done enough to balance out and assess the cost of Marinus, which is huge with the likely roll-out of wind and battery technology and more distributed networks on the mainland? What would be the cost benefit of each because the risks are inherent in a huge industrial project like Marinus versus the more distributed and slightly more random planning and roll-out that's going on, on the mainland?

Prof ECCLESTON - That's right. There is a lot of uncertainty. The National Integrated System Plan does a lot of work to look at this, but they acknowledge the risks and uncertainty. The reality is that the energy transition nationally isn't on track and I think we need to be doing everything if we're going to have any chance of reducing emissions and making an appropriate contribution to addressing climate change. I absolutely agree with you, Vica, that particularly for households, small business and farming, decentralised smart grids, small-scale storage is a part of the solution. We need more energy-efficient homes, we need more energy-efficient processes, we need to live more sustainably.

In order to cut emissions significantly over the next 15 years, we probably need everything and that's where it comes to risk. As we all know, there are those who are opposed

to Marinus Link on a range of grounds. I understand those arguments, but I'm still of the view based on what is likely, that it is an appropriate and important investment.

I will just run on with that for 60 seconds. Australia's energy system is based on a consumer-pays model, so we work out what power lines, what transmission we need nationally to maintain this system. This is the model built in the 1990s. Once that's determined, once it's built at an appropriate cost, then consumers pay for it. It's a bit like transport. You're basically paying for the product to be delivered to you. That kind of makes sense, but this massive increase in investment, in generation, transmission and storage is not just about providing a product. It's actually about emissions reduction and national climate policy. From a public policy perspective, I don't think the 100 per cent consumer pays model is appropriate.

In the European Union, partly for political reasons, for large transmission projects between member states, the commission pays for 50 per cent of it and then consumers that benefit from it pay for the other 50 per cent. I think we need a model like that in Australia. With Rewiring the Nation, there's concessional finance for these approved priority projects, and that's a step in the right direction, but generally consumers pay too much. Talking to people at the pub or the café, they go, 'Well, what does it really matter? We're going to pay for it one way or the other'. If the Commonwealth picks up half of the tab, well, yes. Going back to that point is that energy prices, even with concessions, are aggressive.

If the Commonwealth pays $2.5 million towards Marinus Link and can access funds cheaply, we all need to pay for that as taxpayers, but fortunately federal income taxes are still progressive. You and I, Ruth, and most of us in the room, would be making a larger contribution relative to energy prices because we quite rightly pay almost three times as much as a proportion of our income as taxes. It's the reverse with energy from a social justice point of view that I'm interested in.

CHAIR - From the Commonwealth's perspective on that, they have every capacity to do that. It's a policy position. That's what it is.

Prof ECCLESTON - That's right. Look, that's a huge question on the design of the national energy market and beyond our remit. Those arguments are relevant to this upcoming discussion on cost allocation.

CHAIR - You've made a good point on page 11 of your update. There's one minor typo in your last paragraph.

Prof ECCLESTON - That was probably me changing it at the last minute. I'm not very good at editing.

CHAIR – Y
ou talked about 'rather than continue with user pays model, we believe Tasmania should advocate at the Commonwealth level for a cost sharing model'. It's been helpful to have that further conversation.

Mr EDMUNDS - I've had a few questions, but every time you guys open your mouth, it moves the conversation forward and back. It's been fascinating to listen to. Hopefully, the question is still relevant.

Regarding the comments about prices increasing, and also what you just said then, is something like the Renewable Energy Dividend Scheme or other kinds of shields - or whatever you want to call them - for consumers the best way going forward in a Tasmanian sense? The market is what the market is, but let's use whatever resources we have in Tasmania, whether it's through Hydro, TasNetworks or the state budget, to protect the Tasmanian consumer.

Dr JOHNSON - In the short to medium term, that's probably true. While we're in the point that we are in the transition at the moment where we've got enough very cheap renewables in the grid to undercut traditional fossil fuel generation, but not enough to completely replace it, that means inevitably we do have quite high prices at the point where we are in the transition right now. It probably is the case that until price pressures start to come down and catch up with the point that we're at in the transition, it is the case we do need to rely on these concessions and redistributions in the short to medium term.

If I can also, on your point about the conversation moving a bit too fast, add just one more point on that.

Mr EDMUNDS - No, I didn't mean that.

Dr JOHNSON - No, I'm going backwards as well. This point, Vica, about the role of batteries in the NEM in the context of more interconnection, it probably still is the case that batteries play a different role in this kind of firming and demand management than something like hydro. Just illustrative on this point at the time - is this right, Richard - that massive South Australian Tesla battery a few years ago was the biggest in the world and that still can't hold a candle to the amount of storage that is in hydro. It's probably still the case that in short and medium term settings, batteries are this really important source of firming and smoothing of demand over the course of days and weeks, but they can't really replace something like hydro in the NEM and much more interconnection just allows that to be even truer.

Richard probably has things to add to your question as well.

Prof ECCLESTON - I think it's the best option that's available. Ruth and other colleagues around the table have done pretty forensic examinations at times of GBE finances. We need to be really vigilant and maybe this is a question for our Hydro colleagues on their financial reporting to ensure any of these windfall profits really are identified and allocated to consumers.

CHAIR - And not hide behind the shield of commercial sensitivity.

Prof ECCLESTON - Indeed, and also debt. The easiest way to manage the profit of any organisation is to ramp up debt. Those of us who follow budgets, you would need to be vigilant around that.

The other opportunity for price relief is obviously the regulation of Basslink, a complicated story. I know the parliament and some of you around the table have looked into this, but now that is going to be a regulated asset -

CHAIR - We are not certain about that yet, are we?

Prof ECCLESTON - I probably need to check that. I was under the impression it was regulated but they hadn't worked out the price determination. Whereas, with its history, which we won't go into, Hydro paid a facilitation fee payment, which I understand was to the order of $90 million a year to rent that extension cord. If the cost allocation is on a benefit principle, then the cost would be much less, but that would be part of the regulated price.

Overall, Tasmania would benefit, but we need to make sure the fact that essentially $90 million a year may have come out of Hydro's costs. This is a question to probe with Hydro: that windfall sees its way, hopefully, to Tasmanian energy consumers rather than to address -

CHAIR - We are still paying the fee for the privilege of at the moment; it'll have been hooked up. It will depend on when it becomes regulated. That's when we'll need to have the transparency around that. That's what you're suggesting, otherwise it continues as is.

Prof ECCLESTON - That's right. It was interesting that APA, the new owners proposal is that it's a 90:10 distribution, which is probably appropriate and would benefit Tasmania.

Dr JOHNSON - To add quickly, the other place in which this kind of general point about transparency and accountability will be really important is also in - I know, Vica, you made this point before about power price pressures on big public institutions and that sort of thing. The power purchase agreements for major industrial facilities is probably another area where this is really important, where we don't necessarily have the information we would need to assess the extent to which those function as subsidies and the public value they provide as such. That's another area in which, as you all know, this kind of transparency and accountability question becomes really important.

Mr EDMUNDS - Another one a little bit further back. Your comments about we need to do everything. Could you expand, if you bear with me here. We talk about the ability to buy cheap or negatively priced solar and wind from the mainland, et cetera, but also the need for on-island of those two products. If you wouldn't mind for the benefit of the committee, me, and anyone watching, can you explain how those two things reconcile that you can get it cheap and it's an advantage for our hydro asset, but also that we still need to do it here? You kind of covered it with the 'we need to do everything' answer, but could you expand on that at all?

CHAIR - Can I add one question to the top of that: have you done any modelling as to how much extra we actually need on-island, which is just topping up your question?

Dr JOHNSON - We have not done any specific modelling. On this point it's partly a question of the volume of interconnection in a way. At the moment we have this 500 MW or whatever through Basslink. That's probably still not enough in combination with on-island renewables to negate the need for us to use a lot of hydro during the day. At times when we could be meeting our on-island demand from a combination of mainland and on-island renewables, we're still relying on hydro. Part of that is that we don't have enough new renewable generation coming online in Tasmania, but it's also this kind of limited interconnection question.

We're kind of fully integrated financially in the NEM, but our actual connection is constrained. We could be benefiting from those very cheap prices a lot more than we are but, at the moment, we have to, like Richard says, use the Rolls Royce during the day because we don't have access to the much cheaper option or enough access. We can do both. Like you say,

we can increase our interconnection and increase our on-island renewable generation, so we don't have to be using our very expensive hydro in the middle of the day when we could use something else.

CHAIR - I might just follow on from that. What I think is perhaps helpful for the committee to understand is, and you may not be able to answer this, how much additional generation do we need on-island to meet Tasmania's current and future energy requirements at the lowest cost we can? Shouldn't we focus on that rather than meeting the 200 per cent renewable target, which you can argue was an unusual move?

Prof ECCLESTON - I agree completely, Ruth. We're not energy market modellers, as I said. It's complicated, we've reviewed most of the work that's out there. We've discussed it and a lot of our early work on energy is really a collaborative effort and work with colleagues across the university, including our colleagues who are renewable system engineers. It gets complicated. The renewable energy targets just about how much we produce in a year and that's one way of thinking about it. The other is, what's the peak production capacity to keep the lights on, industry working, which is actually more important.

CHAIR - But also to adjust for - I'm talking about not just now - what we need for now - but also the transition of the energy, so the transport sector.

Prof ECCLESTON - We need to use electricity to support transport and maybe in some cases, zero emissions e-fuels. The official data put out by AEMO, the Australian Energy Market Operator, they do - you've got to learn to speak energy, I'm semi-fluent in energy - their ISSU as opposed to the RIPTI or the ISP or whatever is a prediction of future energy needs and a base of scenarios. They predict that Tasmania's generation capacity needs to increase by about 50 per cent over the next 10 years.

CHAIR - Is that to achieve our current and future predicted energy, not the 200 per cent renewable target?

Prof ECCLESTON - They're probably the same thing, but that's discounting significant export hydrogen, which we'll put to one side. I think the question is not about whether we're a green energy exporter. The question is how we can use our energy assets to support decarbonisation in Tasmania and existing industries at an appropriate scale here rather than export. Bearing that in mind, our top-line estimates, and you can test this with other witnesses, currently our peak capacity is around 3.5 GW, we probably need another 1500 GW of capacity to follow that sort of average path of decarbonisation and electrification on island. Potentially, in 2030, Marinus comes on; that is 750 MW. We will need new generation and that does include assumptions around the ongoing uptake of rooftop PV.

One thing, if we are going to subsidise it, although it's probably to middle-class households, is storage because, quite frankly, producing more rooftop PV in the middle of the day if you're not going to use it on site is of limited value. In Tasmania we don't have a complete surplus of power during the day for the nine sunnier months of the year but on the mainland, it's a complete surplus. Unless we can store it, it's not actually helping us very much. The challenge there is around storage. That's the sort of scale that we're looking at.

One thing in closing remarks is what's a better model of engaging with the communities about why we're doing this, why it's important - it's important for climate, for key Tasmanian

industries, and decarbonisation is important for Tasmania's reputation. But, how can we do that on an appropriate scale, in appropriate places that most people in the community are comfortable with? We need a different conversation and a different model. There have been belated initiatives to think about where renewable projects should be - community benefits - but we do need a different approach.

Ms FINLAY - Can I ask a question to unpack that a little bit more. In your submission, which we could talk through all day with a lot of these topics, you talk about appropriate scale and appropriate place. They are raised as pointers. Do you have thoughts around appropriate scale and appropriate place?

Prof ECCLESTON - The scale we've been talking about, we probably need, give or take, another 750 MW or 1000 MW of commercial renewable capacity - that should be the conversation. We almost need to flip it around. We've started doing some work with this, looking at best practice models of regional transition planning. It's about working alongside communities to give them information about why this is important. Different groups will have different views. Why we're doing it, what are their aspirations, what's important for their community, and try to build a consensus about where these projects are most likely to be supported. You also need to have a pretty hard commercial overlay. Where is there a wind resource in Tasmania? Plenty of those, but also aligning them with existing infrastructure.

It's not just about energy. It's about how this transition to a zero-emissions economy and society will impact everyone. What it means for work, what it means for how we live our lives, what are the trade-offs there. As a group, and working across the university, we've started working with CSIRO's towards net-zero team, who are doing this work in other communities and we're hoping to do that starting with Greater Launceston and Tamar Valley.

It won't be easy given the politics of this, but we need a more informed debate to understand why we're doing it. Also, I get it. I'm passionate about Tasmania. I'm also passionate about Tasmania's environment having spent half my childhood and adult life in mostly western Tasmania. How can we get that balance right? Tasmanians love landscape, environment, and community. There is an aversion to change but the reality is if we don't change, and as you all know for reasons we all understand, wind projects have been up in Tasmania in the last five or six years. If we don't do anything, then our climate credentials are threatened or our energy intensive industries will struggle in 10- or 15-years' time. That's a choice.

Mr BAYLEY - While you are mentioning that, I had a question about planning the future. Obviously, with both the major existing industrials there's been long debate about their future. Then projects like the green hydrogen hub, a significant idea but not a lot of take up yet. How do you factor in the significant level of uncertainty? That is such a big volume of power that Tasmania generates and how should that be treated in the context of planning going forward?

Prof ECCLESTON - There is huge uncertainty. You could have a scenario where you assume there are no major industrials, then we would have sufficient electricity. We also have challenges, not only in terms of those communities being disrupted. This is a question for Hydro or our friends at TasNetworks. My understanding for historical reasons, we all understand the entire Tasmanian energy system is actually based around those industrials. There's a structural issue there. It's a fine line between what's an appropriate cost of energy and implicit subsidies to major industrials. But, if we had an energy system where we effectively

had a surplus of electricity, our Hydro assets, you would have high and increasing costs over a smaller consumer base that might lead us to having quite expensive electricity in a de-industrialised Tasmania. It's hard. There's massive uncertainty that everyone's dealing with globally.

CHAIR - We are out of time. We have a witness waiting to appear. I have questions, as I am sure other members do. Would you be happy to take further questions in writing we forward on? It may be we need to call you back further down the track. Would you be okay with that?

Prof ECCLESTON - We are always happy to help when we can. A lot of our discussion inherently has to be fairly general, but these are really technical issues. That's not a bad way of working where we can provide the best advice that we can as you consider these issues.

CHAIR - Thank you. We'll wrap it up. Thank you very much for your appearance.

THE WITNESSES WITHDREW.

The committee suspended at 10.01 a.m.

The Committee recommenced at 10.04 a.m.

CHAIR - Welcome, Seán and your team. On behalf of TasNetworks, we appreciate your appearance before the public hearing into the Energy Matters committee. As I'm sure you're aware, everything you say before this committee is covered by parliamentary privilege that may not extend beyond the meeting, so keep that in mind.

Everything you say will be part of our public hearing, unless you make a request to go in-camera and the committee would consider that. Do you have any questions before we commence?

We've received your submission and appreciate the fact it's probably a little bit dated now things may have moved on a bit since then, so I would appreciate an update from you to your submission and any other overarching comments before we go to questions. I will ask you all to take the statutory declaration before you start.

Mr SEÁN GERARD MARTIN McGOLDRICK, CHIEF EXECUTIVE OFFICER, Mr MICHAEL WESTENBERG, EXECUTIVE FINANCE AND REGULATION, AND Ms CHANTAL HOPWOOD, HEAD OF REGULATION, TASNETWORKS WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED

Mr McGOLDRICK - Thank you for the opportunity to appear in front of the committee and also to make a brief opening statement.

I'm joined by the Executive of Finance and Regulation, Michael Westenburg, and the Head of Regulation, Chantal Hopwood.

The electricity supply industry is of fundamental importance to Tasmania and its economy, powering people's homes, powering industry and commerce, and making a significant contribution to the economy. As the state-owned company that owns and operates the electricity transmission and distribution networks in Tasmania, TasNetworks has a central role to play in Tasmania renewable energy future. Our transmission network forms the backbone of the state system, linking generators with major loads and population centres, and connecting the Tasmanian power system with Basslink.

Our distribution network transports electricity down every street to our customers, including households and small and medium sized businesses. There is a growing need for the distribution network to accept electricity generated by consumers, for example, households with solar panels.

TasNetworks is also the jurisdictional planning body for the transmission system in the Tasmanian region of the National Electricity Market.

TasNetworks is owned by the State of Tasmania and operates as a commercial business, but profitability is not our number one objective. Our focus is on delivering power safely and reliably while embracing change driven by our customers and the transition to renewable energy. In doing so, we're working hard to keep our costs and prices as low as we sustainably can.

Even with the reduction in network charges delivered by TasNetworks since it began operating in 2014, we are conscious that network charges are a significant contributor to the cost of living as well as the cost of doing business. Every five years, the Australian Energy Regulator conducts a detailed examination of TasNetworks expenditure and revenue. They do so to ensure that TasNetworks has the revenue it needs to operate prudently and efficiently, maintain and invest in its networks, and serve the long-term interests of our customers.

When developing our proposal for 2024 to 2029, while keeping customers' bills affordable was the top concern for our customers, they also told us they want to see investments in renewable energy and consistent reliability state-wide. To balance these preferences, we made strategic trade-offs in our proposal to put downward pressure on cost without compromising reliability, safety or undermining our other priorities.

TasNetworks has also recently entered into a new enterprise agreement for its employees that is a sustainable response to the cost of living pressures being felt both by our employees and our customers.

TasNetworks is operating in a period of unprecedented change. The transition to renewable energy occurring in other states and territories, the expansion of Tasmania's renewable generation capacity and customers increasing use of solar panels, battery storage and electric vehicles all present significant opportunities for Tasmania and TasNetworks as well as challenges.

The demand for electricity in Tasmania is only likely to increase and it is reasonable to think that, in the future, without the arrival of new on-island generation, demand for electricity in Tasmania will consistently exceed the level the state's existing generators will be able to meet sustainably.

The Tasmanian renewable energy target acknowledges the need for more electricity and TasNetworks is actively working with the proponents of new reliable generation and industry to ensure the delivery of new generation across Tasmania is timely, orderly and as economically efficient as possible.

It is sometimes said that without transmission there is no transition, and we are working on the enhancements and extension of the transmission network needed to connect the Marinus Link interconnector to the Tasmania power system as well as the new generation that Marinus Link will facilitate. We are also working with the communities and landowners that will host new transmission infrastructure to make sure they share in the benefits of any investment by TasNetworks in their area and receive fair compensation for the use of their land, while also ensuring that consumers pay no more than is reasonable for transmission lines to be built.

Upgraded on-island transmission infrastructure is a prerequisite for growing Tasmania's clean energy generation, boosting Tasmania's energy security and, in the longer term, keeping downward pressure on electricity prices for Tasmanian businesses and households. Each year we conduct a 10-year look ahead of Tasmania's electricity network and report the findings in our annual planning report. We look at things like forecasts of electricity consumption, the performance of the network, current and emerging network constraints and the future supply demand outlook for our customers.

Today, I'm pleased to release and table for the committee's consideration TasNetworks 2024 Annual Planning Report. I'll leave a copy of that with the committee; it's electronically available in few days, but there's a paper copy today.

Lastly, I would like to turn to the recent storms, heavy rain and flooding experience in Tasmania as a demonstration of how central our electricity networks are to Tasmanians way of life and the essential nature of TasNetworks services. During and after the storms, TasNetwork's field crews and contractors worked quickly, skilfully and tirelessly to restore power to almost 200,000 Tasmanians. Our field crews were supported by hundreds of staff working long, hard hours to dispatch, supply and direct our crews, answer calls from and provide information to customers, arrange generators to protect critical services, farmers facing livestock losses, and our people's safety. I take this opportunity to recognise the professionalism and commitment of our people, which was simply outstanding.

I also pay tribute to the 22 field workers from regional New South Wales who took time away from their lives and families to travel to Tasmania to help accelerate our recovery and restoration efforts, the State Emergency Service, Bureau of Meteorology, Tasmania Police, Tasmania Fire Service and local government personnel who worked so hard to knock on doors, make welfare calls, clear roads for us to access, operated refuge centres, made hotel accommodation, fresh food and vital medication accessible to Tasmanians in need.

Our response to this challenge will not have been flawless and I want to acknowledge the challenges and frustrations some customers experienced on their communications with TasNetworks and the customers who experienced very long outages because of storm damage that involve complex repairs or repairs in locations that were difficult to access. We routinely review our procedures and seek improvements after major events. This event will be no different. Overall, I'm very proud of TasNetwork's response to the recent storms and our people.

In closing, Tasmania's future, like its recent past, is likely to be heavily reliant on the availability of affordable and reliable renewable electricity. TasNetworks is committed to doing its part to ensure electricity is affordable for all while maintaining a safe, reliable and future ready network.

TasNetworks welcomes the Joint Select Committee's Inquiry on Energy Matters in Tasmania and the opportunity to appear before the committee. Thank you.

CHAIR - Thanks, Seán. I want to pick up on one area. I'm sure the members have questions. You made the comment, I hadn't heard it used before, but it's quite catchy, 'without transmission there is no transition' which is an interesting little one liner to describe some of the challenge.

I'm interested in your perspective on what could and needs to be done on-island. Regardless of what happens with Marinus Link, we do hear from time to time the distribution network is not up to having significant additional solar, rooftop PV, going into it. We know the vulnerabilities in some areas are greater than others. Some of this may be in that report you've just tabled, I might say as well, which I haven't looked at.

The key question: what do you believe customers are willing to pay in the trade-off between reliability and affordability? Being a customer without power for over a week and we often do on the little line we are on. It's one of those most vulnerable ones, I believe.

Mr GOLDRICK - Thank you. First of all, we have two licences that we operate. We have a transmission licence and a distribution licence. We run both networks. One of the great things about Tasmania and the way we run it is we run those things together so, we're not a company that's trying to maximise distribution or a company that's trying to maximise transmission. We try to make sure they work together as best they can to get the best out of the power system.

It is fair to say there are two different types of revolution going on in the power system over these years. The first one we spent a lot of time talking about which is big new renewable generation, wind farms, solar farms and large batteries that we have to build transmission to connect because normally, although not always, but normally they're not in places we have transmission or we've had existing loader generation.

CHAIR - Or there is transmission without the capacity to take the additional generation.

Mr GOLDRICK - We would have to upgrade. That's happening, but also at distribution level there is a significant revolution, much quieter that's happening where more active elements are happening at the household and small business level and our distribution network - just like transmission - is now becoming a two-way network. Traditionally, the distribution system was a one-way flow that connected from the transmission system, it power flowed one way down to consumers and small business and typically at lower and lower voltage levels. Power is now being generated at quite lower voltage levels in our network. We're all very familiar with that in Tasmania and we have to make sure the distribution system both current and into the future can cope with that and can accommodate it because it is a good thing.

CHAIR - That's what I want you to focus on now, Seán. What's actually happening in that area? There was a policy decision to try to increase the amount of on-island generation through input into the distribution network particularly. What would that mean for TasNetworks? Including battery storage, electric vehicles and rooftop that's not actually stored, just fed in.

Mr GOLDRICK - We are seeing that happening right now, but probably at a lower uptake and a lower rate than in other jurisdictions. It is certainly growing here on-island and many consumers are investing in batteries and solar.

CHAIR - What is TasNetworks doing?

Mr GOLDRICK - We are making sure that our policies, processes and networks are suitable to accommodate that.

CHAIR - Are they?

Mr GOLDRICK - They are. They're coping well at the moment with the levels of penetration we have. We're seeing consumers effectively monetise that investment and our network is developing into the future taking account of that as outlined in our annual planning report. We're doing things like making sure the capacity exists in both directions, if we need to upgrade any individual suburbs that we can do so, that we place, if necessary, community batteries into our suburbs so that they can soak up solar during the day and discharge it during the night and not have that over the network into the suburb.

We're trialling those at the moment. We've begun the initial stages of locating these in different suburbs throughout Tasmania. This is something that will be very good for Tasmanians, it'll be very good for our network, and it will make sure that we minimise or optimise the expenditure on the distribution network and make sure we get the best bang for our buck in network terms. We're also trying to make sure that for electric vehicles, as they increasingly arrive, our network is fit for purpose to accommodate them.

CHAIR - Charging as well as discharging into the system?

Mr McGOLDRICK - Charging as well as discharging. We are also working on inverter standards and making sure that we are specifying the correct standards for our network of the future.

I would say that we're very forward-looking as a distribution entity. We're probably under less pressure than many of the other national electricity market utilities in this regard, where the uptake in solar was very sudden, almost exponential. We're starting from a very low base. We're seeing the same growth, but it's not necessarily a challenge for us right now and gives us time to optimise our investment into the future.

CHAIR - Regarding the investment in the distribution network, you said you've got some trial sites with community batteries. Could you tell me where they are and what was needed in terms of upgrading the distribution network in those cases?

Mr McGOLDRICK - We have - subject to checking with one of my colleagues - I believe 12 potential sites that we're examining where we would locate those batteries. They're in a variety of different suburbs. They're in both the north and south of the island.

Mr WESTENBERG - Sorry, Seán, that's eight.

Mr McGOLDRICK - I beg your pardon, eight sites that we are looking at.

CHAIR - How were they chosen?

Mr McGOLDRICK - We had a look at the current stage of the distribution network in each of those areas and what the current penetration of, typically solar but also smaller batteries, were in those suburbs. We then look at the types of flows in and out. It is proper network engineering we look at. It was a case that if we could invest in a battery to make sure that we didn't have to invest in upgrading the distribution network, or if it was a better way of doing it, we would look at that for those individual suburbs. We went through many suburbs and we came up with eight. We originally thought we might have 12, but we have eight now that we're going to progress.

CHAIR - Those are ones whose distribution network won't require significant upgrade to facilitate a trial. Is that a correct statement?

Mr McGOLDRICK - Correct.

Mr WESTENBERG - It is to facilitate a trial.

Ms HOPWOOD - Of the eight sites, we have four in greater Hobart, two in Launceston, one in Burnie and one in Coles Bay. The first two sites are Glebe Hill and Shorewell Park. We are still confirming the other sites.

Ms FINLAY - I'm really interested in the costs of transmission, the distribution of that allocation to consumers, particularly small households and small businesses, and the cost-sharing arrangements regarding the initial investment. We've just had a presentation from someone who suggested that it's probably no longer appropriate or relevant for consumers to bear 100 per cent of the burden of the cost of transmission. They suggested that perhaps a figure of 50 per cent where there might be a Commonwealth contribution towards that because it's national infrastructure. I'm interested in your comments around the investment in transmission, the currency or the relevance of that being 100 per cent borne by consumers, and what alternatives you as TasNetworks might consider would be appropriate for projects that are currently being proposed, but also as we move forward in this transition.

Mr McGOLDRICK - I'll take a crack at this and then I'm sure I'll be supported by my colleagues. At the higher voltage levels, at transmission levels, just for the avoidance of doubt, the distribution network is looked upon as a customer of the transmission network and it pays a share of the transmission costs. But also, the larger entities that are connected to the transmission network, mostly load pay for the transmission network as well.

Each of the large loads here in Tasmania, and on average 50 per cent of our electricity consumption is by large industries here in Tasmania, they pay their share and the distribution network, if you will, which flows down into small businesses and customers and households and so on, they pay their share of the cost of the transmission network. Now, that philosophy of load paying for the transmission network is part and parcel of the regulatory compact that the national electricity rules and, indeed, the national electricity market is based. That's not something that we have a choice in. I will get to the nub of your question right now, but that's the way it has been set up for many years and that's what we implement.

In terms of the pure economics of it, people sometimes say, well, you could do that differently. Of course, you could do it differently but the idea, the concept that the architects of the NEM had in their mind when they set it up, was eventually consumers wind up paying anyway. If you were to say generators should pay a share, for example, those generators would then, operating as private businesses, put that cost into their pricing, which ultimately consumers would pay anyway. The theoretical economic concept was you should avoid that layering and hiding, and you should just pass it all through to load to actually pay the cost of transmission. That's their theory. I support that. I think it's a transparent way of dealing with it. Entities like us can report transparently and you and other people can see, of course, what that is. Rather than having it as components almost hidden away in other parts of the economic cycle, it's there, it's direct and it's visible.

Ms FINLAY - I'm interested in that response. What you're saying is that, and obviously things are distributed in different ways, if there was a Commonwealth contribution to that previous submission, which is useful time and we're talking about the differences in how taxation would flow through to the community and contributions would be made versus small households make proportionately a greater contribution of their overall household budget to the price of power versus people in the community that perhaps have greater capacity to pay are paying a smaller contribution of their overall budgets. If there was a Commonwealth contribution that could help redistribute the way the money came back, it does all come back,

but in different ways. I'm interested that it's not necessarily something that you feel is necessary from what I got in the response. You talked about the hiding in the distributions, but I was talking about more, I suppose, a neat allocation, so rather than proponents paying sort of that -

Mr McGOLDRICK - If there is any allocation by the Commonwealth or any other party that reduces the cost of transmission, it should be taken off the cost of transmission before it is distributed down. That's just the philosophy that we would work in, but that's still -

Ms FINLAY - It's not something that you think is necessary?

Mr McGOLDRICK - I welcome any contribution by any party to reduce costs for our customers; that's not an issue for us in principle or in theory at all. I'm just saying how the scheme actually works at the moment.

Ms FINLAY - I understand how it works. I was more interested about whether you think - given the national transition and the need for more transmission - there had been consideration or whether you feel that it would be appropriate for this national infrastructure to have national contribution.

Mr McGOLDRICK - I'll hand to my colleague Michael Westenberg in a second, but just to say, there have been various different efforts by the Commonwealth and Commonwealth agencies to reduce costs through things like Rewiring the Nation fund or concessional finance. That's one element that we would take the contribution from gladly and make sure that element is reduced off the cost of the project before it is handed through the consumers.

Mr WESTERNBERG - A couple of points. I certainly agree with Seán in that we would welcome any additional support that we could get in this transition of the transmission network. One point to point out as far as Seán mentioned that the north west transmission development is we're looking at concessional finance through Rewiring the Nation through the Clean Energy Finance Corporation. Once organised and facilitated that would then again flow through. So it's varying terms -

Ms FINLAY - That's an example of -

Mr WESTERNBERG - Yes, that's correct. At the moment we're still negotiating through those terms but the deep concessional finance arrangements that have been offered, the benefits would be passed on to consumers.

The other part to keep in mind is that all those transmission investments go through a regulatory test called the RIT-T, and that is the whole idea of that is to test whether the ongoing benefits outweigh the cost for consumers in the end. That is something to keep in mind as we go through.

The last point for me that Seán mentioned, load and generation, if you look at some of the contingent projects that we had in our regulatory proposal, depending on whether they're triggered by a generation or load, it doesn't always mean additional pricing for customers because if you attract more load to the island that cost is then spread across a greater base.

Ms FINLAY - Thank you for that. The other thing that I'm interested in exploring is at our first hearing we had a presentation around the amount that you recognise into your financial

statements is where the amount gets redistributed for the load or the way that a project might be treated. There were comments - and the entity TasNet Connect might be part of this - regarding where a project might be held in the books and therefore how it's treated in terms of costings going through to consumers. Are there ways of considering who owns the item? There was a suggestion, for instance, that it might not be that it's owned by TasNetworks and it might be that you're leasing it and therefore it might not be part of that. Can you just talk me through that?

Mr McGOLDRICK - We own all the transmission on the island. That's the core transmission network and that would be any significant developments of that core transmission network, including the north west transmission development would be most notable.

Ms FINLAY - Before you continue with your answer, I suppose that was the issue that was raised. Do we need to own it all, or is there a way of considering -

Mr McGOLDRICK - Again it's just for the moment, operating within the national electricity rules as jurisdictional planner and regional operator, we have a very clear and precise way that we have to deal with these things. I'm just saying that any development of that core network has to be owned by us, has to be operated by us, and cost has to be recovered by us. However, if you have a load or a generator that's distant from that network and has to build a non-core piece to connect, there are choices about how that can be connected. Those choices are again outlined in the National Electricity Rules. An entity can decide itself. They can make up their own mind about whether they want TasNetworks to build it, or whether they want to go for a private build. If they decide they want to do a private build, for example, that is then the subject of competition. We have a subsidiary part of TasNetworks that operates in that competitive market. It's ring-fenced away from our regulated business. That's called TasNet Connect and it would compete against other companies to actually win that business. It would then build it.

There's a small part then when you hook into the core network that we again have to build as the regulated entity. Those costs associated with connecting are highly scrutinised and regulated by the Australian Energy Regulator but the cost of the connection itself is a private matter. It can be leased; there are many different commercial models about how you would do it. One typical commercial model would be that an entity like TasNet Connect, after winning the business, would build, own and operate that connection for a fee over 40 years, for example.

Ms FINLAY - That was the purpose of my question. Thank you for providing that clarity. That is actually completely set off books in their own set of books and therefore not recognised?

Mr McGOLDRICK - Yes.

Mr WESTENBERG - That is correct. We had some examples, such as Cattle Hill Wind Farm, where we built an unregulated connection and that, as Seán said, was tested in the market. Entities can go out and build that with somebody else - in this case, we won that business - and then right through to the regulated connection which then becomes part of our asset.

Ms FINLAY - Are there no additional costs borne by consumers, whether it be industrial or whatever, because that remains private?

Ms HOPWOOD - It is paid for by that particular customer. Another aspect, we mentioned the regulatory investment test transmission, which is what is required before we can invest in these projects. If we do have a customer that comes along and wants us to build a particular augmentation to facilitate connection prior to market benefit, prior to when we can determine it's fair for customers to pay, we can go into arrangements where they pay for that asset up until that point in time, which again reduces costs on customers.

CHAIR - We've visited Robbins Island recently and we are hearing from ACEN representatives later, and the expectation that should Robbins Island proceed, they would be required to build the transmission network from Robbins Island through to Hampshire. In order to make that commercially viable for them, as you understand it, is that then factored into their pay or purchase agreement that they'll be looking at securing, obviously not with TasNetworks, that may be a question for Hydro or someone else.

Mr McGOLDRICK - I'm speaking in general terms now. I'm not aware of the specific arrangements associated with Robbins Island. In general terms, that cost of building the transmission, be it paid annually or in a lump sum, is the proponent, the generator's responsibility. They must make up their mind about how they recover that cost themselves. It will be part and parcel of their stack of costs that they have to recover for their project. It is their responsibility.

Mr WESTENBERG - It would be part of their business case and investment case. Any proponent is going to need to consider the cost of building a wind farm, but also connecting to the network. That is obviously one of the considerations in the development of red zones. If you look at the AEMO ISP plan, areas such as the Central Midlands is where, if there's greater energy closer to the transmission network, the cost for people to connect is cheaper.

CHAIR - Let's look at an example: Port Latta. For that wind farm proposal there to hook into the current network, I don't believe there's adequate capacity or it needs an upgrade.

Mr WESTENBERG - Correct.

CHAIR -What's the situation that occurs there? They are close to the network, basically right on it.

Mr McGOLDRICK - Exactly. They are closer to the network. In that case it would likely not be as expensive. There would be some costs associated with improving their connections and physically making the connection. Again, that cost would be borne by the proponent of Port Latta.

CHAIR - What about the transmission line along the north west? The western end needs to be upgraded to take the additional generation. Then what? It is a regulated, existing line and part of your regulated asset base.

Mr McGOLDRICK - Correct. Chantal, correct me if I'm wrong, but incremental costs of that nature are part and parcel of what proponents must face.

Ms HOPWOOD - Unless the RIT-T can demonstrate some kind of market benefit for the wider customer base, which in this particular example is probably unlikely because it's a

generation rather than a load customer. If we could demonstrate market benefit, then we would go through that threshold investment test if required.

Mr WESTENBERG - If it was load generated, then that's something that, if you look at our contingent projects, we would build as part of our regulatory asset base. Again, if the investment business case stands up. Because it's load generated, generally that tends to lower the price for the consumer.

CHAIR - So, it's a new load coming in. When you assess whether that proponent should make a financial contribution to the upgrade of the main line that's already there, that's being used to send energy out to Circular Head and, notionally, back in land and other places. If there are other proponents further out for additional load or generation, do you look at what's possibly coming down the line and how do you assess that? In terms of apportioning the cost, I want to understand who's paying for what here.

Ms HOPWOOD - Any upgrade would be subject to a regulatory investment test, which is the 'making sure that there's market benefit', because we have to determine there's market benefit before we can charge any -

Mr McGOLDRICK - And, sorry, that's any upgrade of our existing assets, our core network.

Ms HOPWOOD - There has to be market benefit before we can pass on the cost to customers. We obviously consider forecast load and generation when we look at these investment tests, but for us, it's very much connection application. We need some kind of firm commitment before we can feed it into a business case assessment. We have a lot of connection inquiries that come into our business that don't proceed to application or through to connection. We have to be careful to make sure that we consider committed projects prior to investment and that's our test to protect customers.

Mr WESTENBERG - That is one of the challenges with the transition, in that TasNetworks needs to ensure that any investment we make has that benefits test. We can't build something because we think we're going to get load or generation in the future. We have to go through that process.

Ms HOPWOOD - We have to build it at the right time.

Mr BAYLEY - Can I ask then, how does that check out with the part in your submission around renewable energy zones? You talk about 'renewable energy zones can facilitate the early but prudent construction of transmission infrastructure prior to renewable energy projects reaching strict commitment thresholds'. In layman's terms, I read that as meaning you'll build a transmission and hope they'll come. Is that correct? How do you hedge and manage the risks associated with that and the costs? There could be a decade where you've built a piece of infrastructure, no generation coming into it, and presumably someone has to pay for that.

Mr McGOLDRICK - Thank you for the question. It highlights the distinction between two different philosophies here. The existing philosophy in the National Electricity Market and rules is very definitely against 'build it and they will come,'. There are very strict controls on us in that regard. We have lots of connection inquiries, we have less connection applications,

and then we make fewer connection offers. It's only at the connection offer stage that we view it as being a solid prospect. Staging of this is important under the national electricity rules.

Now, recognising that we're in the massive transition and lots of new build is happening, it's not really an incremental small change that you're trying to manage using the national electricity rules. Some states decided it would be better to develop renewable energy zones and to bear the cost of the early development of the infrastructure, so they could get everybody locating in more suitable areas and they could optimise the build and share the cost between the proponents connected into the core network. A number of individual states have legislated in that regard, New South Wales and Queensland being the classic examples. You'll have seen a number of renewable energy zones of quite massive scale being developed on the east coast of Australia and proponents bringing load and generation into those areas and bearing the cost of the scheme - that's a matter for each state to decide.

The Australian Electricity Market Operator, in its integrated system plan, indicatively points out areas where it might be suitable to do that and it then leaves it all open to the individual states to decide if they want to go ahead and progress that. In its latest version of the integrated system plan, AEMO suggested four electricity - areas that might be good for renewable energy zones. Currently that's under active consideration, but the individual state must declare a renewable energy zone and must come up with the scheme to be implemented to recover those costs. We're at the very early stages of that philosophy and development of that philosophy in Tasmania.

Mr BAYLEY - What is TasNetwork's view on that philosophy? How should it work? How are you advocating to the Tasmanian government in relation to REZs and how it should work in terms of this concept of effectively pre-building the transmission infrastructure?

Mr McGOLDRICK - I have a strong view on this. I believe that TasNetworks must be involved in the planning of these zones. We have a responsibility to keep the whole power network going. Unless I'm involved in the coordination and planning of those renewable energy zones, it makes the job more difficult to keep the whole power system together. I feel strongly that, if this is to go ahead on the island that, as CEO of TasNetworks, as jurisdictional planner for Tasmania, we must be in control of that. That's something that is under consideration and discussion at the moment. I've advocated very strongly on that.

As an individual, taking off my CEO hat for the moment, I'm very much in favour of renewable energy zones. It is going to optimise the development of the transmission network generally, the assets, lower the costs, and result in the attraction of more of renewable energy and different types of load to more suitable areas where it's easier to concentrate and develop them. I'd be in favour of them personally.

From a point of view of TasNetworks, I want to make sure that we're conducting the orchestra, in order to keep the whole power system efficient and working.

Mr BAYLEY - From a cost recovery perspective if you did build it and then a generator came along, would that cost be recovered in an upfront payment to access the transmission infrastructure? Or would it be across a long-term transmission agreement?

Mr McGOLDRICK - There are different ways to do this, and different mechanisms have been adopted in different states, and even in different renewable energy zones in different

states. All of them have to make good business sense at the end of the day. A lot of it depends on the scale of it. Some of these renewable energy zones, particularly in New South Wales, are very large - we'll not see, we don't need, we couldn't support a very massive renewable energy zone on the island. We've certainly suitable areas in the Central Highlands, the north-east and the north-west that you could see of scale, but not very massive ones. It does depend upon how much generation and load we will be attracting and what cost they can bear.

Mr WESTENBERG - The other part I would add, I believe Seán highlighted, having those in areas where we have as much capacity in the current transmission network - so, you're leveraging any excess capacity - is pivotal. That's something that the ISP looks at and, obviously, why the Central Highlands is an example.

The other part as far as the investment - you'd need to consider upfront cost. One of the challenges for many businesses, including TasNetworks, is the investment required, probably over the next six to seven years, that initial investment. You need to consider your cash flows over that initial period, when you're connecting customers before you have any potential revenues. You could look at an initial upfront payment. Obviously, long-term annuities are something that we can also look at but, again, probably for the next six to seven years, it's something we need to watch carefully.

Mr BAYLEY - Would you fund that through concessional finance or, how would -

Mr WESTENBERG - Potentially, if you could qualify for something like Rewiring the Nation, you could look at that through concessional finance. Again, if these proponents are looking to connect, it's a matter of, most probably, them paying for the fees and us doing the work for them.

Ms HOPWOOD - One of the key benefits of REZ is the reduction in augmentation costs. But, you can also do it for known connections to reduce the risk associated with expenditure associated with the REZ, and it's an element where you can build outside of charging the customer base. You can quarantine that, have that investment, then at a point where there's a change or market benefit, you can consider long-term charges to customers. It certainly reduces that upfront risk for the customer base.

Mr BAYLEY - As in it doesn't become part of the regulated network?

Mr WESTENBERG - It can become part of the regulated network at a point in time.

Mr BAYLEY - But you would make an active decision around that?

Mr WESTENBERG - You would absolutely, and that stands for any connection that might start off as unregulated, if someone was to build it, and then other proponents would look to connect into that.

Ms HOPWOOD - There wouldn't be that change in customer charges until at least that market benefit - we go back to that market benefit assessment - but it does allow early investment in that sense and quarantine the customer base.

CHAIR - While we're on the overall interconnection here, can you in broad terms, rather than looking at specifics - and that was partly because of the questions I asked you - but what

do you think in broad terms about Marinus Link, based on the effect it will have on Tasmanian households and businesses, particularly in terms of cost?

Mr McGOLDRICK - I approach this from two different points of view, as a regional operator and as a jurisdictional planner for the island of Tasmania.

In terms of regional operation, the more interconnectors I have onto the island, the better because it gives me greater power system security. In the event I lose generation on the island for whatever reason, or I lose an interconnector - if I have other options, it improves the power system security of the island. So, from a regional operation point of view, yes, I'm in favour of further interconnection, be it Marinus Link or anything else. The more you have the more secure your power system is.

When you look at it from a jurisdictional planning point of view, I look at the wonderful wind resource in particular that we have in Tasmania, a truly rich resource, and I know that, if we're to develop that resource, we have to have a route to market that effectively. We can soak up a good deal of it here on the island, but a lot of it - when you are trying to get a project developed - is about having access to markets on the mainland where you can benefit from pool price and the way the wholesale energy price moves. If we're to have further development of renewable generation and mining that rich resource, we need greater interconnection capacity to unleash that to allow the proponents to get the project financing up, so they can actually develop. That's the reality of the economics of developing renewable generation or any generation: you have to be able to show that you can recover your costs and make a profit.

CHAIR - Seán, has TasNetworks, and again it may not be your job to do it, done modelling on understanding how much additional renewable Tasmania should do - not to meet a 200 per cent renewable energy target, but to meet the current and predicted demand that will occur as a result of the transition of the decarbonisation of our transport sector and other sectors.

Mr McGOLDRICK - We've not done that type of study as you've described. What we must do necessarily in our annual planning report is look at what load growth we predict different scenarios and what generation makes, but on island and imported we would require to balance that. In that assessment we are required to be technology neutral. It does not matter what source it comes from because we need to make sure we can balance the island. The simple reality is that local generation here, while it could technically be any technology, the technology of choice, the one that it is most suitable here is in my view, wind generation.

CHAIR - Or hydro.

Mr McGOLDRICK - At a lot of the hydro sites you have some expansion capability, but I doubt that we're going to develop any large new hydro scheme on this island at this stage.

CHAIR - From a network provider perspective, is Tasmania better off to keep its independence in the NEM, or should there be more integration?

Mr McGOLDRICK - I'm very much in favour of a greater interconnection and integration into the NEM because I think it improves power system security. It will, overall, reduce prices for us in Tasmania. I'm firmly of the view that greater levels of interconnection will facilitate better power system security and reliability, and lower prices overall.

CHAIR - How do you see it reducing prices?

Mr McGOLDRICK - One of the things that you really need when you're relying on renewable energy, and this is in any power system, is geographic diversity. You need to make sure that you have connected enough larger regions together that if the wind is blowing in one region and not in another, you can share power. If the sun is shining in one area but not in another, you can share power. It's important that geographic diversity makes sure that you can get the best out of what is a resource that's not constant, it can vary of course.

CHAIR - Geographic diversity means beyond the State of Tasmania, just to be clear?

Mr McGOLDRICK - Yes it does. For example, there will be occasions, with further interconnection, that there will be a lot of cheap solar power in the mainland, coming from those renewable energy schemes that are developing lots of solar, and we will be able to benefit through interconnection by importing that cheap power and holding on to our resource on the island here. On other occasions -

CHAIR - How would that reduce prices?

Mr McGOLDRICK - It'll mean that we're importing cheap power.

CHAIR - But my power bill doesn't change on a daily basis. I pay what the price is and businesses do. Those that buy directly from the market, yes, but for mums and dads and businesses, how will it reduce their prices?

Mr McGOLDRICK - Ultimately, it'll lower - I'll take a step back. In total, the power bill that we all face is comprised of generation costs, transmission and distribution costs, and retail costs. Typically, the largest cost element in that is generation, as transmission and distribution we can vary between 35-40 per cent of the cost. If you look at generation, it's a very significant portion of that cost, so anything we can do to minimise that cost overall ultimately does flow into everybody's power bills.

CHAIR - The transmission costs won't go down?

Mr McGOLDRICK - Transmission costs won't go down, but the overall cost to the consumer will go down, if you're making best use of cheap power being imported.

CHAIR - If you have to build a lot more transmission to facilitate this - your comments around the REZ is acknowledged that concentrate is better in that regard - but if we have to build significant new transmission, which includes Marinus Link for the purpose of this, that then become part of a regulated asset base, one would assume that the network portion of our bills is going to go up.

Mr McGOLDRICK - That is entirely the purpose of the regulated investment test. The benefits - of course there will be costs, you have to make an investment - but we have to make sure that the benefits are greater than the cost, which is entirely the reason we have to do a regulated investment test anytime we build up, beyond a certain scale, transmission on this island, or indeed in any jurisdiction in the NEM. I would like Chantal to verify that and perhaps give it a little bit more detail.

Ms HOPWOOD - The other benefits associated with the interconnection is energy security and resilience, which means that reduces the requirement for investment on island for those particular aspects. When it comes to Project Marinus, completely correct, the network charges associated with Marinus and the northwest supporting transmission will increase network charges. For a residential customer, we think that's about $56 in broad terms on an annual basis, but there is a notified reduction or forecast reduction in wholesale energy prices of about $97 to $100. Overall, there's a net benefit associated in the end bill associated with Project Marinus.

CHAIR - In your opinion, should further customer energy resources, I think you have photovoltaic, et cetera, be incentivised or should the system be based on centralised generating capacities rather than the -

Mr McGOLDRICK - I think we need both, to be blunt about it. I think CER is an excellent investment. Whether we need to incentivise that or subsidise it is a hot debate. The costs have come down so substantially that people are willing to make their investments on their own merit. What I have to do, and what TasNetworks has to do, is to make sure we can then utilise those individual investments collectively to minimise any further investment in the transmission and distribution network. That's what we're about.

We will certainly need to be conscious of both of those big revolutions that are happening, the larger revolution, large renewable energy increased interconnection and transmission and not versus the consumer energy that has been and will eventually be generated in every household. We have to make sure to balance the two, make the best of two and optimise the network to make sure we can make the best of both of those.

Mr WESTENBERG - If I could add to that, incentivising can potentially also mean that people who can afford are the first to move and effectively others pay for it. Equity and equality as we move through transition is very important to ensure that everybody goes through this transition paying their share. I think that's something to consider.

CHAIR - A policy position to have Homes Tasmania and public housing participate in this, would that be a good policy position?

Mr McGOLDRICK - We'd be very supportive of that. I view public housing as a resource, an asset, rooftop space we could be using for this.

CHAIR - It's already utilised land space.

Mr McGOLDRICK - Exactly. We should also not neglect there's significant commercial roof space as well, be it car parks, warehouses and so on we can utilise.

CHAIR - Farm sheds. There's a whole heap of those out there too. Most farmers have large farm sheds.

Mr McGOLDRICK - We are very happy to exploit all of this and integrate it into the network.

Mr EDMUNDS - Going a fair way back, I also wrote down as I'd never heard that, but it was good about the 'without transmission there is no transition'.

Mr McGOLDRICK - I did not invent that.

Mr EDMUNDS - TasNetworks has the biggest role to play with transmission. We've talked around this issue, but I'll ask the direct question on your views about how to best shield consumers from those potential price shocks that are going to, or potentially, come through this period and what role TasNetworks can play in that. You talked about greater interconnection and diversity as a way to ease pressure. We had some evidence saying go big or go home. The more there is, the less it might end up costing. We've talked with other witnesses about things like the renewable dividend and other kinds of subsidies or payments. I'm interested in your thoughts on those and the original question about how to shield customers and any other TasNetwork-specific work that could be done in that area.

Mr McGOLDRICK - Forgive me, I need to draw a bit of a picture here first and then my colleagues will fill in some of the detail.

We are a regulated business. We are very strictly controlled. We have, last April and implemented from the 1 July this year, got our latest five-year determination, so-called our 2024-2029. That sets out the recoverable costs, what we're allowed to recover. That's mostly the operations and maintenance of our existing assets, keeping the network going and all that entails. Embedded into that also, but not part of the costs until they actually occur, are what is known as contingent projects. Those are projects we have a little bit of foresight for that we think could happen in that five-year period that, if they were to happen, we could put the cost of those projects into what we can recover from consumers as well.

Forgive me, Chantal, had we five or six of those?

Ms HOPWOOD - Six.

Mr McGOLDRICK - There were six projects we thought this could happen and each of those projects would have a trigger. It could be a new eFuels facility, it might be a new generator locating in a particular area, and as a result that would trigger some expenditure we would need to make. If that happens, we would then go back to the regulator and go through a process that they would examine the costs and then decide. Both of these elements, all the costs we're allowed recover, have to be judged independently by the AER as being prudent and efficient before we're allowed to recover any cent whatsoever. That's the general picture.

I'm only allowed recover by setting prices to recover that cost. If I get the price slightly wrong, for example, let's suppose we've a very cold winter and people use more electricity and therefore I've set the price assuming they use a certain amount and then my overall revenue is larger. I have to give that money back the very next year. Any over or under I recover during the five-year period. There's a smoothing that happens naturally through this process. It's important to realise we don't just suddenly build something and then charge everybody. We smooth it, we recover it, we don't recover the full cost of a project in year 1. We recover typically, depending on the asset, over 40, 50, 60 years.

There is an inherent smoothing in this. That regulatory arena, that process is set up to shield consumers. First of all, by making sure nothing is charged for, nothing is billed, unless we actually have to build it and there's a benefit. Then it's taken into context it has to be prudent and efficient expenditure we have to justify. Those are important elements.

Mr WESTENBERG - I will add a couple of points to that, Seán covered most of those. The other pieces we're doing for large investments like the North West Transmission Developments is splitting our process into two, putting in an application for funds only up to making a decision for financial investment decision. Not putting in one request for funding through the project, that only funds us till a certain point in time. The last part, in relation to the work we've done with the regulator and the customer panels associated with the recent R-24 or regulatory decision, working with the customers and talking through a preferred price path. Once we understand what the return is going to be over that period of time, we work with customers to understand how that might be best smoothed for them, therefore getting feedback from the customers.

Ms HOPWOOD - I believe the regulatory framework itself has been set up to protect customers from any price shocks, but there are a few additional elements. As Michael said for the North West Transmission Developments, we just submitted our contingent project application to the Australian Energy Regulator and that's only for early works. That gives them an opportunity to assess expenditure to date and give us any feedback on approach, which we can then take into account for any subsequent expenditure, which again protects customers. There are other elements we spoke about today, the renewable energy zones, de-risks investment for customers also.

Mr EDMUNDS - A follow up to that question and thank you for the answer. Are the systems we have in place historically, in your view, set up to continue to be relevant and fair over the next period.

Mr WESTENBERG - Are you talking about the regulatory system?

Mr EDMUNDS - In terms of the shield or smoothing or whatever we say?

Mr McGOLDRICK - I will reply before my colleagues, who are very close to this matter. There was a lot of debate over the last five years, broadly in the industry here in Australia, but also worldwide about whether the existing regulatory frameworks were suitable for a period of very fast transition.

Honestly, we are building generation, renewing our power networks at a pace that probably only happens maybe 80 or 90 years ago around the world when the first big hydro schemes and other schemes emerged. It's that significance of a change. It's a massive change. Our regulatory networks in the last 20 years in Australia have been set up principally to make sure that any small incremental investments and the operations of the existing assets were as prudent and efficient as possible, and to shield the consumers from any misbehaviour by monopolies.

We are a monopoly; that's why we're regulated. The whole regulatory framework was checks and balances on companies like TasNetworks to make sure we behaved in the best interest of the consumer. That sometimes doesn't mesh very well with massive and significant change happening at pace. There has been that tension. There have been a number of rules. How the regulation system works is there's an existing set of rules but you can change those rules. It is a slow and difficult process, but there is the AMC - a rulemaking body - and job is to make sure the rules are correct and prudent. There have been a number of rule changes in the last few years that have made it easier or more tenable to get through this transition without

losing the consumers along the way. Tried to get the best of both worlds, it could always be better, but significant efforts are being made, it is a very hard role and can be quite frustrating.

Ms WESTENBERG - I will add a couple of pieces. From the positive perspective, the regulation we're under holds us to account. The regulatory period goes through an intense amount of scrutiny to ensure the cost we're investing is prudent and efficient and no more than we need to. To Seán's point though, there are areas we're working with the regulator on, such as resilience to the network with climate change, which does need to be worked through in the coming years to understand how can we invest potentially to shore up our network for storm events and such things as distributed energy resources and the penetration of that into the network.

At some point, are you looking to invest before the curve and how you have that discussion in a way that still ensures it's prudent and efficient? Things such as the ISP from AMO does allow us to fast track some of that. It gives us a trigger probably before we would have had the trigger having waited for a connection application.

Ms HOPWOOD - There's been a lot of tension of late to balance the needs of progressing the transmission or investment and also protecting customers. There is a range of rules been implemented to fast track transmission investment, but it hasn't come at the expense of an efficiency test, so that regulatory investment test is still there. That's an extensive test that requires us to publish three different stakeholder reports, get feedback, amend our offering and progress through that process. That market benefit test is still there, but there are elements if you have a project included in the integrated system plan, so then you can progress that a little bit faster but still needs to ensure customers are better off.

Mr EDMUNDS - Thanks very much. On a slightly different topic, but from some of the previous evidence provided to the committee, there were some concerns raised about engagement with TasNetworks. At that hearing we said we'd follow those up. There were concerns about engagement, navigating processes and some of the hurdles faced and a call for simpler processes. Some of the solutions suggested was almost like individual case managers and things like that. Appreciating the environment that you work in, what work is TasNetworks doing to improve its engagement with potential investors and stakeholders on getting projects off the ground?

Mr McGOLDRICK - Again, some general points from me and I'm sure my colleagues will then input. Any suggestions for improvement we're very eager to hear. We are always looking to improve. We're far from a perfect organisation. It's a complex space and we don't always get it right, but I hope we do listen and learn.

We've changed things in response to customer feedback over the last number of years. We do have key account managers. They wouldn't be for every single process or application, but we certainly have key account managers. We're also improving our processes and making them more suitable for people who may require other channels. For some people there is a process, it's on our website, go and make the application there and they're very happy and comfortable with that, but that's not everybody. Some people prefer to deal directly in the first instance with a human being. We try to triage those through our call centre which operates very well but again, there are multiple processes there and it can occasionally run into difficulties. All of us actually take calls from customers. I frequently get calls from people and go 'this isn't going right, can we fix it?'. I hope, in most of those instances, I'm able to funnel it through to

the right part of our organisation. I know you've had that experience as well, Michael and certainly Chantal has too.

We are trying our best to modernise and move forward. You will appreciate, however, that we do need a certain rigour. We are subject to all sorts of audits and oversight, quite rightly so. We have to be careful about what we agree to, how we document. We've a very fixed set of rules and circumstances. We can't always say yes to everything and sometimes that can be a hard message to break, but we are trying to improve as best we can.

Mr WESTENBERG - I was just going to add, I think some of those discussions with large proponents is very much about them potentially wanting us to invest before a process that we can actually work through. That is the challenge in people wanting to invest. We're not at that point where the business case would stand up and having to go through the correct regulatory proposal.

Mr SHELTON - My question is really a local question. The recent storm events affected many people in Lyons. Mr McGoldrick, you mentioned in your opening statement a bit about the recent storm events. A minute ago you talked about the dealings of how TasNetworks is going forward with dealing with the storm events and climate change. There were people without power for more than a week: deep freezers and fridges don't like that sort of thing. The expectation of the community that their power won't be off for that long a period in the future, how are you dealing with that? Has there has there been a report produced post the event? If so, when do we find out about these things?

Mr McGOLDRICK - As I mentioned in my opening statement, which I'm not going to repeat, it was a very challenging time. I'm very proud of the way we did respond, but we weren't perfect, we're far from perfect. Apart from the obvious that people were without power for far too long - actually, I'm finding that Tasmanians are very resilient people. It wasn't necessarily that that annoyed most people. It was how we were perceived to be communicating - that was the difficulty and what probably annoyed more people.

To get to the nub of your question, after any event, particularly an event this significant, we carry out a performance review and internal review of our processes and how we responded as a business. Given the scale of what happened, I developed a term of reference for that. I got some independent participation and we've been carrying out that performance review over these weeks. I'm due to see the first draft of that later this week. I intend to bring that report to my board at the November board meeting. Then afterwards we hope that will form the basis of some input into any other assessment that people wish to carry out. I don't want to speak about the early findings, because I literally have not seen the report yet, but I'm hoping it will give some indications particularly on how we could communicate better for this scale of event.

The event scale in terms of communication alone was astonishing, and perhaps Michael, you just give us some of the numbers on that.

Mr WESTENBERG - If we put it in dollar terms and we're still finalising the cost, the estimated cost of that storm is up around $21 million. To put that in perspective, my understanding is the Dunalley bushfires that occurred some time ago was around $12 million. This is the biggest storm event that TasNetworks has ever been through. I was up there for three days in the north-west assisting where we could, getting down contractors from the mainland, and going out and having a look at some of the storm damage. Due to the length of

time, it was unprecedented in the way that it went through. We rectified customers, they were then taken out again, et cetera. The scale of that is something we've never been through before.

As Seán said, we need to do a full review of our emergency management system, how that stood up, the communication side, the response times, anything else we could have done. Generally, in those situations, the first thing we do is really make safe. After that, it's around switching the network further and further down to reduce the size of those outages and then scoping them. Some areas, such as the remote areas, we had to fly helicopters in to help assist, and drones because we couldn't access. The scale of this is something that TasNetworks hasn't seen.

Mr BAYLEY - Are you completely insured for that?

Mr WESTENBERG - No.

Mr BAYLEY - Not at all?

Mr WESTENBERG - No.

Mr BAYLEY - It is all worn by TasNetworks?

Mr WESTENBERG - That is correct.

CHAIR - On the bottom line.

Mr McGOLDRICK - Could I give some of the communication specific numbers? I think they're important. At the peak on any day, there were about 230 outages. We sent out over 150,000 SMS messages to individual customers during that time. Our call centre received over 40,000 calls. Between 29 August and 3 September - which was the height of the storm - our website had 170,000 different hits. That shows the scale. How frequently is this going to happen? How we scale up to communicate better I hope will be one of the key issues we address in the report.

CHAIR - Can I move on to tariffs? I assume you would have looked at TasFarmers and Tas Irrigation's submissions and evidence. They noted the particular tariffs for irrigation and if you want to look at climate change and what's best for the environment they do not sit together nicely. The point that Luke touched on was farmers who are wanting to irrigate getting access to power into their pump stations. Some just throw their hands in the air and put in a diesel generator. If you can look at those two aspects, particular tariffs for irrigation.

Mr BAYLEY - And power sharing across meters on farms also.

Mr McGOLDRICK - I'll make a start on that.

CHAIR - If we run out of time we can put some of this to you in questions on notice.

Ms FINLAY - Or we can bring you back one, twice, three times.

Mr McGOLDRICK - That's fine. Happy to appear. We are at your disposal so that's absolutely fine.

On the power sharing, we've been trying to get a trial up for a couple of years to share power across meters on farms, understanding these are larger farms. I come from a small farming environment, so seeing some of the larger farms here in Tasmania, multiple meters geographically spread across. How do you share? Sometimes there were multiple retailers, but we've been trying to get a consistent approach to a trial for a reduced network tariff. We've worked with the AER to specify that.

Ms HOPWOOD - We haven't worked with the AER yet.

Mr McGOLDRICK - We are going to work with the AER. We were trying to recruit people in to do that.

Mr WESTENBERG - A couple of things, then I'll pass to Chantal. We needed to ensure we could actually find the right sites, get retailers on board. That's another thing. We can't do the tariff trials without a retailer. It does involve changing systems, both our systems and the retailer system. There is a bit of cost involved. We have made some progression over the last few months in getting that to a point where we think we have enough to progress. We did need to get enough customers in that. The next step is we will work through with the AER.

Ms HOPWOOD - On the offsetting tariff, we're certainly progressing that one. We do have in-principle agreement with Aurora to progress that as part of a trial. One of the key aspects - we've spoken about investment and customer charges all the way through - we need enough people to participate. We have already invested in the technology in order to be able to do an effective trial. We are going through a recruitment process for that, but you're envisaged to be able to undertake that tariff.

The other question relates to the irrigation tariffs. TasNetworks did look at the irrigation tariffs as part of a 2020 trial that we did called emPOWERing Farms that was particularly in respect to river health as a result of the impacts of our particular tariff. We did look at that at the time and found the tariff was fit-for-purpose. That is something that we do need to review on an ongoing basis. We'll certainly be looking at our tariff structures as part of moving forward.

CHAIR - You looked at river health, but you didn't look in terms of agronomy. Is that what we're saying here because the agronomists are the ones who are raising concerns about the current practice which is driven by the tariff.

Ms HOPWOOD - No, we looked at it in terms of river health at the time.

CHAIR - You should talk to the agronomist then.

Mr McGOLDRICK - Again, it's not a massive tariff for us, but we have 3,500 customers who rely on electricity to pump water into storage irrigation. Most of those use the specific irrigation tariff that you're referring to, Tariff 75. It's a consumption-based time-of-use tariff which consists of a daily service charge and a charge for each unit of energy consumed. The consumption charge can vary depending on whether it's consumed at the fine peak, off peak or shoulder.

All I can say is that irrigators are charged at significantly lower prices for the delivery of energy than businesses assigned to the flat voltage tariff, Tariff 22, or indeed the network tariff which is for smaller businesses, Tariff 94. It's central to a lot of the people who are heavy users of this, be it vineyards or other parts of our network as a result of pumping irrigated water are now summer peaking. Normally, the bulk of Tasmania, it being given our climate is winter peaking, but there are parts particularly in the south of Hobart in some of the viticulture and stone fruit areas that are summer peaking as a result of this tariff. The reality is that they need water and consequentially we've had to upgrade our network, particularly around Brighton and Cambridge to make sure we can accommodate that peak during the summer.

Very conscious of the impact that might have on the environment. You can appreciate that our first task was not necessarily environmental. It was to get a suitable tariff for an important industry to make sure we could facilitate them, but we will have a look and see it from an agronomy point of view.

Ms FINLAY - I want to backtrack - when you're talking about, in response to questions about Marinus Link, the cost benefit, but also the cost increases of that transmission piece, you referred there'll be an increase of the $56, but it will be offset by a decrease of between $97 and $100.

Ms HOPWOOD - For residential customers, yes.

Ms FINLAY - Yes. That was one of my clarifying questions. I wanted to check, is that in a document held by TasNetworks, or is that the Ernst & Young Report or where's that sourced?

Mr WESTENBERG - It's the FTI Report I believe.

Ms FINLAY - Is it possible to provide a link to that, only because my next question is how aged is that information and on current information that you have, are you likely to update that?

Mr WESTENBERG - That would be a question for Marinus Link now.

Ms FINLAY - For your purposes you're not concerned about the age of that advice when you keep referring to that. You're comfortable.

Ms HOPWOOD - I might just clarify, it's part of our revenue reset process. We needed to talk to customers about the price impacts associated with network investment and wholesale energy. That is from a publicly available presentation pack which we presented to our customer groups in November 2023.

Ms FINLAY - Great. Is that something you could send a link to the committee.

Ms HOPWOOD - Yes, we can. In terms of the age, it does reflect the current costing; they're in the 2024 ISP for Project Marinus in the north-west.

Ms FINLAY - That's great. Jumping that relevant information then to the North West Transmission Project initially scoped as one project, then broken down to two. You might not want to talk about raw numbers, but in terms of percentages when it was originally scoped as

one project and then broken down to two. You might not want to talk about raw numbers, but in terms of percentages, when it was originally scoped and had it not been delayed because of the breakdown and also cost increases and that sort of stuff, the first stage of that project as being delivered now has, as I understand it, a different footprint, it's a changed project. What are likely to be the increased costs of that stage from when it was first contemplated and broken into two to when it will be delivered as a result of increased costs and increased scope of work?

Mr McGOLDRICK - I will initially start. We broke down North West TD into two stages, Stage 1 and Stage 2 obviously. That was as a direct result of a decision to stage the Marinus Link reinforcement of the network for interconnection. It is two cables. Cable one we must design only to meet the requirement of what is going forward. At the moment, there is a commitment towards Stage 1 from a regulatory point of view, therefore we had to redesign the North West TD and it was quite readily chunked into two parts, if you will. Stage 1 or the so-called 'coastal route' will be sufficient entirely for the first phase of Marinus. In terms of cost for that stage, I think it's $950 million in 2022-23 dollars for Stage 1. I should state that's a particular class of estimates, that's a -

Mr WESTENBERG - Class 3, a range of between minus 15 and plus 30 per cent.

Mr McGOLDRICK - That is a particular accuracy that we place on it. Obviously, as procurement advances, design advances, implementation advances, it goes to Class 2 and Class 1 and so on. It's our obligation to make sure we keep updated about that and provide that information. But, at the moment, on a Class 3 estimate basis, Stage 1 is $950 million. On a somewhat similar basis, if we look at Stage 2, should it go ahead. Should Marinus second cable go ahead, that's about $525 million in 2022-23 dollars.

Ms FINLAY - When there was an overall project and how much that was estimated to take, that is about those two added together, isn't it? I'm interested in that. I had heard, and I am seeking to get clarification because initially had it been a complete project, there was that opportunity to have a redundancy and take down the line and put it back in as an existing easement, and there would have been some operational advantages to doing that. Now, because you're unable to do that, there'll be greater easements and then greater disruption and costs because you'll be doing the two things at the same time. I'm surprised that it's still costed at that similar amount, that is sort of counterintuitive to me.

Mr McGOLDRICK - We are through the entire Stage 1 and Stage 2, or even when it was a whole project, we're trying to minimise the greenfield build, if you will. We are using existing assets, we're using existing easements, we're taking down some assets -

Ms FINLAY - There is not increased easements for Stage 1?

Mr McGOLDRICK - In some places the easements have increased. In other places, they've gone down. If you look even at Stage 1, I think there's over 18 or 19 different types of sections depending on widths of easements, style of assets, existing assets in the easement, whether we move them this way, that way or leave them where they are or take them down entirely. There's lots of different approaches to this. That's a very detailed presentation which we've given to the local councils involved and the local community. I will be happy to make that available to the committee. We could spend an hour and a half on that alone and I'm happy to do so at any stage. We are genuinely seeking to minimise the footprint that we do.

It would be fair to say that Stage 2 has a greater impact should it go ahead on greenfield build. Stage 1 more or less almost exclusively uses existing sites, there's a small part going into Burnie that I think is greenfield and there's a few small greenfield parts, but mostly on existing easements.

CHAIR - We might have to pull that up for now as we've run out of time, but we can always call you back to learn more about that.

Mr BAYLEY - Quick question, I wrote down $54 in terms of bill increases, Chantal, that you have modelled. Did I hear you right and is that in relation to Marinus and these transmission projects? Is that the same $56 average increase that's modelled in the final decision of the Australian Energy Regulator in terms of your transmission determination, or are we talking two separate increases here?

Ms HOPWOOD - The $56 is in relation to Project Marinus, including the North West Transmission and that's just for residential customers. That changes depending on the customer classes. No, it's not included in our final determination.

Mr BAYLEY - There's another $56 that's modelled in that final determination?

Ms HOPWOOD - I could not quote that.

Mr BAYLEY - For illustrative purposes, we estimate that a total revenue from this final decision would result in an average increase of $56 per annum for the average electricity bill for TasNetwork's residential customers over the 2024-29 period.

Ms HOPWOOD - I don't think it's $56 per annum, no. Project Marinus is not included in our final decision outcomes.

Mr BAYLEY - On Marinus, the Budget had $103 million payment in it to TasNetworks to make you whole. Does that make you whole? The project has been sold to the federal government, Victorian government and Tasmanian government, have you had corresponding payments from the feds and the Victorians?

Mr McGOLDRICK - To be very straightforward about it, $103.5 million which was allocated in the Budget, we have not received it yet, but it's allocated in the Budget, that will keep us whole in terms of the development cost.

Mr BAYLEY - That will cover everything you have expended.

Mr McGOLDRICK - Since almost five or six years ago, all the development costs of that project up until 22 March last year when that transaction occurred. That's the only contribution that we're expecting.

Mr BAYLEY - The federal government gets almost 50 per cent ownership and Victorian gets 33.3 per cent, apart from the odd grant that they have given along the way, they didn't have to purchase that at all from TasNetworks?

Mr McGOLDRICK - All I can say is that we have taken that asset - the state owns that asset, we don't own it - and we are expecting an equity contribution of $103.5 million in that regard. The sale's transaction happened on 22 March.

Mr BAYLEY - Between you and the Tasmanian government effectively?

Mr McGOLDRICK - Effectively, yes, but -

Mr WESTENBERG - There's a shareholder agreement and implementation agreement. We were responsible for ensuring that the sale process happened. We are not a party to the shareholder agreement between the three governments. We were asked to sell this for a nominal value which we did and the make-whole was $103.5 million. The terms and conditions of the shareholder agreement between those three parties, we don't have access to, we are not privy to that.

CHAIR - We'll probably have to have your back. There's a lot more that we have not covered.

Mr McGOLDRICK - Very happy to come back.

CHAIR - Thank you for your time today, we'll write to you regarding those couple of other things we've asked you to provide.

THE WITNESSES WITHDREW.

The Committee suspended at 11.37 a.m.

The Committee recommenced at 11.45 a.m.

CHAIR - Welcome, Michael, to the public hearing for the Energy Matters committee. We appreciate your submission and appearing before the committee. We also acknowledge the opportunity to tour around Robbins Island and have a look at that. We thank you and your team for facilitating a visit for the committee there on what was quite a windy day.

This is, as you'll be aware, a public hearing. Everything you say is covered by parliamentary privilege that may not extend beyond this room. If there's anything of a confidential nature you wish to share with the committee, you could make that request, otherwise it is all public. Do you have any questions before we start?

Dr CONNARTY - No, not at all.

CHAIR - I invite you to take the statutory declaration and then if you'd like to speak to your submission, we'll have further questions for you.

Dr MICHAEL CONNARTY, HEAD OF OPERATIONS AND TRADING, ACEN AUSTRALIA, WAS CALLED, MADE THE STATUTORY DECLARATION AND WAS EXAMINED

Dr CONNARTY - I'm Dr Michael Connarty. I work with ACEN Australia. We're a Tasmanian-based company with a parent in the Philippines called ACEN, who are a part of the Ayala Group of companies in the Philippines, which is a family-owned business, 190 years in the making.

ACEN Australia started its journey in renewable development in 2017, originally as a company called UPC Renewables. To date, we have projects to the order of 6 gigawatts across Australia, which includes Western Australia and the National Electricity Market. We are developing through New South Wales, Queensland, Victoria, Tasmania and Western Australia. We currently employ just over 100 people and about a quarter of those people are in Tasmania, which is why we see ourselves as a Tasmanian-based business.

ACEN Australia, as you know, is developing the Robbins Island Wind Farm and North East Wind in the north-east of Tasmania as well. We see that Tasmania has a great advantage in terms of its renewable assets. Firstly, the legacy assets that were created by Hydro all those years ago, but also the wind assets. Being in the Roaring 40s, the wind resource in Tasmania is exceptional, probably second to none in Australia in many respects. The beauty of that is that when you integrate those two, you actually get a much more reliable system. It's renewable and therefore has a real advantage in this age where we're looking at decarbonising and getting to a net zero hopefully before 2050 in Tasmania, but in a lot of cases, a lot of people are aiming for the 2050 target.

We've now been developing Robbins Island for over seven years. It is a long process. There are a lot of reasons that it is so long in Tasmania. Typically, if you're building something like wind farms in Tasmania, the areas do have a lot of cutover with the EPBC Act requirements. Therefore, you need to do the work to make sure you're managing the risks around the impacts of the various EPBC species you might be impacting when you do these developments. That has taken time. You set the guidelines, you provide the information based

on the guidelines set by the EPA or the Commonwealth, and do the studies. Those studies are taking in the order of three, four, five years in some cases.

We've been through Robbins Island. We've had an EPA approval. We've also gone through a TASCAT decision process. Both are lengthy and rigorous processes to an extent that now we're just waiting for the Commonwealth to finalise their approval process. Hopefully, that's due later this year in December. That process in many other states where we develop is a lot shorter. If I take, for example, solar in New South Wales, in that same time or less time we've built a 400 megawatt solar farm at New England, which is now generating. It's been generating for nearly a year. We're also commissioning another 400 megawatt solar farm in New England as we speak. In that time we built nearly 800 megawatts of solar in New South Wales while we're still waiting for approval for Robbins Island Wind Farm.

We believe that Robbins and wind in general in Tasmania is a really good opportunity for the decarbonising of the economy. It's also a good opportunity in terms of promoting growth in the economy so we can bring new industries to the state. That's evolved over the last five years. We have really good opportunities with things like eMethanol or eFuels, which are in that burgeoning hydrogen fuel front. We can see that the business case there that, as the world transitions to decarbonisation, eMethanol and eFuels will be a key part of that. Tasmania can play a major role in it because we can say it's a pure renewable product. The wind doesn't always blow, but that's the value of the hydro asset that we have. The hydro asset is super flexible.

I've been working in the industry now for nearly 30 years. My first 16 years was in Hydro Tasmania. I used to model the asset. I was a production manager there, so I had to deal with droughts, had to deal with bringing the old Bell Bay Power Station to gas and integrating that in the system. I had to deal with how Basslink would look as it came in the system. So I know the flexibility and I know therefore how well the wind and hydro can be integrated to provide the maximum output and benefit to Tasmania. From our perspective, we don't see a status quo, we can't stand still in Tasmania. You see a lot about 100 per cent renewable and as you will have seen this year it's not going to be the case because we've had a drought, therefore we need to import or burn gas at Bell Bay. Already we see there's more need for renewable energy.

Also look at the ISP data. ISP is the Integrated System Plan the Australian Energy Market Operator puts out, does it every two years, the latest one was 2024. In that they project at least a 25 per cent increase in Tasmanian demands just purely by electrification of either transport or the industrial processes. We've seen an example already. Norske Skog wanted extra demand for replacing a coal-fired burner. Part of the safeguard mechanism will put a cost on producing from that plant, so therefore cost efficiently let's electrify. That's great, except we just don't have that extra energy in the state. That's just one key example. We have other industries, whether it's people like Grange Resources or people like Goliath Cement, which all use coal and therefore would be looking at ways they can decarbonise over the next five, 10 or 15 years.

We feel that, from a Tasmania perspective, we do need to develop more renewables. While we're focused on wind, we build utility-scale wind, we think that actual solution is a gamut of all. It's rooftop solar, it's batteries, wind, because again, the resource here is exceptional. We feel that in some respects, if we look at the mainland for instance, we're getting capacity factors which on the mainland is about 35 per cent; in Tasmania, it's about 45 per cent. Now, you can say, well, that's 10 per cent, that doesn't sound much, but it's 10 per cent on 35, which is effectively a 30 per cent increase in your energy capability from a Tasmanian wind

farm. Where the costs are similar, particularly if you build at scale, so we are building at scale, you actually get a cost lower cost for wind developed in Tasmania than you do in other parts of the national electricity market.

We're building wind in New South Wales and the pricing we probably need to get a wind farm away in Tasmania is substantially lower than it is in the New South Wales situation purely because of wind resource, because the wind resource is so strong. The other beauty of Robbins Island and in north-east to some extent is that the wind is consistent. It's not this 47 per cent capacity factor, so it's up and down. It seems to blow, I think it was over 90 per cent of the time in Tasmania, which means that if you've got an industry coming in, you want renewable energy and you need to firm it. You need to get someone like a Hydro to provide the support when the wind is not blowing as strong, you need less. Therefore, it's a more cost-effective solution for new load coming to the state.

Overall, we feel that they're really positive for Tasmania and we're at a point in time where we can either make the choice to grab them, run with them, produce the outcome that actually is beneficial to Tasmania, with even more jobs, more economic activity, and from a ACEN perspective as a private developer, where we can get that certainty about development, that makes a good business case for us to actually deliver on renewable energy in Australia, which is a part of the overall ACEN picture of developing a renewable energy company across the Asia Pacific region.

We feel that at the moment with the approvals processes, they are too long, too slow. There seem to be too many hurdles that we don't think will actually deliver the benefit that it was required in terms of the environmental impacts. We think there's a balance that can be met. Overall, we feel the Robbins Island and the North East Wind actually deliver a positive overall value to the state.

The other aspect, as we develop Robbins Island, we'll be developing Robbins Island and the transmission line to get back to Hampshire Hills. We will pay for all that. That's our cost. It's part of the cost of the energy we will produce, but when we get to that network, we need to be able to connect and have certainty on connection. Over the past probably six years we've struggled to get that kind of engagement from people like TasNetworks. We're on our third iteration as we speak now. That delays projects. It's as simple as that: it just delays projects.

You just heard about the cost escalations over those delay times for Project Marinus. That's happening all over Australia with transmission. Costs are going up because of the delay. The faster we move, the faster we act - we can deliver a much more cost-effective solution.

Finally, the other part of renewables, I've touched on environmental approvals, then there's transmission, but the third part that makes the renewable investment a positive and people can get confident about is around the revenue certainty. Now, we hear a lot about subsidies, we don't think that projects like Robbins Island or North East Wind will need to be subsidised. We think we've developed a low-cost solution that will help put down pressure on people's bills. When price and electricity markets go high, they'll be suppressed by the fact that there's long-term agreement that people can sign up for one of these wind farms, whether it's our wind farms or the other wind farms that are on the cards in Tasmania.

At the moment, we're looking at supporting the green hydrogen industry. There are some of the people who would be willing to look at their offtakes. That's great, we like that. And we

do need that because revenue certainty means you can finance to a lower cost, which means the cost of your energy is lower, which then means there's a lower cost to the customers, in the end. As part of that ability to deliver that energy for the state, but also attract new industry - isn't just about the wind farm, it's also about the integration and the delivery of an overall value proposition to new loads and, therefore, customers, and that's where parties like Hydro Tasmania or TasNetworks play a key strategic role in promoting not just the commercial outcomes for those businesses, but the overall benefit for Tasmania as well. We think there's an increased role both those entities could play and enhance their outcome.

To the revenue certainty aspect, the last point I'll make is that the current capacity investment scheme that the federal government are implementing provides a really good opportunity by which projects in Tasmania can be supported for that revenue certainty - so definitely not in the order of subsidy, it's very much an incentive - such that the federal government can support developing more renewables in Tasmania for the benefit of Tasmanian consumers.

CHAIR - Michael, just a couple things I'd like to follow up and I'm sure others will have questions too. You talk about the need for revenue certainty and the importance of that. You also said that, in your view, Robbins Island won't need to be subsidised and - I know you talked about perhaps private operators looking at take-off agreements and purchase agreements. To me, there's a few contradictory statements in what I heard you say. Can you tell us what your expectation is for Robbins Island, as your proposal, with regard to the power purchase agreements and why it wouldn't need to be subsidised?

Dr CONNARTY - No problem. At the moment Robbins Island is engaging a third-party green-hydrogen proponent who is looking at taking the majority of the output from Robbins Island.

CHAIR - On-island?

Dr CONNARTY - On-island, located in Tasmania, creating more jobs in Tasmania. The project combined with Robbins Island would be about a four billion-ish investment, maybe a bit more. We're at advanced stages of that offtake. We feel it provides value for us and also value for the customer. That term, when we talk about subsidy, a wind farm or a renewable project can't develop the market if it's going to be highly subsidised. It needs to be able to meet the market and we think Robbin's Island with its capacity factors - its wind resource definitely meets the market and it will actually deliver lower cost energy into the market.

Hence, I have engagement with one of those green-hydrogen proponents who want to engage because, as recent press has shown, a lot of people in green hydrogen are stepping back because of the cost aspects. We've had a discussion with those proponents and they feel comfortable around the offtakes that we're looking at a delivering. There is still a lot of water to go under the bridge. We still need our approvals to be done; that creates more confidence. We need to finalise our transmission solution, that's underway. We are pretty comfortable we're on that path.

CHAIR - You are not chasing a PPA with Hydro Tasmania, for example?

Dr CONNARTY - Not now. I'll be honest, when we started, we began that conversation because to develop a large project you need revenue certainty. In Tasmania the entity that

provides you that is really Hydro Tasmania. They are an AA-rated government entity. That means their credit support is and worthiness is there, so banks are going to go, 'Well, they're great, they're effectively supported by the government', and the government doesn't have to put in CapEx. They just need to ensure there's a PPA that provides that revenue certainty. In that context, that PPA doesn't need to be a subsidy, so to speak. We feel that it can be competitive to the market.

Mr BAYLEY - But it could be a subsidy. If it's a power purchase agreement that's onerous to Hydro, for example, then it is a subsidy. What is the difference in your mind between - you use two words - incentive and subsidy. How do you distinguish? Is it simply the mechanism by which they arrive to the developer?

Dr CONNARTY - From my perspective - an example, large-scale renewable energy certificates, to me, is an incentive scheme because without it you don't get the percentage renewables injected into the National Electricity Market. It is more of an incentive than subsidising. If you didn't have a scheme like that and you wanted to make sure projects got away and they weren't at market or competitive market, then you would provide some kind of cost subsidy to get them over the line. The LGC scheme isn't that because they're incentivising us to get to a higher renewable energy proportion. Even to that extent, I'd argue that, particularly, let's - there are two examples, Granville Harbour and Cattle Hill. I noticed in Aurora's latest annual report they now deem the Cattle Hill offtake as not onerous. Hence, from an electricity market perspective only, that means that's a positive to Tasmania customers.

CHAIR - It has been onerous in the past.

Mr BAYLEY - It was in the past and it was signed up in that context.

Dr CONNARTY - That's a view in time and this is the problem, when you've got a 10-year deal. One year doesn't mean whether it's a bad or a good deal. It's got to be evaluated over that longer period and that is what's happened over the longer period.

With Granville Harbour, Hydro, for some reason, during the time it was deemed the CSO under direction. I looked at the LGC-only component of what is a bundle deal. They're buying energy as well as LGC. They don't have to announce a positive on the energy side of things, but they have a CSO to announce a negative on the LGC side. I'd argue, if you went back and looked over the last three or four years, that whole equation would be a positive because the electricity market the wind projects got from I believe 2022-24 averaged about $70 with an LGC of 40, that's over 100 and I'm pretty sure that offtake is well below that. I don't know, but I'm pretty it is.

Mr EDMUNDS - You sort of answered this, but back before when you were talking about revenue certainty and you talked about putting downward pressure on bills, could you unpack that a little bit more? Obviously, energy is very complicated but one of the things we are looking at is how this affects regular customers who aren't experts in the field. If you wouldn't mind unpacking that a little bit more, in as simple language as you could, I'd be interested.

Dr CONNARTY - Probably in two ways. First, electricity customers get a regulated outcome through the OTER in Tasmania. There's a wholesale energy price, generally called either a WEP or it can be a wholesale energy product pricing order. From a wind farm

perspective, if the prices in the market on a contractual basis are going to sit reasonably high - and they'll fluctuate; you'll get wet years and prices will go down because Hydro will have a lot of energy to get rid of. But in dry years, like we have now, prices will go high. What you can do is contract and portion it away to lock in a price. If you do that below the long-term average of the market, then what you can do is put down pressure on that maximum. Rather than the consumers being exposed to 100 per cent of the maximum, suddenly they're exposed to 50 per cent. So the blend lowers the price. And, you can say, 'On the other side it's lower and you've reduced the spread, so they don't get the same benefit in those low water periods,' but, in many respects, what you want to protect consumers from is the high prices. They're probably more concerned because the cost-of-living pressures they come onto.

The other side of things with putting more renewables in the system is it has a downward impact on the spot price as well. In general, the more supply into the market, the lower the price that a consumer, or in this case Hydro and others, will see. It gets complicated, I think Ruth's done the AEMO course where they have this merit order case where putting more in the bottom end helps reduce price at the top because you stack the cost in terms of generators and if you put more at zero marginal cost, which wind is, then the demand doesn't change, but it moves across, which will then lower the price. The more you can do that, the more you can put downward pressure on those prices. Now, it's a double-edged sword though, because once you've done a contract and you put more energy in the market, then you're evaluated against the price you have, suddenly the price is lower. You have to consider that the natural impact of you inputting that energy into the system has made the contract look, in some respect, onerous.

CHAIR - How do you pay your bills, then, as a wind farm?

Dr CONNARTY - That is why you look at those revenue certainties, so that we can go to a bank and say, 'We've got this long-term,' - contract for differences they're called - and basically the bank goes, 'Great, I'll lend you 60 per cent of that cost' and the cost of debt is lower than the cost of equity. The more debt you get into a project, the lower the cost the project will be. We are looking probably at 60 per cent debt, therefore we have 40 per cent equity to find for a project this size and that helps us lower the price. So, our project is more viable earlier because if the price is going up, we have to wait till the price is long-term sustainable for us to beat that, therefore help bring down the price. We feel that revenue certainty is how you actually deliver that.

Since we started, we didn't have this thing called capacity investment scheme that the Australian Government has now introduced. That's effectively a support mechanism that says, 'We'll guarantee you get that price in the market' and the Australian Government will take that risk on. That, in many respects, helps to risk the projects from a Tasmanian perspective.

But, equally, if you're in a situation where you want to grow your load, say you want decarbonise the system - so electrification of transport, electrification of industry, those entities can't do a big wind farm deal or can't do a big solar farm deal. They need to have a pool they can go to to make sure that they can get the long-term agreements and energy supply they need. That's where in the past a body like Hydro played a role. They basically sit in the middle, they say, 'We need an extra 100 megawatts. We can go to the wind farm and get the 200 megawatts capacity factor'. They bring it in, then that entity on the side that wants 100 megawatts goes, 'Great, we have energy now, we can now supply that', and they balance it because then they have the hydro to balance the wind and the hydro. Sorry, that's a long -

CHAIR - What's the direct impact for the CIS for ACEN and also for Tasmania?

Dr CONNARTY - A CIS can provide that revenue support. If you win a CIS through the Australian Government - it's an independent process run by the Australian Energy Market Operator services company - that can provide you, I think it's up to a 15-year revenue support mechanism for wind farm, solar farms, et cetera. You need to bid into it and you need to then be awarded based on how competitive your bid is. As bidding into it, you need to have certain things signed off. The more credible your bid is, the more likely you'll win it.

Second, things like having approvals, having a connection agreement done, and then you bid in and be competitive against other players in the market.

CHAIR - The thing is Hydro Tasmania is our major generator at the moment. How does the CIS help Tasmania?

Dr CONNARTY - The CIS can be there to provide that revenue certainly and bring projects forward. So Hydro doesn't need to step in to offer an offtake, for instance. They don't need to say, 'Well, I think that price isn't what I'd like to pay for it' and we can get a CIS and the federal government will say, 'We want to support that because we're supporting decarbonisation across the national electricity market'.

CHAIR - So Hydro Tasmania will be, notionally, generating less?

Dr CONNARTY - Or exporting more or potentially -

CHAIR - They wouldn't want to export when negative pricing is occurring if they're using their own resources to generate.

Dr CONNARTY - To me, that's the beauty of the wind. They can just stop when wind is blowing. They sit there and store water, which is what you do, and when it goes away, when wind dies, whether it's here or in Victoria, then Hydro can look at the price and see what prices makes sense for them to generate to.

On that, Ruth, in terms of now, if you're now rather than running the Tamar Valley Power Station, you'd be getting this zero energy cost coming in and Hydro will be going great and then their impact on their returns should, I would have thought, go up because they're still going to be able to attract the prices that they can, therefore, they don't have the costs of running things like Tamar Valley when the gas cost is high.

Mr GARLAND - Are revenue certainty contracts really needed in Tasmania given the favourable wind conditions that we have? Are we not seeing the capacity investments we need?

Dr CONNARTY - Yes, is it the short answer, Craig. Any project of any reasonable size will need revenue certainty so they can bring that debt into the project. Without it you go what they call merchant, so you're fully exposed to the prices in Tasmania - spot prices. As we know, they can fluctuate wildly. It rains, suddenly you're getting zero or negative. If it doesn't rain, then they can be anywhere. You compete with solar from the mainland, so middle of the day solar from Victoria, which is typically negative most times. Suddenly you're getting no revenue for those kinds of projects and that means that that's a very risky position to be in. To de-risk that and bring in more debt into projects, then you need that revenue certainty.

For instance, while there's plenty of capital around in the market who want to invest in renewables, they'll do it such as that revenue certainty and there's the ability to attract debt into that so they're not fully exposed to that cost. Robbins Islands is now in the $2 billion to $2.5 billion of investment. That's a lot of money. We need to find ways to de-risk that investment and that's through revenue certainty contracts. At the moment, we're lucky because if the capacity investment scheme comes off then, great, we could get one through there. We can get one with one of these e-hydrogen producers that want to set up in the state and, hopefully, if that wasn't enough, then potentially we could go to someone like Hydro Tasmania and offer them a contract and, if they deemed it to be commercial for them, they could look at entering that contract as well.

Mr BAYLEY - Or be directed to.

Dr CONNARTY - Potentially, if that's where the government felt that they needed to develop particular projects around the state.

CHAIR - One other thing you raised, Michael, was - this is going back earlier in your presentation - about the balance needs to be met, and you talked about the delays and things like that. I'm trying to understand what you think the most serious obstacles are for renewable investment in the state, and how you suggest they could be removed. What changes are needed to remove some of those obstacles? What's the most important and perhaps the least important change that needs to happen?

Dr CONNARTY - I'm not sure about important; I think they're all important. The experience that we've gone through the environmental approval surveys for Robbins Islands is a key one. We found that in that situation, we had conflicting advice from either the state versus the Commonwealth.

The classic is probably around the devils. We got the guidelines. We engaged with the Save the Tasmanian Devil foundation down here and the experts at NRE and worked through that process so that we can understand the impacts and therefore what mitigations and offsets we need to go through. Through that process, the state experts basically said, 'Well, it's okay, there will be some impact, but that impact isn't going to change the sustainability of the devils, particularly around the Robbins Island'. I thought, 'Great'. We're still looking at ways we mitigate any kind of impacts.

Then we went to the Commonwealth and suddenly the same kind of level of disturbance of the devil foraging area and tending area was seen as a major impact to the survival of devils. It's unclear the extra scientific evidence that the Commonwealth is using to actually make that different determination.

The determination is material, because it's gone from being no real offset to over 1000 hectares of offset. Luckily, we'll be able to work with the landowners to provide that, but it's also a land offset. For instance, it's quite clear the major impost on the devil and the reason it's 90 per cent declined is facial tumour disease. We were looking at offsets that maybe we can invest in the funding to look at immunisation or vaccine that could help that particular issue, because the offset calculator was basically a fixed calculator that applies everywhere in Australia. The model says this is the answer. We felt that was a bit strange. We thought there was a much better way of writing a sustainable outcome in terms of the activities on Robbins

Island. That discussion with the Commonwealth has probably taken two years of back and forth on: 'We need the extra information', 'Here it is', 'We are going to need more information'. Whereas we were wondering why that was provided back four years ago, when we first engaged on this kind of issue.

CHAIR - How can this sort of challenge, acknowledging the challenge and competing and conflicting information perhaps on various levels of government, it could happen in three levels depending on what the nature of it is, what is necessary then to and perhaps not just for wind farms, it could be for any major development?

Dr CONNARTY - We felt that in Tasmania the experts on Tassie devils, for instance, are in Tasmania. They are dealing with it day in and day out, doing their research and engaged on this issue. Why would you ignore or not take into consideration the Tasmanian expert advice? From our perspective, the bilateral between the Commonwealth and the state needs to be stronger. The state needs to have a stronger view on what they should be making calls on how it should be managed.

CHAIR - Are legislative changes required, or is it a policy change. What do you suggest?

Dr CONNARTY - I'm thinking it's more in the order of policy change, between the federal and states to say, 'Well, okay, where there's clear guidance from experts in the local area, they should be the ones that help set their framework and the offsets'.

CHAIR - Does that apply with Aboriginal heritage matters that you need to use the local people?

Dr CONNARTY - I would have thought so. In the *Environmental Protection and Biodiversity Conservation Act*, a lot of the guidance comes from things like recovery plans. We have an eagle recovery plan, we have a draft devil recovery plan, we also have an OBP recovery plan. A lot of those are meant to provide the guidance on what the risks are, what are the mitigations and how are we going to look at mitigating these kinds of issues. I think strengthening those, updating those - the eagle recovery plan was a classic one: before the listing state was released last year, it hadn't been updated since 2006. It sat there during this time when there's so much more information on eagles, so much more on the particular risks or mitigation is going to be implemented that seem to be frustrating that you couldn't get a better outcome in terms of managing and making that species more sustainable by the fact that the science hadn't been updated.

That's no criticism in our NRE or anyone because the funding probably hasn't been there to do that. Another aspect would be to increase the funding, increase the people you have on the ground who can actually do this work so everyone's got a much better set of guidelines about how you manage this issue or there is a manager.

Mr BAYLEY - I had some of these conversations with your colleagues on Robbins Island. The flip side of what you're saying in terms of onerous and ill coordinated approvals is when it comes to Aboriginal heritage. The *Aboriginal Heritage Act* is demonstrably inadequate and has been acknowledged in our parliament by the minister as unable to protect Aboriginal heritage. Are you worried about corporate social responsibility issues in terms of your assessment because of the fact that your project has been assessed against an act that's

acknowledged as ineffective? It appears at face value you don't have local community, Aboriginal community, who are deeply engaged and supportive of the project.

Dr CONNARTY - I don't know whether we're worried about the corporate responsibility kind of aspects in terms of its effective act. We try where we can to engage across all communities, in particular Indigenous communities around our projects. If we give an example in our New South Wales approaches, our new solar farm, we've got great engagement. We employ a group of six on-site to manage the Aboriginal heritage areas. The local Elder has credited us with actually allowing them to get back on country because they had been locked out for 70 to 80 years. We take that responsibility very seriously. We think it's part of the social value we provide to these projects.

The same with Yindjibarndi Energy Corporation in Western Australia. We're now in a true JV with them of 25 per cent. They have the right to buy into 50 per cent of the projects over there. Again, raising the potential for greater value flowing back to the local Aboriginal community.

We would love to engage more. We've made multiple offers to local Aboriginal communities to engage without receiving any kind of real response of yes, we'll talk to you and we'll work through what are the key aspects.

Mr BAYLEY - But they've made clear their view that Robbins Island: because of its heritage and cultural landscape significance it is a wholly inappropriate place for industrial scale development, such as what is proposed. That's on the record. That's been made very clear to ACEN and to the assessment processes and so forth.

Dr CONNARTY - To some extent we'd like to engage on why that is and what that really means, but we haven't had that privilege.

Mr GARLAND - I beg to differ. They want as full and thorough independent archaeological assessment of the island to determine - for instance, the 12 tribes of the north-west, that was the only meeting place they had. To the man and every woman that I've met in the Aboriginal communities, they wholly object to that project going ahead on that island. That raises the question of social licence.

I'll get back to you talking about the devil experts. You're talking about the state saying one thing and then the federals are doing another. That's a bit of how you're going. Well, the bird scientists have categorically stated right from the start that it is the wrong location, but you choose to ignore that.

I'll get to the point of social licence. The fishing community: they wholly object to any structure going across that channel because it will change the course of that channel. The channel changes of its own nature every year anyway. The lack of baseline science, I've seen a few photos of a few fish in the DA. They've not done any extensive baseline science. That is all critical habitat for fish breeding, fish nursery areas, what have you.

You throw that in, you throw the bird scientists in, you throw the Aboriginal community in, there is absolutely no social licence whatsoever. My question is: how do you determine social licence? Is it what the minister directs on the tick of paper, or is it something that is to be ignored if it's in the way of your project?

Dr CONNARTY - I wouldn't say ignored, but we also have a lot of support from a lot of different parties in that region as well. We go through a process - that's why the process is there - looking at all the issues and how we manage those issues. We legitimately commit to that process. We've done extensive work, over $20 million spent on this project to deal with these issues. We've had two assessments - the EPA and the TASCAT - and they have found that what we've done is appropriate. That's what we feel we need to work through. At any time those kinds of issues have been raised that are creating issues we have addressed them, and if it came down to an issue that couldn't be addressed, I'm sure that that would be a decision that ACEN would consider with great concern and thought.

Mr BAYLEY - I guess the point around the Aboriginal heritage is that assessment is done against something that is universally acknowledged as utterly inadequate. Perhaps that's why you're lacking engagement from Aboriginal people because they don't have a mechanism to have the project properly assessed. It is of such significance to them and as a result it seems like their reaction has been to disengage from the process as opposed to work with you to put faith into the process and have it assessed against the legislation because the legislation has been going through a years-long review and just isn't up to standard. The minister has acknowledged that in parliament.

Dr CONNARTY - Engage with us, look at what we can do, what studies need to be done. That would be a good step.

Mr BAYLEY - I guess my question was, how important is that to you as a company if you can't get that engagement, if you can't get that social licence? Clearly, it's more important to proceed with the project irrespective.

Dr CONNARTY - As part of the process though, we're still going to do Aboriginal heritage surveys going forward. So, if people don't engage with you, you stop. Is that what you doing? What's the guidelines? So now you're changing the guidelines, so you want people to be confident to come and develop in Tasmania? That's a great example of, 'We're not providing that certainty'.

Mr BAYLEY - I would agree, yes. The government needs to step up.

CHAIR - Michael, what ACEN's view then? If you had to define what social licence is, from your company's perspective, what would you say? The gaining of a social licence?

Dr CONNARTY - We would see it as the majority of people engaged in the process or the community actually being positive towards the particular project.

CHAIR - How do you measure the majority?

Dr CONNARTY - At the moment we don't have a measure. I don't think there's an effective measure anywhere to do that. It's more a basis of understanding the community sentiment and the general support for the project versus the other side as well, and balancing that. There's no objective way of doing that, Ruth. That's part of the issues with the social licence. For us, it seems to be weaponised against us versus something that's used to promote these types of activities as well.

Ms FINLAY - It's important for us as a committee to also ensure that our comments are balanced. I've got the shadow for primary industries and so I deal with a lot of the fisheries sectors. There was a statement made that 'all fishers are concerned'. I've engaged with fishers and I think it's fair that when we're making comments from this side of the table that they're actually balanced. I haven't read the hundreds of pages of reports that are out there, but my understanding is that there isn't a significant representation of a range of fishing sectors that have expressed concern around that.

CHAIR - You are probably getting into areas that's better dealt with in other forums. If we could perhaps get back to the broader matters related to the inquiry.

Ms FINLAY - The people who are making evidence are required to make honest statements and I think we are too.

CHAIR - Yes, and Dr Connarty has the opportunity to dispute or respond. Can I take you to a comment you made right back at the beginning. Correct me if I'm wrong, but I think you said something like in Tasmania, particularly in the north west, wind blows 90 per cent of the time. Did I write that down correctly?

Dr CONNARTY - Yes, that's right. We had initial work that I think got to 95 per cent of the time there was expected to be some wind output from Robbins Island based on our modelling. That's because it's very consistent and that is extraordinary in terms of Australian context.

CHAIR - As I understand it, we've got the number of wind farms in that area, we've got Woolnorth, Bluff Point and Studland Bay, two sites that are relatively close, with the same wind pattern anyway.

Dr CONNARTY - Similar.

CHAIR - Similar, okay. A number of these like in Granville Harbour and Cattle Hill, the current wind farms we've got, as I understand it currently run about 40 per cent efficiency.

Dr CONNARTY - Capacity factor, yes, 42 per cent capacity factor.

CHAIR - What's the capacity factor you would be expecting then for Robbins Island.

Dr CONNARTY - We're in the order of about 47 per cent.

CHAIR - Right, so you're expecting better than that.

Dr CONNARTY - Yes.

CHAIR - Because of the nature of the resource that is there?

Dr CONNARTY - That's right. We tend to get better winds during the summer period from the north-east than places like Woolnorth, Studland Bay, Bluff Point get, or Granville. Typically, the numbers we're seeing is around 47 per cent.

CHAIR - In terms of the work, and again this may not be something that you've done or need to do, you're focusing on your own projects obviously, but when we look at the amount of generation that is in the state currently, the amount that you're proposing and there's others like Whaleback Ridge proposal that would add significantly to the amount of wind generated, do you have an expectation or understanding of how much additional renewable energy, particularly wind, would be needed to manage our current and future demand expectations? Acknowledging that people like Norske Skog have wanted to get a bit more load and more generation for them, but also as part of the transition, decarbonising the transport sector, the major industry sector. Do we know how much? What do you think we're talking about?

Dr CONNARTY - I can only go on the integrated system planning numbers that I've looked at. By 2040, they estimate an extra 50 per cent, which is 5000 gigawatt hours.

CHAIR - In Tasmania.

Dr CONNARTY - Yes, that's approximately about 1500 megawatts by my numbers. The TREAP - we need probably double that if you are looking at the TREAP target, so that would be providing that excess from there. They're numbers on a capacity factor in that 40 per cent to 45 per cent. For instance, Robbins Island's 860 megawatts for 120 turbines effectively. Then you're looking probably another maybe 200 turbines of that similar nature would be needed to reach that goal.

CHAIR - In your view, should we be aiming at meeting the needs of Tasmania as a priority as opposed to meeting the TREAP.

Dr CONNARTY - A bit of both to be honest. I think the TREAP actually provides an ambitious target that we can look to become more self-sufficient, so above 100 per cent on. That's important as the rest of the national electricity grid transitions away from brown coal so the less we can rely on those particular states the better. Therefore, the more renewables we can develop to provide that buffer and that security I think is a really positive outcome. What I see is that the 50 per cent TREAP is probably the minimum and 100 per cent probably means that you can capture a lot more value in terms of other growth opportunities that aren't in those kinds of numbers. The numbers I think from my recollection assume a 400 megawatt green hydrogen load. That could be just the start. I understand projects like Whaleback Ridge want to be tied to green hydrogen as well so there'll be extra load.

When you're on that journey to TREAP in five or 10 years' time you realise that it's probably the right level depending on how the evolution of eMethanol, eFuels and green hydrogen goes.

Ms FINLAY - You're going to struggle to make that time target though, aren't you?

Dr CONNARTY - By 2030, yes, that's right because we're just not getting projects going through, whether it's Robbins Island or - Saint Patricks Plains has been the last one which has been approved by council but now sits with the Commonwealth again to finalise its decision. I'm not privy to what's holding that up, but again, they've taken quite a bit of time to get through on that particular project and, because of the nature of how the approvals path runs in Tasmania, and from wind farms in particular because it'll always trigger an EPBC Act species that they seem to take a lot of time when potentially from a more efficient and rigorous system, you don't need that kind of time.

The right resources in place, the right focus, the right guidelines and thinking get actually the same or better outcomes in terms of both timing and approvals. From our perspective on Robbins, we've had something like six assessment offers at the Commonwealth level because it's taken so long; every time you need to start again.

Mr EDMUNDS - Maybe putting Robbins Island to one side, but generally with the sort of the time that it can take to get approvals in place, and obviously, you're operating in a really dynamic space, as we heard on our field trip, the technology on turbines and updates, do they mesh okay? Or if something is delayed too long, does the technology update and then you have to go back through the process? Or are you stuck with old technology if it takes longer to approve or is that not an issue?

Dr CONNARTY - In some cases it is and probably an issue both with approvals, but generally with an approval you provide an envelope, so you get a bit of leeway about what turbines you can put in place. Probably the bigger issue is when you go to connection agreement because it's got to be technically accurate. You've got to have a model number, you've got to have a number, and you're got to go through that process. If your turbine then changes through that, you've got to go back through that again. I can't remember the cost, but you know, not short of $1 million to do that. If you're changing all the time then that's an issue.

At the moment, we've probably gone that transition where you have turbines put in a Granville and Cattle Hill aren't going to be the turbines we're putting in at Robbins and probably the future projects around Tasmania. They will be bigger; they will produce more energy from an equivalent kind of size. From that perspective, we should be right for a few years, so as long as you get in there it's okay. But if you continually delay then that will create issues and could create issues.

CHAIR - Who, in your view, should pay for the transmission then? We've had different witnesses talking about this over the submissions, but also in the hearings. It was a TMEC held the view that a new load comes up is put forward a new major industry or whatever it might be, why should all the all the current users pay for the transmission of that energy when they don't, we've got our own, we're all right here mate type of stuff. You're being asked or required to pay for the transmission from Robbins Island through to Hampshire. Originally it was through to Staverton -

Dr CONNARTY - And be clear, we'll pay for our proportion of the transmission from Burnie to Hampshire as well, which is being developed by TasNetworks as a dedicated network asset. But there's three proponents on that asset which will share that cost. Again, it won't go -

CHAIR - Just on that point, has that progressed?

Dr CONNARTY - Slowly. We are progressing. I'd have to say that more recently we've got more sight on an end. I think I'm quite confident we'll eventually get there.

CHAIR - Is the holdup at TasNetworks? The three proponents working with TasNetworks? Where's the hold up?

Dr CONNARTY - It's a dedicated network asset; it is a new concept for Tasmania. I think it's just a hold up of everyone getting their heads around what that really means. There's only about four in the national electricity market that have gone through this process. One in

Queensland with the McIntyre wind farm was probably the more prominent one that is very much aligned to the case we have here. They're complicated and it's just a new kettle of fish for TasNetworks. They're working through what that means and what they need to put forward in terms of the competition protocols as well as -

CHAIR - There's legal requirements around all this as well.

Dr CONNARTY - Yes, and when you're doing this, you need cost estimates that you can put in so people know what their access arrangements look like. That all takes time and all takes work. Who pays for that in the meantime, whether that's done at risk by someone like TasNetworks or it's done at risk by the proponents. We're sort of in that phase, we haven't seen a number that says this is how it's going to cost you to get there. Once we've seen that we can probably make a decision, 'Okay, let's get on with it and do it'.

Mr BAYLEY - You said in your opening you 'struggled to get engagement'. What exactly does that look like?

Dr CONNARTY - We've been dealing with TasNetworks since 2018. Probably in our third reincarnation of who we deal with and how we deal with them. The first lot was before Marinus Link and so there's very much of you do what you want to do. We were thinking we're not a transmission builder, so we'll engage with TasNetworks to build the transmission for us. When Marinus came on the board and that particular line we're looking at was very much a part of North West Transmission Development, it was like, we've got it now. We'll be a proponent on the outside going, 'We need to use that line so we'll help facilitate it coming forward,' let's say, advancing it until when the North West Transmission Line was cut in half last year, and then we were back at square one. We have now picked up that ball since 1 November last year and are trying to work out how that all looks.

CHAIR - When this is part of Marinus Link, the North West Transmission, the northern line needs to be done anyway, as I understand it. There were suggestions, and maybe that's changed with you having negotiations with a green hydrogen producer, but Marinus was the thing to sell into the national market. When we look at how we apportion the costs here, do you have a view on that, going back to the original question?

Dr CONNARTY - Back to the original question, I see that where there's value for the overall consumer, then there's merit in that the consumer should pay. There needs to be assessment on that basis. For instance, if Marinus II is built and then the whole North West Transmission Development is built, that would create value for the rest of the customer base in terms of overall price and access to reliable energy. There is a case then that the second line of North West Transmission Development should be part of the asset base that is distributed across the customer base.

CHAIR - The whole customer base right up to Queensland?

Dr CONNARTY - Because of the way the transmission development is done in Australia, it's based on jurisdiction, unfortunately. The benefit of Marinus is they've got a way around that to some extent, although we don't know the details, but their theory is that Tasmania will pay a lot less than the Victorian customer base will pay.

Mr BAYLEY - Only the cable component, not the transmission component.

Dr CONNARTY - That's probably right. I don't know how much is it integrated but it's probably right. The other positive of the Marinus case is that the deeply concessional, I don't know what deeply concessional means, but if it's much better than what we get, then that's a real positive in terms of being able to lower the cost of the North West Transmission Development. There will be a cost and I believe Marinus brings it forward. I don't believe if you get rid of Marinus that you won't have that kind of cost in the future. The system will need to be more robust to the way the system needs to change with the full decarbonisation.

Mr GARLAND - With Marinus Link, under the current cost recovery model, will you be required to pay anything to contribute to that?

Dr CONNARTY - No, we will not.

CHAIR - I am conscious of time. Have you got pressing questions?

Mr BAYLEY - If it didn't go ahead, if there was a final investment decision that Marinus didn't go ahead, you'd be relying on those green hydrogen and other power purchase agreement negotiations as to your investment decision for Robbins Island and north east.

Dr CONNARTY - To be honest, Robbins would be smaller. Probably Stage 1 of Robbins would go ahead because the system wouldn't be as robust as required. It would probably put a limit on the green hydrogen aspirations in the state as well. I don't think there'll be enough stability in the system to actually manage that type of load and north-east Tasmania would struggle. It would need much larger load but a much larger load will come with more system strengthening of the TasNetwork's system.

CHAIR - There will be a cost to us for that?

Dr CONNARTY - My view is that it's more timing than anything else. The cost is going to come in. It's what is the best way of doing that. Marinus provides that kind of certainty in terms of system stability, strengthening the whole system and therefore allows us to capture some of these other bigger value opportunities in Tasmania.

CHAIR - How do you balance the economic and financial cost with the return with regard to Robbins Island proposal with the social licence where's the weighting of the financial implications for you with the social licence?

Dr CONNARTY - Ruth, I don't have an answer for that. We stopped a project in South Australia because we couldn't get the buy-in from the people around the project. I don't have the model that says this is the outcome. It's very much weighed up internally about the balance between a lot of different things about social licence, economics, commerciality, constructability and all those other things to take into consideration before we make the steps to go forward.

CHAIR - Any other urgent questions? Thank you for your appearance today, Michael. We appreciate your submission and the evidence you've given us today. If there are no other questions from you?

THE WITNESS WITHDREW.

The Committee suspended from 12.46 p.m. till 1.45 p.m.

The committee resumed at 1.45 p.m.

CHAIR - I welcome to you all to the Energy Matters committee public hearing. You are appearing on behalf of Marinus Link today. This is a public hearing. It is being broadcast and is being transcribed. The information providable form part of our public record. Everything you say before the committee is covered by parliamentary privilege that may not extend beyond the hearing, so you're aware if you speak outside the hearing. It will all be public unless you make a request to the committee for something to be considered in confidence, which the committee would then consider and that would not be part of the public record, the evidence taken in camera. Do you have any questions before we start?

Witnesses - No.

CHAIR - I'll invite you all to take the statutory declaration and then invite you to introduce yourselves and speak to your submission. We've received your submission and all the attached documents. Thank you for that and for updating it with the latest ISP. We ask you to speak further to the submission if you wish and then the committee members will have questions for you.

Ms SANDRA GAMBLE, CHAIR, Mr PRAJIT PARAMESWAR, CHIEF COMMERCIAL OFFICER, AND Mr ANDREW HUGO, ACTING CHIEF EXECUTIVE OFFICER, MARINUS LINK WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED

Ms GAMBLE - My name is Sandra Gamble. I'm the chair of Marinus Link. I'd like to make an opening statement.

Marinus Link is grateful for the opportunity to address the committee today and expand on our submission from August.

As the committee is keenly aware, the energy industry is in a period of great transition. Across the nation and the world, the way electricity is generated is changing. Fossil fuels will play a much smaller role, with coal-fired generation expected to progressively shut down. Renewable generations such as wind, solar and hydro are the lowest cost energy alternatives and are becoming a much greater part of Australia's energy mix. This change requires additional transmission infrastructure to transfer energy from new and existing renewable generators where it is needed. Interconnectors like Marinus Link increase the efficiency of the system by exchanging energy between regions and states with different demand and supply profiles. Throughout this transition and into the future, Marinus Link will play a key role in supporting stability, reliability and energy affordability, particularly in Tasmania and Victoria, but also to the broader national electricity market.

The cost benefit economics of Marinus Link have been demonstrated by the Australian Energy Regulators regulatory investment tests for transmission, the Australian Energy Market Operators Integrated System Plan and additional independent modelling commissioned by Marinus Link, which we have openly released to the public. These highlight the project's significant net benefits to both energy consumers and the broader energy market. In addition, they illustrate that Marinus Link will play a key role in developing Australia's clean energy future at the lowest possible price.

The economics of Marinus Link are bolstered by agreements reached between the Tasmanian, Victorian and Australian governments, along with concessional finance from the Clean Energy Finance Corporation. Aside from this considerable benefit to all NEM consumers and the market, Marinus Link is recognised as a key enabler of Tasmania's future economic prosperity.

In 2023, Marinus Link commissioned Ernst & Young to provide an updated independent analysis of the economic contribution of Marinus Link and the North West Transmission Developments. According to this analysis, the construction and operations of Marinus Link and associated network augmentation coupled with induced investment is expected to support thousands of jobs across a wide range of industries, education levels and occupations. Additionally, it will lead to a pipeline of investment in renewable projects stimulating supply chains across the region and the wider community.

As part of this, the project's optical fibre cable will better connect Tasmania with the mainland and protect against data adages that have affected the state in recent years. The increasing data capacity offered by both stages of Marinus Link is calculated to be over 150 times the combined capacity of all current Basslink optical fibre connections.

This capacity alongside the increased energy supply and security provided by Marinus Link is expected to attract new advanced manufacturing facilities and data centres, spur new electricity demand and encourage the growth of Tasmania's economy. Potential new investors in Tasmania require confidence that there is adequate clean energy supply and data. Marinus Link is very pleased to be placed to provide this certainty by supporting the continued development of reliable, variable and dispatchable clean energy resources and enhancing reliability in the national power system.

With that, I again thank the committee for hosting us today.

CHAIR - Thank you very much. Did the CEO want to add anything or are we good to go to questions?

Ms GAMBLE - We're good to go to questions, yes.

CHAIR - There's a whole of Tasmanian government business case being undertaken at the moment, which will be, we are told provided about a month before the final investment decision for Marinus Link. In that there may be a lot of information that would be helpful to this committee, however, in the absence of anything like that, do you have any idea what the cost of Marinus Link would be compared to if Tasmania just expands its own renewable on-island and doesn't have Marinus Link? What could you do with the same money?

Ms GAMBLE - I don't have an answer for that, I'm afraid. I haven't actually looked at it. Andrew, is that something that you can answer at all?

Mr HUGO - No, we'd need to take that away.

Ms GAMBLE - We are focused on the delivery of Marinus Link. That's our job as a company, so we haven't looked at how that money might otherwise be invested.

CHAIR - You made the comment about induced investment that would come. So that's a bit of a 'build it and they will come' type approach. In the ISP and other documents, there's suggestions that will occur. Can you talk the committee through more about why you think that there'll be increased investment renewables in Tasmania based on the back of Marinus Link?

Ms GAMBLE - Marinus Link provides another path for energy that's generated in Tasmania to go. If there was surplus wind in Tasmania, more than was necessary to meet Tasmanian demand, then there would be another market on the mainland through Marinus Link to provide revenue for that renewable energy.

CHAIR - We pretty much know what the current demand is. We know that at times it's limited when we have to actually import, not just because the price is good, but because there isn't another option. To increase and put another major load into the system like a data centre or even some of our major industries wanting to decarbonise or to decarbonise our transport sector for example, we would need more.

We're focused on Tasmania, you're focused on Marinus Link, they would join potentially. What I'm trying to understand is, as a state should we be focused on meeting our own needs first, before using the cable or do you see there's other benefits here?

Ms GAMBLE - I think the cable gives Tasmania choice. It gives Tasmania the opportunity to buy energy from the mainland or develop it on the island. Wherever that energy can be most efficiently generated will be where it comes and that then is a choice for the investors of that generation. In the end, it's about providing a choice and a range of opportunities.

One of the things that the regulatory investment test gives you from the AER, is it actually tells us how much avoided cost will be in the system. It justifies Marinus Link on the basis of either avoided capital cost or reduced operating costs. That gives us about $1.8 billion to reduce cost in the system. That's just the starting point. On top of that is the ability to be able to buy energy from the most efficient source in Tasmania and potentially provide a better opportunity for new investment in industry, data centres, advanced manufacturing, a whole range of things. Is that not answering your question?

CHAIR - I hear what you are saying. It is not just people in Tasmania; it's people around Australia, possibly all around the world for that matter. One of the biggest cost inputs to their daily or monthly budget is energy costs, which have been going up. There are reasons as to why that's the case. There have been significant claims made about how much Marinus Link would put downward pressure on prices. Transmission is one aspect of it, but there have been a number of figures put out, including some of the documents you've provided about the actual cost saving to Tasmanians in their power bills. Can you take us through what your position is on that?

Ms GAMBLE - Reading from our submission, and this remains our position, the wholesale price of electricity with Marinus Link will be somewhere between $148 to $165 lower for an average consumer per year. With stage one, it would be only $90 to $97 per year. Taking into account the additional costs of the network, both TasNetworks' investment and ours, that would bring the net benefit to energy consumers to be around $35 to $40 per year. There would be a saving of $35 to $40 per year per customer from the investment of Marinus

Link and the North West that would be basically by having the market working more efficiently rather than the situation we have now.

CHAIR - That takes into account all the components of the pricing?

Ms GAMBLE - Yes, it does.

CHAIR - It's been said to the committee, and also seems pretty logical, that the transmission cost will go up because once you've got a larger regulated asset base the AER takes into consideration. The suggestion is that the wholesale energy price will fall, but that won't happen straight away, will it? I'm just trying to understand. Is it a reasonable assumption that, in the short to medium term, prices are going to go up and quite significantly with the increased transmission costs for Tasmania and also probably for those on the mainland. Let's not worry about them, we'll worry about ourselves here. Before we see prices potentially come down with reduced wholesale energy, the generation costs.

Mr PARAMESWAR - That is true, Chair. The FTI modelling talks about the fact that from year 2030-2050, on average the savings would be approximately $97 for a typical customer or $12 -

CHAIR - Averaged across those years?

Mr PARAMESWAR - Correct. For the first few years, the wholesale energy price impact is lower than the last few years of that period and that is actually included in the FTI report as well.

CHAIR - It is fair to say for a consumer paying their power bill, if this goes ahead as planned, it's likely there'll be increases in their power bills before they go down.

Ms GAMBLE - I can't give you a firm answer on that. That's potentially something we can take away and answer.

CHAIR - It was averaged over 10 years, wasn't it?

Mr PARAMESWAR - What I could add is one of the reports, page 19 of the FTI consulting report talks about the fact that for the first five years the average reduction is around $69 a megawatt hour. Effectively and the last few years the reduction goes to $107 a megawatt hour.

CHAIR - You're suggesting right from day one that there will be a reduction in the overall energy bill of consumers?

Mr PARAMESWAR - I'm sorry, I'm just referring to the reduction in the wholesale energy element.

CHAIR - I'm trying to understand the overall impact here. It's not just the generation costs, it's the networking and retail and a few other rats and mice in there. Do we have modelling to show what the impact on the actual price, the price that appears in a person's bill in those first five years as opposed to the second five years?

Ms GAMBLE - It sounds like if the difference between the reduction in the wholesale price, which for Stage 1 Marinus would be between $90 and $97 and if the average reduction is $35 to $40, then the difference between that is about $55. You can assume that would be the transmission investment cost. If the initial reduction in wholesale prices about $65, then you could assume there would be about a $10 decrease, a very small decrease initially that would become a larger decrease over time.

Mr PARAMESWAR - I think we should make it clear the modelling has been done over the 20 years and the average numbers are over the 20 years. What we understand is that the calculation from TasNetworks is also over the over the period. In terms of the impacts on a yearly basis, that is something we could take a notice and come back.

Ms FINLAY - This is a really important for us area for us to focus in on. In terms of how that's been reported over that 20 years, is that considering the natural increases that will happen between now and when the project is actually delivered, or will it be expected? What I'm keen not to happen is the community has an elevated expectation that there will be a physical reduction in the power bill because of these net figures that we talk about, but the reality could be that by the time we arrive at those benefits - which is sometime down the track - power bills may in fact have increased to the point where those estimated balances probably will be absorbed. Then in fact, power bills will potentially have a correcting point at some point when these benefits come in, but by the time we get there, we're likely to still have elevated power bills. Is that a fair assessment?

Ms GAMBLE - Part of the answer is that the cost of Marinus Link won't be felt by customers until Marinus Link starts to operate. It won't be during the construction of Marinus Link, that revenue only starts to flow when the power flows across Marinus Link.

Ms FINLAY - And that's true also for transmission?

Ms GAMBLE - I understand so, yes.

Ms FINLAY - That was what Ruth was asking at the very beginning. So they're likely to be delivered at different times. Are these concurrent benefits or are they benefits that happen?

Mr PARAMESWAR - Marinus Link has registered as an intending transmission network service provider, as the Chair rightly pointed out, our revenues will only be seen by the company once the asset is commissioned, which is expected to be in the year 2030.

For transmission network service providers, the arrangements are different once the Australian Energy Regulator provides a determination, their revenues can start flowing as soon as they start spending for the asset. In terms of the concurrence of the spend versus the benefit, we should probably take that on notice and provide some modelling over the 20 years. What is the yearly residential impact we think the typical residential customer face, what is the network cost impact which we will get from TasNetworks in Tasmania and we can provide that modelling to this committee and that's probably something that we should do.

Mr BAYLEY - What's the relationship then to mainland prices, Victorian prices for example, because you were tapped in and locked into the NEM. Are these the sort of savings you would expect across the board, irrespective of the state?

Ms GAMBLE - I believe the benefits for Victoria are slightly less, but still in the same sort of direction. Do you have that handy?

Mr PARAMESWAR - The Tasmanian benefits as we've said for a typical residential customer for their wholesale energy element is between $90 to $97. The Victorian benefit for the average residential typical customer is between $50 to $56 for one cable.

Mr BAYLEY - Why is that if we're all in the same market? Is it because of the additional transmission that's needed at our end?

Mr PARAMESWAR - It is mainly to do with the fact that Victoria has more customers vis a vis Tasmania. In Tasmania, approximately 250,000 customers have residential connections whereas in Victoria there are large numbers. There is that per capita impact.

Mr BAYLEY - They're also dealing with shutting down coal-fired power. You would expect theirs to be more elevated on that basis. Does that not then translate down to us also because we're in the national market?

Ms GAMBLE - The point I would make is Marinus Link is an investment in improving the efficiency of the market, both the operation of the market in real time and investment in the market over time. Marinus Link is also, from a sizing point of view, much more substantial in the Tasmanian market than it is in the Victorian market, which is part of a much more meshed national electricity market. The benefits of Marinus Link are larger for Tasmania, simply on the basis it has a bigger impact than it does on Victoria.

Ms FINLAY - When you were giving us that net figure before we made the assumption that it's the transmission cost that is about that $55 because we're saying it nets down to about $35 or $40. Is that transmission cost or that net amount in this report somewhere? I can see the 1997 and the 1556, but is the net, is that something that's discussed in here? This gets used quite a lot and the last time it was referred to me, I hadn't appreciated that it didn't include the transmission. People always want to use the highest figure that's available to talk about.

CHAIR - It's in their favour.

Ms FINLAY - That's what I mean. Can I reference that net figure in here somewhere?

Mr PARAMESWAR - From a Marinus Link perspective we engaged FTI Consulting to do this work. They only looked at the reductions from a wholesale energy perspective. The cost elements are calculated by the jurisdictional TNSPs in Tasmania. It'll be calculated by TasNetworks. In Victoria, it'll be calculated by AEMO. That's how we normally do it as well.

Ms FINLAY - Thank you. The Ernst & Young document you had there for 2023, that was also a Marinus Link document. When TasNetworks was here earlier they were referencing that. The Ernst & Young paper doesn't have the TasNetwork's transmission stuff in it?

Ms GAMBLE - I believe we've used TasNetwork's numbers when we've prepared our submission.

Ms FINLAY - I have a particular interest in these questions because in addition to being the shadow minister for energy, I'm also the shadow for primary industry. I'm contemplating

the strategic benefits payments and we've had TasFarmers present to us already. There's some very particular interest in what those net numbers are in order as to how much can be absorbed reasonably in terms of those strategic benefits payments to farmers. While outside your scope of concern, important to me and it's always good to have it written somewhere as opposed to spoken. So far, a lot of these things are spoken, not written.

CHAIR - If Victoria has its own independent system, it would essentially be - once coal was retired - wind, solar and gas probably is part of the transition. Tasmania would have wind, solar and hydro, acknowledging the Tamar Valley Gas Power Station which was being used a bit this year. Since Tasmania has better wind conditions we're told than Victoria and hydro is better than gas in every possible way. How is it that Tasmania will have a lower price with Marinus Link compared to without it?

Ms GAMBLE - That's simply on the basis of the synergy between the two markets, that you've got more flexibility, a wider competitive market, you can choose from a range of lower cost generation. Having to invest all the money in Tasmania and being self-sufficient here potentially means you've got capacity here that frequently isn't being used. If you can use that more frequently across a wider market, then you need less capacity. That's what the National Electricity Market is really all about.

CHAIR - Talking more about now, the hydro's capacity to firm energy, which is one of the things that sits in the background of the benefit to the nation and one of the reasons why I think Marinus Link is so supported by the federal government. Not the whole nation - Western Australia, leave them out of it for lots of reasons. Hydro is an excellent source of firm energy and it's able to step in when the sun is not shining and the wind not blowing. That can and does provide price stability, which industry particularly has a high preference for and is key to them. How much do you believe price volatility will increase if Marinus Link is built, particularly with the increasing entry of wind and solar?

Ms GAMBLE - Have we done any calculations on volatility?

Mr PARAMESWAR - I wouldn't think so, no.

Ms GAMBLE - I don't think we can give a view on how the prices might become more or less volatile. The modelling has been more about the average price over time, rather than the volatility of real time prices on an hourly or daily basis.

CHAIR - If you can't answer that's fine, but is it expected that there be less volatility or more volatility?

Mr PARAMESWAR - Over time, we expect there to be less volatility. Fundamentally, we are aiming for an orderly transition here. If you look at the Australian Market Energy Operator's ISP, they look at the fossil fuels and the coal generation to retire over the next 10 to 12 years. There will be volatility as that generation is replaced and it's replaced by your wind and your solar firmed by your hydros and your batteries.

Over time, there will be an equilibrium. That equilibrium will be based on your short run marginal cost/long run marginal cost of your wind and solar firmed by your hydros or your batteries. When will that happen? Ultimately, it's a crystal ball. There is some modelling we've

presented and it all depends on when you will find that right balance, which might be later in the 2030s, later in the 2040s.

Ms FINLAY - Given that Tasmania doesn't have to do the transition of coal and others, and although there is some aggressive investment in making that transition in the mainland states and we could have been more aggressively investing in our renewables, how much exposure do you contemplate that Tasmania will have to that initial volatility? You've given the prices in terms of where the benefits could be over time, but we just mentioned that initial volatility. We can't be completely shielded from that because we're connected. Is Tasmania shielded from that initial volatility?

Ms GAMBLE - What I can say is Hydro Tasmania's ability to deal with volatility is quite good. Shielding from volatility isn't an end in itself. If you're responsive as they are, then volatility could actually be an opportunity.

Ms FINLAY - Good answer.

Mr BAYLEY - On the investment, we've heard a lot about Tasmania only investing in what it deserves or what it can expect to get out of it. We had Peter Gutwein once upon a time say 10 per cent. We heard this morning from another witness we'd possibly benefit 8 per cent from Marinus Link and yet Tasmania has a 17 per cent stake in it. How were the percentages of that negotiation landed at in terms of who has what stake in the business?

Ms GAMBLE - I would love to know that too. The Commonwealth has a 49 per cent stake, Victoria has a 33.3 per cent stake, and Tasmania has a 17.7 per cent stake. I honestly can't tell you because I don't know how that was agreed. That's been something that was agreed between the three governments.

Mr BAYLEY - Do you think that's reflective of the benefits that Tasmania would enjoy?

Ms GAMBLE - I don't think so. I think Tasmania would get more than 17.7 per cent of the benefits.

Mr BAYLEY - We heard this morning from one witness they thought it would be about 8 per cent benefit.

Ms GAMBLE - I don't know where that number might come from.

CHAIR - That might have been referring to what APR are looking at too. Was it? I can't remember.

Mr BAYLEY - It is directly in relation to Marinus Link.

CHAIR - For those who don't understand the system as well as some, let's say Marinus Link is built and commissioned, is it commissioned prior to becoming a regulated link and operating the market prior to that or not?

Ms GAMBLE - No. The moment it starts operating, it will be a regulated link. It will be dispatched in the market the same as the rest of generation, to get the lowest cost generation across the market, that's the way it will work. That's different to how Basslink operates now

and how it's always operated. We will effectively be a common carriage interconnector dispatched solely for the purpose of keeping generation cost as low as possible.

CHAIR - In order for the average cost to be less for people across the network, because it's spread across, you would hope there'd be a lot more energy feeding into it to make it so the prices can be lower as managed by the market operator. If proponents are holding back waiting to see whether this is a goer or not, and then by the time they say they will develop their proposal, that takes some years as well, do you think we could see an underutilised asset for a period?

Ms GAMBLE - I don't think so. I think by the sound of it, there is already 500 megawatts of extra capacity in Tasmania. That's quite a lot of extra capacity that could be used by the mainland and potentially, a terrific new source of revenue for hydro.

CHAIR - Is that counting hydro as well as wind?

Ms GAMBLE - Yes, that's right. Hydro and wind are, I understand, about 500 megawatts in excess of the maximum demand in Tasmania. That's capacity that can be potentially available to the mainland at a cost to the mainland because Hydro would be selling it into the market. Similarly, it means if somebody on the mainland can offer prices lower than Tasmania for energy, then the energy can flow south into Tasmania and save water in the storage. It's a win-win situation no matter how you look at it.

CHAIR - If we've already got extra capacity - this is without the transition to decarbonising our industries and our transport sector and having new industry come in - one would argue we don't need the extra generation at the moment. We're fine.

Ms GAMBLE - In terms of the capacity of the storage, I understand it's about neutral at the moment. Add a few dry years. We've had a very dry year this year. It's lucky there's been some rain recently, but if there hadn't been, potentially Tasmania would have been energy constrained, which is not a great situation to be in. Having extra capacity to be able to bring energy down from the mainland, especially lower cost energy, would be a great thing for Tasmania.

CHAIR - Rain in the right places. Were you party to the negotiations on the shareholder agreement?

Ms GAMBLE - I was not.

CHAIR - You haven't seen that?

Ms GAMBLE - The shareholder agreement I have seen, I signed it.

CHAIR - It's between the three parties then?

Ms GAMBLE - Yes, it is between the three governments and Marinus Link Proprietary Limited.

CHAIR - I thought it was between the governments.

Ms GAMBLE - My first job as chair was to sign the shareholder agreement.

Ms FINLAY - You referenced the project as a win-win.

Ms GAMBLE - Yes.

Ms FINLAY - I know that we're still before FID and I find it curious the government is releasing a whole-of-government business case 30 days before that. It seems like an interesting measure. It doesn't really allow any time to do anything if the project's proceeding, no matter what that business case says.

I'm interested in as the parties to the project, including the government of Tasmania or the State of Tasmania, what could possibly be revealed out of a whole-of-government business case that might see Tasmania not want to participate and, therefore, the project not go ahead? What are the risks to Marinus Link of that whole-of-government business case shedding some unimaginable negativity on the project that would see a decision to withdraw. Would that put the project at risk?

Ms GAMBLE - We're not parties. We're not involved in the preparation of the whole-of-state business case, although we do provide information if we are asked to or we can. We are certainly trying to be as helpful as we can. We're not involved in preparing it and not involved in designing it or determining outcomes. I can't answer your question in terms of what risk does it create. All I can say is that Marinus Link Proprietary Limited is going through a very detailed due diligence process and we're preparing a regulatory submission at the moment for the AER.

We're subject to a lot of scrutiny. The board itself is thinking very carefully about the final investment decision, because it's an investment decision for the company as well. I can't comment on the whole-of-state business case, I'm afraid.

Mr HUGO - My only reflection there would be the final investment decision for Marinus Link is very much about the project frame and the entity. We're making a decision about the project itself and then we're anticipating the whole-of-state business case will consider the broader environment in which the project is being built and is that best for Tasmania.

Ms FINLAY - I didn't imagine you would have an answer, but I thought I'd try it on anyway. The purpose of the question was really, in the event that whole-of-government business case recommends that it's not in Tasmania's interests, for whatever reason I couldn't foresee, I imagine you would be running scenarios if it got to the point 30 days out from your FID that Tasmania says thanks, but no thanks. What modelling are you doing on that?

Ms GAMBLE - That's more a question for our shareholders. The Commonwealth and Victoria will decide then on how they deal with that situation. That would mean that 17.7 per cent of the equity -

Ms FINLAY - Is available to someone else to assume.

Ms GAMBLE - Yes, exactly. Our job is to try to make the final investment decision as well informed to both ourselves as a company, but also the shareholders as possible.

Ms FINLAY - I'm not sure if you can answer this question. It is a question I asked without knowing the answer However, in terms of that final investment, the breakdown of how you might seek to bring funds into where it's sourced and how much contributions you're contemplating from different sources, not just the percentage contributions from the state, Victoria and the feds, but whether there's a further breakdown of that with other debt funding or other investment schemes and things, how does that look?

Ms GAMBLE - At the moment we have three equity holders who are contributing equity and who will decide after the board has recommended final investment decision. That is on the basis there is 20 per cent equity and 80 per cent debt from the Clean Energy Finance Corporation. The question is then whether we restructure the equity. That will be a matter for the shareholders. That debt would still be available according to what we understand and the equity holders, the shareholders would decide about how to divvy the rest up.

Mr GARLAND - The business case for Marinus Link also relies on Hydro Tasmania increasing its storage.

Ms GAMBLE - I think the net benefits for Marinus Link are positive whether or not Hydro moves ahead with Tarraleah. If they do move ahead with Tarraleah, the benefits to Tasmania will be considerable if Marinus Link is there. We certainly enhance the benefits of Tarraleah.

Mr GARLAND - That cost could also be seen as a cost related to Marinus Link. Much like the North West Transmission Development.

Ms GAMBLE - I think its technically part of what they call Project Marinus, which is the packaging up of Marinus Link, the North West Transmission Development and other augmentations within Hydro. That's what we call Project Marinus.

CHAIR - It's also called Battery of the Nation project.

Ms GAMBLE - Exactly. Does that answer your question?

Mr GARLAND - Yes. It was to how much investment and what is needed other than Marinus Link to deliver Battery of the Nation.

Ms GAMBLE - There's certainly a lot of benefits to Hydro and Tasmania from simply Marinus Link and the North West Transmission Development. Both of those things need to happen together. How Hydro capitalises on that would be operating in a way that releases the potential of its excess capacity at the moment, plus more benefits from Tarraleah, plus when Marinus stage 2 comes along, more benefits from Cethana.

Mr PARAMESWAR - I might provide an example of what the Chair talks about, the 500-megawatt latent capacity. In January 2019, there was 500 megawatts of additional dispatchable capacity that was not unleashed because there was no further interconnection between Tasmania and Victoria. Basslink was, as we understand it, on full export. Unfortunately, on that day it was a 43-degree day in South Australia and people lost load. This is this is a very good example of how the Marinus Link interconnector can unlock that hydro capacity which is very much needed in the NEM.

One more thing if I can add, Chair, is capacity and energy sometimes are treated as the same, but they are different in the Tasmanian context. Tasmania has the dispatchable capacity needed and can be unlocked when the mainland needs it the most. Tasmania can import that cheap energy from the mainland NEM, for example if you look at the spot market prices generally during the day now, you will see the prices are sitting at minus $40 per megawatt hour. The opportunity for Tasmania is to import that negative priced energy, ideally try to lift their storages so they can shift from a base loading-type generator to a capacity-type generator or swing to capacity-type opportunity presents.

If you look at the price duration curve, your bottom 30 per cent of the prices are generally very low and that's the opportunity for Tasmania to import during those periods and then export during periods when prices are higher. From an opportunity perspective, that's very important as well and to bring that to the committee's attention.

Mr BAYLEY - The 500-megawatt excess capacity that couldn't be exported, was that wind?

Mr PARAMESWAR - That was hydro capacity -

Mr BAYLEY - That was being generated?

Ms GAMBLE - It was just available.

CHAIR - In the run of river systems and that sort of stuff.

Mr BAYLEY - That just did not get exported?

Ms FINLAY - The link was constrained and that's the issue, isn't it? There's no capacity travelling the line.

CHAIR - You can't fry the cable, again.

Ms GAMBLE - It was a revenue raising opportunity that was forgone.

Mr PARAMESWAR - Because there was no access to market.

Ms FINLAY - It's much more sophisticated, then you can't shove it down the cable.

Mr BAYLEY - But they're getting more sophisticated. Tarraleah, for example, they can shut it off and are able to have that on a quicker system. It still feels very incongruous to me the opportunities in Tasmania around renewable energy are largely wind and solar. That puts us on the same trajectory as the mainland in terms of generation times and so forth. I get the firming capacity of hydro and the fact you can store it provided we update power stations. However, I still find the narrative on this a bit incongruous on being able to completely capitalise on, completely export when it's expensive and import when it's cheap, because reality is if it stimulates new energy proposals, they'll be wind and solar as well and generating at the same time as the rest of the mainland.

Ms GAMBLE - That's the thing, Mr Bayley. If I can make it just simple and say that they are different supply and demand profiles that is actually the magic of all of this. The fact

that when the wind is blowing in Tasmania, it may not be blowing in the mainland and vice versa. That's the benefit: it's the diversity of demand and supply that actually creates the value.

Mr BAYLEY - It may also well be we still have a situation where we've got excess capacity and generating more wind, that might be blowing and the sun might be shining across the whole country.

Ms GAMBLE - It might be, but it's less likely.

Mr PARAMESWAR - In that scenario, again, if we're talking or referring to modelling, when there is excess energy, when the wind is blowing and the sun shining, everything else is shut down, the prices will generally be fairly low.

The capacity I was referring to, Mr Bayley is more about the fact that and this is just an example, hydro capacity today sits around 2200 megawatts. In this scenario, in January 2019, the Tasmanian demand was approximately 1200 megawatts. Basslink was at approximately 500 megawatts export and 1700 megawatts was being dispatched, whereas 500 megawatts were able to be unlocked if there was further interconnection. It is an example on that day. I do agree with you. I don't think that is something Tasmania will be able to do every five minutes, but ultimately, when there's a lot of energy in the system, especially when coal is still existent, there will be lower prices because of the inflexibility of the coal generation.

Ms FINLAY - Given that we're talking about interconnection and the benefit of having that extra capacity. The project got broken down into now there's one connector and a potential second one and there's been talk of three and four. The work at the moment is on this first cable. How likely or what sort of preparations are you doing on the third and the fourth connector?

Ms GAMBLE - We have an option to do the second stage. We're not doing any work on the third and the fourth at this stage.

CHAIR - Let's go back to the price, it's on page 8 and 9 of your submission under the heading World Without Marinus Link. These say the upgrades will be required regardless of whether Marinus Link is commissioned. This is to the North West Transmission line. These network upgrades will not benefit from being offset by commercial gains at Marinus Link is expected to unlock, nor will they benefit from concessional finances that's been offered by the Clean Energy Finance Corporation.

The next comment is modelling commissioned by Marinus Link indicates that Tasmania could incur additional system cost of up to $200 million per annum without the Marinus Link in place. Is that statement purely based on the North West Transmission upgrade that's required regardless of Marinus Link?

Mr PARAMESWAR - I don't believe so. The analysis there was a desktop analysis and there were impacts of climate change that were considered here and potentially lower yields in the future, impacts of a one in 10-year event like the one that occurred in 2015-16. Based on that and the fact if there was no wind investment in Tasmania, because there is no signal for further wind investment in Tasmania, you would have to import from Victoria. You would have to run gas. The $200 million was based on the fact you're importing more expensive generation from Victoria and running gas. Fundamentally, that's what the analysis was based on.

CHAIR - Earlier on in the submission you make the note that both the ISP and the RIT-T analysis illustrate that Marinus Link will play a critical role in delivering Australia's clean energy future at the lowest possible cost. What are the counterfactuals used in the ISP and RIT-T analysis there? Specifically, have they carefully evaluated the alternative where Tasmania takes responsibility for its own electricity supply without Marinus Link?

Mr PARAMESWAR - The aim of the ISP - let me start with the RIT-T update, if that's okay. What we've done in the RIT-T update is use the scenarios that AEMO modelled. AEMO is the independent expert and runs the National Electricity Market. They've run three scenarios: the progressive change, the step change, and the green hydrogen scenario. These three scenarios collectively are what we looked at and we've done our RIT-T modelling. We engaged EY, who are experts at this and have completed their modelling. They've come up with gross market benefits for each scenario. We've looked at the weighted average using AEMO's Delphi panel weightings.

Ms GAMBLE - In addition to that, the Australian Energy Regulator, in conducting the regulatory investment test, does look at the with and without Marinus Link.

CHAIR - That was the question I did quite get to. Did it look at that option?

Ms GAMBLE - What they do is look at a scenario without Marinus Link and they think about all the things that need to happen in the system if Marinus Link wasn't there. What's all the extra generation? What's all the extra fuel cost? What's all the extra losses in the system that would need to be there if Marinus wasn't? Then you put Marinus in and you compare that to the investment that needs to happen in the system with Marinus in place. You compare the two cash flows and you get a calculation of the net benefits. That's where the AER came up with the net benefits of avoided cost of $1.8 billion. That's the deferral of capital expenditure that would otherwise have had to happen if Marinus wasn't in place.

CHAIR - In terms of the cost to build Marinus Link, making assumptions that certain things are going to happen and certain things aren't, now with the new ownership structure, how is it to be funded? Where is the money coming from?

Ms GAMBLE - The money comes from two places: equity and debt. The equity is in proportion to the ownership - 17 per cent from Tasmania, 33.3 per cent from Victoria, and 49 per cent from the Commonwealth - for 20 per cent of the cost. That is because we're structuring it 20 per cent equity, 80 per cent debt. The 80 per cent comes from the Clean Energy Finance Corporation with concessional finance. This is finance below the commercial rate that we would otherwise have to pay.

Mr BAYLEY - What rate is it?

Ms GAMBLE - I'm afraid that's not something that I can tell you.

Ms FINLAY - I learn on repetition, so thank you for that question. I had forgotten that this morning as well.

CHAIR - What's that?

Ms FINLAY - The breakdown between the equity and debt.

CHAIR - Right. If we can drill into the 20 per cent equity then, was $103.8 million Tasmania share?

Ms GAMBLE - Based on an estimate of the total cost being somewhere between $3.1 billion and $3.3 billion. That's the amount publicly available at the moment. If you then took 20 per cent of that, which would be the total equity contribution, then 17 per cent of that you get to around $106 million.

Mr PARAMESWAR - $106 million to $107 million.

CHAIR - Between 106 and 107?

Ms GAMBLE - Million dollars for Tasmania's equity contribution.

CHAIR - How much has Tasmania put in to date then?

Ms GAMBLE - I might ask Andrew to answer that question.

Mr HUGO - To date, up until 30 June, the Tasmanian contribution is 85.7.

CHAIR - $85.7 million?

Mr BAYLEY - Can I interrupt there - because we're into -

CHAIR - Into the 20 per cent of equity funding.

Mr HUGO - Can I clarify - there were two different questions there. We're talking about the capital structure, the debt equity split, the total equity contribution for Tasmania over the life of the project. The second question was how much has Tasmania contributed to date? The contribution to date is $85.7 million.

Ms FINLAY - That's before, that's pre-funds.

Mr HUGO - The way the arrangement works, I believe Tasmania's equity contribution, their spend to date is being recognised as their equity contribution. It's not plus.

Mr BAYLEY - The $103.5 million that made TasNetwork's hole in the budget is part of that?

Ms GAMBLE - The $85.7 million goes towards that?

Mr BAYLEY - Yes. I understand.

CHAIR - We're not up to the $106 million - $107 million yet?

Mr HUGO - No.

CHAIR - Effectively, if there's more -

Ms FINLAY - There's somewhere between $3 million and $20 million to come.

CHAIR - It's from $85.7 million up to, notionally, $107 million.

Ms GAMBLE - That's on the basis that we go forward with the project, of course.

Ms FINLAY - That they stick around, too.

CHAIR - If the cost blows out - which is quite possible building anything today - and the percentage share of Tasmania is 20 per cent of the equity, reaches the $107 million, let's say, how is it funded from there?

Ms GAMBLE - That will be a matter for the Tasmanian government to decide. It's a bit like the question asked earlier about the equity shares. The Tasmanian government will need to make a final investment decision about how they proceed beyond that point.

Ms FINLAY - Their whole-of-government business case is coming out 30 days before, then you have your decision. Is there a pre-identified amount of time within which all the equity partners need to determine their contributions?

Ms GAMBLE - Yes.

Ms FINLAY - Can you remind me? I don't know if I know what that is.

Ms GAMBLE - They need to decide themselves whether they go forward with a final investment decision.

Ms FINLAY - Is there a timeline on that decision?

Ms GAMBLE - I understand there is, yes. We're planning at the moment to make our recommendation on the final investment decision by 31 May. Then the shareholders will make their decision.

Ms FINLAY - At this stage, there's not a publicly disclosed period of time within which they have to do that?

Ms GAMBLE - No. We have some other deadlines to make sure we stick to, to keep our commissioning date at the 2030 date.

Ms FINLAY - That's right, there's not much wriggle room.

CHAIR - Going back to the question, it's up to the Tasmanian government, and we can ask them. They are yet to front up at this stage. I recall having a briefing with ReCFIT. From memory, it was before the establishment of the new company. There was some suggestion that Tasmania wouldn't be required to respond to any further calls for capital until we reached our threshold, which is roughly $107 million. After that, Tasmania would still need to agree for further calls on capital to be granted. Being that we are a minor party here, we're the small cousin in a bigger pond.

Ms GAMBLE - That's right. That decision comes with the final investment decision. They then decide whether or not to go forward with their equity commitment for the completion of the project.

CHAIR - When we get to the final investment decision, we'll have considered a whole-of-government business case -

Ms GAMBLE - That's right.

CHAIR - The financial investment decision will be made. Will we, as the people of Tasmania - who we're trying to do some work on behalf of here, in a very complicated area - will we know what the deal is, insofar as, are we likely to be called on to provide extra funds to prop up above the $107 million of our share?

Ms FINLAY - Like the *Spirits*.

Ms GAMBLE - I beg your pardon?

Ms FINLAY - Under my breath, I was saying, the same way that would've been required by the *Spirit*s - that extra contribution.

CHAIR - Let's not talk about that.

Ms GAMBLE - The amount that Tasmania will be required to commit to will be clear at the Final Investment Decision, and that's the point at which they'll decide.

CHAIR - If there's extra calls for capital beyond the $107 million, it will be clear -

Ms GAMBLE - It's between $106-$117 million.

CHAIR - Sorry, my hearing's not the best.

Ms GAMBLE - Am I answering your question? I'm keen to do so.

CHAIR - Yes, we're getting there. If the Final Investment Decision is positive, 'yes, this is a goer', but Tasmania thinks, 'well, it looks like we're going to have to pay $300 million, say, or some figure above $117 million, we've had a few experiences of this in Tasmania lately.

Ms GAMBLE - I hear that.

CHAIR - We have a pretty poor situation with our budget that doesn't have a lot of room to be handing money hand-over-fist for other reasons -

Ms GAMBLE - I understand.

CHAIR - Tasmania could still say no at that point?

Ms GAMBLE - Yes.

CHAIR - If they said yes at that point and, say, the call was for $130 million - so a bit more - could there be further calls for capital beyond that call that's agreed to in the FID (Final Investment Decision), assuming they went ahead?

Ms GAMBLE - There could be if there were cost overruns, yes.

CHAIR - How is that decision then made?

Ms GAMBLE - That's a decision made by the shareholders, as to the extent to which they'll be exposed to the cost overruns and how they will fund it.

CHAIR - There's three shareholders, and Tasmania's a poor little cousin sitting on the side with a smaller shareholding, arguably a smaller voice. Does it require a unanimous decision to agree that Tasmania should pay extra?

Ms GAMBLE - It would. All the equity holders would be required to pay extra for cost overruns in proportion with their equity.

CHAIR - We sold our equity before we got to that point - then what?

Ms GAMBLE - Then you wouldn't be exposed.

Ms FINLAY - There is a clause in the contract, isn't there, around being able to share our interest?

Ms GAMBLE - I understand that's the case, yes.

Mr BAYLEY - If Tasmania decided not to make a financial investment decision, the other parties have the option to pick up our share.

Ms GAMBLE - That's it. Exactly. At the same time, they would also not receive dividends when Marinus became a profitable entity.

Ms FINLAY - Can I take the questioning in a slightly different way. I'm interested in the order that's been made for the cable and the booking of the vessels to do the laying. I'm a little off track here, but as it was presented to me, or as I received it, the Tasmanian government was a significant party, or the only party, to that process. Could you explain to the committee your involvement in the order of the cable and the booking of the vessels and the timing certainty of those?

Ms GAMBLE - I'll make a few introductory comments and then I'll pass to Prajit, who was leading all of that. The Marinus Link Pty Ltd company was sold by TasNetworks to the three governments on 22 March this year.

Ms FINLAY - That's that black hole?

Ms GAMBLE - Yes, exactly. Prior to that it was a company, a subsidiary of TasNetworks. Effectively, TasNetworks' subsidiary did all the preliminary work associated with lining up the cable and converter contracts. That's my introductory comments. Praj knows

this in much more detail than I do, so I'll give him the opportunity to answer your question in more detail.

Mr PARAMESWAR - If I understood your question correctly, it was more about the timing of the cable itself. At this stage, the cable is expected to be in, and in service, in 2030.

Ms FINLAY - Thank you. That was the second part of my question. The first part - which I might not have articulated clearly - concerned the funding for the cable. Which financial statement does it sit on? I'm assuming it's in yours. Has that been acquired already? How does the process of acquisition for the cable work, and who needed to make contributions to that?

Ms GAMBLE - Prior to that, there was a commitment deed signed about a year ago and then there was a contract we entered into more recently that was enabled by Commonwealth underwriting.

Mr PARAMESWAR - In September last year, we had a capacity reservation agreement with Prysmian, which was underwritten by the Commonwealth government and on 1 August this year we signed a contract with Prysmian and effectively - and this is available publicly also - that that is subject to issuance of a notice to proceed. Until then -

Ms FINLAY - It's underwritten by the Commonwealth, right, thank you. That is clear for me, because at Estimates time people were asking about where the funding sits. If we could also go through that for the vessel, to secure the vessel to lay the cable and where the financials for that sit.

Ms GAMBLE - It's part of the same contract.

Ms FINLAY - It's a single contract? Okay, great. Thank you.

You spoke momentarily, around - it's all pretty tight. How much movement is there in the timing of the delivery of the vessel and the cable, based on our capacity to be ready for it? It is a very tight and expensive international market. With that contract, although with the risks - with the Commonwealth, maybe we aren't as concerned with this - but what are the financial impediments to not being ready on time and does that put any risks to Tasmania? Although they are underwriting it now, is there a financial risk to Tasmania if the timing of those don't line up?

Mr PARAMESWAR - Overall, we can influence the timing of the third package we are working on, which is the balance of work civils. Effectively, the way we would manage the project is, we would have sufficient lead time for that construction to occur earlier. We also have that ability with the converter contract, which is another key package we have signed. It is available publicly that we have a converter contract with Hitachi on 1 May. The way we've set up the program at this stage and the sequencing of the program is such that we have the ability to construct, as per the balance of work civils, the converters come in earlier, then the cables are the critical part. That is how we've set it up and that's something we would be working hard to execute as a plan.

Mr GARLAND - Irrespective of the equity and debt investment, doesn't Marinus Link need to recover 100 per cent of the construction cost from the electricity consumers? It does? Right.

Also, you talked about lost revenue before, when we were not able to -

CHAIR - Revenue forgone.

Mr GARLAND - Revenue forgone. Hydro water is stored, isn't that there to be used at any particular point in time? It's not actually lost, it's just sitting there waiting to be used when you -

Ms GAMBLE - It is. The beauty of Marinus is that it gives Hydro more opportunity to sell that water at a higher price when it can get a better price for it by exporting it to the mainland. It actually increases the value of the water and, therefore, the revenue to Hydro and the revenue to Tasmania. It's a more clever use of the water.

Mr PARAMESWAR - Can I also add that Hydro receives close to two-thirds of its rainfall between the months of June and October every year. During that period when - Hydro has a lot of run-of-river storages and, if all the rain comes together at that period, which it does, there is quite a bit of spill. That is something that, going back to your question, yes, there is an opportunity value. As the Chair pointed out, if the water was stored in the Lake Gordon, in the Lake Poatina, perhaps even in John Butters, you could make use of that at a future period, but there are run-of-river storages that, unfortunately, you may not be able to recover the opportunity value.

Mr GARLAND - That's interesting because we just went around there. They're using the water from one storage, then it's gone into the next storage and then used, so I'd say there's very little that would be spilled over and lost. The design of Hydro is fairly spot-on really. They were clever with what they did.

I've got another question. You've mentioned a projected 1423 jobs for Stage 1 of Marinus Link. The figure includes both direct and indirect jobs as well as induced jobs. What are induced jobs?

Ms GAMBLE - It's possibly not the best use of language. These would be jobs from industry that would be attracted to Tasmania.

Mr GARLAND - Right. Would it be fair to say that most of these workers who do this work have to be highly skilled and -

Ms GAMBLE - The analysis shows there's a bit of a spectrum of skill levels. We would describe it as across a range of different educational levels.

Mr GARLAND - Have you done any research in Tassie to determine what numbers of skilled workers we have which could be used in in those jobs that are coming up?

Ms GAMBLE - I haven't. Was that considered in the EY work?

Mr PARAMESWAR - We might have to take that on notice and come back to the committee.

Ms FINLAY - It's been a long day and I quite like analogies and I'm pretty sure it got used this morning and now I'm not sure. The classic car was today, wasn't it?

Members - Yes.

Ms FINLAY - Craig, in terms of what you were just asking then about that lost capacity, we had someone use an analogy this morning around Tasmania's Hydro being like the classic car and you only want to bring it out on special occasions. You don't want to run too hard and that sort of stuff. So this capacity loss is sort of like sitting behind the classic car out on a Sunday drive going at 80 kilometres an hour and then you come into a two-lane highway which means you can get around in that and productivity increases. It's almost like that, isn't it - that buffering or the holding back of opportunity? I drove down behind some cars at 80 kilometres this morning -

CHAIR - The other point that was being made though is it's very expensive to maintain a classic car as it is -

Ms FINLAY - You want to be able to let the more efficient cars crank on at 110 and increase productivity.

Mr BAYLEY - Can I ask a question that flows on from the contracts? Is there anything else that you've had to enter into contracts for, like getting in the queue of that sort that isn't as well publicly known. We did hear about the cable and so forth, but is there anything else that you've had to tee up, so to speak?

Ms GAMBLE - Tomorrow, tenders close for the third big package of work which is what Prajit described as the 'balance of work civils', which is the construction of the converter stations and the civil works to bury the cable.

Mr PARAMESWAR - It's actually today.

Ms GAMBLE - It's today, is it?

Mr PARAMESWAR - Yes.

Ms FINLAY - And you're sitting here with us.

Mr BAYLEY - So you'll go through that process and, presumably, lock into a preferred contractor?

Mr PARAMESWAR - The process there is a bit more nuanced. We're going through an early contract involvement process and it's going to be a competitive process all along. Again, going back to the Chair's point about the Australian Energy Regulator and the way they look at our costs and ensure that these costs are prudent and efficient, we have to ensure that the processes are competitive as long as they continue to be.

Going back to your point, Mr Bayley, in terms of selecting a preferred proponent, it would be sometime in the middle of next year.

Ms FINLAY - Given that there are significant civil works in Victoria and in Tasmania, will that be broken down or will the same company likely get the civil works in Tasmania and in Victoria? Was there any requirement in the tendering that there is local content or subcontractors and things in that civil works? We've seen some good things in Tasmania happen where often our Tasmanian companies aren't at scale enough to deliver a lot of these big civil works, but they can JV or whatever to deliver that. Was there any expectation of that in the tendering?

Mr PARAMESWAR - Yes, there are expectations set for local content, yes.

Ms FINLAY - Great. On either side?

Mr PARAMESWAR - Yes.

Ms FINLAY - Cool.

CHAIR - Can I just ask another one? Are you able to explain to the committee the cost of Marinus as per the business case, and will it be different from the regulated asset base expected from AER or do you expect it to be the same - the cost?

Ms GAMBLE - The cost of Marinus will be what comes out of these competitive tenders and the AER say that if they are satisfied that the costs are prudent and efficient and one of the tests, as Prajit said before, is that they have been competitively tendered, then they will incorporate that into the regulatory asset base.

CHAIR - I will continue to read it and maybe you have answered the question a bit.

> If the amount of revenue that Marinus is allowed to recover from consumers is less than the amount an investor would require to recover the full cost of Marinus, does that mean the project has suffered an irrecoverable loss that should be factored into the investment decision to build Marinus?

Ms GAMBLE - The answer to your question is yes, but we don't anticipate that the regulatory asset base will be less than the cost of Marinus because we are doing all that is necessary to prove that it is being built at the lowest cost.

Ms FINLAY - AER has to approve that anyway.

Ms GAMBLE - That is right. We're currently preparing a submission that will go in by the end of the year to the AER. They will review all our costs at a very granular level. They will satisfy themselves that it has been built at the lowest cost.

CHAIR - So, it's not comparable in many respects to Basslink and the process they're going along with the moment, but obviously APA made a decision about what they thought was a reasonable price for that asset. The AER may have a different view, which we still want to understand what that might look like. Are the two comparable at all in this process or not?

Ms GAMBLE - Philosophically, yes, but practically no. The cost of the regulatory asset base of Basslink will be the lower of its depreciated cost or its market benefits. The market benefits of Marinus are substantial, so the lower of the market benefits or the actual cost will be the actual cost.

CHAIR - For APA?

Ms GAMBLE - For Marinus.

CHAIR - For Marinus, right.

Ms GAMBLE - So the same philosophy applies. But in Basslink's case, it's going to be a different calculation compared to Marinus.

CHAIR - If, for example, the AER determined that the price that APA paid was significantly higher than what they value the asset at, then that's just bad news for APA.

Ms GAMBLE - It is.

CHAIR - Okay.

Ms GAMBLE - But of course Basslink is a 20-year-old asset operating at a perhaps -

CHAIR - Reduced capacity. We know that because they've told us that already. Yes, that's on the public record, in one of our other committees.

Ms GAMBLE - Exactly.

Ms FINLAY - May I just ask you a question coming out of those questions on the timing when Vica asked when the outcomes of those balance of civil works tender might come out and you said 'next year' is part of that, because that all gets put into what you're reporting to the AER and then there's a determination made and then you can only do that after or no, they're just by happy circumstance?

Mr PARAMESWAR - It was more along the lines of the market which effectively has provided us feedback that they want to work with us collaboratively in a collaborative contracting style approach -

Ms FINLAY – Rather than just deliver it at a fixed price or whatever -

Mr PARAMESWAR – Exactly - fixed D&C or EPC. Basically, the market is saying the construction industry such that in Australia today they want to work with us in a collaborative way, understand our risks, we understand their risks and then we go through an incentivised target cost type approach which that process takes a bit of time.

CHAIR - Just a couple of other things. In terms of the value, I guess, it's that the Marinus Link could provide. I assume that the AER optimises the whole NEM, like it's focused on the whole NEM, not just for Tasmania. Is that correct?

Ms GAMBLE - The AER is the economic regulator of the entire NEM, so it goes through the regulatory investment test for all transmission projects. So, yes, in terms of optimization, I'm not sure what you mean by that.

CHAIR - I'm trying to understand. We had some comments earlier about there being a greater cost benefit for Tasmania and for Tasmanian customers if the benefits to be felt by the whole country effective or everywhere that it has oversight which is the whole of the NEM. Why would Tasmania get a bigger benefit unless it's just the population base we're serving? Is it back to that argument?

Ms GAMBLE - Yes, the population base and -

CHAIR - It's on a per capita basis, we're talking, is it?

Ms GAMBLE - I am trying to understand the question.

Mr PARAMESWAR - Yes. I didn't get the question as well. Sorry, Chair.

Ms GAMBLE - Would you mind repeating the question?

CHAIR - Yes, if we suggest that there's benefit for the market because the whole of Tasmania being the battery of the nation scenario that has been put out there early on in the discussions around this matter. We talked about Tasmania getting a larger benefit cost wise, but the benefits there for the whole eastern seaboard and South Australia. I'm not quite sure how you assess the cost benefit analysis of Tasmania being better than other states?

Ms GAMBLE - I think the comments we made earlier were really about the proportional impact of Marinus on a small market like Tasmania compared to a very large market like Victoria.

Mr PARAMESWAR - If I'm not mistaken, Chair, you're referring to some previous studies that were done few years ago. In terms of the proportional benefits, I think we haven't looked at or updated that study. But yes, in terms of how that was calculated, Sandra is absolutely right. It was based on the benefits overall and then prorated based on the size of the market of each state.

Ms FINLAY - On the notes on that FTI report, when you were talking about that before, one of the other notes that's over here is because one of the things that we get in trouble with when we talk about Tasmania's energy prices versus Tasmanians energy bills is that we use more power in winter because it's colder. One of the things that it says here is Tasmanian consumers expect to experience the highest savings per household driven by the relatively high level of household consumption so we're getting a greater proportion of the benefit because we're using it more.

Mr PARAMESWAR - In that same report that you're looking at, the average consumption is 7428 kilowatt hours for Tasmania. That's an average typical residential customer and the Victorian is 4000, so you're absolutely right, yes.

Mr BAYLEY - There's a lot of projects here, generation projects that are still waiting on their final investment decisions - Cethana, Tarraleah and a number of wind farms. How do they

interact with the Marinus financial investment decision or do you see one leading the other or Marinus leads them?

Ms GAMBLE - I would say that Marinus final investment decision as a precondition for Tarraleah. I would expect so. I'm not on the Hydro board, so I'm not sure.

CHAIR - While we're on Hydro, how do you see the impact of Marinus Link on Hydro's financial position?

Ms GAMBLE - I think it would substantially enhance it because of all the things that we've talked about on the ability to be able to gain more value from the water that they have and use it more strategically at higher price. At times they would, I'm assuming, be much more profitable.

CHAIR - Some of the people in Tasmania feel concerned that our GBEs make lots of money and that we require them to operate as commercial entities. We had some evidence earlier and it's been talked about. How do you best get the value back to Tasmanians of our own Tasmanian owned energy entity? If they make higher profits, they pay higher dividends and the Tasmanian government currently has a policy. I think it's over $110 million. The rest gets creamed off to give back to consumers, but the super profit bit goes directly back to consumers of energy. It's regressive rather than progressive in that regard. Do you think that's a fair system or should there be another way because the money goes back into the coffers of Tasmania one way or another? It either goes directly to the benefit of all Tasmanians or it could go into the state coffers to be distributed. It depends how much you trust the government perhaps, in a more equitable way, let's say. Do you have a view on that?

Ms GAMBLE - I'm afraid I don't.

CHAIR - No, but you think there's a pretty reasonable chance that Hydro will be much more profitable if Marinus is in place?

Ms GAMBLE - To the extent that they can extract more financial value from their water.

Ms FINLAY - Is it possible with the interconnector? There's a lot of benefits to Hydro for those trading benefits and the timing, but could it also refocus Hydro's priorities around their customers as well, where people in Tasmania, now with that extra interconnected with the capacity- does it open up the market for them to other buyers?

Ms GAMBLE - Yes.

Ms FINLAY - In that way, I think the benefit to Tasmanians is that Hydro then have to be absolutely on the ball because they're no longer the monopoly, but they are the predominant. I think that's a benefit as well.

Ms GAMBLE - Yes, that is right. Customers would have the option of buying contracts from other people in other locations.

CHAIR - It makes biggest sweetheart deals for industry. No complaints about that.

Mr SHELTON - Along this discussion, and we just said there's some decisions out there that people are waiting on the Marinus decision before they move. I'm sure Marinus has been talking to wind farm proponents and their ability to invest or their wish to invest with the Marinus Link versus how much they're going to invest without a Marinus Link. For the future production of power in Tasmania, it could be produced on island and exported or used with on island. The question is, what's the intent of the wind farm developers with Marinus Link and without Marinus Link? Have they indicated to you at all what they intend to do?

Ms GAMBLE - We don't discuss that with wind developers. Our job is to build Marinus Link at the lowest possible cost within the commission time and I guess -

CHAIR - Your only direct contact is TasNetworks, is that what you are saying? Where it actually plugs in?

Ms GAMBLE - Possibly, but we are not party to those discussions.

Mr SHELTON - I'm sure, Chair, that if the government did have any extra money out of Hydro, they would use them in health, education and housing anyway.

CHAIR - Thank you for your appearance. Is there anything you wish you said that you haven't or that we haven't covered?

Ms GAMBLE - I cannot think of anything but thank you for asking.

CHAIR - It's a very complex area that most of us feel quite inadequate to, I speak for myself here, really fully understand the implications of it. I appreciate you taking the time to explain those matters to us. If you think there's other information it might be helpful to the Committee, feel free to forward it on through the secretary. We might need you to come back, depending on what happens in the next little while, it may be that if things change.

Ms GAMBLE - We'd be happy to come back and especially if we can clarify anything.

THE WITNESSES WITHDREW.

The committee suspended at 3.13 p.m.

The Committee resumed at 3.16 p.m.

CHAIR - We're online now with Georgia Holmes and Michael Thomas.

Ms GEORGIA HOLMES, POLICY & COMMUNICATIONS ADVISER and **Mr MICHAEL THOMAS**, FIELD SUPPORT ADVISER (VIC & TAS), MASTER ELECTRICIANS AUSTRALIA WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED VIA WEBEX.

CHAIR - Welcome to the public hearing of the Energy Matters committee. We appreciate your submission. It was very detailed and very interesting submission, so thank you for that. This is a public hearing. It is being broadcast and everything you say to the committee will be covered by parliamentary privilege that may not extend if you speak outside of the hearing itself. Keep that in mind. Everything is public unless you make the request that the evidence be taken in camera, then the committee will consider that request. Otherwise it's all public. Do you have any questions, either of you, before we commence?

Ms HOLMES - No.

CHAIR - Are you the main spokesperson, Georgia?

Ms HOLMES - Yes, I will be.

CHAIR - If you could introduce yourself and then speak to your submission. The committee will have questions for you in regard that.

Ms HOLMES - Absolutely. I have prepared an opening statement. I am Georgia Holmes. I am the policy and communications adviser at Master Electricians Australia (MEA). I will go on with my opening statement.

Good afternoon, Chair, and members of the committee. Firstly, we would like to thank you for the opportunity to appear today and provide our feedback on this inquiry. We applaud the Tasmanian government for its proactive approach towards inquiring into Tasmania's energy matters.

Master Electricians Australia is a peak industry association representing electrical contractors across Australia, the majority of whom are small and medium businesses. It is our priority to ensure the transition towards electrification is conducted safely and efficiently through the utilisation of the private electrical industry.

Tasmania is to be commended for achieving 100 per cent self-sufficiency in renewable electricity generation. However, with solar PV accounting for only 2 per cent of this accomplishment and the State's legislative commitment to doubling renewable energy generation by 2040, MEA believes there is a significant opportunity for Tasmania to capitalise on solar PV.

As a collective voice of our licenced electrical members, MEA strongly advocates for policies that facilitate the implementation of Consumer Energy Resources, which I will refer to as 'CER' throughout this public hearing.

The electrical industry is poised and eager to assist in the private electrification transition. CER offers sustainable economic and environmental benefits. With appropriate government policies to support its equitable, efficient and well-planned rollout, CER will become increasingly accessible for all households to enjoy, and reduce the need for large transmission networks. However, the initial upfront costs can deter successful adoption, and for some, it is simply an unaffordable option.

The complete advantages of CER can only be unlocked with widespread community adoption. Therefore, we submit the Tasmanian Government should offer subsidies for CER, to encourage broader uptake. Without incentivised broad adoption of CER, there could be increased energy costs for those who remain dependent on the traditional network, as they will be left to absorb the network costs imposed upon them. MEA contends this presents a co-investment opportunity for households and businesses that is more cost-effective than alternatives like hydrogen.

CER empowers consumers to manage their energy usage effectively. It facilitates domestic, commercial and industrial customers in establishing trading agreements to shift loads to low-cost periods and utilise stored energy during peak price times. This capability enables households and businesses to proactively lower their energy expenses.

CER assets - that we submit should be covered by the Tasmanian Government financial policy schemes - include solar PV panels, home batteries, EV charging infrastructure, and home energy management systems. The categories of benefits that can be anticipated from CER include financial, equitable access to energy, public co-investment, enhanced grid stability, climate disaster resilience, environmental benefits, and distributed generation infrastructure.

MEA proposes the Tasmanian Government offers rebates which incentivises package installation of solar PV and household batteries, and private EV charging infrastructure. This would not only incentivise greater private uptake, but also ensure equitable access, particularly for vulnerable households such as low-income families and tenants.

In order to make this a reality, though, a skilled labour pool is essential to maintain a sustainable, long-term decarbonised economy. However, Australia is currently facing a skill shortage crisis which demands immediate attention. MEA strongly advocates that investing into our future workforce now is a solution to ensuring we have sustainable, well-resourced and skilled electrical labour capable of handling not only installation, but also the ongoing maintenance of CER.

MEA advocates for key initiatives to enhance electrical apprenticeships, including:

- retention and completion grants for apprentices and employers
- introduction of an ATAR Certificate III in electrotechnology at secondary school
- implementation of a transfer fee, similar to that already in place in South Australia, to disincentivise large contractors poaching apprentices from small contractors

- an automatic mutual recognition scheme in the electrical industry for all jurisdictions, including those that have not agreed to the national AMR Scheme.

We thank you for the opportunity to appear today, and are happy to take any questions.

CHAIR - Thank you. Since you're online, I should introduce members of the committee because you can't actually see most of us. This is Janie Finlay, Craig Garland, Dean Harriss, and Mark Shelton is online. We've lost a couple of members during the day.

Thanks for the submission. You're representing your sector and we know, as you've stated, we have a skilled labour workforce challenge. Do you have any real clear idea about what the actual demand is going to be in Tasmania, regardless of, or perhaps with Marinus? There's going to be a whole heap of additional work there, but even just in the proposed wind farms, rooftop solar - and other changes are going to have to happen regardless. I can't remember the actual figure, but it's a low percentage of young people who actually choose to do STEM in their senior levels of their education.

Ms HOLMES - I'm pulling up some statistics as you're speaking. I can speak to it a little bit. I don't know if I can speak to the entire renewable energy workforce generation, but I can tell you, for electricians, by 2030 we'll need an additional 32,000. That's in Australia in general, I can't give you Tasmania specifically. I apologise. Plus an additional 85,000 electricians by 2050. Across the country there is a genuine, real need for more.

CHAIR - Short of stopping big companies poaching them from little companies, where would you suggest that we start? Particularly for Tasmania, because we like to encourage our own people to work in our own state and that sort of thing. What particular incentives should we do in Tasmania to try to encourage young people to take up professions in, not just being an electrician, but all the other skills and qualifications that this sector will need in the future?

Ms HOLMES - We advertise for a secondary school curriculum, and I'll explain that in a second, but this can be applied across border to all STEM subjects. We advocate for the introduction of electrotechnology courses within secondary school. That would be a scaled ATAR subject while providing credits for those subjects which would form the Block 1A of the Certificate III qualifications. This will give students a head start in their electrical licence, and it also alleviates the capacity constraint on RTOs when there's an influx of school leavers.

The intention of that is also to expose students at an earlier age. It creates a generational and perception change towards the industry, and there's a greater exposure. We also hope that diversifies the number of people entering the workforce, such as females, et cetera.

CHAIR - With the number of electricians alone that you've talked about - we need to start with children almost before they're born now to meet the target - but certainly young children, you tend to be focusing on the upper end of education - years 9, 10, 11 and 12. Should we be focusing further down, to ensure that young children in primary school are exposed - develop an interest in maths and science, and the requisite skills? We do have poor outcomes in Tasmania, I will add. We have poor educational attainment which is a bit sad.

Ms HOLMES - To speak to that in part, what we hope this will do in terms of educational attainment is actually inspire more students to stick to a particular subject. With the ATAR

focus, we sometimes argue that it's potentially swaying some people away from education because it's not really something they want to focus on. To a younger age group, that would be great because it is a generational shift that we need to do, a perception change. What we are advocating in our policy is more specific to getting their qualification underway, but absolutely all you can do to get the stereotype associated with it and increase interest at a younger age would be great.

CHAIR - Have you done any work or have any great understanding in Tasmania about the limitations, if you like, of the distribution network to actually significantly ramp-up rooftop solar? We had TasNetworks in earlier. They said that Tasmania has been slower to take up rooftop solar than some other jurisdictions where it's been quite a challenge because of the rapid pace of that. Do you have any insight into what the people on the ground here are telling you about the distribution network and could we ramp it up?

Ms HOLMES - I personally haven't heard anything about the distribution network itself. Michael, have you heard anything?

Mr THOMAS - No, not really. The problem Tasmania has is that it's very spread out as far as population bases and so transmission and stuff, even talking to TasNetworks is an issue, but as far as anything like that, no, I haven't really heard anything.

Ms HOLMES - To add on to that point, what we advocate in terms of the distribution space, the benefit of the solar PV in the household is it doesn't require a lot of transmission, that's more for the export to get that to the grid. The benefit of solar is it actually allows a household to generate and utilise and store, where a battery is in place, so the transmission shouldn't be such an issue. That's one of the benefits that we really advocate for solar.

CHAIR - What particular skill sets do you need then for the installation, management and ongoing management and maintenance of rooftop solar and battery storage in a residential setting?

Ms HOLMES - I will pass it on to Michael. He's more of an expert.

Mr THOMAS - The qualifications to do it, you need to be a qualified electrician and then you have the other accreditation on top, so you get your solar accreditation, which also requires continued professional development, which is an Australia-wide thing. Once the electrician is trained, then they just go through the process. As long as they're current with their licence, that's all you need. Ongoing maintenance is fairly routine: it's things like cleaning, checking connections and so on, once it's actually installed.

CHAIR - This should be achievable if we had enough electricians, effectively, with their ongoing CPD in solar installation. Is that what you're saying? There's not a whole new category of worker we need.

Mr THOMAS - No. The electricians are actually trained when they get the accreditation to do solar. They're trained to do the complete installation, so it's right from putting the frames on the panels and obviously then you get into the connection points and so on, then your grid reconnect. It's actually done 100 per cent by electricians.

CHAIR - Do you have a view then on the best mechanism to subsidise, incentivise or support the roll-out of CER and who to and how?

Ms HOLMES - We really push for financial incentives first and foremost. Rebates are really what we push really hard for. I know that Tasmania has got loan schemes in place, which is 0 per cent interest, which is fantastic, but the problem with the CER is it can be an unaffordable upfront cost, especially as we get the roll-out going. The purpose of the rebates is to make it more affordable and more equitably accessible for all households.

CHAIR - These require policy decisions. There's the policy decision on all public housing, a government could make that decision, roll that out, that would cover a lot of homes in Tasmania. There's also the feed-in tariffs that started off super-generous, now they've gone the other way and most people will say, 'hardly worth the effort', but then someone's got to pay for the distribution network. Can you provide some colour and light around those matters?

Ms HOLMES - Sure, and please pull me aside if I go to off-topic in whatever I talk about. The tariffs are one thing that we are particularly big on. As a side note, the feed-in tariffs are obviously incentivisation. The more people who can make their money back is great. That's an additional bonus to the economic savings that the solar. Obviously, you have better control over your energy and that's the economic benefit that we really push for the households. The feed-in tariff is an additional bonus.

One thing we are really pushing for right now is the risk of 'sun tax', which is what it's been commonly referred to, where the households are going to be charged to export solar back to the grid. I believe New South Wales is the only state that's actually implemented that. I could be wrong. I'm almost sure that's the case, but the AER did make a ruling a couple of years ago with this case, so that is one thing we're really pushing hard on, on the tariff space.

Sorry, what was the rest of the question, I got carried away?

CHAIR - It was about rebates or policy decisions to say 'you will build', particularly in public housing.

Just before we go back to that one, perhaps, with the tariffs, if you have solar on your roof and you're not storing, it will have to go back into the grid if you're not actually using it right there, right then, which is often the case during the middle of the day, so, obviously the so-called 'sun tax' would be a disincentive for many people. Batteries at this stage are still relatively expensive and outside the reach of a lot of people. If more people had battery storage, there'd be less energy going back into the grid so do you think that the promotion and support, subsidisation, whatever it is, of battery storage should be prioritised, as opposed to an adjustment to the feed-in tariff to incentivise, acknowledging that New South Wales has gone the opposite way?

Ms HOLMES - Absolutely. Now that solar has really taken off in a majority of states, we're now focusing on the battery incentivisation. For example, in Tasmania you have 57,000 solar installations and only 1400 of those have batteries attached. That's according to the Clean Energy Regulators statistics as of 2024. That's a significant imbalance between solar and battery. We really want to push that up to reduce the strain on hosting capacity and reduce the need for those 'sun taxes', or justification.

CHAIR - So, how best to do it? Is it a rebate? What is it? It depends on the size, I guess, but they're not cheap. They'll get cheaper over time, I imagine. If we just use an incentivisation or a rebate, then that will disproportionately benefit people who are wealthier and have a greater income. Those who are in public housing or in rental properties or have low financial means will be excluded, so is there a way to make this more equitable? I acknowledge the benefit of it, but how can we make it more equitable?

Ms HOLMES - Queensland had a framework. It's not currently open. It's just recently closed. They've had several rounds, but they actually had an income threshold to their Battery Booster program. Certain income households would get $4000 rebate, some other certain incomes had a $3000 rebate, and anything above that, there wasn't a rebate available because it was considered you were able to afford it, so there is a household income option available.

CHAIR - Do you think a staged or stepped rebate scheme is the best?

Ms HOLMES - It's certainly an option that could be considered. This is off the top of my head - I'm sure if we looked into others it would be more, but that's one of the ones we had been promoting for, yes.

Mr GARLAND - In Tasmania there's an arbitrary rooftop solar system limit imposed by local councils of 38 square metres of coverage or 8.34 kilowatt output, after which you need to apply for a minor works permit, which costs about $1000. Is this something you have heard of in other states?

Ms HOLMES - No, we've actually just had this issue brought to our attention. I've been working with Michael on this one and some internal team members. I don't believe there is another state that's got it to this extent. There were one or two other states that might have something similar. I don't want to talk into it more exactly, but it's something we're working on. Michael, do you have anything more to add to that?

Mr THOMAS - Yes. From what I've heard, just talking to other solar installers here, it is something they haven't actually come across. But it's also arbitrary because it seems to be like a tick and flick approach where there are no inspections or anything like that done. It's a bit of a weird one because the 38 square metres could be clumped into one section of roof space. If you have a rather large house and stuff like that, you can put your 38 square metres in one corner, but the rest of the house is not touched. Also, if you do a ground-mount system of 38 square metres, that's one frame on a ground mount, but you could do another one beside it with like a 100 ml gap and it is classed as two situations.

It seems, from the input that I have from our members, a bit of a silly regulation. I am not really too sure why it is in there. It is just one of those things of - as a couple of members are actually quite passionate about it - because they just do not see the sense of it because the manufacturer of the installation instructions and stuff for the solar panels actually allow for the fact of the actual size of the system. It just seems a bit odd that it is actually tapped at the - sorry, no, go on -

CHAIR - If I had a standalone garage and then a house that were not actually joined together physically, I still cannot put two separate connections on those, can I?

Mr THOMAS - I think - I will have to get clarification. I am fairly certain if you have a garage and a house, I think the 38 square metre stops at the property. From my understanding it is - if you have a ground mount, if you go out, say you have a field or something like that, you can put your 38 square metres there. Then you were allowed to put another 38 square metres on your house. If you think of - 38 square metres on a roof space, is not a large amount of roof. If you have a large section, if you have a really long north-facing roof, which is ideal for solar, you are stuck to 38 square metres. If you shove it in one corner of the house, 38 square meters, what is that - roughly 7 by 5 metres or 8 by 5. If you think of that on a roof space, you can drop it here. But then you go over to the other side of the road, you cannot do anything for the whole rest of the roof, unless you get engineering.

One of our members actually reported to us the problem was because they have that tick. Some of the other things that they look into are overlooked because it is obviously the engineers written off in it. It seems to be like a carte blanche to do what you want because it is been engineered. For our members, they just do not get it. Like George just said, we are currently looking at it at the moment.

Ms HOLMES - Can I also just add from my understanding, we have done a little bit of looking into this and I talked to our tech manager. It appears he has talked to some industry expert, it sounds like it is more of a building regulator issue. It is not an energy matter. We are going to be trying to deal with it with the energy regulators, but it is a building issue.

CHAIR - Alright, were you also engaged with the - I cannot think what the name of the federal government body is - the one that established the building code of Australia.

Mr THOMAS - Is that the National Construction Code? Is that the one?

CHAIR - Yes. Is that where the problem sits or this concern sits?

Mr THOMAS - No, it is the state. It is actually a state issue. From my understanding it was actually brought in for Tasmania only, like it was actually brought in by - I think - local government. I can get some research on it, but it was brought in a few years back. We are not too sure why it is there.

CHAIR - It would be helpful to have a bit of a background on that, like the whole regulatory framework that is unique to Tasmania, perhaps to understand what some of these barriers are and what could be done to promote and support greater renewable on already utilised land, which is what houses and sheds are. It seems odd that we cannot. We did talk to TasNetworks this morning a bit about the capacity of the distribution network to manage, particularly if there weren't batteries as part of the installation because then there is much greater demand on the two-way flow there.

Is this contingent perhaps on - from your understanding - strengthening the Tasmanian net distribution network?

Ms HOLMES - Our position is obviously - or our members - to create more batteries. I would say it is a two-sided coin because, again, solar is not reliant on the transmission. That is more for the exporting issue as opposed to actually being able to generate the solar. The transmission should not be, from my understanding, that significant of an issue for the household to generate their own solar.

CHAIR - Yes.

Mr THOMAS - Oh, sorry. I was just saying, it might be better on the distribution side, something to go to TasNetworks. They will be able to answer it better. There are issues obviously if everyone is using solar during the day and you cannot just effectively flip a switch and stop the distribution. So, it's probably a TasNetworks thing.

There is backstop available in inverters these days. They've just brought in Victoria and other states. I think it's also New South Wales where the distribution companies have the ability to, if they need to - say if there's either too much solar being generated, they actually now have the capability to turn off the feed into the grid, even to the point where they can actually shut the solar system down totally if they need to. So that's coming out - I think it's the start of October or even next month.

CHAIR - Does that cause any damage or potential damage to the equipment on the back end, the solar panels?

Mr THOMAS - No, at the moment in Victoria, that's where I'm based, but you've got a five kilowatt input. Some distributors, they turn around and say you can only put in five kilowatts of power. That's the maximum. So the inverter just naturally stops that feed into the grid. But then also, if the supply authority needs to, if there's like a really bright sunny day and no one's using power, they actually do have the ability where they can remotely shut down the inverters and it's just like flicking a switch. The power is just not generated, it stops it at the inverter.

Mr GARLAND - In the Tasmanian Government Renewable Action Plan, solar barely rates a mention. It doesn't feature at all in the Renewable Energy Road Map or the Renewable Energy Coordination Framework. How do Tasmania's solar and battery incentives compare with other jurisdictions?

Ms HOLMES - It's better than some. Sorry, I'm just pulling up my system policies here. So, we spoke of the rebate scheme available in Queensland for the batteries and that's a big one. A lot of states are actually lacking in the battery space but I think that's starting to garner more support now.

Victoria does have a lot. They have residential apartment solar rebates. They've got solar PV rebates in general for homes. Rental properties, community housing, they are really big on it. A lot of the states have rebates available, whereas I mentioned before that Tasmania is limited, as far as I'm aware, to zero per cent interest loans at this stage.

Mr GARLAND - What would you like to see the government do to encourage more solar?

Ms HOLMES - Definitely the rebates for a start, it's our biggest push, and that is battery incentivisation. But also, not just batteries or solar. We want to start seeing a greater uptake of the batteries to reduce the pressures that are on the distribution network provided and we really want to see support.

TasNetworks has come out and said that they're not doing the sun tax at this stage, but they've left the door open for trials. We really want to see those incentivisations to avoid the need for those trials and the justification.

Another policy we have been pushing for is EV by directional charging. It's an additional sort of battery charge available. One of the barriers to that recently has been the AS777.1 Australian Standards. That's recently been updated, so that shouldn't any longer be a barrier. It's now an infrastructure issue of the available cars and chargers, so that also acts as an additional battery to households.

CHAIR - Again, for a few years, we're not going to see a lot of low-income households have electric vehicles until they flow through the second-hand market potentially.

Ms FINLAY - I think the Chair's comments about the capacity of some in the community to invest in EVs is relevant, but we could, as Mr Garland's question was, see what we could do to encourage more incentives or rebates around that solar and particularly batteries that could be in public housing, social affordable housing strategies as mentioned in Victoria.

Ms HOLMES - Absolutely. One of our big things, we've got a few vulnerable groups, we call them tenants, low-income households and apartment complexes. We're definitely mindful of those and we definitely encourage rebates and policy schemes, initiatives that really enhance the equal access to these.

CHAIR - You would also, I assume, represent some of the lines people and that sort of thing that do the work on the transmission lines or are you just the electricians' right?

Ms HOLMES - Just electricians, yes.

CHAIR - Okay. Right.

Mr SHELTON - So, Chair, a quick question - TasNetworks mentioned this morning about the community battery. You're advocating for individual batteries on solar properties. Do you see a benefit and is there a cost benefit in the installation of a larger battery within a suburb to take the extra solar output? It seems a shame, as Michael mentioned, to turn it off when you're producing energy to actually turn it off and waste it. So, batteries are the ideal scenario, whether they're individual batteries or whether they go into a community battery bank that everybody can then drain later on at night. Have you got a preference in there or any thoughts on that?

Ms HOLMES - This is a common question for us. The issue with the big battery scheme for everyone to go to is it still has a single point of failure. It still requires all the transmission lines and it still has all the traditional network risks. If there's a disaster such as a storm or if there's a cyber attack, households still can't get access to that solar energy. Whereas, if there's a thunderstorm or something that brings down the transmission lines, households can still access their solar energy that they've stored or are generating. It also creates a co-investment opportunity. You're getting households with the rebates and the loans you are helping out, but they have also got a buy-in essentially. They have a need, they have a personal gain to get out of it succeeding, so they want it to work if they put their own money into it. A big battery is relying on the bigger government to fall on, I guess.

Mr THOMAS - If I may, there's also another option with the individual batteries in the house. The technology is here where, for example, TasNetworks has excess generation of power. I'm not too sure where it is, but I've heard it mentioned where TasNetworks could potentially store their power in the customer's battery. If they're generating that excess power and it's an overcast day and batteries aren't charging, I think there's the capability there to actually put that excess into the battery so it's not actually wasted and then it can be drawn out later. It's another option.

The battery technology, inverter technology, is actually made where even on an overcast day, the battery can actually charge during the day just off the grid. Then, later at peak times, it can release that energy so it eases the network so it flattens out the usage a bit. The technology is there but I'm not 100 per cent sure of the extent it's at the moment or if it's viable, but I know it's some of the things that our members have been talking about.

I think they did a trial on King Island or somewhere like that, I'm not 100 per cent sure. I was talking to one of our members a couple of months ago and he mentioned where they tried batteries and then it was a balance between solar, but also as it needed, the distribution network actually pumped the power into the batteries and used them as a storage system.

Mr GARLAND - Another question. I've got three kids, three-bedroom house. What sort of expense would I be looking at to install solar and batteries and go off-grid?

Mr THOMAS - I have absolutely no idea. A lot of it would be around the efficiencies of the house. As far as the costing, I'm sorry, I don't know. But you could probably do it, I'm guessing like as far as solar, it should probably look at around a 10 kilowatt system and then batteries to suit. A lot of it would be about lifestyles. Obviously, if you use a lot of power in the afternoon or evening, that's going to be the issue because it's not a generation time.

I think the off-grid thing, and there's definitely people doing it, but there's also a fairly significant adjustment to lifestyle because if you want to use a lot of electric heating and cooking and stuff like that at night time, then whatever you draw once the sun goes down, whatever you draw has to come from that battery, if you're fully off-grid. I think a lot of people do the battery as a point to minimise your [inaudible] year costs and so on and then just go from there. But definitely there's quite a few properties out there that are 100 per cent off grid, but it also takes a fair bit of adjustment to loads and just managing that load and what you've got.

Ms HOLMES - If I can just jump in there also, a little bit off the question but to answer your question a little bit more indirectly. I have some stats here to suggest that it does take - obviously you're worried about the upfront cost of actually getting it in. It does take about three to four years to pay itself off. While I've got different variations around about the same ballpark, how much you can save each year, that's between $900 to $1200 a year you'd be saving in energy costs. It pays itself off.

CHAIR - You can get modelling done to see how much you're going to use. You can put in all your appliances, heating and hot water use, cold showers for you and your kids, that sort of stuff.

Mr THOMAS - Usually the solar companies when they give a quote, they usually as part of the sales scheme but it also is the actual facts of it, they'll give you the size you expect

to generate. They can do the modelling where they can say, 'If we put a system on your house, we expect to generate this much per year'. They look at your bills, they normally go from the last couple of months' bills and they say on your usage, it can give you an idea of this is how long it'll take to pay off and so on. They are able to do that now. I know when I did solar here, I got a full report of how much I used, how much I could expect to generate, and how much I could save. That is provided at the moment.

Mr GARLAND - The other question I've got, to help all our low-income families and those doing it hard, to give them some relief. what sort of cost, what would we have to put on those houses to give them some sense of relief? Are we talking a massive amount. An electrical engineer quoted me a billion dollars to effectively cover all domestic households in Tasmania with solar panels. I don't know if that's right or not. I see a real need out in our community with the lower income bracket, and I see this is the quickest way home of giving them some energy relief, with solar panels. It's much quicker than waiting on Marinus or all the rest.

CHAIR - Rather than give them a rebate on their energy bill put solar on the roof.

Mr GARLAND - Yes. It means a lot to many of these families. It's as much as not eating for a week because they've got to fund that bill. I think that's some area the government should be looking at and doing a feasibility study on it to see what sort of costs are involved and the benefits too.

Ms HOLMES - The energy cost savings from it would be huge and that's one of the benefits that can be seen from it. The Australian Capital Territory - I think they've implemented it now, I know we've responded to consultations end of last year - has a three-phased approach for their electrification. I believe in phase one their core focus was on the low-income households to really make sure that they don't get left behind. It would be a matter of just putting a focus on that.

Mr THOMAS - Could you use the subsidised savings or the electricity bill to help pay for it as well - for low-income families and so on? I know in Victoria here your retailer will effectively put the solar on for free and then over the next two to three years or something like that, use the power you save from solar to subsidise the installation costs. If the government could do something like that, that would be a good way to help low-income families because they've got the benefit of it, but they're also get assistance in paying off the system.

CHAIR - The government in Tasmania owns quite a few properties. It would cost obviously, but they can make a policy decision to buy in bulk and have the workforce to deliver it, you know, significant housing. A lot of these properties are concentrated in areas. It's not like you've got one low-social economic family here and then 10 blocks away is the next one. They tend to be in similar sort of locations. You can just do some modelling on that.

Mr GARLAND - My concern is, we've been told Marinus is going to bring down power prices. It will be the first time ever in my life I've seen power prices or anything come down through another project that's coming in. My concern is down the track. If the power prices do escalate quite dramatically, it is going to be really hard on these lower-income people. It will be an alleviation of that happening to deal with it in the short-term.

CHAIR - Is there anything you wish you'd said that you haven't?

Ms HOLMES - I think we've covered a lot, off the top of my head.

CHAIR - Anything we should have asked and didn't?

Ms HOLMES - No, I think we got through a good core of the policies out pushing boards. It's just the skill shortage to address that with those core things and making sure we get that solar out there to alleviate costs.

CHAIR - Thank you very much both of you for your appearance and for preparing this submission. It was very thorough and there were some practical solutions amongst it.

Ms FINLAY - Compared to the heavy stuff we've been going through, it was very practical.

CHAIR - Yes, I know. Thank you so much.

I don't think there are any questions on notice. If we have any questions that follow up from that, are you happy for us to write to you with those to seek some input?

Ms HOLMES - Absolutely.

CHAIR - Thanks for your time today, and we'll let you go.

THE WITNESSES WITHDREW.

The Committee suspended at 3.57 p.m.