ECONOMICS AND INDUSTRY STANDING COMMITTEE

INQUIRY INTO MICROGRIDS AND ASSOCIATED TECHNOLOGIES IN WA

TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
WEDNESDAY, 17 OCTOBER 2018

SESSION ONE

Members

Ms J.J. Shaw (Chair)
Mr S.K. L'Estrange (Deputy Chairman)
Mr Y. Mubarakai
Mr S.J. Price
Mr D.T. Redman

_____

Hearing commenced at 9.00 am

Mr RODNEY LITTLEJOHN
Managing Director, Tersum Energy, examined:

Miss ERIN STONE
Energy Economist, Tersum Energy, examined:

Mr MURRAY HADLEY
Member, Geraldton Community Energy Steering Committee, examined:

The CHAIR: On behalf of the committee, I would like to thank you for agreeing to appear today for a hearing for the committee's inquiry into microgrids and associated technologies in WA. My name is Jessica Shaw and I am the Chair of the Economics and Industry Standing Committee. I would like to introduce the other members of the committee. To my left is the Deputy Chair, Sean L'Estrange, member for Churchlands; Stephen Price, member for Forrestfield; and Terry Redman, member for Warren–Blackwood. Yaz Mubarakai, member for Jandakot, I am sure will join us shortly—he is not known for his punctuality! It is important that you understand that any deliberate misleading of this committee may be regarded as a contempt of Parliament. Your evidence is protected by parliamentary privilege. However, this privilege does not apply to anything you might say outside of today's proceedings. Before we begin with our questions, do you have any questions about your attendance here today?

The WITNESSES: No.

The CHAIR: Would you like to make opening statements?

Mr Littlejohn: I would if I could. Firstly, thank you, Jessica and the Committee, for extending the invitation today. I will provide just a little bit of background about Tersum Energy and Geraldton Community Energy. Tersum Energy is a developer of an energy project up in Geraldton. We have been proactively working in that area for about five years seeking to introduce new generation. When we first went to Geraldton, I suppose we started with a traditional approach, which was that we wanted to build a larger power station and sell that power into the grid. We found, for a variety of reasons, that that was not the best approach for Geraldton.

Since about 18 months ago, we have been working with Geraldton Community Energy to establish them as a community-owned retailer where Tersum Energy still provides the generation, but it is more of a distributed energy model that includes a mixture of both residential, rooftop solar and battery, and a mixed generation hub. I might let Murray talk about Geraldton Community Energy.

Mr Hadley: Our background is that we have been formed for probably 18 months now. We are very close to incorporation as a PCLG.

The CHAIR: Sorry, what does the acronym stand for?

Mr Hadley: Public Company Limited by Guarantee—our constitution is all but there. That will be formed, accepted and put in place in the next couple of weeks, I would imagine. The committee is made up of members from industry in Geraldton—all the local people—contestable clients and some representatives from the local development commission. Our intention when we got together was really a spin-off, and before Rod came along—I have known Rod for some time—and Tersum joined us, we were a spin-off of an energy cluster group that got together in Geraldton with the intent of providing jobs and growth in the Geraldton region, the Mid West and the greater Mid

West. Consequently, that has become Geraldton Community Energy. We have formed our steering committee and we are looking to promote and find economic growth for the Mid West.

The CHAIR: What is it about the existing market arrangements that has driven you to form a community-based sort of cooperative structure and seek an alternative solution?

Mr Hadley: It is mostly around providing benefits to the region. That is what has driven us. After we did a bit of work with Rod and generation models, we realised that we certainly could offer a cheaper alternative for power to all consumers, and to that end we have been doing a fair bit of liaison and interaction with the community, including contestable clients, and there is definitely an appetite within the Mid West for that. We would also like to create a situation where we are able to put back into the community.

Mr D.T. REDMAN: Can you give us an idea of scale of what you are pitching to?

Mr Hadley: Scale, as in the clients?

Mr D.T. REDMAN: You are looking at aggregating a supply and DER arrangement. What is the scale in terms of megawatts or maybe you can give us a —

Mr Littlejohn: Maybe I will jump in if I could, Terry. All up, the scale we are aiming for is about 30 to 35 megawatts in total. We think that is about a $60 million spend that will create about 100 jobs over the course of the project, which are split into construction and long-term jobs. Tersum's commitment to Geraldton has been that whilst we are Perth based, we will move to Geraldton. The idea is to open an operation centre to run our facilities up in Geraldton, to employ local people and to have the retail arm separate of Tersum so that we are independent. It is not that Tersum owns Geraldton Community Energy. They are an organisation that is independent of us. We will have a commercial relationship, but the idea is that there will be an opportunity for new employment up in Geraldton.

The CHAIR: Let me just tease out then what the ideas are around participation at different points in the energy supply chain. There is an idea that Tersum would participate in the generation side of things. Do you also anticipate distributed energy resources from our privately owned generations of a smaller scale generation and battery facilities in the Geraldton area that will participate in this?

Mr Littlejohn: Yes. Tersum sees about 30 to 35 megawatts to start with, but the load in Geraldton is about 70 megawatts. It is not that Tersum is seeing to create a new monopoly structure. There are plenty of opportunities for other people to come to Geraldton and build their own generation up there.

The CHAIR: Who is owning, operating and maintaining the poles and wires?

Mr Littlejohn: Western Power.

The CHAIR: Western Power will continue to do that?

Mr Littlejohn: Absolutely.

The CHAIR: Then the retailer in the area would be —

Mr Littlejohn: Geraldton Community Energy.

The CHAIR: In terms then of cost acts, if there are only 30 to 35 megawatts of capacity being provided by this Geraldton arrangement, there still needs to be energy imported and capacity sitting there to provide that energy. How do you anticipate procuring or securing that supplementary supply?

Mr Littlejohn: I suppose what we are saying is that we have ambitions to build about 30 to 35 at the moment. If there is an opportunity to grow the generation business by Tersum, we would welcome

that opportunity. What we did not want to do is lock GCE into a relationship with us that precluded other potential generators. Hopefully the model will encourage other generation to come to the area. In the short term it will still mean that we will have to import in and some customers will choose to stay with their current suppliers, be that Alinta or Synergy or whoever it may be, but the idea is that we start with a footprint and look to grow that. Because there is a price differential in our modelling, we are hoping that that may then enable new industry to come to Geraldton because there is an attraction. If you are paying less for electricity in Geraldton than you would otherwise, come to Geraldton, grow the pie, and Geraldton Community Energy benefits.

The CHAIR: So somebody in Geraldton will still need to be importing energy from the SWIS proper. The SWIS proper still needs to sit there. The idea is that the SWIS is still there as providing, if you like, supply continuity—a form of insurance, if you like. What is the proposal then for the commercial arrangement that you would enter into with Western Power for utilisation of the local distribution assets, but also the transmission connection that is required to sit there for you to have that insurance policy, and also to be able to import to supplement energy into the Geraldton area?

Mr Littlejohn: We are progressing this under the normal AQP process with Western Power. Ultimately, I suppose, we would like to see some level of tariff reform in the long term that recognises that some of the generation is just sitting on the distribution network, but ultimately we will pay and have incorporated into our fee structure the cost of the transmission. The advantage that we believe this brings to Western Power in the short term is that the lines running from particularly Three Springs through to Geraldton were built around 1973 or 1974. They are towards the end of their life.

There has been discussion for probably the best part of 10 years about the Mid West Energy Project stage 2. The numbers that you talk about there are anywhere between $150 and $400 million. This model takes that pressure off Western Power to spend that money in the short term, it frees up capacity to allow others to use that capacity and it gives them a chance to look at the model and say, “What’s the best outcome over the long term with DER and renewables et cetera coming into the market?” It is very much a case of us saying that Western Power is a part of this, and we are working closely with Western Power. We have been collaborating with them over the last 18 months. They understand the model that we are trying to develop. We are working within the regulatory frameworks that we all have to work within and we are trying to find that pathway forward.

The CHAIR: I have two questions, then. For the energy savings that you project, is one of the assumptions in that model or in those projections around the current tariff structure for network access remaining as it is? Secondly, you have spoken about tariff reform for network access. What types of reforms do you anticipate would help facilitate this type of development?

Miss Stone: We have included the current tariff arrangements that are in place at the moment, in our modelling that we have done so far. As Rod said, we very much see transmission as necessary, even if it is just an insurance policy, and we have not modelled in any medium to long-term scenarios any of those transmission tariffs going away. We would see something like more of a peak arrangement where you might get charged higher rates for your usage during times of peak—those sorts of things. But we are also seeing that there are benefits to some of the arrangements for regional communities like Geraldton where you are unlikely to have a coordinated peak with the metropolitan area.

The current market arrangements in particular are all around peak in the metropolitan area. I think last year’s peak was when it was 40 degrees in Perth, but it was only 33 degrees in Geraldton and they did not see their peak then. There are some arrangements like that that by introducing some

level of cost reflectivity of the services you are using and the value that those services are providing, people like GCE and Tersum are prepared to pay for the service that is then being offered. We see that as a critical part of the project.

The CHAIR: What sorts of tariff structures? It has been put to us that there are different things around locational pricing and time-of-use pricing. What sort of a structure would facilitate the emergence of a community energy model such as the one that you are proposing?

Miss Stone: I do not think that any tariff reform is necessary for the project that we are looking at for the moment. Things like time of use would be beneficial where we can start to see residential customers in particular as part of the virtual power plant that Tersum is looking at. We can see them responding to the peak and using the battery to try to flatten out energy consumption in those areas. But there is nothing, at least in the short term, that would be required for the project to go ahead.

The CHAIR: Then let me ask the question in another way. At the moment, network access tariffs are based on an assumption that you utilise all the network, that everybody who is connected uses all the network in some way, shape or form, and it is based on a centralised model that pushes energy out from one location to others. But the model that we are talking about here, which is distributed energy, particularly in a community-based area, is not the way physically that this sort of construct, as I understand it, would operate. What sort of a tariff model would drive efficiencies and encourage the optimal asset configuration around this sort of a business model? If everything coming from you is dispersing out to the network, is that sort of a tariff model incentivising the installation of the assets that you are talking about, developing particularly around these community energy pockets at the very edge of the network? You are paying all the way from Muja, so what other sorts of tariff models could potentially drive a more efficient utilisation at the fringe of the network?

Mr Littlejohn: Maybe we can take that on notice and come back to you with something. We have really focused on trying to develop a model that works within the current structure. We have not tried to hypothesise about tariff reform. We have really tried to just focus on a practical solution to drive a change in Geraldton. Anything that is a tariff reform would be beneficial to the community because, obviously, that would create a lower cost. We can either pass that on to the customers or Geraldton Community Energy would retain that, recognising that they are structured as a public company limited by guarantee, which means that they are a profit for purpose. They will reinvest that back into the community itself. It is going to be a balancing act between cheaper electricity and also just returning money back into the community. We will come back to you if we can on what structure would actually drive a different outcome.

Miss Stone: It is a bit tricky in that if you want to get there we probably should not have started what we started. We have a very centralised, like you said, and heavy "let's generate centrally under a traditional network" type of model. But you also have the framework and structure that sits around that as well. You have a network and, to a large extent, a market that is driven around a Western Power–owned and Synergy-generated and retailed network. That is where we have come from, so trying to get to some of these more distributed energy models and a more efficient model, you probably would not have ideally started where we started. There is some sort of transition that we are going to need to get to but what that end goal looks like will be largely driven by some of the wholesale energy market reforms going on and where they are driving things.

The CHAIR: Sure, but you have referred in your submission to the role for private sector providers and encouraging market entrants. Market entrants are not going to come in unless they are incentivised to. We are trying to understand what types of incentives need to be there to encourage as much dynamism and the most efficient asset deployment strategies. That is really what we are

trying to get to here. I have full respect for you for trying to work within the current system, because on the evidence that we have had, it does not necessarily incentivise these types of distributed energy resources to come to market or these types of community energy initiatives to emerge. That is not typical. I give full credit to you for working within the system that we currently have because many are struggling. We are trying to understand if these really are prospective technologies that are going to really revolutionise things, and if we have the right signals there making sure that we are getting the most out of them.

Mr Littlejohn: Maybe I can put this out to the committee that if you were looking at it—we have not focused on tariff reform. What we have looked at and proposed to the committee to look at are more regulatory-type changes. Things like two-users per NMI—NMI being the meters, connection points. That change in the AQP would allow, in our case, a more simplified engineering solution to what we are trying to achieve. If we could have one meter on a house and allow for the export of electricity from the house through that meter belonging to GCE, and the importation of electricity belonging to Synergy, because the FRC means that any import needs to be with Synergy, then that change just speeds up the process for us and provides an incentive, if you like. It means that we can transfer that electricity a lot easier.

If we cannot affect that change, one of the things that we presented in our submission was to say that there is an opportunity for the minister to redefine a prescribed customer. Again, we are not looking to open the door to FRC, but to narrowly position it so that Synergy and/or a not-for-profit community retailer in regional Western Australia, for want of better words, would have the opportunity for these sorts of projects to move forward at a faster pace. It means that communities in regional WA can then choose if they want to buy their power from Synergy or from their local community retailer. You can create a narrow definition that would then allow us to move forward as a faster pace.

What we have done is to say that we do not have either of those two at the moment, and we are working to try to understand whether that is possible, but if we cannot, then we have engineered a solution, which is having two meters on the house with an inflow of electricity from Synergy, and an outflow of electricity from GCE, and then we have a contract for difference, which is cumbersome for the customer but means that we can just move forward.

Mr D.T. REDMAN: Does your model work in metropolitan Perth, or is it because of the unique aspects of Geraldton and the fact that there is probably a higher price in the contestable market compared, presumably, to Perth—maybe I am wrong on that—and, secondly, you talked about deferred capital investment by Western Power being a very significant incentive in that discussion, which may well play into some of those regional locations that have got such issues?

Mr Littlejohn: Again, Terry, we have focused really on Geraldton and regional areas. Geraldton is quite unique, from my perspective, in that you have got great sunshine during the day and then the wind picks up in the afternoon, so you have got complementary renewables. You put some batteries, or other storage-type generation, and you can really move away from a traditional model. It could work in metropolitan areas, but it is not something that we have really looked into. We do see opportunities to template this and then roll it out to other regional communities, with or without Tersum. The idea is if we can nail down this model so that it works for Geraldton, then we think there is an opportunity for the state to look at it and go, "Well, maybe this is the way to do Meekatharra, Mullewa, Morawa, Marble Bar—whatever the communities are in regional WA—and empower those communities". You know yourself that regional WA, they want to actually be in control of their own destiny somewhat; this is a way to do that. It gives them a choice in electricity

but, more importantly, it allows them to retain money, that they are already spending on electricity, in their own communities and reinvest that for things that they want to spend money on.

Mr D.T. REDMAN: So, you are looking to aggregate at a community level through a community-shared —

Mr Littlejohn: Retailer, yes.

Mr D.T. REDMAN: — ownership model and, in terms of solar PVs and batteries and whatever metering arrangements you think you can land, you have got to keep your insurance policy hooked up to the main grid because that covers off on those peak issues. You talked about a mixed generation hub, separately. Give us a bit of a visual of what that might be. I guess that is Tersum's operating arena?

Mr Littlejohn: It is. Again, we are working to have access on about 200 hectares of land about 10 kilometres out of town. That amount of land gives us an opportunity to build—what we are saying—mixed generation. Predominantly solar, but we are also looking at some gas. That is from the insurance and stability and reliability side of things, and then potentially a larger-scale battery that can sit there and either provide—I suppose maybe two batteries: one to take daytime generation and shift it to peak in the afternoon, because that is important, but also a battery that may be able to then provide network control or fast-frequency response, those sorts of ancillary services that might be useful for Western Power.

It could be that that second battery is Western Power's. It could be that it is jointly owned but would be operated, if you like, from a network services perspective. So, in time, we see that that mixed generation hub takes further pressure off the transmission line. It does not make it redundant. In fact, our view is the replacement of the line may ultimately be because you are shifting power from north to south as opposed to bringing power from south to north, but that will take time. We are talking about organic growth and tens of megawatts.

Mr D.T. REDMAN: How mature have your discussions been on the issue of ancillary services and the network risks that some of that stuff poses, and your capacity to play in that space?

Mr Littlejohn: That is a great question. Recently, Western Power awarded a new five-year contract to Synergy for NCS, 1 October. So, there is the Mungarra gas-fired turbines, which sit about 30, 40 kilometres south of Geraldton. Tersum actually participated in an EOI with Western Power and submitted a proposal that said that we would replace Mungarra, if you like, because our Geraldton solution becomes the NCS by default. For no cost, Geraldton provides its own NCS.

The CHAIR: Do you want to outline that acronym just for the purposes of Hansard?

Mr Littlejohn: Network Control Service. In lieu of replacement of poles and wires, Western Power can contract services. That can be generation. Our proposal was that, in developing a DER model for Geraldton and making Geraldton independent or self-sufficient, you would not need to provide that service, but they have chosen to go ahead with that for the next five years. We talk about deferring capital on the transmission line; that is another service that is paid for by consumers that might not be necessary going forward when we have rolled out this model.

Mr D.T. REDMAN: Would you see advantage in valuing ancillary services into your model?

Mr Littlejohn: Absolutely, but there is no market at the moment. There is no market for batteries; they are not recognised in the system. Again, the driver for us is not about that. If we introduce a battery at the moment, it is more about shifting daytime excess generation and providing it in the afternoon and just balancing out our loads and demand. In time, if there is an opportunity and an ancillary service market then, sure, we would like to participate in it.

Miss Stone: Just to clarify ancillary services—I think that Rod has covered off on network control services—the wholesale market also has things like load following, so fast-frequency response, through the Australian Energy Market Operator. They do have a load-following market already but, as Rod said, batteries cannot register in the wholesale market at the moment so therefore technically you could not provide it even if you wanted to or even if you had a facility sitting there. I believe that that is one of the things that the Public Utilities Office is looking at in the WEM reforms, but that is not to say that gas and a few other things from the renewable hub could not also provide ancillary services in the current market.

Mr D.T. REDMAN: Your business model, presumably, works under the current regulatory framework that is there now. At some point in time, this committee has got to write up some recommendations as to what it puts on the table. If you were to pick off three or four pieces of low-hanging fruit that would assist what you see as a disruptive play into a very traditional space, what would it be?

Miss Stone: Multiple users per NMI.

Mr Littlejohn: Yes, multiple users per NMI and a change in the definition of a "prescribed customer" to allow community energy retailers. I think they are the two low-hanging fruits.

Mr D.T. REDMAN: You reckon even that prescriber customer can come down just to a regional level or regional footprint? It does not need to be something that is widespread?

Mr Littlejohn: Exactly. In our mind, if we can focus on solutions that work for regional Western Australia—we try to put ourselves in Synergy's shoes and go, "At the moment, Synergy is the provider of last resort", I think is the phrase used. They are required to buy the excess electricity from mums' and dads' solar, and that ranges from seven cents to 47 cents, depending on when you did it. They do not really want that electricity. In regional WA, we are saying there is an alternative to that, which is community retailers can buy that electricity off the customer and sell that to the customer, and there is a model that says that that actually is quite profitable for the local community. It is because you are looking at things at a community level rather than a total system level. Unfortunately, Western Power and Synergy have to look at a total system.

Miss Stone: I think that there is a perception that regional customers are more expensive to serve, which certainly is the case under the traditional centralised generation model and centralised network model, but I guess in the distributed energy world they are actually quite cheap to service. We are not saying that we need to move away from a uniform tariff policy or anything, but once you can get those regional customers' cost to serve down through things like distributed energy, you can actually get the large body, the average tariff, down by removing those expensive-to-serve customers under the traditional model by introducing something like distributed energy solutions where we think we can get the cost down by around 10 to 20%. That actually benefits metropolitan customers as well.

Mr D.T. REDMAN: There is a big risk to state—state government, taxpayers—sitting there with massive assets worth a lot of money which they have to have some sort of protection over. It is all well and good to incentivise a bit of play on the edges, but if that is fundamentally either compromising and/or not getting full value back, if government is looking for cost recovery on its assets—arguably it is not probably fully priced into it now. At some point in time that is going to get priced in. Is that seen as a business risk from your perspective, and indeed how much is your model sensitised to fully pricing in the value of transmission and distribution assets?

Miss Stone: So, two parts to the question. Sorry, just to clarify: the first part was about Synergy and Western Power assets?

Mr D.T. REDMAN: Yes.

Miss Stone: Yes. We see Synergy and Western Power as equal or better off under our model, under the distributed energy model, which is that we are servicing regional customers for cheaper than arguably Synergy can. We are looking at, I guess, the renewable energy buyback scheme payments. I think for an average customer that is about $160 per year. We are saying, "We will buy that energy and Synergy does not have to." If you look at even the seven cents, you can buy out of wholesale balancing market at the moment, on average, for $50 per megawatt hour, which is about $70 or five cents per kilowatt hour. So, you already have a value differential: what is the value and what is the cost Synergy is paying? We see that as a positive.

Mr D.T. REDMAN: Arbitrages that, yes.

Miss Stone: Then I think you can have a look at Western Power, and we are saying, "We are pricing in current tariffs." Assuming that they are relatively cost reflective, it is all done through the ERA and the access arrangement process. Assuming that we are comfortable that that is an appropriate price, then that is what we have factored in going forward and we have even had a look at some of the transmission prices that are going up significantly—I think they were talking about 14 to 15%. We have also had a look at those as well. I guess a lot of the technical solution is behind the meter at this point, but that is not to say that we have not factored in the full cost of those connections, being a GCE cost.

The CHAIR: Stephen, you had some questions?

Mr S.J. PRICE: Yes, thanks, Chair.

It is more I suppose around the situation you find yourself in up in Geraldton. My recollection is that there seems to be a power shortage within the region and they were going to put the new transmission line from Pinjar all the way up to Moonyoonooka but then they stopped halfway at Eneabba to feed Jimblebar [*sic* Karara], essentially. Then the discussion was about additional generation within Geraldton. So, flowing on from that, there is certainly a capacity–supply issue up within the region, and if there is further industrial development then that will certainly highlight that. Your comments about using this as a template I think is quite exciting to hear, because you have got this opportunity to provide an alternative solution to either building new generations—as in gas-fired, essentially—or running, I think, a $300 million or $400 million transmission line. If it was not for that opportunity and the other circumstances that actually are in Geraldton such as the availability of the sun, the space—I do not know if you want to get into any other renewables—you would not actually be doing this, if that makes sense?

So, the fact that you have come up with a creative solution to a problem that is there I think is quite encouraging. We want to know what we can do to help, if that makes sense? Because if we can get it right there, where there is actually a situation and a problem to be solved, then it does have a lot of applications in a lot of other regional towns, like you said. Apart from essentially the three items that you have suggested, are there any other sort of out-of-the-square thinking changes or regulatory improvements that you have discussed amongst yourselves that would assist?

Mr Littlejohn: I might defer to you, Erin.

Miss Stone: I do not think we have really done a whole lot of blue sky thinking. We have just been trying to solve the immediate problem for Geraldton. When Rod first asked me to be a part of this project, he certainly articulated his view of what the problem was in Geraldton and I think, until I went up there in particular, I did not fully understand that it was not just a steering committee and it was not just Rod; it was actually the community that was driving the project. I think that is really powerful and I think that was the opportunity that has brought Rod and the steering committee together, and I think that solving of the problem is just trying to get in and deal with what is now.

That is not to say that there is not some blue sky thinking that could be done and that is not to say that there is not a long-term vision but, yes, that has not been what we have done to this point.

The CHAIR: We were in California a few weeks ago and met with the Sacramento Municipal Utility District. They have a community energy model on a very similar basis to the one that you are proposing, where there is a board that is elected that is responsible and accountable to the community for the provision of energy. They run procurement processes to source the most efficient generation solution; they build, own and operate it themselves; they procure in when it makes sense; they run the poles and wires as well, so there is potentially a point of difference there; and they do it on a completely not-for-profit basis and their energy prices are 20% lower than the privately owned utility that sits over the border from Sacramento. It was a really interesting model that was proposed to us, and hearing about the practical delivery of it was, I think, quite enlightening for all members.

I do want to tease out a couple of issues, or a couple of questions that I have, about particularly this NMI issue. External to Sacramento, the publicly owned utility is the only entity that can sell energy to end-use customers. In all the jurisdictions that we visited in the US, for small residential customers that is the case: that you basically buy your electricity from one provider and then they go into the market and try and procure the most efficient solutions, reflecting the fact that there are points in the value chain where competition works best, and others where if you try and create markets, what it actually does is built in overhead and inefficiency.

So, one of the things that I would like to understand is: on the model that you are proposing, duplicating a retail function. I would like to understand about the overhead implications of duplicating a retail function. Then, in the creation of multiple users or suppliers at an NMI, who owns the customer relationship from a customer protections perspective, from the small-use customer contracts protections perspective, and from the supplier of last resort perspective? Contestable customers are sophisticated. They can get on with it; they are big users. For a mum with three kids in Geraldton who is just struggling to get her kids to school every day but potentially wants to have access to cheaper energy—these ideas are all great, but there are real world, practical protections required, the capacity for consumers to participate and, yes, just the building in of unnecessary cost. They are the things that I am concerned about, or that I would appreciate your views on in this particular model. There is a lot in that question, I know. Sorry!

Mr Littlejohn: There is, and I might park some of that in my response. Maybe Erin will jump in to fill in the gaps. Let us start with the model itself. What we are saying is that if you are a mum with three kids in Geraldton and you want to participate, you register interest with GCE and we will do an assessment on your property. At my cost—at Tersum Energy's cost—we put the solar and the battery on your house. Your requirement is similar to what you have now with Synergy, which is you just pay for the electricity you consume, so there is no contractual relationship lock-in between the user and GCE. We see a swap-out of Synergy and GCE from that perspective. The bulk of the electricity that that customer will consume will be generated behind the meter on their own rooftop, so there will be less, if you like, reliance from the network service, from Synergy, going forward.

The other thing I would like to say is that our model, we believe, needs to be an opt-in model. The customer will make a choice based on the proposal that we make, which is the cheaper electricity, to come in to it. Things like the standards et cetera, because we have got Western Power owning the poles and wires and heavily involved in our model—in fact, we would see our operations centre, three bodies of GCE and three bodies of Western Power operating the system in its most efficient manner.

The CHAIR: So you are dispatching and you are controlling the assets that you own on top of a customer's premises?

Mr Littlejohn: That is correct, in our model. It is a VPP model, and the same with our mixed generation hub.

The CHAIR: Right, okay.

Mr Littlejohn: We would see control of that, but working that collaboratively with Western Power to ensure that we do not do something on our side that creates a problem on their side. We need to actually work together so that we get a solution that benefits everybody. I do not know that I answered your NMI question.

Mr D.T. REDMAN: Just before you move to the next bit: this practical bit of infrastructure and who is in charge of what. Presumably you have still got the other meter that is going into the house and presumably that customer is still getting a bill from Synergy?

Mr Littlejohn: Exactly. So there is still a relationship between the customer and Synergy for any consumption that they have from the grid.

Mr D.T. REDMAN: And fixed charges?

Mr Littlejohn: And fixed charges. We factored that all into our model as well. We are saying, "If you are a customer of GCE, we will actually recompense you for those charges."

Mr D.T. REDMAN: The fixed charges.

Mr Littlejohn: Yes.

Mr D.T. REDMAN: Okay. So, there is sort of a netting-out effect?

Mr Littlejohn: For the customer.

Mr D.T. REDMAN: Arguably, Synergy still carries customer responsibilities, though they are not absolved from that because they still have got a relationship there. Okay. That is interesting.

The CHAIR: Yes, and I guess that is what I am trying to get at as well. Do you have any responsibility under the codes of conduct that govern Synergy's relationship with its customers? What are the customer protections that you owe your customers, as opposed to the ones that Synergy owe? Because if you really believe in competition, it has to be a level playing field. You could end up with a situation where Synergy's left holding the baby with all of these consumer protection obligations and supplier of last resort obligations and all sorts of compliance issues and requirements that it needs to have to serve a small-use customer where there is some sort of relationship sitting there, and you sit there with a relationship with the small-use customer with none of that obligation, none of that cost, and it is an unequal playing field. I guess I am just trying to understand those issues a little more clearly.

Miss Stone: I think GCE, we are definitely going to set up as a licenced retailer, so they will have the same sort of requirements as any retailer in the market. That is definitely the intention. With respect to the supplier of last resort and those sort of things, we are not trying to resolve that issue and we cannot, but one of the things that we do take away—and I guess one of the benefits to Synergy—is the buyer of last resort issue from them as well, so we would still see all of the small-use customer protections in place as well.

The CHAIR: Right. To change tack—it's all right, I'm going to stop on that line of interrogation, sorry. One of the really interesting spaces here is that you are only distributing energy resources that are located on the premises. A whole heap of energy is being produced, and presumably not all of that is being consumed as it is being produced; there is a short-term energy market that resources can

be aggregated and bid into. Is there an opportunity here for a community-owned utility to then participate in the wholesale electricity market or through the short-term energy market and sort of bid in and generate revenue in that way, and then return that to your cooperative as well?

Miss Stone: Look, we could, but I guess that is Tersum's role in it, the generation aspect of it. The community energy retailer we would see as—you know, you could very much participate, but we would see a lot of the surplus energy getting traded out to contestable customers in the Geraldton region. That is not to say that we would not look to participate, but at this point it is not the over–10 megawatt side of things that we are expecting not to be contracted through Tersum.

Mr D.T. REDMAN: You talked about 30 to 35 megawatts in your mixed generation hub. What proportion of dispatchable energy do you see sitting behind the meter in a community-aggregated network?

Mr Littlejohn: That is a good question, Terry. Look, we started off—I will just clarify. We see about 30 to 35 in total.

Mr D.T. REDMAN: Total, okay.

Mr Littlejohn: So, originally Tersum was proposing a 35–megawatt gas-fired power station out at Narngulu. We have scaled that down. We are saying that it might be now more like 10 megawatts of gas, and that is really about the relationship between the batteries and the solar and what we need just to stabilise things. We have not fixed on that and one of the reasons we have not fixed on it is because we noticed the price of batteries keeps coming down, and we may be able to put in a larger community scale battery and therefore decrease the size of the gas again. Erin is going to stop me, but there is a conversation going on in the Mid West about other fuel sources, and particularly around fuel cells. You may be able to use renewables to generate green hydrogen and put it in a fuel cell and then that fuel cell actually displaces the need for the gas, but it operates as, if you like, a dispatchable load.

Mr D.T. REDMAN: Yes. Just from GCE's perspective, have you done any surveys as to interest and take-up? I cannot imagine too many people, if someone knocks on the door and they have confidence in the bona fides of the group, saying, "Well, we're going to put something on your roof and we're going to stick a battery in your house and, by the way, you're going to get 20 per cent off your power bill", not wanting to sign up to that. So, you know, what is the readout of community participation?

Mr Hadley: Probably one of your earlier questions, Terry, segues into this, and also with Stephen, and that is: why Geraldton? Why are we doing it there? A lot of our feedback from contestables—I will just talk about contestables for a second—was that their arrangements could be curtailed, so there is a reliability issue there. If you look at someone like the port authority, for instance. They have an agreement. We understand, that they can actually be curtailed at some point in time. It is about reliability as much as it is about price. We are in the process of engaging the community right now. We have set up things online for people to comment; we have addressed groups of people and we have addressed economic seminars; and now we are going to target the contestables, because the contestables space is where we can provide surplus power, as you said Jessica, from a VPP and sell that on to a contestable.

Again, we have to aggregate meters, if you like, around the contestables space to make that a viable model. Our inquiries into the number of contestables on a very informal basis—I suppose is the right way to put it is it not Rod—was very encouraging. They said, "Just sign us up. Let us know when you're ready." So the appetite is there.

Mr D.T. REDMAN: You are not signing up to a non-contestable customer, but you are taking a non-contestable customer out of the play for Synergy to some extent, are you not?

Mr Littlejohn: Yes, which they could do now. From that perspective, they are doing it. Yesterday I was at an AEMO thing and they announced that we hit one gigawatt, I think it was, of installed capacity. Maybe I got that wrong but it was a significant amount.

Mr D.T. REDMAN: With rooftop PVs?

Mr Littlejohn: Yes, across the state. That is already happening and the more that happens, the more stress it puts on the network, but also the more obligation it puts on Synergy to buy that excess generation. We are just saying —

Miss Stone: At a time when they may not have any use for it.

Mr Littlejohn: So this model shifts that problem away from Synergy and says that actually the community can service itself. I suppose I like to think of this as more than an energy question now. When I was first in Geraldton it was about power, if you like. But now it is about economic development and regional growth. Everyone uses electricity, so if we can create a model whereby we can capture some of that value—and it is tens of millions of dollars that is spent on electricity in Geraldton each year. If we can capture some of that and recycle it back through their own community, and you can do this across the state, then that is money that they can invest in things that are important to them and take some pressure off the state in other areas. They can drive tourism; they can drive lots of other things that they want to do in Geraldton, or they can come back to "they need access to electricity".

As Murray said, often what happens now is that a new user up there is confronted with the process of connecting to the grid. There is a significant cost to do that and even if they do, they are then obliged to put in onsite diesel gen sets because they cannot get a reliable supply—that happens. We talk to industrial customers that lost power. There was a trip a couple of months ago and they lost power for 17 hours. It cost them a couple of million dollars. Well, that is money that the state has lost. You have the hospital up there telling us that they do not so much get total trips, but they get brownouts, which cause them to have to turn on their diesel gen sets. Unfortunately, the diesel gen sets tend to have fumes that then go into the hospital and so they are looking at it and saying, "Surely there's a better way for us to do this and we are about to redevelop the hospital so can we think about putting solar in as we redevelop?" And we are saying, "Well, yes, we can. We can look at alternative ways to provide you with that cleaner, greener energy at a lower cost than what you're currently getting with greater reliability."

Mr S.K. L'ESTRANGE: Just linked to that, with the overland powerlines, obviously bushfires going through and things like that can have a big impact on places like Geraldton. Your community-owned electricity solution that you are focussing on will help to alleviate some of those concerns. Do you still have a requirement? Because it was part of your backup to be part of the existing grid with those overland powerlines. Are you saying that you would have your own battery storage, which would mitigate the need for the backup being the powerline?

Mr Littlejohn: Ideally, we are saying that Geraldton would be independent—self-sufficient. If you took it to the extreme of a microgrid, you could put a master meter on the transmission line. I would say to you that we want to generate enough local electricity that there is no flow between Geraldton and the transmission system, but we are not advocating to cut the transmission line because there may be other reasons for the state maintaining that asset. You could need to bring huge amounts of power either to or from the area if an Oakajee happens, or something like that. We are not advocating getting rid of the transmission system. What we are saying is that if we do this model, it

frees up the current capacity for other people to use. Suddenly, a new industry could come to town and go, "We can connect, because there is capacity in the line."

Mr S.K. L'ESTRANGE: That transmission system still needs to bypass Geraldton anyway and go up to other towns.

Mr Littlejohn: No, the transmission system goes into Geraldton and now the main one goes up to Kalbarri, but Kalbarri is going to be its own microgrid.

Mr S.K. L'ESTRANGE: What you are saying is that working back from that—Kalbarri disconnecting itself, for want of a better term—really the transmission to Geraldton only needs to be there as a backup for an Oakajee-type situation.

Mr Littlejohn: It only needs to be a backup at the moment, and that leaves planning and development options available to the state. It does not have an immediate need to do anything. It can suddenly say: what is the right outcome? If the right outcome is that you upgrade that transmission line to dual 330 in time, it does not negatively impact on Geraldton Community Energy. Geraldton Community Energy still does what it is doing. In fact, it might be a positive, because suddenly Geraldton Community Energy could sell electricity back into the wholesale market and trade. We are just saying that it takes pressure off Western Power and the state now to have to spend that money.

Mr S.K. L'ESTRANGE: You would still have a requirement to pay some sort of rent for that backup?

Mr Littlejohn: Yes, we factored in that there is a cost of that transmission line being there, and in the short term we will need it, because we cannot magically produce the generation. It will take us a couple of years to get to that balance.

The CHAIR: One final question from me, and it goes to the structure of Geraldton Community Energy around governance and accountability and ensuring that it is achieving least cost and is genuinely not-for-profit, and the drivers for ensuring that least cost is being delivered. How would you purport to set up the organisation and make sure that it is accountable and make sure that it is particularly engaged with the local community and responsive to their needs?

Mr Hadley: As a PCLG we have obligations under that, as a not-for-profit organisation. Our constitution and all those governance issues will be captured in that way. I guess our interface with the community is the question you are asking. I actually do not have the detail to hand right now. That is certainly something that we need to be considering. Like you said, as you experienced when you went to Sacramento, they obviously have a governance mechanism there where they are able to do that and report back to community. That is certainly something we would have to develop.

The CHAIR: Because their board is elected by the community. I was struck by just how democratic a process it is. The neighbouring municipality was not able, from a regulatory perspective, to vote to join Sacramento, so they have established their own one. They have their own regulatory dysfunction over there just as we do here. It was really interesting that that community also voted to opt-in to a structure that was very democratic. To me, it sounds like an absolutely fantastic and very innovative approach to delivering least-cost energy, which, as you have identified, is a real driver for growth. But we do need to make sure that it genuinely is delivering and it is accountable. These are the types of issues, I guess, that we need to explore.

Mr Littlejohn: Maybe if I could just jump in. Murray may be selling the committee a little bit short. One of the things the committee is looking at doing is ensuring that members have all gone through the AICD process. Already a couple of them are very active in that space. I think they are the representatives of AICD in the Mid West. It is about empowering the committee to have those skills—if someone is interested in joining the board in the future, actually paying for those training

courses, if you like, so that they are empowered, and we do see a rotation. You can run into a trap where you have people in organisations for life. We are looking at a process that actually rotates people through the board on a fairly regular basis, without losing continuity.

Again, it is about empowering the rest of the community. Suddenly this vehicle is an opportunity for people to upskill themselves and then go back out into their own employment opportunities or seek other opportunities that those skills have brought to them, so that it benefits other areas. Suddenly they might be able to sit on a board of another organisation in Geraldton or the Mid West because they have the skills they have learned within the Geraldton Community Energy format.

The CHAIR: But there is management of conflict as well. You would not want a board with one guy who is an excavator guy who just happens to be able to do underground power installations, and he is on the board. I guess thinking about community representation—workforce participation as well. Having a truly representative board that consults with, is accountable to and engages with all stakeholders and is not necessarily captured by vested interest or people with conflict is something that obviously would be important to consider.

Mr Littlejohn: And they are the messages that we get. Two of the other members, Peter Klein and Rebecca Davidson, both come to the board from the AICD background but also with exactly those sorts of thoughts. They are saying that the composition of the board needs to reflect community. They are looking at ensuring that there are Indigenous stakeholders at the board level and that there is mix, if you like, in gender—all those sorts of things. We even talked to the extent of having a non-voting participant being a representative for the schools, because the kids in the future will be the owners of the output—so teaching a year 11 or 12 student to sit in on the board and understand how it is benefitting them potentially brings a lot of value there. It really is about trying to create that broad cross-section of Geraldton and the Mid West and then grow it forward from there. It is not about vested interests, if you like. That is why Tersum is being very firm in saying that it has got to be independent. We do not have a shareholding. We do not have a seat on the board. We interact, we collaborate, but they have to make decisions that are best for them, not best for Tersum.

Mr D.T. REDMAN: What is the likely term of contract—I am assuming it is a contract—with a participant at a household level to have PVs —

Mr Littlejohn: No term.

Mr D.T. REDMAN: No term? So if they choose to pull out, then you rock up and pull the PVs off and pull the batteries out and away you go?

Mr Littlejohn: There is a risk for about two years, at which time the solar panels are down to zero. We come back and take out the inverter and the battery, but we would leave the panels.

Mr D.T. REDMAN: So two years is the payback period?

Mr Littlejohn: Two years is the risk, and that is a risk that we are willing to take.

Mr Hadley: There was a conversation earlier Terry about the amount of take-up for rooftop solar at present. We are developing a strategy at the moment to not only get people involved who have no rooftop on, but people who already do have rooftop on, so they are not excluded from opting in to this if they choose to.

Mr D.T. REDMAN: Carnarvon, for example, is reaching its peak penetration where there is network risk. Have you got any feedback on any scenarios in Geraldton where you reach a level of PV penetration that becomes a network risk?

Mr Hadley: Not at this stage.

The CHAIR: Unfortunately we are out of time. Thank you very much. I will proceed to close today's hearing and thank you for your evidence before the committee today. A transcript of this hearing will be emailed to you for the correction of minor errors. Any such corrections must be made and the transcript returned within seven days of the date of the letter attached to the transcript. If the transcript is not returned within this period, it will be deemed to be correct. New material cannot be added via these corrections and the sense of your evidence cannot be altered. Should you wish to provide additional information or elaborate on particular points, please include a supplementary submission for the committee's consideration when you return your corrected transcript of evidence.

Hearing concluded at 9.59 am

_____