ECONOMICS AND INDUSTRY STANDING COMMITTEE

INQUIRY INTO MICROGRIDS AND ASSOCIATED TECHNOLOGIES IN WA

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SESSION TWO

Members

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

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Hearing commenced at 10.13 am

Mr JASON WATERS
Chief Executive Officer, Synergy, examined:

Mr ALLEN GERBER
Manager, Energy Solutions, Synergy, examined:

The CHAIR: On behalf of the committee, I would like to thank you for agreeing to appear today to provide evidence in relation to the committee's inquiry into microgrids and associated technologies. 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 right, Yaz Mubarakai; to my left, Stephen Price and Terry Redman. Sean L'Estrange is Deputy Chair. He has just had to duck out and he will join us shortly. 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.

I would like to thank you for your submission to the inquiry. 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 a short opening statement?

Mr WATERS: In the interest of time, I will not make a lengthy statement but only to say that we are very pleased to have the opportunity to meet the committee. I think it is very timely that we are considering something I guess as future-focused as the emergence of microgrids. We have obviously seen from Synergy's perspective the electricity market change dramatically over recent years on the back of the emergence of technologies. I think it is critical as a market and as an industry that we are having a line of sight into the future so that we can, I guess, get the settings and the incentives right so that we can deliver efficient and reliable power to our customers long term as this new technology emerges and continues to develop and becomes more economic. Again, we are grateful for the chance to meet with you all today.

The CHAIR: Thank you very much for your submission. The way that we intend to progress this inquiry is basically in two phases. In this initial stage, we are looking to gather evidence on the more operational aspects of microgrids and, from Synergy's perspective, looking at both how your function as a retailer is changing and how your customer engagement is changing—that is probably quite material—but, also, as the dominant generator in the system, how the emergence of these sorts of technologies are impacting on your from an operational perspective. We will later in the year come back to market and regulatory issues. If we can focus on those sorts of operational aspects today, that would be fantastic. I will kick-off with some questions and then perhaps I will throw it open to my colleagues.

In terms of the way that Synergy views the retail opportunities around microgrids, what are you working on and how are you engaging with your customers on retail opportunities?

Mr WATERS: I will start, and then if Allen has anything to add from his solutions perspective, I will invite him to add a few words. What we are seeing from our point of view is that on the back of the emergence of technologies and certainly just the extent of pretty much consistent media around

the availability of solar and the availability of batteries, I think coupled with increasing energy prices and a drive to maintain a downward path in terms of the carbon intensity of the electricity supply chain, we are seeing consistently growing interest among our customer base to be brought more into the decision-making loop, to be made aware more of the solutions that are available and to become—not in every customer's case but in many customers' case—far more of an active participant in the market as these things change. I guess it depends across a spectrum of customers.

You have some customers who are very happy to maintain a very low involvement perspective in electricity and maybe not do much at all. There are others—obviously at increasing rates—who have installed or are looking at installing solar panels, which are probably the product that kind of started this whole trend and this change to our industry. Beyond that, you have got customers in various places who are more the early adopters, the more engaged households that are looking at batteries, looking at technology, looking at deploying—probably on the back of the smart meter rollout—systems behind the meter that will ultimately enable them to be far more active in the way that they operate their household and to take advantage of all the technology suite that has come in.

We represent over a million customers; we are very mindful of maintaining good outcomes for all of them. Synergy's focus is how can we provide the solutions, how can we engage with customers and ultimately take them on a journey to this new future that is coming that is actually aligned with their personal interests and personal stake in it. That is very different from a customer who may be facing hardship and a customer who is maybe renting as opposed to a customer who, like I said, is more engaged, more an early adopter and wants to spend $15 000 on a battery and is prepared to spend money on solar panels and actually wants to take a more active stance in the market.

The CHAIR: It is an interesting debate, because one of the things that has been put to us—Horizon Power was saying that they hope we get to an end state where energy becomes boring again where it is just one of those things that just happens around us. I am not going to hold you to these numbers, but I am interested in understanding the kind of proportion, because there are some people who are very keen about very actively engaging and managing their energy, but that is probably too much to deal with for a mum in Ellenbrook. You no doubt have a section of active consumers and the prosumer phenomenon and people who want energy management systems and they want to participate and they want to do all this stuff, but is it huge or are they a sort of marginal customer base?

I guess I am trying to get a sense of the degree to which people want sustainable energy production—they love the idea, they want to see leadership on climate change and mitigate their carbon footprint, but they are not actually going to get in there and start turning appliances on and off. I just wondered what your sense is of that.

Mr WATERS: My sense is that that is a very fair perception and aligns with my own and I think with your thoughts, Allen, but my sense of it is that I think a very large proportion of our customer base want leadership from the industry and Synergy and they want their interests represented. That now includes maintaining downward pressure on price, reliable supplies and carbon abatement as we move to a cleaner energy future. It is a much smaller group that actually wants to be the prosumers in that mix and actually want to be more actively engaged. My feeling is, however, that as we roll out advanced metering and we roll out the product suite that will sit behind the meter to automate production for the household, I think you will get greater take-up of those because you will not need to be a prosumer at that stage to be heavily involved in it. It will actually be able to go back to being a more sort of latent low involvement aspect of the household, because it will be largely automated.

I sort of envisage a home of the future having automated systems that are looking at market conditions, looking at the household demand, looking at panel production, looking at the levels of

charge in your battery, and it is making decisions about: do I run the pool pump now or do I run the pool pump later based on all those conditions? I think that for me is where the majority of customers will trend in the longer term—you will not see them actively running around looking at price, looking at time of day, looking at power demand. It will largely be automated.

So I think that, yes, as we stand today, the really heavy prosumer aspect of our customer base is relatively small. But I think we have got a very large customer base. I think our own engagement platforms—we engage actively with about 3,000 customers through our Synergy Connect platform, which is an engagement model where we seek customer involvement and thoughts and ideas—and 3,000 is a good representative sample of our customer base. Clearly, a larger group of people is becoming more interested and more involved, and with increasing expectations around our role and the role of industry in maintaining a steady progression to that future state.

The CHAIR: Do you think with the emergence of the internet and things, consumers are ready to almost abdicate control of devices behind the meter to a retailer like Synergy? What is your sense of how your rollout as a retailer builds that relationship and whether people genuinely would be happy to have you turning on their air conditioner?

Mr GERBER: Can I jump in? I think as an industry we have been guilty in the past of focusing on the shiny—focusing on the technology—and not focusing on the customer need that we are trying to solve. In the industry, we refer to people working in sheds as the "tinkerers"—those really engaged prosumers. Our research points to the fact that there are many different segments of society looking for very different solutions that are required for their needs. They are primarily driven by economics. However, they do want to be part of the community. They do want to be part of something greater.

I think that pivot that has happened within our organisation is much more around our customer-centricity. It is much more around providing platforms to those customers so that they can access future markets in a way that they want. The key here is to make sure that we acknowledge those differing needs, and that there will be a huge segment of society that just cannot access capital—that cannot access this new technology. It is the emergence of a two-tier energy economy. It is something that we are really mindful of. How do we make sure that no-one is left behind? That really drives us at Synergy. Our Synergy Connect platform really helps us with that. Over the last two years, we have engaged with that platform and that community over 50 times. We take 70,000 calls from customers every month. We are listening and we are responding. The relevance here is that for some customers, they might want us to play that role. Others might just want to set and forget and walk away from it. I guess that is where we are playing a role.

Mr WATERS: I think, to your question on handing over to the retailer, whether it is Synergy, or in other markets, in a different environment, the retailer of choice, is the question of trust ultimately. That is something that we would need to test going forward, but we are certainly working very hard on gaining and maintaining sufficient trust because I do have a view that if we are to actually optimise longer term the transition, we do need a degree of interface with customers that is trusted—that actually enables, as you have described, some of that handing over of some aspects of that operation. It has been successfully achieved in other markets.

When incentive structures are right and the value is shared with customers and they can see a line of sight of that, you have a range within other markets where distributors have access to control air conditioner demand, for example, during hot weather. It is not necessarily about turning your air-conditioner off, but it is assuming that all the air-conditioners in the street are out of sync so you are actually flattening load and managing distribution load. That is able to be done successfully on the basis of where there is a trusted relationship and there is a line of sight around the shared value.

The CHAIR: Perhaps it is for a later discussion, but looking at consumer protections, one of the points you raise is that if there is an embedded network sitting behind and there are multiple consumers participating in that consumer protection—you know, we will come back to it.

I have a very quick question on the other side of Synergy's business about dispatch. We have just had AEMO in here talking about the generation stack and how these changes are impacting the system operations. Could you give us a broad idea of whether these technologies are affecting the way that Synergy bids its generation fleet into the market and how you are responding as a business to the operational and cost implications of these technologies?

Mr WATERS: Certainly. So to start—it is not specifically related to microgrids—but the change that we have seen take place in the market through the advent of grid-connected large-scale renewables and behind-the-meter small-scale renewables has dramatically changed the way that our market operates. We do not see too much to tell us, but that is going to ever be reversed. In fact, it is going to be a trend going forward that we are certainly all about adapting to as part of that future state. It does not change, necessarily, the way that we bid our planting. We have rules governed through AEMO that require us to be a plant based on short-run marginal costs. The actual bidding process itself does not change, but what it has done is that it has reduced the demand on aspects of our traditional generation fleet.

It has certainly required us to adapt in terms of building a lot more flexibility and a lot more agility into the way we operate our plant. Some typical examples of that are that many of our coal plants, when they were originally designed, would have been specified to operate with relatively higher minimum loads because these were plants that you traditionally turned on and ran all the time, and turned them off to do maintenance. We are now seeing environments where we are required to take plants down in load overnight to sometimes very low loads. If we cannot operate with stability at a low-load point, you are faced with a costly decision to take a plant off in an environment where you may need to restart it the next day if it is another hot day. We are investing in low-load operations, which is one example of how we have changed.

We also have invested in control systems and other, I guess, more engineering-focused aspects of our process to make our plant more flexible and reliable to operate as it is going up and down in load all the time. Whereas once upon a time you would run your coal plants pretty flat and you would provide the system flexibility with gas turbines, we are now trying to share the flexibility requirement between coal and gas. As a result, though, like I said, a change in some control systems, some engineering and a different approach to operating the plant, we are now a lot more flexible in the way we operate. That is all about changing our business to adapt to this new future, which I do not see abating any time soon.

The CHAIR: That would presumably have short-run marginal cost implications.

Mr WATERS: It does, yes. It has two factors. Number one, it has short-run marginal cost implications, which can drive short-run marginal costs up at times. It equally, however, impacts the economics of operation of large power stations, bearing in mind a typical coal plant is different from gas plant in that a gas plant will operate with very low fixed costs, but relatively high variable costs. A coal-fired power station is reversed. You operate with typically relatively high fixed costs and very low variable costs. The economics of a coal-fired power station requires you to make lots of volume to offset the fixed costs. You are effectively amortising your fixed costs over volume. When those volumes reduce, short-run marginal cost may increase a little bit, but it is actually the total cost that you have to keep an eye on because you are actually recovering fixed cost of operation over a diminishing amount of energy.

That is really the key economics around the ownership of coal that over the longer term will ultimately drive retirement decisions when the cost of operating the plant simply cannot be recovered based on the amount of energy that is available in the market for it to meet through dispatch.

Mr D.T. REDMAN: By some extension to that—it is where I was going—I am interested in the costs stack. What are you predicting to happen with the network component of that costs stack in terms of these changes? You are the one that sends out the bills, so they face that, and there is the component that is network charges. Do you see effort into contestability upstream as being a more significant or less significant player in overall pricing than new tech downstream as being an innovation and/or government policy?

Mr WATERS: I do not really have a view strongly on any aspect of that, but I think they are all complementary. My view would be that if we take a customer-focused view, we need to maintain an overall optimised system that ensures both economic outcomes. If by the upstream, you mean the generation sector —

Mr D.T. REDMAN: Yes.

Mr WATERS: Which means that we need to procure sufficient fuel. We need to procure and maintain sufficient plant to meet future demand according to whatever load shape that is. In the services we receive from Western Power in regards to delivery of that electricity to our customers, we would need a regime that ensures that that is done optimally as well, given the availability of technologies to Western Power and the change, I guess, that is coming into this space as well.

Off the top of my head, I could not reflect much on the specifics and the breakdowns other than if you looked at the tariff costs stack, I think there are, notionally, a split of maybe 50% to networks and 50% to generation retail. I am not certain of those numbers, but they are both significant components so the overall focus of it needs to be on maintaining a healthy approach to ensuring efficiencies in all those regards.

Mr D.T. REDMAN: And your modelling for the trending of the network component of that?

Mr WATERS: I am not aware of us doing any modelling in that regard. Our network arrangements are regulated through the ERA and my view would be that there is an arrangement there that would ensure that there is an efficient outcome.

The CHAIR: It would be pretty much a straight pass through as well, so whatever the network cost component is into your retail.

Mr WATERS: Correct, I think that would be the case and as long as the ERA is then able to apply the regulations to ensure that that is efficiently provided, then I think we would be on track to get ideally something close to the optimised outcome.

The CHAIR: Sure. Do you guys have any other questions? Because I can keep going all day. One of the things I did want to discuss a little more in your submission comes back to the point I raised earlier. One of the interesting things that we did—I was not sure how long Terry was going to go on for, because sometimes he has just as many questions as I do—you talked about sharing the benefits and ensuring that people of all socioeconomic bands are able to benefit in these technologies. You talk in your submission about particularly around landlords and tenants and you mention that you are considering several innovative models to share the benefits between landlords and tenants.

I just wondered if you could expand a little on that. What are you looking at? What have you seen work well so that it is not just people who can put a $15,000 system on that get access to this?

Mr GERBER: I do not know if you saw recently one of the developers agreed to offer solar to tenants coming in under a PPA arrangement. I guess that gives access to those customers to that technology. Our concern is that that ties those customers into a 10-year contract and there is a view about where this technology might be going and the cost of technology over time. Certainly, power purchase agreements at the local level is something that is worthy of consideration. Generally, however, the terms are so long that there is some concern that protection for those customers is an issue. I think the kinds of models we are looking at are where we can incentivise landlords such that they are prepared to provide an upfront investment and then share that benefit with the landlord and the tenant. Those are the kinds of models we are exploring.

To that end, we would also—the best way to really control costs is to use less energy, so how we can incentivise landlords to ensure that the stock they are providing, especially to lower socioeconomic consumers, is optimised. Ensuring, for instance, that energy efficiency measures are in place. I think it goes beyond just the shiny stuff, the tech: what additional information can we provide customers to give them control and what additional incentives can we provide to landlords to ensure that the kind of stock they are providing actually meets our overall requirements with regard to efficiency and sustainability et cetera.

Again, the research we are pointing to here is—perhaps I will pause here. Recently we have done a co-creation workshop with customers saying that if we were to provide you with energy controls, what could that look like? We went into that process with quite a fixed idea of what customers wanted and came up with a very different perspective, and we would be happy to share that process and our findings.

The CHAIR: That would be great.

Mr GERBER: Yes. It was really exciting to co-create with customers and we had the right people in the room—the people who are vulnerable and who do not feel that they have control because they are tenants or they cannot afford these capital costs. We do not have all the solutions. I think we are vulnerable enough to actually take it out to market and say, "Well, what's working in other jurisdictions? What can we bring to this market? What in particular works for our customers in WA?"

The CHAIR: Have you engaged at all with the Department of Housing? That is the State's largest independent developer of housing stock and has a whole heap of tenants. Have you engaged with the department around these sorts of ideas, and how has it gone if you have?

Mr GERBER: What I am finding in this market is that there are lots of passionate people trying to do the right thing. The engagement at this stage has not been formal, but by way of an example, what we have done at White Gum Valley, for instance, on EVs working with Access Housing, is we have tried to trial how customers might access EVs. We have put in place a fast charger, we are working with private enterprise on a car share model down there, and we have learnt some really interesting insights into the kinds of barriers that exist—things that would seem obvious to us, but where people having to put $300 up-front, for instance, to access a car on a car share scheme is a real problem. We are learning as we go with this kind of technology. So, yes, our work with Access Housing is actually proving really insightful.

Mr WATERS: For me, an example I think also presents a model for consideration, and this really comes down to the importance of collaboration between us and Western Power, is that I see investment in a battery for many households for many years to come is going to be a significant, challenging cost. However, what we have been able to glean from our trial up at Alkimos, where we have a community battery installed, is that that gives access to storage to households that is not dependent on the homeowner necessarily being in a position to directly fund a battery in a household in the case that they are renting. So I think that is one typical example that comes to

mind for me, whereby if the incentives are right and if the collaboration is right, and by "incentives" I mean therefore the regulatory incentives are right, I can envisage a world where there is a more greatly optimised potential between the distribution or the grid operation and the household on the basis of the installation of community-based facilities, as opposed to behind-the-meter household-based facilities.

Not only therefore do you get a shared benefit but I also have a view that there is an economy of scale associated with procurement of, say, a one-megawatt hour battery as opposed to lots of smaller batteries at household level, that if those benefits, and as I said, if the incentives are right, can be shared with households, then that actually gives access to future state technology for renters not dependent necessarily on the investment by a landlord or a renter into that home. I am seeing another emergence there, I think. It is something that we need to be considerate of as we consider regulatory arrangements going forward.

The CHAIR: When we are talking about those asset classes that are of a greater scale and potentially either suburb or subdivision-wide, who do you see as owning and operating those facilities?

Mr WATERS: I think that is where, for me, the kind of grey zone emerges. In my mind, it is Synergy that represents the arrangements to the customer and is that interface, but it requires—and in fact the approach we are taking is—collaboration with Western Power to then also ensure that there is a network or a distribution optimisation available through that. So I do not think there is an answer yet. As I said, it is very much a grey zone, but it is something that I am seeing as needing to really think hard about as we go into the future. I am not even certain yet that we are in a position to become overly solution-focused in terms of how that gets structured from a regulatory viewpoint. I do not think we have settled yet on exactly what the future state is going to be.

My mindset tends to be that we need regimes that enable us to be agile and open-minded in our approach, because I think we are still working our way up the curve of where all this tech is going to land and how it is all going to actually play out. In some areas it may in fact just be too soon to replace one what may be relatively rigorous regulatory approach with a change to an equally rigorous but different approach that does actually enable still over time as things evolve flexibility for these things to play out. What I ultimately see potentially is a co-investment between the network or distribution operator and the retailer, and therefore a balanced representation between the customer's interest from the retailer's side and the network and distribution interest from the distributor's side.

The CHAIR: But Synergy at the moment does operate some of these types of assets. One of the things I would be keen to hear you views on is if there is a space for Synergy to operate these things, what implications does that have for your workforce? I guess I would appreciate your views more broadly on workforce development. You have a retail workforce sitting there; whether you anticipate any changes to their roles, but particularly for your generation-based workforce. Undoubtedly, there are challenges to those assets, as we have discussed. What are you doing to transition your workforce to accommodate these new types of technologies?

Mr WATERS: Absolutely, and that is a very challenging area for us. There is a body of work we are engaged with, through government, looking at the Collie region, and I think that is early but that will be an important part of the long-term future. For me, there are two areas that I am seeing as emerging opportunities for what you might call our traditional workforce. I am talking about the sort of generation business. One is certainly around the creation of new businesses in the distribution space, but probably where my mind is at right now is the emerging large-scale generation space, where there is going to be a significant amount of new plant built connected to the SWIS in the large-scale wind and solar space. We are actively looking for opportunities now to

take people from our generation business and provide them with opportunities in either development or longer term construction in those areas. That is the more near and present opportunity as we see it.

Longer term, it would be more into working in the customer solution space, whereas once upon a time, I would envisage a core engineering role—we will have this in our business for a long time—looking at the asset management, ownership and operation of a power station, now looking at the engineering associated with a solutions-based approach to customers that is no longer focused on the traditional grid delivered supply. But now looking at a range of options, how do we take a solution to maybe a large customer like a mining load with the emerging economics of either light grid or in fact even standalone grid operation in the case of say a big mine—how do we engineer those solutions, take those solutions to the customer and ultimately then invest into maintaining those longer term?

That is very new for us, not something we are active in. We have got engineers in that space, and I have a sense of potential for it, but nothing at this stage that I would see is going to make a rapid difference in terms of creating employment opportunities. In the near term, it is probably more around the construction of what will see some of the large-scale projects coming onto the system over coming years.

The CHAIR: We talked about household scale battery systems, or PV battery systems, but obviously Synergy is also a significant player in the contestable market. I wondered if you could give us a bit of an overview, as we sort of exceed the contestability thresholds, of what sort of a demand are you seeing from industry or from even particular precincts or for these DER-type solutions?

Mr WATERS: From my perspective, the most apparent interest at the moment is just in what we would call "commercial scale solar", as opposed to your household scale of maybe anywhere between 1.5 and five kilowatts. We are seeing system sizes from 20 kilowatts up to hundreds of kilowatts, even up to a megawatt in large, what you might call, mid-tier commercial applications. Allen, you might have some more ideas on this, but my understanding is that that is potentially a more rapidly growing market. We are seeing a steady state approach for investment in rooftop solar at a residential level, and Synergy SolarReturn is our brand that is active in that space. But there is, in my sense, a very large latent opportunity existing in the commercial solar area where we are seeing a lot of interest. We have sold some very large systems, but I sort of feel like that is probably an area that could be about to grow quite significantly.

The CHAIR: But it is a challenge to your business model—right? Because you are not selling kilowatt hours; you are selling capital intensive, nil variable cost assets, so you are actually, almost as a retailer of kilowatt hours. It is a fundamental change, I would think, to the way you approach retail.

Mr WATERS: It is a transformation and it is one that you need to go back to our overarching ambition, which is to provide what is best for customers longer term. If aspects of that require a preparedness to self-disrupt, that is exactly what the future requires. We have kind of gotten over that already; that was the old-school thinking, I believe, and certainly going back decades, that we need to hang onto this traditional business model that served us well for 100 years going back to when East Perth Power Station was built. We had a pretty good run.

But really the last sort of five to 10 years has changed dramatically. Retailers, in my view, now need to become totally customer-centric in operations, solutions focused and true advocates for the interests of customers going forward, which really requires you to let go of that past. Letting go does not mean getting rid of it all, because it still serves a very critical backbone to our system—the transmission grid and the large scale facilities we run—and they will do for a long time to come. But we certainly have progressed as an organisation based on this customer focus that if a customer or

a business can now economically take advantage of new tech—it is not really new tech anymore, but solar panels right through to new tech like batteries and more advanced systems—that is certainly the future we need to embrace and represent those customers in the best way we can in regards to that take-up.

The CHAIR: I would assume—please correct me if I am wrong—that particularly when we are getting into those large users, you are able to really customise what sort of a service offering and commercial arrangement you put in place to enable you to recover your costs and make a bit of margin. There are all sorts of ways. You are not restricted to offering a vanilla tariff; you can be a lot more commercial about how you go about delivering that solution.

Mr WATERS: In the contestable space, we can. You can offer everything from, I guess in the most extreme case, if it suits the interests of the customers, a standalone power system, right through to grid delivered supply, with a blend in between that might be grid backup or grid supply at certain times or a buyback arrangement. We certainly have, I would say, greater scope for innovation, Allen, in that space.

Mr GERBER: I would say that we have been doing exactly that. In that contestable part of the market, we have not put any barriers in place. The customers are actually bringing solar in; in fact, we work with those customers. We talk about embedded networks. We see, you know, at least a couple a month where customers are wanting to take strata title, aggregate them, turn them into an embedded network. So, we are working with those requests to try to facilitate the outcome. But within that, we are always mindful about what that means for the customer on the other side of the meter. There are issues around regulations, so we spend a lot of effort making sure that we protect our customers, plus support customers. For those customers behind the meter, those protections are not there and I think that is something in the future that we will have to explore: what does that mean if you are sitting behind a master meter like that?

But embedded networks have been around for forever, and we are helping customers with those solutions. We have recently been working with LandCorp around what that means for their future developments. They need to be thinking about this future and not be making decisions in the existing energy paradigm. I think that is starting to pay-off with some of their thinking about what a future development might look like. The Peel development is something that I am sure you are aware of, and our response to that is to try to facilitate some of that new thinking. Yes, we are very encouraging of our customers to think in different new ways.

The CHAIR: A lot of the focus is placed on PV and batteries, but there is another angle, potentially, particularly for commercial or industrial customers, on microgrids, and that is the use of microturbines or where there are thermal or cooling loads and there are opportunities to leverage the gas network and the gas distribution system. Synergy plays in the gas market as well. Are you seeing any innovation or any demand from your commercial customers to think beyond microgrids, and particularly for embedded networks, beyond it just being PV and battery, but to incorporate these other types of waste heat from industrial processes or excess electricity generated from gas micro or small-scale gas or diesel, even turbines onsite? Is there some sort of work that Synergy has been doing around that?

Mr GERBER: Perhaps I can take that. I will not mention the customer, but we looked at a quad-generation play some time ago. This is where the customer wanted to use gas for heat and power and then scrub the outcome for carbon dioxide. We have actively pursued those kind of opportunities for a while now. It did not actually make commercial sense in that instance but, again, I think it goes to our point. It really is about specific solutions for customers and really understanding where they are trying to take this in the future. Is it about helping them provide controls for their

tenants? Is it about optimising costs? In the quad-gen solution that we looked at, it really was about trying to maximise the energy inputs. It just did not work at the time, given where the cost of gas was relative to the cost of electricity. Certainly, we are exploring all of those opportunities.

Mr S.J. PRICE: I have a question going back to infrastructure, specifically the smart meters and advanced metering. You mentioned that there could be more efficient means of installing the two-thirds that Western Power are not going to do going into the future. Do you have any thoughts about what that would mean—if there was some other alternative available out there—and the opportunity?

Mr GERBER: Can you just clarify: is that about the smart meter rollout and what is proposed?

Mr S.J. PRICE: Yes.

Mr WATERS: As opposed to the one-third that is going to be replaced with the —

Mr S.J. PRICE: Even that time frame—2021–22. When you say how important and critical smart meters are as an enabler —

Mr WATERS: I wonder if that is in regard to the ability to upgrade existing meter stock.

Mr GERBER: I guess our response is that if you look at jurisdictions around the world where smart meters have been rolled out well—and we have examples where it has not been done that well—it really comes back to what it is we are trying to achieve with smart meters. We think there is an opportunity to try to help those more engaged customers early on and some of those vulnerable customers, especially where we can provide control. I think the issue really does come down to how do we make it as efficient as possible and then who should guide what that rollout looks like.

That is, I know, part of the reason for the submission that Western Power have put forward and the ERA have made a draft decision on, so I will not go into too much detail on that. We certainly see AMI or smart meters as an opportunity to try to ensure that there is a lower overall cost of energy for the average consumer.

Mr WATERS: I think maybe if you are looking for some further commentary specific to that matter, I would be happy to take that on notice and we can come back to you to clarify our point there. Off the top my head, I cannot quite recall exactly the detail of, as you mentioned, that other two-thirds. If you do not mind, we would be happy to come back with something.

Mr S.J. PRICE: No worries.

Mr Y. MUBARAKAI: Could I just carry on a question from where Stephen was going with smart meters and whatnot? In the retail sector, particularly in certain parts of the world like New York where they have trialled blockchains and it is working quite significantly well in the market space, how do you see yourselves apply yourselves within that framework of blockchains?

Mr WATERS: From my point of view, we are very much open-minded in terms of the future. If blockchain is ultimately a more efficient means of clearing arrangements between retailers and customers or customers and customers in a peer-to-peer sense, if that is ultimately in the best interests of customers, it is my view that we would look to support that future.

Mr Y. MUBARAKAI: Is that what Synergy is looking at as a market share holder—to incorporate that in your services going forward into that paradigm?

Mr GERBER: Our research points quite strongly to the fact that customers love the idea of peer-to-peer trading. It really gives them a sense of connection with community, the ability to share with your grandmother or a school. That is a really strong motivator for customers. The issue around what technology enables that, I think they do not really care about. Blockchain is one way of

enabling that. We are active participants in the RENeW Nexus trial out of Fremantle, working with local providers and working with Western Power and Curtin University to explore exactly that. As Jason said, we are open to the technology, as long as it makes sense for the customer, as long as it does not make it cost more or make it more complex. That would be a sub-optimal outcome, I think, from my customer-needs perspective.

The CHAIR: You mentioned in your submission, under section 2.1 about primary commodities research development and advanced manufacturing, that you are supporting a proposed prefeasibility study in end-to-end battery production. Could you maybe give us a little more information about what you are up to? I am happy for you to take it on notice, but if you are able to, give us some more info on that.

Mr WATERS: I think we will take that on notice, if you do not mind. We have a body of work underway looking at the potential for it. We would be happy to make a separate submission to you or provide some further detail.

The CHAIR: That would be great.

One of the things in the submissions that has been coming through loud and clear is that electric vehicles are going to fundamentally change the way that the network is operated and, presumably, the sorts of retail offerings that Synergy has in the market. Could you maybe give us a bit of an overview of what you have been doing in the EV space and how you see that interacting with microgrids and the like?

Mr WATERS: The EV space is deeply interesting. It is a funny one in that it has been this thing that has kind of been three to five years away for about 10 years. I do have a sense that we are now starting to see—some recent announcements with some of the more traditional internal combustion engine manufacturers announcing plans to cease production. That is ultimately the change we are going to see that is going to drive the take-up. It will almost certainly result in a change to the way energy markets operate from both a wholesale and retail perspective, but I am not convinced yet that we really have enough information to know exactly in what way it will change.

By that I mean that consumer behaviour, I think, is difficult to predict in this regard as to whether people are going to be charging their car at work or they are going to be charging at home. Patterns of behaviour that may result from that—we talk also about the emergence of ride sharing. Are we talking still about the same amount of cars on the road in 10 years that there are today? I think there are a lot of other factors that are impinging on it. My view, again, is to be able to ensure that Synergy is a facilitator of this and certainly is not an obstacle.

Secondly, we would like to think that we have products and services, and if that means there are tariffs available and EV charging services available, we will be in a position to ensure that they are provided, but not necessarily be of the view that we need to be the provider of them, but more of a facilitator and ensure that whatever is then done ensures that the incentives are right to deliver the best benefit. By that I mean you would hope that subject to the availability of smart meters, there would be adequate incentives available to have people charge overnight; or if they are not charging overnight but they have spare generation from their solar panels, that may be used to charge their car.

Again, it puts the control and I guess the interest for that back in the hands of the consumer to ensure that they are getting the most economic benefit and, obviously, sharing that with both Synergy as the retailer and generation provider and Western Power as the network provider. It does change the game. Some of the numbers I have seen indicate that each car might represent about

half a household's annual consumption based on average running time. It kind of gives you the sense that as vehicle stock progressively turns to EVs as you move into the next decade, it certainly adds a lot of new demand to the system. We need to make sure that we are not creating solutions that do not fit the future state and that we are able to be agile and open-minded as it takes place to ensure that those incentives are there. We have done some trials and had a look at a few things. Our view is about being ready.

Mr S.K. L'ESTRANGE: Just picking up on that, do you see a role for Synergy getting into the battery space at all in terms of the provision of power to electronic vehicles?

Mr WATERS: We already retail batteries to households. We certainly see it as part of a future retailer's solution role to ensure that houses are equipped for this future state. I would see us being in a place of offering panels to houses, offering batteries to households, offering the services and the internal control systems and smarts to optimise all of that on the basis of a future smart meter environment, ensuring that tariffs are available to complement the services that consumers want to take advantage of—and that when they come home at night and plug their car in, ultimately the smart household will then make a decision as to when I charge that car and from where.

I very much see us being the partner with the household. In that case, I am probably talking about a fairly advanced household, but, equally, not neglecting the households that are going to be the very late adopters or those that are challenged in regards to their ability to access all those technologies.

Mr S.K. L'ESTRANGE: External to the householder, are you having conversations or forward planning with the Department of Planning, for example, in and around infrastructure for Western Australia linked to what you are saying?

Mr WATERS: We may be, but I am not certain. We are certainly having conversations with Western Power as our partner and co-agency in this regard to ensure that there is some thinking going into that readiness.

Mr GERBER: You do raise a really good point, though. Our customers are asking us now for help around this—in particular, our local governments. How do we plan for this future? What does it mean in terms of infrastructure? What is the kind of demand that we might expect—EVs—and therefore what should we be thinking of in terms of our planning? They are all questions that are happening now. It is not some sort of future state. We are working closely with the likes of Western Power and other agencies to ensure that we do form part of that discussion. I think our customers are looking for leadership in the EV space and we certainly want to be part of that discussion.

The CHAIR: Thank you for your evidence before the committee today. A transcript of this hearing will be emailed to you for 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. Thanks so much for coming in today. It was great.

Hearing concluded at 11.04 am

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