

ECONOMICS AND INDUSTRY STANDING COMMITTEE

INQUIRY INTO MICROGRIDS AND ASSOCIATED TECHNOLOGIES IN WA



**TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
WEDNESDAY, 28 NOVEMBER 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 9.36 am**Mr WILL BARGMANN****General Manager, Corporate Services, Synergy, examined:****Mr JASON FROUD****Manager, Policy, 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, member for Jandakot; and to my left, Stephen Price, member for Forrestfield and Terry Redman, member for Warren-Blackwood. The deputy chair, Sean L'Estrange, is unable to attend today.

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. Do you have any questions about your attendance today?

The Witnesses: No.

The CHAIR: Would you like to make opening statements?

Mr Bargmann: Yes please. I am appearing today on behalf of Jason Waters, who has had a personal family emergency and is not able to attend this morning. He does extend his regrets.

The CHAIR: We hope that everything is okay with his family.

Mr Bargmann: He will be fine but he has just had to deal with that, so he asked me to make a brief opening statement on his behalf. Synergy is excited by the rapid technological changes apparent in the electricity sector around the globe and optimistic at the opportunities that may be afforded by microgrids, standalone power systems, virtual power plants, electric vehicles and other emerging technologies. Synergy is the State's largest electricity retailer, managing relationships of around one million customers and spanning residential, commercial, industrial and wholesale electricity customers. This positions Synergy to have a deep understanding of customer needs, from households experiencing financial hardship right through to large smelting operations.

Through our own successes in digital innovation we are actually learning more and more about our customers all the time. While optimistic about the opportunities, Synergy considers that microgrids should be adopted cautiously to avoid unforeseen consequences. The current electricity system was designed on economies of scale and reducing the number of parties contributing may increase the burden on those remaining, risking leaving the most vulnerable customers behind. I understand that the focus of this phase of the inquiry is to identify regulatory barriers to deployment of microgrids and associated technologies. An important aspect of this should be determining the appropriate regulation for these technologies and business models, not solely seeking to deregulate rapidly. In many circumstances regulations were implemented for an important reason; for example, customer protection. There are several scenarios where negative customer impacts could occur as a result of deregulation without fully considering the costs across the whole electricity supply chain.

Jason and I would be pleased to help the committee with any questions we can answer today. I am also happy to take any questions on notice and draw on experiences from Synergy's range of emerging technology solution trials, many in partnership with other utilities, and the private sector,

as well as Synergy's sense of engagement and research with customers to understand their evolving expectations.

Mr Froud: Over the past few days I have had the opportunity to review the transcripts of several other businesses and organisations that have appeared before you. In reading those it struck me how our objectives are incredibly aligned. We are very interested and very excited about this technology and how it might work and how it might play into the future and looking for benefits for the market, benefits for consumers. Also, I would like to commend the committee for the questions you are asking. They are certainly the right questions and the answers you are getting are the right answers. From my personal perspective, I am very confident about where the committee is heading with this and the questions and how you have informed yourself about these issues are exactly the right issues that need to be considered moving forward. I just wanted to make that observation and commend you for your keenness and understanding of the issues. It really does seem that you are across them really well.

The CHAIR: Thank you. Thanks for softening the committee up. We may go a little easier on you! What I will say is that we have been incredibly grateful for the support that has been provided by Synergy and a range of other people who have provided us with submissions. Generally as we have gone through this process, I have not seen the energy industry quite so willing to engage as well. I think we all recognise that there is an opportunity for us to make some really good policy here. Both my colleagues and industry can come up with, hopefully, some pretty useful recommendations for the government.

Thank you for your supplementary submission. I would like to step through it and tease out some of the issues you have raised. As you say, Jason, your submission raises a number of the issues that have come up. In both your first submission and your subsequent submission, you have talked about some key principles that you think should drive microgrids or the recommendations that this committee takes. The first is on cost effectiveness and relying on market forces to determine the most cost effective solution in the first instance. I am very interested to understand Synergy's views on the appropriate points at which market forces should apply. We obviously have a uniform tariff policy here, so very limited signals are being sent through the market to customers. But there are a range of other points in the energy value chain where you could start to show market forces and different types of market participants could enter into the DER space. When you talk about market forces, what do you understand them to be and where do you see them operating most efficiently?

Mr Bargmann: You are speaking specifically in the microgrid standalone power system sort of area?

The CHAIR: Let me clarify some definitional issues. There are three areas, if you like, where it would seem to us that microgrids operate: standalone power systems in remote communities; fringe of grid connected to the Western Power network; and deep in the mesh network. They are three very distinct parts of this problem. Synergy obviously plays in the fringe of grid and mesh network sections. I am interested in your views, if there are distinctions to be made between those two, what are they and what is Synergy's view on how market forces can operate?

Mr Froud: You are quite right: there is a uniform tariff policy, and we do not expect to see that changing in the short term, or in the medium term even. Where market forces do apply, typically in the electricity market at this point, as you would know, it is mainly in the upstream areas. There are more limited market forces and competition applying in downstream areas. I suppose that where that line sits is largely a matter for government to determine through policy and also how that then translates to regulation. I suppose that Synergy's view is that market forces are intended to discover the lowest possible cost after providing any sort of service and, where possible, where a service does not need to be regulated, either as a natural monopoly or through other policies, that should

be considered as the preferable position is allowing market forces to determine the lowest possible cost. If that is not possible because of other related policies, obviously you are going to end up with less market forces applying in those situations.

It is a good question. I do not think we have really settled on exactly where that line might be, other than what we have already just discussed. Moving forward, as the technology changes we just need to keep in mind that market forces can play a role, particularly in the delivery of some of these services and some of these technologies. The rollout of these new technologies may very well be able to be provided by entities other than, say, a regulated natural monopoly.

Mr Bargmann: I think the theory is—again, as Jason said, we do not have an answer as to when it applies, but I suppose what we are saying is to apply classic economic theory, which is that to the greatest extent possible, if a market solution is available, prefer that over falling back on a monopolistic “We’ll tell you how it should be done”, because it deprives the consumer of choice; for example, in terms of how a solution might be done, potentially the development of technological changes, changing business models and that sort of thing. It is just more of when the market could provide a solution, allow the market to provide that solution.

The CHAIR: Let us tease this out a little because Synergy is a big “gorilla” in this market.

Mr Froud: They have previously been called Godzilla I think!

The CHAIR: I do think that in this particular instance what a market is and who is participating and how the GTEs work alongside one another, overlap with one another, and the degree to which they act as either providers or procurers of services, are material questions that, depending on who you speak to, either encourage or hinder private sector participation in the market. It has been suggested to us that there is considerable overlap and duplication of effort between the GTEs. I note that in your submission you talk about microgrids and associated technologies are currently able to be delivered through collaboration between the government utilities. To what extent does that collaboration give us a SECWA again, where basically other market participants are competing against collaborative, what could seem to be some sort of vertical integration entity, albeit that we obviously still have disaggregated companies—just really understanding the appropriate forms of participation and how Synergy conducts itself in the market, how it procures, how it provides, how it competes. These are really material issues to understanding how we best optimise these technologies.

Mr Froud: You are quite right in that in several of the trials and other things we are doing at the moment in collaboration with Western Power and Horizon we are working very closely with our sister organisations, if you like, with a view to trialling these technologies and making sure that we are not left behind as a state. We know that these technologies are coming on. Other jurisdictions are looking very closely at them as well. It makes sense for us to do what we can do under the current regulatory framework to trial these things and to learn a little bit more about them. That is not to say that down the track in the future elements of the provision of these services could not be opened up to competitive forces.

You made the point around there potentially being overlap between government-owned utilities. When the *Electricity Corporations Act* was brought into play about 12 years ago now, I think the delineation between the various utilities was very clear. The *Electricity Corporations Act* was designed such that there would not be any overlap—it was intended that there would not be—but as technology has improved and changed, obviously areas have opened up. Battery storage is the classic one, whereby instead of clear delineation between the three government-owned utilities now, it is almost a bit more like a bit of a Venn diagram in that there are some areas where there is potentially some overlap and what we need to do is work through some of those areas—as we are—

with these other entities. I suppose that your inquiry and the work that the Public Utilities Office is doing—I know it is appearing next—is very keenly focused on making sure that those issues are addressed and we know where those lines are down the track.

Mr D.T. REDMAN: Just by extension, the trials that you are talking about where you are working with the sister organisations, how much of the focus on that is on the technical aspects of the disruptive technology that is coming into play as distinct from something that puts the spotlight on the regulatory challenges?

Mr Froud: It has been technological to date.

Mr Bargmann: Batteries.

Mr D.T. REDMAN: So has that emerged and given you much more insight to the regulatory issues that come from it and, therefore, any suggestions to the committee about what might unlock the opportunities from a regulatory sense.

Mr Froud: I think the trials that we have been doing, particularly when you look at standalone power systems and the work we have been doing with Western Power, particularly in places like Ravensthorpe, and the work that Horizon has been doing, we have to remember that the Public Utilities Office is as well in lockstep with us in these trials and looking to understand and determine what regulatory changes are required in order to clarify roles, responsibilities and accountabilities for the provision of these services. But what I know the Public Utilities Office is also doing—it is probably best that I let them speak to this—it is important to not only consider the technology aspects but also the economic aspects and, importantly, who pays. Ultimately someone is going to have to pay for these technologies.

Obviously we have a state whereby there is cross-subsidisation from people, obviously, who live in the metro area offsetting the costs of electricity in regional areas in the Horizon Power network, but also within the SWIS itself. It is important that we understand the way the cash is flowing, if you like—who is paying for these things. Is Western Power doing these things and then earning a return on those assets over the 40 or 50-year life of the asset as they do now with poles and wires? The PUO is heavily involved in this. Just in terms of who is appearing before you next, Zaeen and Aden will have some good advice for you in that regard.

Mr Bargmann: I do not think we have formed any views about what the regulatory changes are right now; we have just recognised that we need to be a part. We think it is important that Synergy or retailers be a part of the actual changes that are occurring out there, but we have not actually formed our own views on what the regulations potentially should be, other than the broad principles that apply in any situation like this, potentially focussing on user-pays but also recognising the extent to which, from a policy perspective, you may want to say that this is a common good and therefore it should be paid by all users as opposed to just the specific users benefiting from the particular microgrid.

Mr D.T. REDMAN: I have asked this question of all the utilities, so I can understand how it might be difficult to answer: aside from what the government might look at in terms of regulatory changes to unlock potential, one of the issues that may well be a barrier is the structural arrangements we have right now with our utilities. Whilst I am probably not expecting you to put on the table a suggestion of structural change that might be an opportunity that comes from this, is that an operating space that you think will be significant to this, to capturing the opportunities that DER and the like provide?

Mr Froud: Can you just elaborate on what “structural change” means?

Mr D.T. REDMAN: I am talking about the boundaries that each of the utilities operate in, for example. Western Power has its own footprint. You have one utility that is vertically integrated. Evidence the committee has heard is that that gives a lot more opportunity than perhaps the ones that are not vertically integrated. You have competitive behaviour that is not necessarily to the advantage of the customer happening on certain aspects of that. You have three utilities playing in the same space to look at what might happen here. There is probably a slightly unhealthy arrangement, I would argue, now. Utilities certainly have not offered up what a structural change might look like but I am asking the question: do you think the structure of what we have now, particularly in government-owned utilities, is an arena that needs to be looked at?

Mr Froud: I suppose that looking at the issue of us operating in the same space, I want to make it clear that I do not think there is any real duplication of effort at this point amongst the utilities. I do not think we are actively competing in this space. It is more a collaborative approach whereby we do not really do anything before we are talking to either Western Power, Horizon or the PUO, or all three. We are not blasting off on our own, doing things on our own. It is safe to say that Western Power and Horizon are doing the same thing; it is a very collaborative approach.

Mr Bargmann: Which is probably driven a lot by the way we have been set up—the fact that there are all these lines with the SWIS—what is within the SWIS; what is not within the SWIS; what is a retailer allowed to do; what is a generator allowed to do; what is a network operator allowed to do? That is all pretty clearly delineated in the legislation.

Mr Froud: I suppose looking at what our focus is, obviously our forte is that customer experience as well as that utility-scale generation. That is what we can bring to the table now. We are talking about the consequences of some of these changes. As Will said in his opening remarks, traditionally the network has been built on a presumption that there are going to be economies of scale. Obviously the larger the network, the easier it is to run. The AEMO would probably have said that to you recently as well. As you start looking at potentially hiving off areas of that network, by definition arguably you can make that network smaller. Do you have an impact on the economies of scale that you have derived over such a long period of time?

Countering that is obviously the reality of new technology, being renewables, battery storage, wind and solar. It is not as reliant, or it does not have as many economies of scale as some of the old traditional forms of utility-scale generation; it is more modular. With the new technology coming on, some of those issues of economies of scale might not play out in the future as perhaps they have in the past.

The CHAIR: But there are some really interesting issues in play here. For example, who is your customer? Your customers are the mums and dads and businesses of Western Australia. Western Power think their customers are, but you are actually Western Power's customer. Who holds that relationship? Who is able to encourage behind-the-meter behaviours, for example? Who is selling the electricity? Who is providing them with PV systems and batteries? Who is then you, in your capacity as generation provider, potentially operating and owning grid-scale batteries which can operate as a load or a generator or, potentially, a provider of network services? All these issues are incredibly blurred at the moment. Even locating and identifying what the right technological fixes are and planning: Is it Western Power? It is AEMO? Where does Synergy fit into the mix of this? There are the same people asking themselves the same questions and workshoping—or different people asking the same questions, coming up with multiple different solutions and a lot of duplication and overlap, and confusion about who holds the relationships and who is best positioned to answer the questions. That seems to me to be one of the biggest issues that has come out of this inquiry.

Mr Bargmann: One thing that occurs to me is that when you say duplication, I think another word for duplication is competition. Duplication occurs all the time right now between Google and Apple and all the other guys because they are all pursuing the same thing.

The CHAIR: But you do not have the same owner.

Mr Bargmann: No, we do not have the same owner, I agree, but we are probably operating recognising that in this instance when we talk in our submission about a retailer, we are not saying that Synergy should necessarily do all of this. What we are saying is that customers should have choice. Right now, as a result of policy decisions made, Synergy is the monopoly retailer for a certain segment of the market, and that is fine. But I guess what we are saying is that we think there should be a focus on the customer. To answer your question, we think we probably know best from our insights from the million customers. We spend a huge amount of money trying to understand what customers want. That aspect is why we think retailers should have such an involvement in whatever solution does come about.

Equally, we can understand where networks are coming from. They are saying, “We need to have the most efficient network so that we can spread these costs around.” We agree with that, but we think we hold the key. We retailers hold the key to actually understanding customers better.

Mr Froud: The point about customers is a very valid one. I have worked at Western Power before here and I know Western Power does say that they have a million customers as well, as does Synergy. I think both are true. I do not think that they are necessarily incompatible. The main reason being, as Will said, obviously we have a billing arrangement. We have an arrangement with customers and a relationship with customers from a retail perspective. We can assist them with behind-the-meter services. We can do all sorts of different things that Western Power would not traditionally do. Western Power’s relationship with the customer—they have a lot of people who are rolling in trucks. They are doing network upgrades. They are doing transformer work in the street. They need to go and talk to customers to do metering services and other things. That is the job they have, so they do actually have physical contact with the million customers as well, but it is a different type of engagement than Synergy has.

For Western Power to say that they have a million customers and for Synergy to say they have a million customers, I think both could be true. But if you want to look at it purely from the regulatory point of view, you could say that Western Power has only about 40 customers. I do not know how many electricity transfer access contracts are in place at the moment, but you could say that Synergy is Western Power’s biggest customer. They obviously have ETAC in place with us and then we go and have the relationship and there is that linear relationship with the rest of the customer base. I can appreciate Western Power’s view. They see the community as a customer, in that they are providing safety and are doing all sorts of other work in terms of network upgrades. They often have direct engagement with the community when they are doing that work. That makes sense to me.

The CHAIR: I want to follow the rabbit down the warren for a moment, just on ETACs and structures and coming back to market forces, particularly around price. We have talked about the fact that the uniform tariff policy means that there is very little in the way of price incentive, price sensitivity or signals you can send end customers. Through network access charges, are there ways in which you think tariffs could be structured and shown differently to retailers to encourage or incentivise more interest in DER at certain parts of the network or certain times of the day that might cause you to react differently in your uncontested parts of the market, but also in your contestable parts of the market? Can you wander around those issues for a little while?

Mr Bargmann: A key part of our access submissions we made on this most recent access period that is about the ERA was to make a final decision on 2 January, pertains to the so-called reference

services, which are the services that Western Power provides to Synergy. A key aspect of those services we requested are time-of-use and critical-peak usage—various things that we have identified through our knowledge of customers that we think we will be able to pass on to customers to change customer behaviour, lessen the load on the network at key times of the day, which could include, then, in fact, maybe islanding off the network at key times of the day. We definitely have a focus on that; it was a key part of our own submissions to the ERA as part of this access arrangement. I think we requested 11 reference services that are new—we are just a means to an end—which we then offer on to our own customers.

The CHAIR: Are you proposing both your contestable and uncontestable as well?

Mr Bargmann: Yes. One thing we have always identified that could be better is potentially a better time-of-use tariff for our customers. Right now it does not stimulate as much demand as we think there could be. What we know about the uses of the network. We think there is a lot of potential there to actually have better time-of-use pricing. A key part of us having time-of-use pricing is to have network time-of-use pricing because network calls make up 40% of our retail cost.

Mr Froud: Those reference services, even when they are created, will prove to be a very useful toolbox for us to diversify into a range of really interesting and cool things with tariffs moving forward to provide the right investment signals for customers in making sure that what they are being charged for their electricity is more reflective of the actual cost. There is a good suite of reference tariffs in there and there is also the option to proceed with non-reference services as well with Western Power, so you are not just completely limited to that one toolbox. If you discover that new technology during an access arrangement period is encouraging or facilitating the need for a new reference service, you can actually go and apply for that with Western Power. Any retailer can do that.

I suppose, to answer your question, something that I have always been interested in is the possibility of locational price signals for network infrastructure. As you know, the way that network prices and retail prices are determined at the moment, obviously costs are smeared across the customer base. Locational price signals, across the board in my opinion, in the market, would be a very interesting process.

Mr D.T. REDMAN: Can you give me an example of that so I can get my head around what you are talking about?

Mr Froud: Locational price signals: so if it is more expensive to deliver network services, or generation for that matter, in a remote part of the network —

The CHAIR: Electricity.

Mr Froud: —then those signals are reflected in the cost, and there is less mirroring of those costs across the whole customer base.

Mr D.T. REDMAN: Uniform pricing tariff puts a bar on that, does it not?

Mr Froud: In the retail space, yes.

Mr Bargmann: For the franchise customers.

The CHAIR: That is where the point is about where you show the price signal, so where in the value chain. It may be that it would incentivise Synergy to offer—there is a uniform tariff there but they may look at what other assets can they install on the load generation basis or what else could be done to drive more efficient investment.

Mr Froud: That is right. The Public Utilities Office can probably talk about it some more in terms of reference nodes and the like. I am not sure whether the AEMO spoke about reference nodes as well,

and looking at the east coast example. We have a single reference node here. I will not go into that detail.

The CHAIR: I know it!

Mr Froud: We probably do not have time. You will understand what the complexities are. Locational pricing extends through the entire supply chain inasmuch as what that locational pricing does is better sends investment signals to customers, but also to generators. We look at the potential for demand-side management moving forward. One of the things we have always said is that if you have a locational signal for demand-side management, that arguably makes certain types of demand-side management more useful than others. As the system operator, they are going to be able to say, "Right, we want demand-side management in this part of the network. We are prepared to pay for that." They might pay you more than if you are located in another part of the network—in, say, Albany—whereby it might not be as required at that point in time. Locational pricing is something that I have always been interested to explore a little further. It does not conflict with the uniform tariff policy.

Mr D.T. REDMAN: Do your systems of both yourselves and Western Power in terms of how you work out where you are going to make asset investments not reflect that anyway, to a level of granularity that I would have thought you probably need to have?

Mr Froud: Yes, to a point, but in terms of looking for future efficiencies—specifically here I am thinking about microgrids, standalone power systems and the like. I can envisage a future where you have a modular-type of network that I know Western Power is keen to move towards. I am not answering this question now. I am posing the question: is there value in moving towards multiple reference nodes for various elements of the network that might actually benefit from that? It complicates things though. The other side of the coin is that when you have those sorts of arrangements, it makes the AEMO's job a lot harder.

The CHAIR: Have you had an opportunity to read AEMO's evidence to us last week?

Mr Froud: No, it is not up yet. I looked this morning and I could not see it.

The CHAIR: One of the ideas we examined in that discussion was around AEMO's role in all of this—problem definition and solution identification. Particularly, problem definition: "I've got an issue in Denmark that looks like this," and then how the solution to that problem is procured and what AEMO's role in that is. One of the things that was put to us by Ms Zibelman is that AEMO could sit in the middle of that and be both supply side and demand side facing and assisting once a problem has been identified to procure that solution. There are open questions in that around what Western Power's role is and who is providing those solutions; who is bidding them in. In an area where you have identified a very high cost of providing electricity, the option could be that Western Power says, "Here's the network solution. Here's what it would take if I just built more poles and wires at \$X." But it would be bid in to a process that AEMO could potentially run and that Synergy could participate in to say, "We'd like to install a grid-scale battery that would act as a load and generator." Somebody else could say that they want to put in a gas micro turbine that is dispatchable and hangs off the gas network.

All sorts of solutions have been put forward. But the waters become incredibly murky when those assets then do not just perform as a load or a generator; they are also providing network support services. Then who is doing that and providing that? It becomes very complicated. This is almost looking back into Synergy's generation side of the business: we have become aware of a whole range of ancillary or network support services around VAR control, inertia provision, voltage support and flexibility that are all now increasingly necessary to support networks that could be provided by a

whole class of assets. Who owns, operates, sells and values those assets seems like it is a really material issue in this market and Synergy has a major stake, from both what you could own and operate and what you currently own and operate. We are trying to tease those issues out a little.

Mr Froud: If you look at Western Power's regulatory framework, there is already provision and a requirement for Western Power to consider non-network solutions. I suppose it has not really been used a lot. It is probably better that Western Power and the ERA talk to that. There is already a mechanism for Western Power to consider those things. You are very right in your comments around these other services that essentially maintain the physics of the system. This is not all about dollars and cents. We do need to have the physics of the system working in order for the lights to be kept on. As you would have heard many times before, a lot of those services have traditionally been provided effectively for free. They were almost a subsidiary service that was provided by coal-fired big spinning things, generators, gas-fired turbines and the like.

With different types of generation and battery storage coming on board, the provision of those services varies amongst them. I probably do not need to go into the detail because I am sure you have heard it before. How those services are appropriately remunerated for the value that they provide moving forward is something that we are obviously keenly interested in and working very closely with the Public Utilities Office and the AEMO right now to make sure that we are not only appropriately remunerated for the services that we currently provide, but in the future, when the new market starts in a few years' time, that those services are appropriately valued and remunerated down the track as well.

Mr Bargmann: Also that they are competitively procured I think is very important. There have been some changes in the wholesale electricity market to introduce competitive services there, and that has been a good thing. We probably have not seen as much competition in the wholesale market as we would have liked to have seen, quite frankly, for the betterment of the consumers or retailers in that instance.

The CHAIR: You have talked about non-network solutions and incentives for Western Power to provide those, but your submission also talks about, in the ENAC, prudent discounts. Could you elaborate on that point in this context as well?

Mr Froud: I will let you take that one, Will!

Mr Bargmann: My recollection is that if a service is provided to the network such that there is no need for poles and wires to provide the service, that may lead to some sort of cost efficiencies and it may lead to some cost savings by Western Power. There needs to be some sort of mechanism to ensure that those cost savings are then provided to the rest of the market as opposed to it in effect being kept by Western Power. But I must say that I would have to look into that more closely.

The CHAIR: Let me tease it out a little because I thought it was a very interesting concept that you put in your submission. You say —

The prudent discount contained in the Access Code could be used to reward a network user for investing in energy solutions or engaging in conduct that avoids inefficient network investment ...

Presumably you could be rewarded for installing an asset that performs a network support service, but it is a by-product almost of, say, a grid-scale battery that you are offering to a suburb for mums and dads to store electricity during the day and draw down at night. Again, if we start drilling down into locational signals or some sort of nodal pricing, there is not just an ability to receive a revenue from providing those network services; you are just getting a discount on your network access tariff, but your asset is earning a living off the load and generation functionality that it provides to your

retail customers. I thought that that was a really interesting concept that has not been presented to us before. I just thought I would explore that a little with you.

Mr Bargmann: We actually tried to advocate for that as part of our own submission on the access arrangements to the ERA. We sought a similar thing—in effect, a reference service that reflected the savings that Western Power achieves by, in effect, a non-network provider providing a quasi-network service. Then Western Power does not have to make a certain investment—that is money they have saved. Therefore that money, it does not go to us; it is in effect for the betterment of the consumers.

The CHAIR: It lowers your cost to serve.

Mr Bargmann: Yes, it does, exactly.

The CHAIR: Which lowers the costs for all users of the SWIS.

Mr Bargmann: The prudent discount would translate into a network tariff. A network tariff is something that we always pass through to our end users and, therefore, it results in lower costs to consumers.

The CHAIR: I think this is a very interesting concept. Do you want to give it a little more thought and provide us with some additional views by way of supplementary submission?

Mr Froud: Yes, we would be happy to do that.

Mr Bargmann: Absolutely.

The CHAIR: I would really appreciate that. Last week we spoke with Western Power about the apportionment of batteries and it was put to us that it was really simple: you can build a battery and, because they are modular, you can say that X amount of the capacity in that battery is below generation services and Y amount of capacity is for network support services. You program them, and the different parts of the assets perform differently to provide whatever the function is. But usages change over time as the network changes and you could see a situation where the proportion of the asset used to provide grid services just shifts because of whatever is happening with PV on rooftops or electric vehicles, or whatever. Having some sort of mechanism that is not overly complex around ownership and operation—because the waters are murky between Synergy and Western Power about that—that allows just one person to own and operate the asset and keeps it pretty simple but reflects the value of the different functions those assets are performing. We do not want these things to get overly complicated. We do not want to start creating multiple different markets for the provision of different forms of ancillary service when probably the value is really low. Probably it is the sort of thing where there may not be value in a real-time market but some sort of five-year procurement of a service at a particular point in the network. It has got to be simple. We do not have a huge market here with multiple participants. We have got to get the right signals through, but not make it overly complicated to participate in as well. I have just been thinking about those issues between Synergy and Western Power and these distributed energy resources.

Mr Froud: It is very true and you are quite right that we do run the risk if we are not careful of getting too “boffiny” with this market, if I can use that term!

The CHAIR: Yes, it is fun for us!

Mr Froud: It is exciting, and if you are an economist or a person who is into market regulation, it is fantastic. We have a sandbox here that we can do all sorts of fun things in. But we do run the risk, if we are not careful, of overcomplicating what should otherwise be, and could be, a relatively simple system. We are a relatively small market on the west coast of a big country. You made a point at the front end as well, just in terms of Western Power and Synergy and it being murky between us. You

were talking about the battery and being able to use different parts of it for different purposes. Traditionally we would just say that if you are going to look at it from a purely economic point of view, let price determine the way these things are going to work. Let price figure out the most efficient way of delivering these services.

I do take your point, and I agree with you, that if the value is small and you are creating an entirely complex market around the provision of services that do not cost a lot at the end of the day, it is more a policy decision for government to say, “Right, we are going to stop it there. This is where we’re going to stop where the competition happens and where the market derives the most efficient price, and we’re going to procure these services and deliver them in another way.” Whether those services are then provided through consolidated revenue, whether or not electricity customers have to pay, or taxpayers have to pay, the thing that we are always conscious of in that electricity industry is that it is not really a service that you opt out of. Either electricity users are going to pay for the service, or taxpayers are going to pay for the service. It just so happens that in our industry the two groups of people are the same.

Ultimately it is a matter for government to determine whether it is going to have markets deriving and determining what the efficient price is; how we ultimately charge the customers those prices at the end of the day, and what customers are charged. Ultimately they are decisions for government, as we have seen in this market.

Mr D.T. REDMAN: The suggestion from Synergy was that the game was going to flip from energy through to bulk billing ancillary services being a bigger focus, hence the likelihood of a line in the sand is probably less of a scenario under that compared to what it might be now, as you suggested.

Mr Froud: Yes.

Mr D.T. REDMAN: The Chair took us down the pursuit in terms of the prudent discount point being a strategy that can defer investments in the network, and a benefit flow-through. At the start of your submission you talk about getting the most efficient use of your generation assets before we move into the other space. How significant is that piece to the efficient landing point? It is something you have almost got to wait for a bit until you run those things down? It is something that is not such a significant piece. We know that coal-fired power stations are running to the end of their useful life but we have presumably a bunch of other generation assets—gas and the like—that do have a life to run. It is a sensitivity analysis question I am asking here.

Mr Bargmann: It is probably hard to predict what technology will provide the solutions going forward. As you said, as we move to a more decentralised network that we have, this modular network, it is not likely that the big generation assets we have are going to be the providers of those services—not a coal plant. However, the two fast-reacting gas-fired plants that we have in Kwinana, for example, provide a massive amount of services right now to the market. That is just one alternative. But as technology evolves, it could well be, as they are seeing in South Australia, that maybe at a certain point it becomes more efficient that batteries provide that sort of service. We fully recognise that some of our technology that was built 30 to 40 years ago is not going to be providing the answers for tomorrow, but there will still be addressing of underlying demand, for example, but not at the fringes that we are talking about here in this form. I do not see our big assets providing that answer.

The CHAIR: Can I ask about Synergy’s exploration of virtual power plants and what, if anything, you are doing around that, and your engagement with customers on that front?

Mr Froud: It is certainly something that we are very interested in exploring. As you would no doubt be aware, we are looking at a VPP trial in Kalgoorlie with the Department of Primary Industries and

Regional Development. We are probably not in a position to talk too much more about that at the moment because it is still in its infancy in terms of putting together what it looks like. We are very interested in exploring what sort of behind-the-meter technology might exist and how that might be able to be used in terms of VPP. Synergy would be keen to play an active role in that. But noting, moving forward, that is probably going to be an area of competition.

We need to be ahead of the game because we know that competition is coming in that space. We need to understand how the technology works and what its limitations are. We have a group of people within Synergy who are actively looking at VPP among other things. Without going into too much of the detail now, I would be more than happy to arrange a visit, if you want to talk about VPP in a lot more detail.

The CHAIR: I would be very interested to hear how Synergy sees the VPP presenting to the network and where in your dispatchable portfolio it appears. It is incredibly granular, but can present as a single dispatchable unit. That will obviously have implications for how you then sell it to others, sell it into the market—whether you bilaterally contract that or sell it through the STEM. Again, when we think about market forces, VPPs are a space that a whole series of other entities or aggregators are potentially looking at participating in. It is how we get the most efficient system out of that. There are some really interesting and open questions to be asked.

Mr Froud: We have started thinking about that, but how a VPP aggregation may be visible to the broader market is a question for the way the market is regulated in the future and the way the AEMO manages the system. It is probably a good question for the Public Utilities Office. I know they are keenly interested in this as well.

The CHAIR: You are glad they are coming in afterwards!

Mr Froud: I am very glad they are coming in afterwards. All I can say is that we are very keenly interested in the technology and the way it might play out in future, and we are actively working on understanding the technology and how it works and what its limitations are, so that when that time does come, and as the regulatory and policy framework is being developed, we are able to contribute to that. It is still very much in its infancy. I think Ray Challen said when he came in that we are grappling with these issues in this jurisdiction. Unlike anywhere else in the world, this really is the Wild West in that regard. It is an exciting time to be part of the sector here because there are all of these unknowns—we just do not know. The market was not designed as it is now to accommodate VPP. It was not designed to accommodate battery storage. It is a load, it is a generator—how do you register it? These are all questions that we are grappling with in real time.

As we always know, the regulatory arrangements and market frameworks follow along well and truly behind the advancements in the technology. One thing you can be certain of is that we are very keen and actively pursuing and understanding how the technology works so that we are at the forefront when all of this starts to play out.

The CHAIR: What about community energy cooperatives? That is something as well that we have received some evidence on. Say you form one in Geraldton or one in Kalgoorlie, how does Synergy view that?

Mr Froud: I read the transcript, obviously, of the group that came in. I cannot disagree with anything that Erin said. It makes sense. Like a lot of these community energy projects, it probably deserves to be further explored. Will they be competitors with Synergy moving forward? Probably, yes. We need to be across what they are doing and understand how that is going to impact our business. A lot of the benefits that may very well be derived through some of these ideas and mechanisms that are coming up do rely on some existing market structures. You could argue that sometimes

they rely on uniform tariff policy, among other things. Obviously any competitor that comes into a new market and is looking at different ways of doing things, whether it be an Uber or anyone else who is disrupting, is obviously taking advantage of—I do not mean that in a derogatory sense—and looking at what the existing frameworks are and looking to find a niche. You have to acknowledge that and respect it. It is entrepreneurship, it is innovative, and as Synergy we need to be as active in that space and as entrepreneurial and innovative to make sure that we are ahead of the game.

Mr D.T. REDMAN: Do you see any challenges to the threshold for the contestable market space versus the uncontested market space in terms of threats and/or opportunities?

Mr Froud: The 50 megawatt hour per annum limit? That, again, is 100% a matter for government in terms of where that sits.

Mr D.T. REDMAN: But you must be able to map behaviours that happen. Some of these large houses demonstrate over a three-month period that they are in that space and therefore get the contestable market and then dial themselves right down.

Mr Froud: Yes, I read Liz Aitken's transcript from Perth Energy. That was an interesting one. The concept of "once contestable, always contestable" has been around for a while. Most people will use about 5,000 kilowatt-hours of electricity per annum, so the 50 megawatt hours per annum limit is fairly heftily more than what the average consumption is. But I think we are certainly seeing in that space a bit more movement around that 50 megawatt hour threshold. That just is what it is. The limit is there. We will work around that while it is the 50 megawatt hour per annum limit. If it changes, we will work around that as well. There are consequences and implications for moving that. We have certainly been talking about that over several years, and I think several governments have fully understood what the consequences are of changing them.

The CHAIR: Thank you.

I will proceed to close today's hearing. 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.

Thank you both so much for coming in, we really appreciate it.

The Witnesses: Thank you.

Hearing concluded at 10.28 am
