C O R R E C T E D V E R S I O N

ECONOMIC, EDUCATION, JOBS AND SKILLS COMMITTEE

Inquiry into community energy projects

Melbourne — 7 November 2016

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Witnesses

Mr Tony Chappel, Head, Government and Community Relations, and
Mr David Spree, Senior Manager, Government Affairs, AGL Energy.

The CHAIR — Welcome to the public hearing for the Economic, Education, Jobs and Skills Committee's inquiry into community energy projects. All evidence taken at this hearing is protected by parliamentary privilege, but any comments you make outside the hearing are not afforded such privilege. Hansard is recording today's proceedings. We will provide a proof version of the transcript so you can correct any typographical errors.

Whatever you would like to say, I invite you to both state your name first, and then we will come back to questions.

Mr CHAPPEL — Thank you. It is a pleasure to be here. My name is Tony Chappel. I am Head of Government and Community Relations at AGL Energy. I am joined by my colleague David Spree.

I might just say a few words to commence our submission. We welcome the opportunity to attend today's hearing. As one of Australia's leading integrated energy companies operating right across the supply chain we really see four critical components of value that community renewable energy projects can contribute. They obviously allow individuals and communities directly to embrace and shape their own energy future. They can play a very significant role in developing a social licence for the large-scale wind, solar and other renewable energy projects that are required for the state and the country as we transition our energy system. Thirdly, they can very directly benefit the most vulnerable energy users and communities. Finally, of course they can materially contribute to both the physical generation of electricity and the reduction of carbon emissions.

Over the coming decades significant investment in new renewable and low-emissions energy projects will be required to meet Australia's international climate change commitments. This is likely to require new financing arrangements and new kinds of investors, including individuals, communities and of course businesses.

AGL believes that significant structural changes within the national electricity governance framework are required to best facilitate both community and private energy investment and maintain Victoria's supply and security of energy as the system transitions. We think it is also important that any unintended consequences of new incentives, if they do apply to community projects, are carefully studied and thought through in the context of both community energy and the ambitions that the Victorian government has set out for renewable construction. We believe that these should best be complemented by a new set of rules that would ensure the orderly closure of some of the legacy thermal plants, which will naturally occur as renewables are built out but it will occur in a very disorderly and disruptive fashion in the absence of policy architecture to ensure that that transition is transparently conducted and planned for by both communities and investors. It is in this context that I am particularly thinking of the Victorian government's VRET scheme but also any other incentives for community renewable projects.

The challenge for all governments is to ensure that co-investment across the private and public sectors is maximised to deliver benefits to the full spectrum of the community, especially financially vulnerable Victorians. In this context I think the New South Wales experience is quite instructive, where social impact investment and social impact bonds are being considered and now deployed to social housing estates for vulnerable communities to reduce their energy bills and usage through the implementation of community-based solar programs.

I think there is a broader social licence question where community renewable projects can play a key role in the larger, utility-scale construction required to deliver the transition of the energy system both for wind and solar projects. Whilst some early experiments in this area have occurred in other jurisdictions on the equity side, I think the experience of other jurisdictions in terms of debt financing being made available to local communities is particularly instructive.

I am happy to talk more about that, but briefly just as when you buy a house a large amount is paid for through debt at a set interest rate, say 5 per cent from the bank, and then the rest is equity that you put in and that is where you make the return, when developers build a big wind or solar project we use similar structures. The debt is the less risky part, and I would say it is the most appropriate to be accessible to a

local community for their super fund or their own investment. They might invest at that same return and therefore change the conversation in the community about large-scale renewables because you have a proportion of the community who are directly investing in and benefiting from the success of that project. It is something that we have looked at internally but have not pursued because of the complexity of making such an offer. I think there is a role for regulatory settings to be reviewed in that context as well.

Finally, I think there is a great opportunity in the community renewable energy space in Victoria to support the energy transition to make sure that it occurs in the most efficient way but also that the most vulnerable customers benefit as we move through it.

The CHAIR — Thank you. David, would you like to add anything?

Mr SPREE — No, I just align myself with Tony's comments.

The CHAIR — No worries, thank you. Tony, your submission mentions the need for new financing arrangements to support renewable energy projects. What are some of the best examples of financing arrangements for small-scale projects that you have come across in Australia or overseas?

Mr CHAPPEL — I guess to answer the question completely I go back to my point about the need for a closure rule. The Australian energy market is well oversupplied. This is the challenge for any renewable project, small or large-scale—to attract financing. It means that projects are almost entirely reliant on government schemes and subsidies and that also as they are built one by one the legacy thermal plants go bankrupt and cease to be profitable, as we have seen at Hazelwood, and all the disruption that causes.

The first thing to make investment more achievable for community projects is to have a transparent scheme that lays out when the legacy plant will exit because then everyone can see. Community investors, private investors, governments can see when those plants come out and when the new generation needs to come in. Even at our scale, AGL serves over a million customers in Victoria and just to meet our own obligations under the RET we have had to be extremely creative to devise a new financing structure that shares the equity and energy-pricing risk through a number of different parties. We are not doing it on our own balance sheet but rather through the Future Fund and the Queensland Investment Corporation, alongside ourselves, investing in a new vehicle and we, as the offtake, are signing a shorter term power-purchasing agreement. I guess that is a very complicated structure that is necessary to deal with the financial risk that exists because the energy market is oversupplied.

You can imagine the challenges at the community scale. You can have the best will in the world but it is difficult to see a return pathway over the 20 years or more of a project given the current oversupply in the national electricity market. I suppose to answer more directly your question, Mr Chair, we see real opportunities to invest alongside those big projects that have already done that thinking to make a section of equity or debt available. I have said in my opening remarks I think the opportunity to allow local communities to invest, say within a certain radius, in the debt of a project would be very attractive and would be a very powerful way to bring local community licence into these projects. Often communities see the big project and they do not see any benefit; they just see the impact.

Cooperative structures and other smaller scale projects are also useful, and I think, finally, our experience in other jurisdictions in the social housing and community space is that community bonds and philanthropic funds can partner with government funding and industry funding to deliver community-based projects in social housing contexts where the interests of all parties are very strongly aligned: any electricity savings benefit the most vulnerable and provide a real contribution to that community. Is there anything you would add to that?

Mr CRISP — Looking to the future and as things change I think it is how the distributed energy and network costs are going to be managed into the future. So really how will network expansions and maintenance be funded under this new distributive model that we have got? How are we going to manage that?

Mr CHAPPEL — Potentially there is huge innovation and cost savings that can be delivered with new technologies. The days of the energy network monopoly making a case for new investment and then passing all those costs through over decades, I think, will change, because with batteries and with new technology there are many other solutions to the traditional network problem. When you build a new housing estate, you might need to reinforce the network. There might be other more cost-effective solutions.

I can speak of a project we are delivering in South Australia right now, where we are building a virtual power plant that is designed to prove out these concepts. So we are taking 1000 homes in Adelaide that already have solar systems, putting in batteries to each of those homes and subsidising the batteries, and those batteries will be orchestrated collectively to deliver effectively a 5-megawatt virtual power station into the network when it is most needed.

It will create a number of new sources of value. Obviously the home owner will get value because they are optimising their own solar system through the battery. The network will receive value. We receive value potentially; it is another way we can moderate risk in the generation portfolio. There is frequency in other services that are provided as well. So that is the theory, and we are doing this project to try to prove that concept, but what you might find is that instead of a traditional network expansion, you can do this kind of thing with embedded technology that can deliver the same services in a more cost-effective way or in a more value-creating way.

Mr CRISP — Of course that is changing the traditional one-way grid. What do you see as the costs over time for what we have to do in transitioning the grid from a one-way grid to this dispersed model as well? I like what you are doing with the batteries; that sounds really great by the way. It is only 5-megawatt hours and I see it as a trial, but over time, in changing that grid around, how compatible is the current one-way grid to a dispersed generation model?

Mr CHAPPEL — I think it really depends on the particular pressures in different parts of the grid. I think where you see grid constraints today that is where the value is today to look at these more innovative solutions where it is not a one-size-fits-all model. I think there are parts of the grid that are well overbuilt, other parts that are under more stress, but I guess the other point we would make is that cost-reflective tariffs are a critical component of reform.

The Victorian Government has got an opt-in arrangement until 2020, but to ensure an efficient use of the grid it is really important that customers can see the cost of their energy use at different times. It enables us as energy users to more transparently adjust our behaviour to capture those savings and reduce the future costs of grid expansion, rather than historically the one-size-fits-all model, where we built the grid for those few hours a year that need that maximum flow. You still have those challenges with a distributed system.

Mr CRISP — What I was looking at when you said where the constraints are within the grid and how you are going to adapt to that is the costing. How are you running those costs out to the other customers or to customers?

Mr CHAPPEL — We are a generator and a retailer, so distribution companies sit in between generation and our customers. We have to take most of those costs as givens, but what I would say is with the new technologies that we are seeing there is a real case for competition to deliver more innovative solutions to some of those traditional monopoly grid services. So I would say it is important that the monopoly grid companies—to the extent that they want to compete to do that as well—operate in a ring-fenced fashion so that business can compete on a level playing field, because monopoly grid companies have a regulated asset base and regulated cost of capital which means they are not operating on the same playing field as competitive market entrants like ourselves. We would say you will always get a more innovative outcome if you open it up to a competitive process and see what the alternatives are in a particular case. It may be batteries with solar systems can deliver more value than a traditional expansion of the grid and do so at a cheaper cost. I mean, the cost of batteries is coming down rapidly but you will only see that if you have a truly competitive process.

Mr CRISP — With that, you are dealing with individual households. Would your company be interested in dealing with community groups that may put a community solar array in if they expanded it to batteries? Is that where your company is heading in being able to develop business models that may well be compatible with those aspirations?

Mr CHAPPEL — Yes. Absolutely. I mean, our strategy is all about lowering the emissions intensity of our generation fleet and delivering a seamless digital experience for our customers, which is all about empowering them to have the kind of energy future they would like and to do so in a cost-effective way.

Mr CRISP — One more question. While we are there, are you prepared to say in modelling out that South Australian model how much you as the generator are going to market those megawatt hours or those kilowatt hours for? Because we are dealing in numbers and economics. You are obviously going to pull those 5 megawatt hours out when the market is very high, but that is hedging in your business. What is the value of a stored kilowatt hour of energy in that bet?

Mr CHAPPEL — It is a good question. So it is 5 megawatts; it is not 5 megawatt hours. There are more hours in the system than that.

But the point of our project in South Australia is to demonstrate exactly what those values are. We are doing it in partnership with ARENA. The South Australian Government is also pulling together an oversight panel that includes various stakeholders from the community sector, the networks and other key users so that everyone can see what is the total value created and then how might that equitably be shared. So what is the value for the household themselves, what is the value for the network, what are the extra services in terms of frequency and stability that are provided? What is the value for a generator like ourselves? The purpose of the project in South Australia is to prove that out and demonstrate it.

Mr CRISP — Time line?

Mr CHAPPEL — The project has started now. We are installing the first batteries now. I think it is 1000 batteries in total and I would not say we would be completely built out at least until probably the end of next year. Then we will be able to, I suspect in 2018, see some results.

Mr MELHEM — Can you take me through the impact of the Hazelwood shutdown or going off the grid in March next year, what impact that will have on supply to the Victorian economy or Victorian consumers? Would that make a huge impact, or are we able to live without it?

Mr CHAPPEL — The National Electricity Market, which is basically all the states except Western Australia and the Northern Territory, is oversupplied at the moment by about 7000 megawatts.

Mrs FYFFE — Which is about 10 per cent, 15 per cent, 20 per cent?

Mr CHAPPEL — Hazelwood is about a seventh of that, so taking Hazelwood out will not have a critical impact on the system as a whole. Obviously it has a critical impact on the people that work there and on the local region, but I would say that the impact of Hazelwood coming out in this way with only four or five months' notice is substantially greater than it would be if we had a clear set of rules nationally about when these legacy plants will close.

They will all close at some point, but what you see in Hazelwood closing is what you have already seen in South Australia where, as the system changes and we subsidise more renewables, the old thermal plants one by one become uneconomic. So you even have a very modern, high-efficiency combined-cycle gas plant in South Australia, at Pelican Point, which from an emissions point of view, should be at the heart of our system generating but it struggles to make any money because it has to be on all the time. When it is very windy and at night-time, the price is very low, they cannot afford to operate.

So instead of allowing that disorderly one by one exit of plants, we say a clear rule set should be developed—for example, in Canada they have a 50-year rule that says after 50 years a coal plant either has to become low carbon or shut. Then everyone can see in 15 years' time that plant over there is going to

close; therefore we can start planning and investing now. The community can start planning on their transition, the government can start planning today for what will come in a decade or two for those workers and the demographics there. That can all be done in a more cost-effective and efficient fashion.

So the impact of Hazelwood leaving is worse because it is relatively unplanned for than it would otherwise be, but over time all of these plants will close, so the trick is to have a regime that lets industry, government and other stakeholders plan for that and make it orderly. We believe in market solutions, but in the case of the legacy plant, a plan will always deliver a better outcome.

Mr MELHEM — So following from that, if a gas plant like those in Mortlake, Laverton and I think in Newport, if they come online 24 hours a day, seven days a week, what would that do? Would they be able to fill the gap?

Mr CHAPPEL — The way to think about it is Hazelwood is another piece of generation that will come out. The gap will be filled by the remaining plants operating longer hours I guess is the way to think about it. So Loy Yang, Yallourn, the interconnectors, the imports, you will get a new pattern of generation. Gas, coal, renewables will all contribute to that.

Mrs FYFFE — Coming to this inquiry I am on a steep learning curve. My colleagues have much more knowledge of power generation than I have and I am also a bit of a Luddite, so very simple questions.

Mr CHAPPEL — I am a Luddite too, so that is fine.

Mrs FYFFE — You could not be. You are too young. You know the technology. Virtual net metering, I have got an idea of how a virtual power plant will work because you are talking about the batteries storing the power in the trial in South Australia at the development you are doing there. How the heck can you have virtual net metering to give accurate use of power, because to me virtual is not actual?

Mr CHAPPEL — There is a distinction between the physical electrons and the billing. So, for example, in our virtual power plant we say it is virtual because it is effectively invisible. You know, it has no physical footprint, has no carbon emissions.

Mrs FYFFE — It does not exist. It is not real. It is not actual.

Mr CHAPPEL — It is 1000 batteries spread through the suburbs, so you cannot see it from the street anywhere. But it is also virtual in the way the energy experience of the household works compared to the impact on the network. So if you have a solar system and a battery and the grid suddenly experiences a time of high stress—say, it is very hot, there is no wind, maybe the interconnector is down, and so the Adelaide system is under high stress and high demand—if you are inside the house, you will not know whether your power is coming from your battery or direct from your solar rooftop.

So depending on what is happening in the grid, it may be optimal for the system to switch your house so that it is pulling from the battery and exporting the solar power or it is pulling from the battery and the solar power and not pulling anything off the grid, or it may be optimal to export power onto the grid. Because you can reduce the load by switching to the battery or you can even add supply by pushing the battery the other way. But for you sitting inside the house, the experience should be seamless, so you will not know. So whether the electrons are going in or out makes a difference to the system but not to you. I guess that is another way to think about the virtual versus the real, because you do not mind if the electrons from your rooftop are being used by you or someone else if you are making the best return from your investment and your energy experience is you would like it to be.

Mrs FYFFE — Should the Victorian government introduce virtual metering, and how should they do it if they did?

Mr CHAPPEL — I might perhaps take that one on notice if you do not mind and provide you with some written comment, just because I have not…

Mrs FYFFE — Not too technical.

Mr CHAPPEL — No, that is fine.

Mr NARDELLA — What will the costs be of the South Australian project? What does a household put in? What is the cost of the batteries? What are the feed-in tariff rates, the import rates? Are they the same as they are here? Are they different? What is the total cost of investment? What is the return on the investment? Because your submission talks about this is the way of the future and dealing with disruption and virtual metering and all of this stuff, but there are no figures; you are not telling us. In essence, if this is a good model, how does one get into it? Or is it just a very good model for a multinational company to disrupt smaller players that want to get into the game? Have you got those figures?

Mr CHAPPEL — I can certainly provide some more details. I might take the comprehensive question on notice, but what I can tell you off the top of my head is the project is about $20 million. A large piece of that is an ARENA grant. It is not a return on investment project; it is about demonstrating the value of this entirely new way of thinking about a better…

Mrs FYFFE — So it is a government grant?

Mr CHAPPEL — There is a federal government grant from ARENA. AGL is putting in the remaining $12 million, $13 million. The batteries themselves are subsidised by about 80 per cent by us, so I think the cost to the householder is about $3500, maybe $4000, for the battery, which is about 80 per cent less than the cost if they bought it.

Mr NARDELLA — How big are the batteries?

Mr CHAPPEL — I think there are a couple of different sizes of batteries, so I will get you the particulars if you like.

Mr NARDELLA — An average.

Mr CHAPPEL — But the purpose of the project is to demonstrate both for us and for the industry, and small and large players alike as well, the value that this new approach to distributing energy can produce—the different pools of value. Beyond that, let me come back to you with some more detail on the financial metrics.

Mr CRISP — I want to talk about the draft ruling of the Australian Energy Market Commission. It did not agree with paying small-scale generators local generation network credits because it would increase the price of power for all customers. Now, what does that mean for the future of local energy trading community energy projects?

Mr CHAPPEL — I think the way those projects access the network is critical and how the shared costs of the network are met. That is quite a technical question, so it might best if we provided you a written answer that covered each of those aspects.

The CHAIR — On behalf of the Committee, I would like to thank you for your contribution. Thank you very much.

Mr CHAPPEL — Thank you.

Witnesses withdrew.